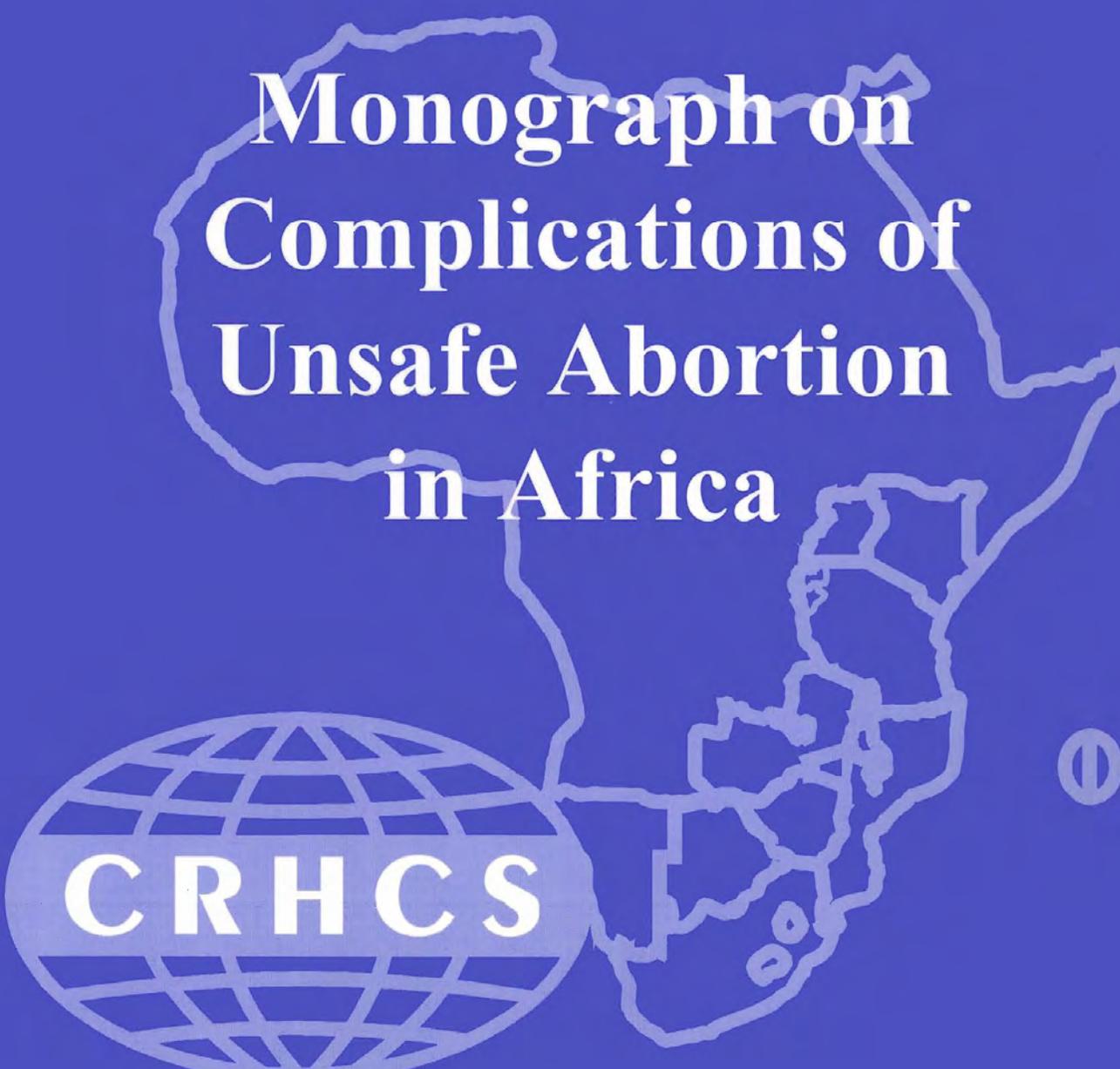


Reproductive Health Research Programme of  
Commonwealth Regional Health Community Secretariat  
for East, Central and Southern Africa



# Monograph on Complications of Unsafe Abortion in Africa

authors

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ISBN 0-929817-38-9

## **CRHCS/ECSA**

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The Commonwealth Regional Health Community Secretariat (CRHCS) for East, Central and Southern Africa (ECSA) is dedicated to maintaining and extending cooperation among its member states and international organisations and to undertaking training, research, service and information dissemination activities geared towards the attainment of the highest possible standard of health of the people in the region.

## **JHPIEGO**

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The Johns Hopkins Program for International Education in Reproductive Health (JHPIEGO) is dedicated to improving maternal and child health in developing countries by increasing the availability of reproductive health services worldwide. JHPIEGO works to increase the number of qualified health professionals trained in modern reproductive health care, especially family planning, through its focus on the development of national training systems. JHPIEGO strives to identify and address important reproductive health training issues through targeted program evaluations and research.

## **IPAS**

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IPAS is dedicated to improving women's health through a focus on reproductive health care. IPAS believes that every woman has the right to safe reproductive choices and high-quality care. IPAS concentrates on preventing unsafe abortion, treating its complications, reducing its consequences and increasing women's access to a broad range of reproductive health services. IPAS strives to influence health policy and programming decisions through research, technical assistance and communications; to enhance health care providers' expertise through clinical and management training; and to improve services through increasing availability of appropriate reproductive health care technologies.

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## ACKNOWLEDGMENTS

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*This monograph is dedicated to the women, families and communities in Africa that have been negatively affected by problems associated with incomplete abortion.*

At the Commonwealth Regional Health Community Secretariat (CRHCS), special thanks go to Dr. Winnie Mpanju-Shumbusho, Assistant Coordinator of Health Research, Geoffrey J. Kallinga, Computer Consultant and Lawrence Gikaru, Assistant Coordinator of Information Dissemination, for their technical assistance with project activities. For financial and administrative management of this project, we would like to thank John Makalla, Senior Accountant, Mackey Manga and Jesca Muhando.

JHPIEGO would like to thank Dr. Noel McIntosh, President, for his leadership in this important reproductive health area; Dr. Paul Blumenthal, Medical Advisor, who reviewed sections for accuracy and whose familiarity with the issue in Africa generated the idea for this monograph; Ms. Penelope Riseborough, Ms. Dana Lewison and especially Ms. Elizabeth Oliveras for their editing assistance; Ms. Jennifer Butler for formatting and printing assistance; Mr. John McGrath for overseeing the computer analyses of the country primary data; and Ms. Christine Bicknell for assistance in preparing the document. A very special note of thanks goes to Ms. Natalie Maier, Senior Evaluation Coordinator, for her dedication to the day-to-day monitoring and coordination of all project activities and for her invaluable assistance in revising and preparing the document. In addition, we would like to thank Ms. Jane Cottingham, Dr. Suman Mehta and Dr. Mark Belsey of the World Health Organization (WHO) for the information they shared with the authors on abortion mortality rates in the region.

At IPAS, thanks go to Mr. John Dorward, Executive Vice President for Operations for his administrative assistance; Ms. Veronica Williams, Librarian, for her database search of the published literature; Ms. Hannah K.S. Searing, Research Consultant and Ms. Jenny McCartney, Communications Assistant, for their assistance in annotating articles; Mr. Rob Gringle for editorial assistance; Ms. Shana Davis and Ms. Shirley Greer for administrative support; and Dr. Forrest Greenslade for his support and technical input.

Our gratitude goes to the Ministries of Health of the member states of the Commonwealth Regional Health Community for their approval and support in implementing the data collection. We also would like to thank the Executive Board of the CRHCS for granting approval for the Monograph to be presented in Malawi to the Conference of Health Ministers, November 1994.

In addition, we would like to thank the following individuals for their support and contributions: Ms. Phyllis Gestrin, Mr. Bob Haladay, Mr. Lennie Kangas, Ms. Anne Wilson, Dr. Suzanne Prysor-Jones, Mr. Peter Spain, Ms. Judy Brace and Ms. Rhonda Smith.

Our sincerest appreciation goes to the clients, providers and administrators in the three countries who were interviewed as part of the primary data collection. We would also like to acknowledge the efforts of the authors of the research identified in the literature search—all of whom contributed to the contents of this monograph.

Finally, a special note of thanks is extended to the following individuals and institutions whose invaluable contributions provided the foundation for this document:

#### **Field Work and Research Assistance—Primary Data**

Rosemary Nhonoli	Information Documentation Officer
Nalukui Nalumango	Nurse-Midwife-Research Assistant
Maaala Muuka	Nurse-Midwife-Research Assistant

#### **Institutional Scientific Officers—Collection of Secondary Data**

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Dr. J. Rugemalila	Tanzania
Mr. S. Ameerbeg	Mauritius
Dr. L. Kirumbi	Kenya
Mr. J. Padayachy	Seychelles

#### **Contributing Institutions**

Makerere University Teaching Hospital	Mulago Kampala, Uganda
Nsambya Hospital	Kampala, Uganda
Jinja Hospital	Jinja, Uganda
Masaka District Hospital	Masaka, Uganda
University Teaching Hospital	Lusaka, Zambia
Ndola Provincial Hospital	Ndola, Zambia
Livingstone District Hospital	Livingstone, Zambia
Mongu District Hospital	Mongu, Zambia
Malawi Medical College	Blantyre, Malawi
Kamuzu Central Hospital	Lilongwe, Malawi
Muzuzi (Ekwendeni) Hospital	Muzuzi, Malawi
Mangochi District Hospital	Mangochi, Malawi

#### **Special Note**

The Commonwealth Regional Health Community Secretariat for East, Central and Southern Africa coordinated the implementation of the data collection and was responsible for administrating and managing all activities in Africa. The contribution of the Regional Secretary and the entire staff is appreciated.

The Secretariat will be a repository for the articles cited in this monograph. Copies of most grey articles are available from the Secretariat for a small fee upon request to:

**Commonwealth Regional Health Community Secretariat**

AICC Building

Box 1009

Arusha, Tanzania

255.57.8361/62/63 (phone)

255.57.8292 (fax)

In addition, the Johns Hopkins University (JHU) Center for Communication Programs (CCP), Population Communication Services (PCS), has generously agreed to include all of the documents identified within this monograph in their POPLINE database. POPLINE is available on-line through the MEDLARS system of the National Library of Medicine and on CD-ROM in various international population and health organizations. Documents which cannot be obtained locally, which are not commercially published books and which are less than 100 pages can be ordered from the Population Information Program (PIP). Document requests from developing countries are filled free of charge. Other requests cost \$10/document plus \$.10/page. To order a document, please contact:

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## ABBREVIATIONS

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ALOS	Average Length of Stay
BTO	Bilateral Tubal Occlusion
CCP	Center for Communication Programs (Johns Hopkins University)
CPS	Contraceptive Prevalence Survey
CRHCS	Commonwealth Regional Health Community Secretariat
D&C	Dilation and Curettage
D&E	Dilation and Evacuation
ECSA	East, Central and Southern Africa
FP	Family Planning
HIV	Human Immunodeficiency Virus
ICPD	International Conference on Population and Development
IPAS	International Projects Assistance Services
IPPF	International Planned Parenthood Federation
ISBN	International Standard Book Number
ISO	Institutional Scientific Officer
ISSN	International Standard Serial Number
IUD	Intrauterine Device
JHPIEGO	Johns Hopkins Program for International Education in Reproductive Health
JHU	Johns Hopkins University
KCH	Kamuzu Central Hospital (Malawi)
LDH	Livingstone District Hospital (Zambia)
LMP	Last Menstrual Period
MDH	Mangochi District Hospital (Malawi)
MOH	Ministry of Health
MMR	Maternal Mortality Rate
MMRC	Maternal Mortality Review Committee
MR	Menstrual Regulation
MVA	Manual Vacuum Aspiration
NGO	Nongovernmental Organization
NMH	New Mulago Hospital (Uganda)
OC	Oral Contraceptive
PCS	Population Communication Services (Johns Hopkins University)
PID	Pelvic Inflammatory Disease
PIP	Population Information Program (Johns Hopkins University)
QEH	Queen Elizabeth Hospital (Malawi)
SC	Sharp Curettage
SES	Socioeconomic Status
SSA	Sub-Saharan Africa
STD	Sexually Transmitted Disease
TOP	Termination of Pregnancy
US	United States
WFS	World Fertility Survey
WHO	World Health Organization

## EXECUTIVE SUMMARY

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In November 1993, the 21st Conference of Health Ministers for East, Central and Southern Africa (ECSA) was held in Maseru, Lesotho. At this conference, the Health Ministers adopted a resolution in which they identified unsafe abortion as a major cause of maternal morbidity and mortality in the region (Kinoti, et al., 1990). In addition, the Ministers recommended specific actions to address the problem of unsafe abortion in member countries.

As a next step, the Commonwealth Regional Health Community Secretariat (CRHCS) undertook a study in 1994 to document the magnitude of abortion complications in Commonwealth member countries and sub-Saharan Africa (SSA) as a whole. The study involved two components: 1) a literature review on abortion in SSA covering the years 1980-1994 and 2) primary data collection in three Commonwealth countries (Zambia, Uganda, Malawi) to yield more recent findings. The findings of that study form the basis of this monograph.

The literature review involved a computerized search for published literature using various bibliographic databases and a manual search for any unpublished documents (grey literature) available in the Commonwealth member countries on abortion. The search identified 99 published and 169 grey studies that were then annotated using a standardised format.

Next, in each of the three countries, two researchers—selected for their expertise in women's health issues and their research capabilities—collected data on incomplete abortion from four hospitals (urban and rural) using standardised instruments. Data collection focused on the magnitude of morbidity and mortality in the hospitals due to unsafe abortion, the cost of treating patients with abortion complications and provider and patient perspectives. In Zambia, where the laws concerning abortion are less restrictive, data also were collected on induced abortion/menstrual regulation (MR) patients.

Collectively, the literature review findings point to a significant public health problem as measured by (among other statistics) a high proportion of incomplete abortion patients among all hospital gynaecology admissions (up to 76% in some places). Most of the epidemiological studies, however, have been conducted in hospital or clinic settings. This points to the need for more community-based studies, as many maternal deaths due to abortion complications occur outside the formal health system.

The clinical literature identifies haemorrhage and sepsis as the two most common complications of abortion among women presenting at health facilities. Experiences with the use of manual vacuum aspiration (MVA) in SSA for treating abortion complications have been positive as measured by shorter lengths of hospital stay and a reduced need for a repeat evacuation. Gaps in the clinical literature exist, however, including how the health system can expand MVA services to lower levels of the system. In addition, very little information exists on the cost of treating abortion complications. One study which compared the facility costs of MVA to sharp curettage (SC) for treating incomplete abortion patients documented decreases of up to 66% with the use of MVA (Johnson, et al., 1993).

Few articles have focused on the role of men in supporting a woman's decision to abort or use contraception. The paucity of literature on this topic underscores the need for additional research. Studies on the relationship between contraceptive behaviour and abortion illuminate that fact that almost all patients suffering from complications of an unsafe abortion do not use an effective, or any, method of contraception prior to becoming pregnant. Adolescents are a population particularly affected because of national policies and/or practices which limit or

prohibit distribution of contraceptives to adolescents. Reasons cited for non-use of contraception among females, including adolescents, include fear of disapproval, a lack of information and/or a lack of access to services. Research literature on postabortion family planning (FP) services in SSA is virtually nonexistent which most likely reflects the lack of these services in general in the region. This gap points to the need to initiate such services before research studies evaluating the linkages between FP and abortion can be conducted.

Finally, the literature on legal aspects of abortion in SSA is abundant. Some articles describe abortion laws and others describe administrative or bureaucratic obstacles to obtaining legally induced abortion in the region. Almost all of the articles recommend law reform so that the legal code for abortion reflects a public health rather than a criminal orientation.

The findings of the topical summaries can be summarised as follows:

- Magnitude of Unsafe Abortion
  - Treatment of large numbers of women with complications of unsafe abortion is a major problem in the health care systems of the region; abortion complications are an important contributor to hospital-based maternal mortality and morbidity.
  - The majority of existing epidemiological research was carried out in hospitals where treatment of abortion complications is offered; the few community-based studies conducted, however, also suggest that abortion complications are a leading cause of overall maternal mortality.
  - While women seeking care for abortion complications may fit the profile of any woman of reproductive age, young unmarried women with few children are overrepresented among abortion patients studied in hospitals.
- Clinical Issues
  - Haemorrhage and sepsis are the major reported causes of abortion-related deaths.
  - Unsafe methods of induced abortion, especially traditional methods, can result in serious injuries and death to women.
  - Manual vacuum aspiration (MVA) has been shown to be an effective, safe method of uterine evacuation.
- Cost Issues
  - Treatment of abortion complications represents a significant cost to health care systems in SSA (as measured by the use of resources such as staff time, medications and space).
  - Hospital stays are shorter, and thus costs are lower, for incomplete abortion patients treated with MVA versus sharp curettage (SC).

- Contraception and Abortion
  - Contraceptive use among women experiencing abortion is relatively low.
  - Serious obstacles to contraceptive use remain, including women's concerns about contraceptive side effects and lack of access to and information about FP services.
  - Postabortion FP services/linkages are limited
  
- Male Perspectives
  - Little literature exists on the males role in decisions surrounding an induced abortion.
  - The literature that does exist suggests that men have limited involvement in women's decisions to seek an abortion, except perhaps to provide financial support.
  
- Abortion Laws
  - Most abortion laws in SSA are restrictive, permitting abortions only for a narrow range of indications, for example, to save the life of the woman.
  - Administrative requirements for legal abortion, such as the need for consent by a medical committee, reduce women's access to safe, legal services.
  - Restrictive laws foster the existence of clandestine, poorly performed abortions.

The data collected from the three countries specifically for this monograph confirm, for the most part, the findings of the comprehensive literature review. The investigators found, however, that records on abortion patients are not well kept nor easily retrievable. Thus, the accuracy and validity of any hospital-based data collected from *existing* records may be questionable and conclusions from such studies should be interpreted carefully. Similarly, valid cost estimates for treating patients with abortion complications were very difficult to obtain in the time allocated for the study because hospital budgets and expenditure statements are not broken down by abortion or gynaecology services. Although cost data were very difficult to obtain, the researchers in one country, Malawi, estimated that the cost of treating one abortion patient with no serious complications was higher than the amount budgeted by the Malawi Parliament for all health care services for each citizen for the year.

In two countries, Zambia and Malawi, MVA was used to manage incomplete abortion, although not at the peripheral levels. In almost all facilities surveyed in the three countries, the providers noted that in general, incomplete abortion patients were not using any method of modern FP when they became pregnant. Many, although not all, of the providers thought that FP information and services *should* be provided to abortion patients following the procedure. In most facilities, however, neither postabortion FP counselling nor FP methods were offered before discharge. Interestingly, providers were almost unanimous in their opinion that women

choose to abort and providers choose to perform the procedure despite the statutes of the law. Given this perception, many favoured decriminalising current abortion laws in their country.

Of the patients interviewed, the majority noted that it took them between 1 and 2 hours to reach the facility. This finding underscores the likelihood that hospital-based data reflect the “tip of the iceberg” with respect to the magnitude of the problem in the community.

Numerous policy and programme implications were derived from the study findings. These are included in the monograph under each topical area and in summary format at the end of the report. The implications summary covers the following four areas of programmatic importance:

- Quality and availability of postabortion care services
- Management of postabortion care services
- Accessibility of postabortion care services
- Legal environment for postabortion care services

Study findings summarised in the initial draft of the monograph were presented with policy and programme implications to officials attending the 22nd Conference of Health Ministers held in November 1994 in Blantyre, Malawi. The implications were accepted by those attending the conference as important issues needing to be addressed in their respective countries, and member state officials were encouraged to translate these implications into programme action plans for their countries. Given that Zambia has the most liberalised legal provisions for abortion of the SSA Commonwealth countries, it was also agreed by those attending that efforts need to be made to improve the legal environment in other countries to address the issue of unsafe abortion.<sup>1</sup>

The policy and programme implications of the research will be summarised in a shorter policy document which will be shared with officials at the 1995 CRHCS Conference of Health Ministers. It is hoped that both documents will assist policy-makers (and others in the region involved in decision-making about how abortion patients are treated) to promote changes needed to improve abortion outcomes in their countries.

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<sup>1</sup>Report of the 22nd Commonwealth Regional Conference of Health Ministers

# PREFACE

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## ORGANISATION

The *Monograph on Complications of Unsafe Abortion in Africa* comprises seven major sections. The **Preface** contains an introduction and the rationale for undertaking this project. The **Methodology** describes how the information for the monograph was obtained. Briefly, this involved a literature review of published and grey documents covering the issue of unsafe abortion in SSA for the years 1980-1994. For the primary data collection effort, investigators in Malawi, Uganda and Zambia visited four hospitals in each country where emergency treatment of abortion complications is provided and, in the case of Zambia, where induced abortion services can be obtained as permitted by law.

The **Literature Review** summarises the literature found under each subject area and briefly presents the major findings from that published literature. The topical areas are:

- Magnitude of Unsafe Abortion
- Clinical Issues
- Cost Issues
- Male Perspectives
- Contraception and Abortion
- Abortion Laws

Additional or contrasting information provided by the grey literature is incorporated in these summaries, as appropriate. The summaries also include brief assessments of the quality of the published literature and outline gaps in the available research. General policy and programme implications of the various dimensions of abortion are included at the end of each topical summary.

In the **Country Reports**, findings from the primary data collection are summarised. This includes a description of how the information was gathered in that country and salient results. For Zambia, there are two parts: one describing findings on abortion complications and one for the MR/induced abortion results.

The **Summary** brings together the major findings from both the literature review and primary data collection. An overall list of policy and programmatic implications of the findings is presented in **Policy and Programme Implications**. These implications are provided so that policy-makers, health care providers and others in key positions can support changes needed to reduce the morbidity and mortality associated with unsafe abortion in the region. The implications summary is organised into four areas of programmatic importance:

- Improvements in the Quality and Availability of Postabortion Care Services
- Improvements in the Management of Postabortion Care Services
- Improvements in the Accessibility of Postabortion Care Services
- Improvements in the Legal Environment for Postabortion Care Services

The final section, **Recommendations for Priority Research**, outlines topics for which little supporting research from SSA was identified through the literature search. The monograph

concludes with a call for increased focus on concrete strategies and actions that will address the consequences of unsafe abortion in SSA.

An annotated bibliography is provided in the annex section. The bibliography includes all published and grey literature articles (totaling 268 documents) identified for the monograph in US libraries and by institutional scientific officers (ISOs) in the CRHCS countries (**Annexes 1-6**). The annotations are organised into the six topical areas referred to throughout the monograph. The standardised format used to annotate all of the documents is provided in **Annex 8**. All supporting documentation, including the instruments used to collect the primary data, is included as **Annexes 7-16**.

## BACKGROUND

The problem of unsafe abortion<sup>2</sup> is beginning to receive worldwide attention as illustrated by events at the International Conference on Population and Development (ICPD) held in Cairo in September 1994. This critical women's health issue, however, remains a sensitive subject in various countries worldwide including many in sub-Saharan Africa (SSA). Though rarely a *focus* of discussions at professional health or medical conferences in the region, unsafe abortion in SSA has been *researched* extensively during the past 2 decades. This monograph, developed by the Commonwealth Regional Health Community Secretariat (CRHCS)<sup>3</sup>, with technical assistance from the Johns Hopkins Program for International Education in Reproductive Health (JHPIEGO)<sup>4</sup> and IPAS<sup>5</sup>, documents the extent to which unsafe abortion has been investigated, the quality of the available information and information gaps that still exist.

In 1993, the CRHCS, which represents 13 member countries in East, Central and Southern Africa (ECSA)<sup>6</sup>, took a leading role in the area of unsafe abortion when it sponsored a study to investigate risk factors associated with maternal mortality in four of its member countries. The final report of that study, *Policy Implications of Reproductive Health Research for East, Central and Southern Africa*, indicated that approximately 30% of maternal deaths in those countries were attributable to complications of unsafe abortion (Kinoti, et al., 1993). As a

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<sup>2</sup>Unsafe abortion is defined as a procedure for terminating unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standards or both (World Health Organization [WHO]).

<sup>3</sup>The CRHCS, a regional organization that fosters and encourages cooperation in health and related areas among 13 East, Central and Southern Africa countries, managed the primary data collection and the review of the grey literature. In May 1995, the CRHCS changed its name to the East, Central and Southern Africa Health Community (ECSAHC).

<sup>4</sup>JHPIEGO, a non-profit reproductive health training organisation which provides technical assistance to many countries in Africa, assisted the CRHCS in planning, coordinating and implementing all monograph activities and prepared the document for distribution.

<sup>5</sup>IPAS, a non-profit organisation that focuses on the problem of unsafe abortion and which provides technical assistance to a number of African countries, conducted the United States (US)-based computerised literature search and assisted the CRHCS with various aspects of the monograph data collection activities.

<sup>6</sup>CRHCS member countries are: Botswana, Kenya, Lesotho, Malawi, Mauritius, Namibia, Seychelles, South Africa (added November 1994), Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

result of those findings, the Conference of Health Ministers, the policy-making body of the ECSA health community, adopted a resolution in November 1993 in Maseru, Lesotho which acknowledged unsafe abortion as a major cause of maternal mortality in the region.

The first draft of this monograph was presented with programmatic and policy implications to officials attending the November 1994 Conference of Health Ministers in Malawi. The monograph policy and programme implications were adopted by those attending the Conference, and the key points of the monograph were acknowledged as important issues needing to be addressed in their respective countries. It was agreed in that forum that the policy and programme implications would be extracted from the monograph and disseminated as a separate document to other health decision-makers in the region. As has been the process subsequent to previous conferences, the CRHCS urged member states to translate these policy and programme implications into action plans appropriate for their countries. Given that Zambia has the most liberal legal provisions for abortion of all the Commonwealth countries in SSA, it also was agreed by the attending officials that efforts need to be made to improve the legal environment in other ECSA countries to address the issue of unsafe abortion.<sup>7,8</sup>

The conclusions and implications outlined in this monograph are consistent with the recommendations made by the Programme of Action adopted at the 1994 ICPD. The scope of those recommendations is outlined in paragraph 8,25 of that document:

*In no case should abortion be promoted as a method of family planning. All governments and relevant intergovernmental and nongovernmental organisations are urged to strengthen their commitment to women's health, to deal with the health impact of unsafe abortion as a major public health concern and to reduce the recourse to abortion through expanded and improved family planning services. Prevention of unwanted pregnancies must always be given the highest priority and all attempts should be made to eliminate the need for abortion. Women who have unwanted pregnancies should have ready access to reliable information and compassionate counselling. Any measures or changes related to abortion within the health system can only be determined at the national or local level according to the national legislative process. In circumstances in which abortion is not against the law, such abortion should be safe. In all cases women should have access to quality services for the management of complications arising from abortion. Postabortion counselling, education and family planning services should be offered promptly which will also help to avoid repeat abortions.*

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<sup>7</sup>Report of the 22nd Commonwealth Regional Conference of Health Ministers

<sup>8</sup>Virtually all countries in SSA have some legal provisions for abortion although, with the exception of Zambia, the provisions are usually narrow.

# METHODOLOGY

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Findings from both a literature review and primary data collection (i.e., collection of raw data from the field) have been included in this monograph in order to give breadth and depth to the publication.

## LITERATURE REVIEW

The main criteria for selecting documents to be reviewed for this monograph were that they be published between 1980 and 1994 and that they reflect research conducted in (or information gathered on) one or more SSA countries. Under these broad criteria, the following documents were deemed most relevant:

- Hospital- and community-based epidemiological studies documenting the incidence or prevalence of abortion and abortion-related morbidity and mortality
- Studies focusing on provider attitudes toward and experiences with abortion and/or postabortion patients
- Studies focusing on women's perspectives on the quality of and access to abortion services
- Studies examining men's perspectives on the problem of unsafe abortion
- Studies documenting the social and financial costs of abortion
- Studies demonstrating programme linkages between treatment of abortion complications and other reproductive health (especially family planning [FP]) services
- Clinical studies documenting the safety and effectiveness of different abortion treatment modalities, especially as they affect cost, quality of care and access to such services

In addition, articles covering the general legal situation (e.g., how abortion laws developed in these countries; how they have changed over time; how laws might have created barriers to access for women seeking treatment for abortion complications) were identified and reviewed. The literature review involved two complementary activities:

- A US-based computerised literature search for documents on the problem of unsafe abortion in SSA
- A primarily Africa-based search for any publicly or locally available literature dealing with this women's health issue

For the purposes of this document, two categories are used (i.e., “published” versus “grey” literature). The published literature includes i) peer review/indexed/referred journals and ii) books (or chapters of books) assigned an International Standard Serial Number (ISSN) or

International Standard Book Number (ISBN). The grey literature included in the monograph represents other journal articles, meeting proceedings, reports, official country papers, student theses, etc.<sup>9</sup>

The US-based review effort began with a search of SCIMATE, a computerised bibliographic cataloguing software, to identify all materials available in the library of IPAS where the search was conducted. Overview articles or commentaries on the problem of unsafe abortion in SSA were reviewed for relevance to the monograph but were generally not abstracted (**Annex 7**). In particular, the reference pages of each of these articles were reviewed to identify any additional literature that might be appropriate for inclusion in the monograph. An attempt was then made to retrieve the additional articles from US libraries. Additional computerised searches were carried out using select key words (**Annex 9**) with the following bibliographic databases:

- MEDLINE, a clinical and medical database maintained by the US National Library of Medicine and accessed through the MEDLARS system
- POPCAT, a cataloguing software used by the University of North Carolina Population Center
- Dissertation Abstracts International which catalogues Master's theses and Doctoral dissertations of US students, accessed through the computerised DIALOG system
- SOCIAL SCISEARCH, which catalogues social science research articles from all over the world (also accessed through DIALOG)
- POPLINE, maintained by JHU/CCP/PCS/PIP, which features population and FP articles

The Africa-based search was directed by the Health Research Coordinator of the CRHCS who engaged the services of ISOs in ten (of the now thirteen) CRHCS member countries. These ISOs are health professionals who have been identified by officials in their country as CRHCS research contact people. They, along with the three researchers who carried out the primary data collection in Malawi, Uganda and Zambia, searched the following sources for relevant literature:

- Dissertation files of medical schools and university social science departments
- Ministry of Health (MOH) documentation files
- Health/population research institute libraries
- National FP programme document lists
- Other national archives where documents on the problem of unsafe abortion might be maintained in each country

The ISOs and researchers solicited information on the availability of such documents from relevant MOH, university and research professionals. Most of the documents retrieved were theses, meeting proceedings, presentations and local research reports.

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<sup>9</sup>Differentiation for this monograph of published and grey literature was based on the authors' opinions regarding the general availability of documents, particularly in Africa.

Altogether, 268 articles were identified as meeting the criteria for inclusion in the monograph. Of these, 99 were located through the US-based computerised database search and in the libraries of US-based organisations. The grey literature search identified 169 articles, 50 of which were identified through the US-based computerised database search. Approximately 50 documents were submitted too late to be annotated; these have been forwarded to JHU/CCP/PCS for abstracting and inclusion in POPLINE (see **Acknowledgments**).

An interesting finding from this search process was that a considerable number of documents identified by the ISOs (which were not published in indexed journals/books) were already included in one or more of the computerised databases, or a copy was available in the library of a US-based organisation interested in this public health topic. In particular, the POPLINE search yielded a number of documents that were produced and distributed and/or published locally in Africa. Not uncommonly, the results of research studies documented in a local report were later written up in one or more journal(s). Much time, therefore, was spent identifying and eliminating duplicate listings.

Once this process was completed, each *unique* document was annotated and entered into a computerised bibliographic database using the software programme ProCite (version 2.1.1). A standardised bibliographic format and guidelines for analysis were developed to ensure that the annotated information was presented uniformly (**Annex 8**). Each annotation was to include, whenever possible, a summary of the:

- Purpose of the study or meeting where the paper was presented
- Time/length and location/site of the study or meeting
- Data collection methodology
- Salient results
- Significance of the findings

Following the annotation process, all monograph documents were classified into the six topical areas described earlier:

- Magnitude of Unsafe Abortion  
(including socio-demographic characteristics of women experiencing the problem)
- Clinical Issues
- Cost Issues
- Male Perspectives
- Contraception and Abortion (including postabortion FP practices)
- Abortion Laws

These categories are not exhaustive in terms of the numerous dimensions of the unsafe abortion problem but rather represent topical areas of particular *programmatic* relevance to this issue. In many instances, documents could not be classified easily into one category over another because aspects of several categories were touched upon in the report. In such cases, articles were placed in the category covered in most depth in the document.

## PRIMARY DATA COLLECTION

The primary data collection was intended to yield more recent information on certain aspects of the problem of unsafe abortion and on postabortion care. Because the majority of articles identified through the literature search focused on the epidemiology of the problem, the primary data collection effort attempted to cover dimensions of the problem which would be more easily documented through qualitative data collection methods such as in-depth interviews with hospital providers involved with this women's health issue.

Three CRHCS member countries—Malawi, Uganda and Zambia—were chosen for primary data collection. Various criteria were considered in selecting these countries but a major consideration was that limited data on these countries already exist (as revealed from the literature search). The fact that Zambia has a more liberal abortion law than any other ECSA country made this an appealing country to include since experiences there could provide a useful basis for exploring the effect of more liberalised laws on the magnitude of the problem. Finally, Malawi was the host country for the 1994 CRHCS Conference of Health Ministers—the meeting at which the monograph findings were to be initially presented—and thus it was felt that recent data from this country would be of particular relevance and interest.

Although the literature search revealed that *community-based* studies on the magnitude of the problem are lacking, given time constraints and the need for information on other aspects of the problem (e.g., provider and patient attitudes, system costs), data collection for this monograph was conducted in hospitals where services for treatment of incomplete abortion and other complications are provided. Four hospitals in each country were targeted: one tertiary care centre in the capital city and three, more rural, district or provincial hospitals. It was hoped that including rural hospitals would provide at least some insight into the seriousness and magnitude of the problem as it affects the health system in areas where the majority of the population often lives.

Data collection forms were designed (including instructions [**Annex 10**]) to document the following specific dimensions of the problem:

- Magnitude of the Problem at the Hospital (**Annex 11**)
- Cost of Treating Abortion Complications (**Annex 12**)
- Provider Perspectives (**Annex 13**)
- Patient Perspectives (**Annex 14**)

A compilation and modification of these four data collection instruments (**Annex 15**) was created specifically for Zambia where menstrual regulation (MR)<sup>10</sup> and induced abortion services are legally obtainable under various conditions.

The data were collected in each hospital over a 5-day period by a team of two researchers. The researchers were selected for their familiarity with the topic of abortion (and/or women's health) in their respective countries and their research capabilities. The data collection tools/methods were first pilot-tested at Kenyatta National Hospital in Nairobi, Kenya and then

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<sup>10</sup>Menstrual regulation (MR). "This term refers to use of the manual vacuum aspiration technique with a hand-held syringe for termination in very early pregnancy and sometimes refers to uterine evacuation when pregnancy has not been confirmed." (World Health Organization. *Complications of Abortion: Technical and Managerial Guidelines for Prevention and Treatment*. Geneva: WHO, 1995).

modified by two of the three research teams as part of a 3-day research planning meeting in May 1994. Three methods were used to collect the data:

- Retrospective record review (review of patient admissions/discharges)
- Observation of patients in the wards
- Interviews with providers, patients and administrators

### **Logbook Review**

Information on the abortion caseload at a facility was collected through a review of the patient logbook(s). The number of different logbooks reviewed in any one facility corresponded to how the hospital was organised and the number of places where this information could be recorded (e.g., gynaecology ward, female ward, general casualty area). A Logbook Data Collection Form (included in **Annex 11**) was used to record select information on all abortion patients admitted to the hospital for a recent 1-year period (e.g., June 1, 1993 through May 30, 1994) or approximately 300 patients, *whichever involved less reviewing*. (For example, in hospitals with very large caseloads, information on 300 patients may have been obtainable over a period of just a few months.) It was intended that this information would provide an *indication* of the severity of the problem as experienced by hospital facilities and a general profile (e.g., age, parity) of incomplete abortion patients presenting for treatment.

### **Observation in the Wards**

A Ward Occupancy Data Collection Form (included in **Annex 11**) was used for recording the number of abortion patients<sup>11</sup> occupying a hospital bed, compared with the number of available hospital beds and/or the total number of gynaecology patients in the various wards during the (5-day) observation period. These statistics provide an indication of the *relative* importance of abortion complications as compared to other gynaecological problems in terms of conditions requiring hospitalisation.

The researchers were instructed to identify wards in the hospital where abortion patients might be located and to observe these wards at least once a day during the observation period. A Patient Stay Data Collection Form (included in **Annex 12**) was designed to assist in collecting information on the average length of stay (ALOS) of incomplete abortion patients. This information was, in turn, used to help estimate the cost (i.e., resources expended) of treating complications of unsafe abortion at the hospital. This form was used in all wards to which abortion patients were admitted in the study hospitals.

### **Interviews with Administrators/Others**

Cost-related information also was acquired through interviews with the senior hospital administrator and others in the facility with management responsibilities. This semi-structured interview (see **Annex 12**) was not intended to yield detailed or precise cost information but

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<sup>11</sup>For the purposes of this investigation, all patients seeking care for an incomplete abortion whether related to a spontaneous or induced abortion were included in the study; no effort was made to distinguish between the two.

rather, broad estimates so that the relative cost of dealing with this public health problem in each facility could be estimated.

### **Interviews with Providers**

A questionnaire soliciting attitudes about emergency abortion treatment services (included in **Annex 13**) was developed for use with any provider involved in the care of abortion patients with complications in the hospital. Providers performing menstrual regulation in Zambia were interviewed using a different questionnaire (**Annex 15**). The research teams were encouraged to interview as many providers fitting this description during the 5 days as possible. The providers targeted for interview included obstetrician/gynaecologists, medical or clinical officers, nurses and medical interns or residents. The interviews included questions on attitudes toward the availability and/or provision of postabortion FP and provider-patient interactions, among others. More detailed information about the cause of death among abortion patients was obtained through interviews with appropriate members of the hospital's maternal mortality review committee (where such a group existed).

### **Interviews with Patients**

Patients being treated for complications of an incomplete abortion during the observation period (and induced abortion in the case of Zambia) were interviewed by one of the research team members (questionnaire included in **Annex 14**). As many recuperating women as possible were interviewed. Each researcher, however, was requested to interview a minimum of 50 patients (10 per day) from each hospital, whenever possible, to yield a meaningful sample for analysis. Interviews were conducted at the time considered most appropriate by the person in charge of the ward. The patient interviews included questions on:

- Patient attitudes toward the quality of services they had received
- Whether postabortion FP had been offered
- The distance traveled to obtain services
- The amount of time spent waiting for treatment

### **Data Cleaning and Analysis**

The data were entered by the members of each research team into standardised computerised EpiInfo (version 5.0) files. The files were modified during the Kenya planning meeting to match the revised questionnaires. For the logbook and ward observation data, the researchers manually summarised the data obtained from each source/ward/administrator (a calculation sheet provided as part of the data collection forms packet aided in this process) so that ultimately there was only one record per hospital (except in the case of Zambia where a number of administrators were interviewed to obtain cost data). For the provider and patient interviews, data from each questionnaire were entered so that there were multiple records per hospital for this information (a total of 114 records for providers, 182 for patients with complications and 9 records for MR clients from the tertiary care center in Lusaka).

All data files were converted into SPSS format and frequency distributions were examined to ensure that the study variables had an acceptable range-of-value. The rare outlying

values were set to missing (e.g., daily work hours greater than 24). Cross-tabulations of logically-related variables provided the opportunity for further quality checks on the data.

Some of the files contained mathematically-related variables so that the value of some variables input into the EpiInfo database could be cross-validated using a computer calculation. Whenever a discrepancy between the two values existed, the computer calculations were used. Univariate analyses were performed separately for each country. The focus of the analyses for this monograph was on characterising the situation in the country and the differences among hospitals within a country. A few cross-tabulations were generated for important categorical variables by hospital and basic descriptive statistics (mean, median and ranges) were generated for important quantitative variables by hospital.

**FINDINGS:**

**LITERATURE  
REVIEW**

**TOPICAL  
SUMMARIES**

# INTRODUCTION

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The topical summaries which follow present the most salient findings of the published and grey literature on unsafe abortion in SSA, according to the previously-listed themes. Overall, the major findings within each topical area can be summarised as follows:

## MAGNITUDE OF UNSAFE ABORTION

- Treatment of large numbers of women with complications of unsafe abortion is a major problem in the health care systems of the region; abortion complications are an important contributor to hospital-based maternal mortality and morbidity.
- The majority of existing epidemiological research was carried out in hospitals where treatment of abortion complications is offered; the few community-based studies conducted, however, also suggest that abortion complications are a leading cause of overall maternal mortality.
- While women seeking care for abortion complications may fit the profile of any woman of reproductive age, young, unmarried women with few children are overrepresented among abortion patients studied in hospitals.

## CLINICAL ISSUES

- Haemorrhage and sepsis are the major reported causes of abortion-related deaths.
- Unsafe methods of induced abortion, especially traditional methods, can result in serious injuries and death to women.
- Manual vacuum aspiration (MVA) has been shown to be an effective, safe method of uterine evacuation.

## COST ISSUES

- Treatment of abortion complications represents a significant cost to health care systems in SSA (as measured by the use of resources such as staff time, medications and space).
- Hospital stays are shorter for incomplete abortion patients treated with MVA versus sharp curettage (SC) and thus, costs are lower.

## CONTRACEPTION AND ABORTION

- Contraceptive use among women experiencing abortion is relatively low.
- Serious obstacles to contraceptive use remain, including women's concerns about contraceptive side effects and lack of access to and information about FP services.

- Postabortion FP services/linkages are limited.

### **MALE PERSPECTIVES ON ABORTION**

- Little literature exists on the male role in decisions surrounding an induced abortion.
- The literature that does exist suggests that males have limited involvement in women's decisions to seek an abortion except perhaps to provide financial support.

### **ABORTION LAWS**

- Most abortion laws in SSA are restrictive, permitting abortions only for a narrow range of indications, for example, to save the life of the woman.
- Administrative requirements for legal abortion, such as the need for consent by a medical committee, reduce women's access to safe, legal services.
- Restrictive laws foster the existence of clandestine, poorly performed abortions.

# MAGNITUDE OF UNSAFE ABORTION

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## INTRODUCTION

Forty-one published articles document the magnitude of unsafe abortion as a health issue in SSA. Almost one third of these articles were from Nigeria alone and the remainder were from countries scattered throughout the region. Most of the research was carried out in hospitals (e.g., record reviews or interviews with women admitted with complications of unsafe abortion). Several studies, however, were community-based with data collected through household surveys, key informant interviews or focus groups. Although classification of these documents into subcategories was difficult when more than one type of data was presented, this literature was ultimately grouped into the following three subcategories:

- Mortality and morbidity statistics
- Patient characteristics
- Provider characteristics

Most of the epidemiological findings from the grey literature were obtained from MOH annual reports, conference proceedings and country reports. In addition, a number of post-graduate dissertations from medical schools in Kenya, Zambia, Zimbabwe and Uganda yielded data on the magnitude of the problem of unsafe abortion. In general, these studies agreed with the findings from the published literature although the quality of the data varied from study to study.

## MAJOR FINDINGS FROM THE LITERATURE

### Mortality and Morbidity Statistics

Reliable statistics on the incidence of abortion and associated morbidity/mortality were difficult to obtain as variations existed in the way abortion statistics were defined or calculated.<sup>12</sup> Two measures that were calculated the most frequently in the literature reviewed were maternal mortality “rate” (MMR)<sup>13</sup> and the proportion of maternal deaths attributable to abortion (i.e., proportionate mortality rate). A number of authors noted that legal restrictions and the women’s fear of being stigmatised precluded collecting and disseminating more accurate statistics on induced abortion (e.g., Editorial, *East African Medical Journal*, December 1986).

Among the articles reviewed under this subcategory, the overall MMR ranged from a low of 1,18 to a high of 9,6 maternal deaths per 1000 live births (Mhango, et al., 1986; Yoseph, et al., 1988). Most rates, however, fell between 2 and 6 maternal deaths per 1000 live births. The proportion of maternal deaths due to abortion ranged from less than 1,0% in South Africa to 54% in Ethiopia and Guinea (Boes, 1987; Kwast, et al., 1986; Toure, et al., 1992). A narrower

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<sup>12</sup>Conventional definitions have been used when appropriate in the abstracts although the authors’ original term also has been provided parenthetically for reference purposes.

<sup>13</sup>The MMR is technically a ratio but historically has been referred to as a rate. (Mausner, J., Bahn, A. *Epidemiology: An Introductory Text*. Philadelphia: WB Saunders Co., 1974. pg. 195.)

range of 18–28% was reported for most other studies measuring this statistic. Twenty percent of *all* maternal deaths in one Nigerian *hospital* were related to complications of induced abortion (Archibong, 1991). And, almost 35% of *gynaecological* deaths in another Nigerian hospital were due to abortion complications (Omu, et al., 1981). In a third Nigerian study, complications of unsafe abortion were the most common cause of death among gynaecology patients, accounting for almost 37% of all fatalities over a 10-year period (Adewole, 1992).

Rates of "illegal" abortion were given in a number of studies although definitions (based on self-reporting by the patient, physician assessments, etc.) and reporting strategies varied. Three hospital-based studies and one population-based study estimated that 50%, 89%, 91% and 92% of *abortion* deaths were the result of illegal abortions (Mhango, et al., 1986 [Zambia]; Ogunniyi, et al., 1990 [Nigeria]; Unuigbo, et al., 1988 [Nigeria]; Kwast, et al., 1986 [Ethiopia], respectively). Three other studies indicated that illegal abortion accounted for 2,1%, 7,1% and 10,4% of *maternal* deaths in three Nigerian states (Chukudebelu and Ozumba, 1988; Adetoro, 1989; Ogunniyi, et al., 1990, respectively).

Sepsis and haemorrhage were often cited as important major complications of unsafe abortion and were the two main clinical causes of abortion-related deaths indicated in every study reporting this statistic. Sepsis data were reported in a variety of ways, however, making generalisation of the findings difficult. Septicaemia was found in about 12% of abortion patients in one Kenyan hospital and in 84% in a Nigerian hospital (Ojwang and Omuga, 1991; Okonofua, et al., 1992). Another Kenyan study stated that 16% of all abortion cases in the study hospital were septic (Aggarwal and Mati, 1980). Seventy-four percent of abortion-related *deaths* in a Nigerian hospital-based review were related to sepsis (Ogunniyi, et al., 1990). A report on research conducted in Kenyan hospitals found that almost 10% of maternal deaths in those institutions were attributable to post-abortal sepsis (Ruminjo, 1990). A South Africa study indicated that almost one quarter of hospital maternal deaths from sepsis were abortion-related (Boes, 1987).

The findings of most of these studies were obtained primarily from reviews of hospital records. Two studies—one household survey in Ethiopia and a combined review of hospital and community deaths in Guinea—are notable because of their community orientation (Kwast, et al., 1986; Toure, et al., 1992, respectively). The Ethiopian study found that abortion was the main cause of maternal mortality in the community, accounting for 54% of all maternal deaths, and the Guinean study documented that 71% of abortion-related deaths were due to sepsis.

Contributing causes of abortion-related mortality cited in the literature included: delay in seeking care; lack of drugs and other supplies; provider error (both outside and inside the hospital); problems in patient management (e.g., high patient/staff ratio); and administrative requirements for obtaining legal abortion procedures (Kampikaho and Irwig, 1991; MacPherson, 1981; Mhango, et al., 1986; Megafu and Ozumba, 1990).

## **Patient Characteristics**

In the literature reviewed, adolescents were overrepresented among those presenting with complications from unsafe abortion. In one Kenyan study, for example, 53% of septic patients were under age 20 (Aggarwal and Mati, 1980). And, in two Nigerian studies of septic abortion patients, 61% and almost 75% of the patients were adolescent girls (Adetoro, 1986; Adetoro, et al., 1991, respectively). In a third Nigerian study, 61% of patients treated for complications of induced abortion were adolescents (Omu, et al., 1981).

Given the predominance of young women among incomplete abortion cases, it is not surprising that numerous studies also found that many abortion patients were unmarried. For example, a Zambian study of women requesting legal termination of pregnancy (TOP) reported that 45% were unmarried (Chatterjee, 1985). In the two Nigerian hospital-based studies, 81% and 58% of abortion patients were unmarried (Archibong, 1991; Okonofua, et al., 1992, respectively). In one of the Kenya studies cited above, 74% were unmarried (Aggarwal and Mati, 1980). In an article containing case histories of a number of Kenyan women, the authors concluded that unmarried, unemployed women were the most likely to seek an abortion (Baker and Khasiani, 1992).

Similarly, young, unmarried women often were overrepresented among abortion-related *deaths*. For example, one study in Uganda concluded that almost 60% of deaths due to abortion occurred among teenagers (Unuigbo, et al., 1988). In another study in a major Kenyan hospital, single women accounted for almost 60% of abortion-related deaths (Makokha, 1991). Furthermore, half of the adolescent deaths in that Kenyan hospital were due to abortion complications. Almost one third of abortion deaths in a Nigerian hospital were in women under 20 years of age (Adetoro, 1989).

Most studies also found that women seeking an abortion had few previous children. For example, one Zambian study found that 40% of the women were nulliparous while a Nigerian study found that 62% had no previous children (Chatterjee, 1985; Okonofua, et al., 1992, respectively). In a large multi-country study carried out in the late 1970s/early 1980s, the reproductive histories and outcomes of patients were described (Nichols, et al., 1984). Among women reporting an induced abortion, one third had been pregnant once previously compared to about 25% who had been pregnant twice; only 10% had had three or more previous pregnancies. (In the same study, 46% of the teenagers reported having had at least one induced abortion.)

Abortion patients represented a large percentage of total gynaecological admissions in several of the hospital-based studies: 28,4% in one Nigerian study, and 60% in each of two studies from Kenya and Nigeria (Omu, et al., 1981; Aggarwal and Mati, 1982; Adetoro, et al., 1991, respectively). Many women in these studies reported having had a previous abortion. In a study carried out in FP clinics in the Ivory Coast, 347 women who had just received FP services were interviewed. Over 25% reported that they had previously terminated an unwanted pregnancy (Huntington, et al., 1993). One researcher suggested that abortion was used mostly to *delay* a first birth, particularly for young women still in school (Lampsey, et al., 1985). Other investigators, however, noted that abortion is also used among *parous* women for *spacing*.

Overall, the educational status of women having experienced an abortion was difficult to compare due to differences in the classification of school levels and the populations studied (e.g., adolescent versus all abortion patients). Five percent of the women in the multi-centre study described above with no education, versus over 50% of the women with a university education, indicated that their first pregnancy had ended in an induced abortion. (Of the almost one third of the women who had had a previous abortion, only 10% reported using contraception afterward.) Several other studies found that many of the abortion patients had a relatively high educational level: 75% of Zambian TOP cases had attended secondary school (Chatterjee, 1985); 85% of septic abortion patients from a Nigerian hospital were students (Adetoro, 1986); and a Ghanaian study of obstetric patients found that, among women reporting at least one previous pregnancy, abortion experience was more common among women with lower gravidities and high educational levels—particularly young women still in school (Lampsey, et al., 1985). A consequence of unwanted pregnancy and unsafe abortion is the interruption of young women's

education. Research on Nigerian adolescents presenting with septic abortion found that over 50% of the young women had been expelled from school because of their pregnancy (Adetoro, et al., 1991).

Only one published study attempted to *quantify* the socioeconomic status (SES) of women who had undergone an abortion. Fifty-three percent of women seeking a TOP in this Zambian investigation were of low or middle SES (Chatterjee, 1985). Many other published studies, however, mentioned that abortion patients were of low SES. A grey literature document suggested that low SES patients were more likely than women of a higher SES to experience complications of unsafe abortion. This report indicated that women of low SES were more likely to resort to self-induced abortion or to seek care from unskilled providers because of the high cost of and lack of access to higher quality abortion services. Middle and upper class women, on the other hand, tended to obtain services from qualified doctors and nurses (International Planned Parenthood Federation [IPPF], 1994).

Studies reporting on FP knowledge and contraceptive use found that for most abortion patients, knowledge, ever-use, and current-use of contraception were low. The Zambian study of TOP cases described above revealed that 57% of women had little or no knowledge of FP (Chatterjee, 1985). A Nigerian study of septic abortion patients reported that 85% had no knowledge of FP whatsoever (Adetoro, 1986). Ninety-five and 90% of abortion patients interviewed in two other Nigerian studies had never previously *used* a FP method (Archibong, 1991; Okonofua, et al., 1992, respectively). In the latter study, only 45% of the women thought they might ever *want* to use a FP method, mainly due to fear of contraceptive side effects. Most studies found little use of contraception prior to the index pregnancy with the exception of one article from Zimbabwe (Crowther and Verkuy, 1985). In this study, contraceptive failure had occurred in 18% of the patients treated for abortion complications. Of these, 44% had been using oral contraceptives (OCs).

In the context of pregnancy complicated by disease, a Tanzanian study examined the effect of being human immunodeficiency virus (HIV) positive on the incidence of pregnancy wastage and low birth weight (Urass, et al., 1992). Infected women had increased rates of foetal wastage and lower birth weights compared to non-infected women presenting for antenatal care or delivery. These findings contradict studies conducted in the US and Europe which have not shown similar negative pregnancy outcomes among HIV-positive women.

Women's reasons for seeking abortion were discussed in several studies (Archibong, 1991; Bleek, 1981; Huntington, et al., 1993). These included: timing of the pregnancy, fear of expulsion from school, financial difficulties and uncertainties about the partner.

## **Provider Characteristics**

Information on provider characteristics was less abundant than for patient characteristics. Some studies found that most induced abortions were performed by untrained personnel such as traditional healers and chemists. Trained medical practitioners, however, provided 32% of complicated induced abortions in one Nigerian study and 18% in another (Okonofua, et al., 1992; Archibong, 1991, respectively). In a study on 119 septic abortion patients in a Nigerian hospital, almost 60% of the abortions had originally been induced in a private hospital or clinic, and non-gynaecologists were the single largest provider group (46%) (Konje and Obisesan, 1991). A study of adolescents in Nigeria found that they were as likely to attempt to self-induce an abortion (21,5%) or to procure an illegal abortion from an unskilled person (26,2%; 47,7%

altogether) as they were to seek an abortion from a doctor (47,7%) or nurse/midwife (4,6%; 52,3% altogether) (Odujinrin, 1991). In yet another Nigerian study, almost one third of the illegal terminations (i.e., those obtained outside the hospital) were performed by physicians. The proportion of abortion-related fatalities attributable to physician providers over the ten-year period increased, however, with two thirds of the deaths in the last year of the study occurring in women who had obtained an abortion from a physician (Adewole, 1992). Interviews with Kenyan nurses showed that they had limited and incorrect knowledge about safe methods for inducing abortion, the safest gestation period for induced abortion and possible associated complications (Kidula, et al., 1992). Eleven percent of these nurses, however, indicated that they had performed an abortion themselves.

## CONCLUSION

The published studies provide a wealth of descriptive information about the magnitude of the problem of unsafe abortion as well as characteristics of abortion patients and information about providers of abortion. In general, the studies were well designed although there were differences in the definition of unsafe abortion, as well as in the methods for measuring outcomes, which made it difficult to compare and contrast the findings.

The research was primarily descriptive rather than analytic in nature. A number of studies, for example, stated that many of the women treated for complications of abortion were young, unmarried and of low parity. These three characteristics, however, are often interrelated, requiring more sophisticated statistical analyses to identify the strongest predictive factor(s). Although women with these three characteristics were represented in large numbers among abortion patients in the studies reviewed, many women who did *not* fit this profile also sought treatment for abortion complications; programme interventions, therefore, should be designed to meet the needs of all women.

Much of the research yielded epidemiological rates and/or ratios. While these served to document the magnitude of unsafe abortion, the need to measure other facets of the unsafe abortion problem (including the economic consequences) remains. In addition, while research findings frequently made reference to the most common complications of unsafe abortion, little information was available about other short- and long-term effects (e.g., how do injuries or chronic disabilities resulting from abortion complications affect women, their families, and their communities?). Such paucity problem reflects the difficulty of measuring these effects.

Research on special populations also is needed. While a reasonable amount of descriptive information exists on adolescents who seek treatment for complications, virtually no operations research has been carried out on how these services can best be designed to meet the needs of this group. In addition, little documentation exists about the relationship between abortion and women who test positive for HIV. Factors that influence decision-making about unwanted pregnancy and how emergency treatment and postabortion FP services can best be tailored for HIV-positive women need to be explored.

Most of the studies described in this topical summary were conducted in hospital or clinic settings. Maternal mortality statistics based on hospital rather than community data most likely underestimate the proportion of maternal deaths due to abortion, particularly clandestine abortions. A household survey in Ethiopia was one of the few studies to report on data collected in the community (Kwast, et al., 1986). Of note, this study found that unsafe abortion accounted for 54% of maternal deaths, the highest proportion recorded in all the articles reviewed.

Future hospital-based operations research is essential to examine the most effective strategies for organising services which are practical and acceptable to the patients they serve. These studies, however, should complement community-based research which focuses on populations unlikely to enter formal health care settings. The use of both qualitative and quantitative research techniques that draw from various biomedical and social science disciplines is warranted to measure more adequately the complexities of the abortion issue.

## **POLICY AND PROGRAMME IMPLICATIONS OF THE FINDINGS**

The literature reviewed under this topical area points to policy and programmatic actions that could be taken by health decision-makers in SSA to address the magnitude of the unsafe abortion problem:

- Improving the quality of hospital-based treatment services for complications of unsafe abortion (e.g., through provider training in vacuum aspiration for uterine evacuation)
- Initiating emergency treatment services at the lowest level of the health care system possible (i.e., where appropriate staff and equipment exist) thereby increasing women's access to services
- Increasing the availability and quality of public sector services for legally indicated pregnancy terminations
- Involving national FP programmes in efforts to address unsafe abortion (e.g., through provision of postabortion FP services in emergency treatment settings)
- Facilitating collection of accurate data on the magnitude of unsafe abortion and its complications

# CLINICAL ISSUES

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## INTRODUCTION

Nineteen published articles described clinically-oriented investigations carried out in a number of SSA countries. One report described research done in a multi-centre study in the region, while the remainder were reports of studies conducted in individual countries (seven in Nigeria, four in Zimbabwe, three in Kenya, two in South Africa and one each in Zambia and Mozambique). The authors utilized a variety of study designs including retrospective record reviews, case control studies and clinical trials. Both the grey literature and the published literature addressed traditional methods for inducing abortion. The published studies have been organised into four subcategories:

- Complications and treatment
- Use of manual vacuum aspiration (MVA)
- Various techniques for induced abortion
- Sequelae of unsafe abortion

## MAJOR FINDINGS FROM THE LITERATURE

### Complications and Treatment

Approximately half of the articles specifically addressed complications and treatment. Several reported on serious injuries resulting from poorly performed abortions. For example, a Nigerian study described intestinal injuries suffered by 16 abortion patients who presented for treatment (Imoedemhe, et al., 1984). Although these women represented just 2% (16 of 798 cases) of all cases admitted to the hospital for abortion complications during the study, the severity of their injuries required lengthy hospital stays (range of 5 to 97 days with an average of 33,4 days). The majority of these women were young, nulliparous and unmarried. The investigators concluded that nulliparous women are at higher risk for intestinal injuries because of difficulties in dilating the cervix. They also suggested that pregnancy gestation affects the type of injury suffered. This was based on the finding that all injuries in women under 10 weeks gestation were colonic, while ileal injuries were more frequent among women who obtained their abortion after 10 weeks.

Another Nigerian study described the management of bowel injury in septic abortion cases over a 6-year period (Megafu, 1980). The mortality rate for the 11 patients with bowel perforation was 64%. The mortality rate among patients with intestinal injuries depended on the type of operative procedure performed (e.g., simple closure/resection [66,6%]; colostomy [0%]).

In a retrospective review of 647 records of South African women treated for abortion-related sepsis, almost 6,5% underwent laparotomy and 5,4% had a hysterectomy; 1,8% of the women died (Richards, et al., 1985). The authors concluded that there is a high incidence of serious complications associated with illegal abortions. In addition, a relatively large number of abdominal surgery procedures were necessary to treat the high number of septic cases. The types of complications of unsafely performed abortion cited in the grey literature were consistent with the findings of the published literature. Haemorrhage, shock, sepsis (including peritonitis and pelvic abscess), cervical and vaginal lacerations, uterine and visceral perforations, tetanus,

thromboembolic complications, pelvic inflammatory disease (PID) and infertility all were complications noted in the grey literature (Wilson, 1994; Elihonou, et al., 1993; Fomulu, 1981; Gomi, 1986).

Two articles reported on the type of genital tract infections found in patients treated for abortion complications. A Zimbabwean investigation looked at the type of organisms found in 95 patients developing clinical signs of infection within 48 hours of an abortion or delivery (vaginal or Caesarian-section) compared to the organisms found in 111 women who delivered and had no clinical signs of infection within the same time period (Mason, et al., 1989). The researchers found a higher prevalence of gonococcal, chlamydia and anaerobic infections in the former group. A study conducted in Nigeria compared the type of infections identified in 22 women admitted to the hospital for a septic abortion to 20 women attending the outpatient gynaecological clinic for reasons other than infection (Rotimi and Abudu, 1986). Both groups had similar types of anaerobic bacteria isolated from the genital tracts, but the *quantity* was significantly higher in the study group.

Two published articles reported on the use of antibiotics to treat abortion complications. In a Nigerian uncontrolled clinical study, researchers documented the use of Cefotaxim as a single antimicrobial agent in the treatment of 22 cases of septic abortion (Abudu, et al., 1986). The study showed that Cefotaxim alone was very effective in 77% of the cases. Anaerobes were the predominant organisms isolated and most were sensitive to the drug, although *Pseudomonas aeruginosa* proved resistant. The authors suggested that Cefotaxim be used instead of a combination of drugs for treating septic abortion cases.

A Zimbabwean clinical trial was conducted to determine the efficacy of Tetracycline as a prophylactic antibiotic for use postabortion (Seeras, 1989). Following uterine evacuation, 140 non-septic incomplete abortion patients were randomly divided into a study group (which received a week-long dose of Tetracycline) and a control group (which received no antibiotic). No *statistically* significant difference in the rate of sepsis was observed between the two groups (40,3% among the treatment group, 29,5% among the controls). The authors suggested that the reason the rate of sepsis was not significantly less with the use of prophylactic antibiotics was because the patients probably did not comply with the medication regimen. The investigators thus questioned the cost-effectiveness of offering the standard regimen of prophylactic Tetracycline; instead, they recommended providing a single oral dose of 500mg of Doxycycline in the hospital.

#### **Use of Manual Vacuum Aspiration (MVA)<sup>14</sup>**

A Zambian study described the use of MVA for managing legally induced and incomplete abortion on an ambulatory basis at a major teaching hospital (Bradley, et al., 1991). The investigators compared data on the use of MVA versus sharp curettage (SC)—also known as dilation and curettage (D&C)—for treatment of between 3000 and 4000 women over a two-year period. The results revealed that services were improved with MVA as measured by better quality of care, more efficient patient flow and reductions in the levels of pain control required

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<sup>14</sup>The MVA instrument consists of a portable, hand-held, single- or double-valved syringe and an assortment of flexible plastic cannulae. The instrument can be used for treatment of incomplete abortion and induced abortion at 12 weeks gestation or less. In addition, MVA can be utilized for obtaining samples for endometrial biopsy (Greenslade, 1993).

(resulting in the ability to provide postabortion FP services *immediately* following the procedure). The authors noted that even with Zambia's relatively liberal abortion law, access to safe legal abortion services is limited. Consequently, hospitals throughout the country continue to treat many women for abortion complications.

A descriptive study from Nigeria evaluated the efficacy, safety and acceptability of MVA (using the Karman cannulae and syringe) to perform evacuations on incomplete abortion patients (Ekwempu, 1990). A total of 103 incomplete abortion patients were included in the study and all evacuation procedures were performed using MVA. In this study, the procedure time for uterine evacuation ranged from 5 to 7 minutes. Most patients were discharged between 10 and 15 minutes after the procedure and none required hospitalisation. There were very few complications and those that did occur were not serious. The author concluded that MVA is effective, safe, reliable, convenient and economical as an evacuation procedure and that it is suitable for use in an outpatient setting.

A randomised study on the use of MVA versus SC for incomplete abortion patients was conducted at a Kenyan hospital (Kizza and Rogo, 1990). In this investigation, 300 patients with non-septic incomplete abortion had a uterine evacuation on the ward using MVA (study group), and 285 patients were evacuated in the operating theatre using SC (control group). The average length of the MVA procedure was 4 to 5 minutes (the range was 3 to 15 minutes). The total hospital stay was significantly shorter for those treated with MVA (6 to 14 hours) than for those treated with SC (24 to 48 hours). There was one uterine perforation in the control group. The patients were followed for 3 weeks post-procedure. The need for re-evacuation was not significantly different between the two groups (2,3% with MVA versus 3,5% for SC;  $\chi^2=0,751$ ;  $p>0,05$ ) nor was the proportion of women who had discharge or bleeding problems at the 7-day follow-up (29,7% for MVA, 35,4% for SC). Similar proportions of women in the MVA group (5,4%) and SC group (6,0%) developed mild to severe sepsis. Based on these findings, in particular the shorter hospital stays, the researchers recommended MVA as the treatment of choice for non-septic incomplete abortion patients with a uterine size of 14 weeks or less.

In Zimbabwe, a longitudinal study compared the use of SC versus MVA to treat 589 and 834 women, respectively, for an incomplete abortion (Mahomed, et al., 1994). The patients were assessed immediately following the evacuation and again 2 weeks later. In this study, MVA proved to be more effective than SC as measured by *statistically* significant lower rates of re-evacuation (MVA: 0%; SC: 0,7%,  $p < 0,05$ ). At the two week follow-up visit, MVA patients reported less pain and had lower rates of infection and fewer other complications. The authors concluded that the safety and effectiveness of MVA, along with the potential for improving patient management and lowering costs, should prompt wider use of this technique for treating incomplete abortion patients.

In another Zimbabwean study, 357 non-septic incomplete abortion patients were randomly assigned for treatment with either MVA or SC (Verkuyl and Crowther, 1993). The MVA cases had a *statistically* significant lower mean intra-operative blood loss (19,2 ml versus 36,3 ml for SC cases;  $p<0,0001$ ) (47% reduction) and a *statistically* significant higher mean haemoglobin level at follow-up (11,3 g/dl versus 10,8 g/dl for SC cases;  $p<0,04$ ). In addition, MVA procedure times were shorter and the technique was assessed by the provider as being less painful for the patients. No significant difference was found between the two groups, however, in rates of postabortion sepsis (1% for MVA; 4% for SC) or the need for re-evacuation (0% for MVA; 1% for SC).

The case records of 223 legal MR patients seen over a 4-year period were reviewed in another Kenyan study (Oyieke, 1986). All procedures were performed using MVA (with a Karman cannulae and syringe) on an outpatient basis and the average procedure time was 5 to 7 minutes. No anaesthetic was used. There was low blood loss and complete evacuation was achieved in 96% of the cases, with very few immediate complications; the most common problem was pain, which was promptly treated. No cases of postabortion sepsis or uterine perforation were noted. The authors recommended that MR be provided as a back-up to failed contraception and that FP providers be trained in how to perform MR safely.

### **Various Techniques For Induced Abortion**

Of the three published articles on techniques other than MVA for inducing abortion, two studies described the use of the prostaglandin  $\text{PGF}_{2a}$  for legal mid-trimester induced abortion and one reported the findings of research on an alternative technique using misoprostol (Cytotec) for inducing abortion. A study done in South Africa documented outcomes for 319 legally induced second-trimester or missed abortions which had been induced using  $\text{PGF}_{2a}$  (Guidozzi, et al., 1992). Extra-amniotic instillation was used in all but 21 of the cases for which amniotic instillation was performed. The authors recorded a relatively high number of major complications: three patients required hysterectomy, one developed a cervical tear and one died. The authors noted that their complication rate for  $\text{PGF}_{2a}$ , administered extra-amniotically for terminating second-trimester pregnancies, was nearly five times higher than the rate reported from other studies involving suction termination. They concluded that extra-amniotic instillation was associated with high complication levels and mortality, although valid incidence or trend statistics could not be derived from this study. The researchers pointed out that the relatively high number of complications could be partially attributable to the fact that almost 32% of the patients admitted for legal abortion in this hospital were in their second trimester, when the risk of complications is greater. They recommended that the hospital change its technique for second-trimester evacuation to another type of intra-uterine prostaglandin or to a non-invasive method.

A Kenyan study examined the case records of 58 patients admitted for legally induced abortion in the second trimester (Rogo and Nyamu, 1989). These patients represented all the second-trimester legal terminations seen in the facility over a 4-year period (in contrast to an estimated 7200 to 10 000 *incomplete* abortion patients admitted *per year* in the same institution). Of the 58 cases, 31 were treated with  $\text{PGF}_{2a}$  and the remaining 27 patients were treated with dilation and evacuation (D&E). Among those treated with  $\text{PGF}_{2a}$  there were no major complications reported and the minor complication rate was low. The authors concluded that using  $\text{PGF}_{2a}$  for mid-trimester pregnancy termination was safe and effective.

The final article described a study that examined the effectiveness of an intravaginal misoprostol (Cytotec) for evacuation after 12 weeks of pregnancy among 169 women in Mozambique who had requested a legal TOP (Bugalho, et al., 1993). The initial dose of 800 micrograms (mcg) was repeated 24 hours later if evacuation was not complete. (During the study, the researchers incrementally changed the amount of the initial dose from 800 mcg to 600mcg, then to 400 mcg and finally to 200 mcg.) Ultimately, complete medical abortion was achieved in 91% of the cases. The authors concluded that the drug was at least as effective as other prostaglandins for pregnancy termination between 12 and 22 weeks gestation, independent of patient characteristics such as age, parity and previous abortion.

A Burkina Faso study that examined pregnancy termination experiences among students found that the schoolgirls had used a wide variety of alternative methods for inducing the abortion (Görge, et al., 1993). The most commonly mentioned methods were: modern chemical compounds (including indigo, potassium, permanganate, a 20-tablet dose of chloroquine and large quantities of instant coffee powder); traditional chemical compounds (including leaves from a niem tree, sundried leaves or roots, and large quantities of honey with no other food for several days); and modern mechanical methods (such as medical abortion). The most dangerous method mentioned was swallowing beer-bottle glass ground into a mortar.

Two additional studies examined providers' participation in traditional methods of inducing abortion. As noted in the first topical summary, a study of nurses' knowledge of and experience with induced abortion in Kenya found that 11% had performed a pregnancy termination on another person in the past: 82,1% had used medications; 63,6% had inserted an object into the vagina; and 48,2% had used traditional herbs (Kidula, et al., 1992). A study of traditional Yoruba healers also found that 21 (19,8%) reported that they had attempted to perform an abortion. Only one of the healers, however, had succeeded in inducing the abortion (Oyebola, 1981). Methods they had used included: homemade chemical concoctions; medical soap or cream; sacrifice; consultation of the oracle; and scarification.

The abortion-induction procedures cited in the grey literature included D&C, uterine aspiration (including MVA) and the insertion of various chemicals, herbs and objects into the vagina or uterus to induce contractions (IPPF, 1994; Doclub, 1980). In one study conducted in Ethiopia in which abortion patients were categorised into groups depending on the doctor's determination of whether or not the abortion was induced, the conclusion for 37,4% of the women was that they had definitely induced the abortion; the most common method used to terminate the pregnancy was insertion of an object into the uterus (Yoseph, et al., 1993).

### **Sequelae of Unsafe Abortion**

The purpose of a WHO-supported study was to determine the extent to which sexually transmitted diseases (STDs), PID, and postpartum/postabortion infections are associated with bilateral tubal occlusion (BTO) in infertile couples (WHO, 1987). The multi-centre study was conducted over 5 years in 25 countries in Africa, Asia, Latin America and a number of developed countries. A total of 5800 couples completed the study. The most important abortion-related finding was that in Africa (and Latin America), there was a stronger association between the occurrence of BTO and the number of previous *live births* than between BTO and the number of previous *abortions*. The researchers found that STDs and pregnancy (including abortion) complications affect the magnitude of the occurrence of BTO and other infection-related infertility in all four regions, but the most widespread problems occur in Africa. The authors recommended channelling medical efforts to diagnose and treat *preventable* infections.

### **CONCLUSION**

When performed under sanitary conditions by trained providers, induced abortions have very low complication rates, especially in the early stages of pregnancy. A high proportion of the women in the studies reviewed for this monograph, however, presented with incomplete, often septic, abortions. This was probably the result of having had their pregnancy terminated in an unhygienic setting by an untrained practitioner. Given that induced abortion is illegal except

under limited circumstances in most SSA countries, this finding from the literature, albeit concerning, is not unexpected.

The research on MVA as a technique for uterine evacuation was, in general, of high quality. Study methodologies used were sound, the number of cases included in most studies was large enough to make valid generalisations and two of the studies involved random assignment to MVA or SC. Whether *statistically* significant different outcomes were observed between MVA and SC procedures was due to differences in sample sizes and various other study-related factors.<sup>15</sup> In most of the investigations, both safety (as defined by procedural complications) and effectiveness (as defined by the need for re-evacuation) of the two evacuation techniques were evaluated. It is important to note that in some of the studies, MVA was used on women presenting at more than 12 weeks since their last menstrual period (LMP). The package insert of the MVA kit clearly states, however, that the Karman cannula and syringe should be used *only* for uterine evacuations at 12 weeks LMP or less.<sup>16</sup>

The quality of the other studies varied. The recommendations for using prostaglandins (to induce mid-trimester abortions) thus should be viewed with caution. The two studies on PGF<sub>2a</sub> were descriptive and did not compare the use of this drug with D&E for mid-trimester procedures. The studies involved different sample sizes (for one the number was fairly small) and different populations which explains, in part, why the authors' conclusions differed. The study on the use of the prostaglandin Cytotec had no control group and the results, therefore, should be viewed as exploratory until additional studies can be conducted.

A number of gaps in the clinical literature on abortion remain. First, no studies report on pain control and perceptions of pain from the woman's point of view. An assessment of the patient's perceived level of pain comparing various drugs or no medication is essential. Clinical studies which evaluate different combinations of pain control medications to examine which are the most effective also are needed. Controlled studies with adequate sample sizes to test various abortion treatment modalities would move clinical research on this topic forward. A comparison of antibiotic therapies (e.g., single versus multiple doses of cephalosporin) is one area of potential focus.

Another information gap relates to clinical practise at lower levels of the health care system. Not surprisingly, the clinical studies cited herein were all conducted in large hospitals involving treatment provided by physicians. Carefully controlled studies which examine uterine evacuation, stabilisation of patients, and referral by non-physician providers at first-referral and primary-level facilities are lacking. The WHO recommends that treatment of abortion complications be decentralised to the lowest level where trained staff and equipment are available (WHO, 1987). Research which documents clinical practices in more rural facilities would help to point out the importance of bringing safe postabortion care closer to the majority of women who need it.

Studies from African settings where legal and safe (i.e., hygienic) induced abortion services are provided would be valuable to practitioners in the region as well. These case studies could serve as models for how high-quality abortion services can be delivered. Finally, the emerging role of mifepristone (RU486) for early medical abortion could be examined in the

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<sup>15</sup>It should be remembered that statistical significance does not necessarily imply clinical/medical significance. Likewise, lack of statistical significance does not necessarily imply lack of clinical importance

<sup>16</sup>IPAS produces and distributes the MVA kits.

African context. In particular, the infrastructure, personnel and follow-up requirements, along with provider and patient acceptance of the method, should be evaluated so that options for safe, high-quality abortion services, where legally indicated, can be expanded.

## **POLICY AND PROGRAMME IMPLICATIONS OF THE FINDINGS**

The literature reviewed under this topical area points to policy and programmatic actions that could be taken by health decision-makers in SSA to improve the clinical quality of abortion (treatment) services:

- Increasing pre-service and in-service training of providers in the safest methods of uterine evacuation (e.g., vacuum aspiration), management of complications, appropriate referral and pain control
- Improving how providers are supervised in the delivery of postabortion care
- Expanding emergency abortion treatment services to the lowest levels of the health care system where appropriate staff, supplies and equipment are available
- Improving mechanisms to ensure that the equipment and supplies necessary for emergency abortion treatment are available at all designated sites
- Supporting targeted, well-designed research on key clinical issues

# COST ISSUES

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## INTRODUCTION

Cost-related issues were mentioned in many of the published articles reviewed for this monograph. Brief descriptions of the cost of obtaining an induced abortion, the ALOS for women treated for abortion complications, and the time needed to perform an evacuation procedure were among the points cited. Only three published articles were identified, however, which focused *primarily* on health care facility costs associated with abortion complications (Figà-Talamanca, et al., 1986; Johnson, et al., 1993; Konje, et al., 1992). These studies were conducted in hospitals in Kenya and Nigeria. Study methods used included record reviews, patient interviews and patient observation (specifically, observing how abortion patients were cared for from admission through discharge). Information on the cost of abortion-related services was very limited in the grey literature from CRHCS member countries.

## MAJOR FINDINGS FROM THE LITERATURE

The three published cost studies documented that abortion patients frequently remain in the hospital for long periods of time. A Kenyan study examined *differences* in the length of patient stay and the cost of treating incomplete abortion cases using SC versus MVA (Johnson, et al., 1993). The ALOS was notably shorter with the use of MVA. In one hospital, the average stay dropped from 100,7 hours to 23,9 hours (76% reduction); in a second hospital, the length of stay decreased from 40,9 hours to 20,7 hours (49% reduction). A Nigerian study carried out in the 1980s, found that abortion patients presenting with sepsis remained in the hospital an average of 26,4 days (Konje, et al., 1992). Another Nigerian study, conducted in the 1970s, reported an average stay of 10,5 days for patients treated for complications of induced abortion and 7,5 days for treatment associated with complications of spontaneous abortion (Figà-Talamanca, et al., 1986).

A number of studies cited in the Magnitude and Clinical topical summaries included data which influences cost estimates. Three studies from Nigeria reported on the ALOS of abortion patients, with most women remaining between 9 and 11 days (Omu, et al., 1981; Archibong, 1991; Okonofua, et al., 1992). A 1982 Kenyan study found much shorter stays than in Nigeria. In this study, the stays were longer for patients with induced abortion complications (98 hours) than for non-induced patients (32 hours) (Aggarwal and Mati, 1982). Studies from Mali and Kenya reported that patients with complications of induced abortion had more complications, required more surgery and antibiotics and had much longer average stays than patients with complications of spontaneous abortion (91 versus 39 hours) (Binkin, et al., 1984; Aggarwal and Mati, 1980).

The authors of a case study in Zambia observed that MVA services in the main teaching hospital have resulted in more staff time for postabortion FP counselling, reduced patient stays, reduced patient congestion in the ward and higher quality patient-staff interactions (Bradley, et al., 1991). A reduced patient stay means lower hospital costs and reduced loss of potential patient earnings. That study, however, also revealed that despite liberal laws concerning abortion, *access* to MVA facilities in Zambia is very limited. Thus, the costs for treating the consequences of incomplete abortion in the country as a whole are still high.

The two studies reviewed for this section provided actual estimates of the average cost to treat a patient. In Nigeria, treatment of a septic abortion patient cost (at the time of the study) an average of US \$223.11 (Konje, et al., 1992). In the Kenya study, the cost of treating incomplete abortion patients with MVA was much less than that associated with SC. The average cost per SC patient in one district hospital in Kenya was US \$15.25; when MVA was used, the cost decreased by 66% (to US \$5.24). These cost reductions reflected decreases in the amount of resources used, such as staff time, bed space and pain medication to treat incomplete abortion patients (Johnson, et al., 1993).

As noted, the grey literature was lacking in data on the cost of treating abortion complications. Only one study from Tanzania provided new insights into the cost issue. The researchers estimated the mean cost of *obtaining* an induced abortion at US \$22.00; this compared to an average patient monthly wage of US \$12.50. And, the study found that it cost the hospital an average of US \$7.50 per patient for treating abortion complications compared to an annual MOH per capita budget of US \$1.00 (Mpangile, et al., 1992).

## CONCLUSION

The studies reviewed for this section, albeit few in number, provided important information about the amount of resources—personnel, medications, space and others—dedicated to treating women with abortion complications. These resources often constitute a significant proportion of hospital gynaecology budgets. For example, in one Nigerian study of septic abortion patients, treatment of abortion complications made up 77% of total gynaecology admissions in one large teaching hospital (Konje, et al., 1992). Clearly, treatment of septic abortion patients frequently consumes a disproportionate amount of health system resources.

Given the magnitude of resources spent to provide care for abortion patients, it is essential to ensure that expenditures result in the most cost-effective, high-quality services. Investigators for the Kenyan study suggest several mechanisms to achieve this objective. These include using MVA for treatment of first-trimester incomplete abortion; performing uterine evacuation procedures in outpatient settings instead of in operating theatres; and decentralising abortion treatment to lower-level health-care facilities to lower costs and improve access. This study was the only one in which the methods for calculating costs were described. This weakness should be addressed in future research so that the soundness of the methodology can be assessed.

The fact that only two published studies focused primarily on costs associated with abortion treatment illustrates the need for additional research on this topic. Future investigations should examine system-wide resources (including blood supplies, antibiotics, other medications and health care personnel) expended for the treatment of complications. Other research needs include an analysis of opportunity costs, for example, long-term productivity losses due to morbidity and mortality from unsafe abortion. This might include a comparison of work-years and income lost to abortion-related morbidity and mortality, as well as system-wide outlays of health care resources dedicated to the treatment of complications.

The definition of cost should be expanded to include measurements of the psycho-social and economic costs to families and communities as a consequence of abortion-related maternal deaths and disabilities. (Psychological sequelae of abortion were mentioned in a number of grey literature documents.) Cost-benefit analyses of various *interventions* to address unsafe abortion

also are needed. Documentation of the cost savings from introducing postabortion FP services in hospital settings (in terms of reduced repeat unsafe abortion and resulting complications) is another topic requiring examination.

Many authors of studies conducted in SSA suggest that liberalisation of restrictive abortion laws would decrease the amount of resources needed to treat complications because the number of clandestine, unsafe abortions would decline. An analysis of the linkages among abortion laws, abortion-related behaviour and resource use could provide some useful insights into this important area.

## **POLICY AND PROGRAMME IMPLICATIONS OF THE FINDINGS**

The literature reviewed under this topical area points to policy and programmatic actions that could be taken by health decision-makers in SSA to reduce the cost of unsafe abortion:

- Changes in medical curricula to train providers in MVA—a safer, lower-cost technique for uterine evacuation
- Logistical and training support for decentralisation of emergency abortion treatment services to lower levels of the health care system—where access to services is increased and the cost to the patient is decreased
- Documentation of actual and opportunity costs for treating complications of unsafe abortion

# CONTRACEPTION AND ABORTION

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## INTRODUCTION

Of the 16 published articles reviewed about the relationship between contraception and abortion (including postabortion FP services), more than 60% were from Nigeria. The remainder had either a regional or individual country focus. The latter included studies from Kenya, Tanzania, Uganda and Zaire. (One study was based on data from both Nigeria and Kenya.)

In more than half of the articles, adolescents were the primary study population. In most of these, data were collected through school-based interviews using either self- or interviewer-administered questionnaires. Additional data in one study were obtained through interviews at worksites and markets. The other adolescent studies involved a variety of data collection methodologies: household interviews, focus group discussions or hospital-based interviews with adolescent FP clients and/or adolescent patients presenting with abortion complications.

The remaining articles focused on all women of reproductive age. Three of these were based on hospital interviews with female FP clients and with women suffering abortion complications. Two involved community-based interviews with women of reproductive age and another involved interviews with traditional healers. The remaining two studies included a retrospective review of findings from the World Fertility Survey (WFS) and Contraceptive Prevalence Survey (CPS) for various SSA countries, and a commentary on unwanted pregnancy. The articles on adolescents will be described in one subsection and the more general studies on contraception and abortion will be covered in the other subsection.

General FP information based on health facility service statistics was widely available in the grey literature obtained by the CRHCS. Little was available, however, on the use of FP *following* abortion which most likely reflects the limited amount of postabortion FP services being offered in the CRHCS member countries.

## MAJOR FINDINGS FROM THE LITERATURE

### Contraception and Abortion Among Adolescents

Although a variety of data collection methodologies were used, the main objective of most of the adolescent studies was similar (i.e., to examine knowledge, attitudes and practises associated with contraceptive use and abortion). The most informative studies are summarised below.

In a Ugandan household survey of 2375 adolescents (15-19 years old) and a comparison group of 2135 young adults (20-24 years of age), 25,6% of adolescents and 75,5% of the young adults reported having been pregnant. Seventeen percent of the females aged 15-19 years previously had an abortion, and 53% of the 22-24 year olds previously had a pregnancy termination (Agyei, et al., 1992).

A descriptive study was carried out in Nigeria of three groups who had never been married: adolescents in schools, students in universities and men and women in worksites. The study found that the percentage of respondents who were sexually active ranged from 28% of the female secondary school students to 76% of the non-student males (Nichols, et al., 1986). Among the females who previously had sexual relations, more than two thirds of those not in school and slightly less than half of the student population reported having been pregnant.

Almost all university students and 80% of the adolescents in school who had ever been pregnant had had an induced abortion.

Use of contraception among adolescents varied widely in the literature reviewed. In the Ugandan study, for example, about one quarter of the sexually-active adolescents were currently using a contraceptive method. And, among the sexually active male students and all females in the Nigerian study, between 51% and 63% were using a contraceptive method at the time of the study. This rate dropped to 13% among the sexually active non-student males. This same study revealed that, among the sexually active females, those who had had an induced abortion were *less* likely to be using contraception than those who had never been pregnant.

A Kenyan study (using a self-administered questionnaire) of 1751 adolescent school girls found that almost one fourth were sexually active. Of those who were sexually active, almost none was using a contraceptive method at the time the questionnaire was administered (Lema, 1990). This same article noted (self-reported) rate of induced abortion that was extremely low in relative terms: only 1,7% of all the sexually active women stated that they had ever had an abortion.

Reasons given for non-use of contraception by adolescents were similar across studies: fears about the safety of contraceptives, lack of knowledge about FP and lack of access to contraceptives. Interestingly, focus group results from Nigeria and Kenya suggested that adolescent respondents had more accurate knowledge about and more positive attitudes toward *abortion* than towards *FP* (Barker and Rich, 1992).

A study on 1805 male and female secondary school students in Bendel, Nigeria was designed to compare personal characteristics such as age, sex and religion with attitudes about contraception and abortion (Oshodin, 1985). Sixty-five percent of all the respondents thought abortion should be allowed for medical reasons and 40% thought it should be permitted for social reasons. The majority (63%) agreed that contraceptives should be used to prevent unwanted pregnancy. More female than male students thought abortion was acceptable while more male than female students advocated contraceptive use to prevent abortion.

Only one article focused specifically on postabortion FP (Ezimokhai, et al., 1981). This small study from Nigeria compared FP acceptance and continuation rates among 44 unmarried, sexually active teenagers treated for abortion complications to rates among 35 FP clients with the same socio-demographic profile. In spite of a high initial rate of contraceptive acceptance among the women in both groups, at the end of the 2½ year study period, a large percentage of women had stopped using their method. In particular, almost two thirds of all pill users had discontinued their method. The discontinuation rate was 72% among those treated for abortion complications and 50% for the FP clients.

### **Contraception and Abortion Among All Women**

Of the published studies conducted in health care facilities, two focused on women presenting with an incomplete abortion and a third reported on pregnancies due to contraceptive failure among FP clients (Ujab, 1991; Justesen, et al., 1992; Ogedengbe, et al., 1991). The former two included a description of why the women chose to abort. In the Nigerian study, the major reasons for pregnancy termination were attending school and/or being unmarried. In the study from Tanzania, women who had had an induced abortion were less likely to be in a stable relationship and were more likely to be young. Contraceptive use among women in both studies was limited. In the third study, about 1% of the 5431 Nigerian FP clients studied had

experienced contraceptive failure. Over half of these women chose to terminate their pregnancy. Of interest was the finding that the average age was 33 years and the average parity was *five*.

Three hundred sixty-nine Nigerian women of reproductive age were interviewed in the first of the two community-based survey articles reviewed for this section. Only 5,6% of the women surveyed stated that they had had a previous abortion; the author believed, however, that this figure was an underestimate due to inaccurate reporting (Olukoya, 1987). All of the women who reported having had an induced abortion were married and most had three or more children. About one half indicated that they had decided to terminate their pregnancy because they were not ready to have another baby. The second community study, involving a household survey of 2399 women of reproductive age in Zaire, was conducted to assess the association between a woman's employment and education, and contraceptive behaviour and abortion (Shapiro, et al., 1994). In this study, 15% of the ever-pregnant women reported having had an abortion; a higher rate of abortion was strongly associated with higher levels of schooling and with formal sector employment.

In both studies, contraceptive use was low. Most of the Nigerian respondents were very knowledgeable about FP and what FP services were available locally; interestingly, three fourths of the women who had had an abortion were using either abstinence or relatively ineffective birth control methods. In that study, the group of women who had a history of abortion had a *higher* rate of previous FP use than the group as a whole. Fear of health complications associated with contraceptive use was given by some of the Nigerian women as their reason for non-use of FP. In the Zairean study, a little less than half of the ever-sexually active women not pregnant at the time of the interview were using contraception (although less than 15% of those women were using a modern method). Women with more education, higher SES, higher parity and who were employed or married in their first union had higher rates of contraceptive use. The investigators in the Zairean study concluded that modern methods of contraception, together with induced abortion, were used as complementary fertility control strategies.

A retrospective review of nine WFSs from the late 1970s and early 1980s and more recent data from national CPSs provided a comparative summary of fertility trends (Frank, 1987). The review found that while fertility trends had declined and the proportion of women desiring fewer children had increased, contraceptive use had risen only slightly. Thus, induced abortion appeared to have been a major means of controlling fertility in those countries. According to the survey data, abortion was more likely to occur among young, unmarried women in urban areas, particularly among the more educated. The author of the review concluded that abortion was used "for controlling entry into childbearing or for changing the starting pattern of fertility" and, therefore, abortion did not necessarily indicate a desire to *limit* fertility.

A commentary on the causes and consequences of unsafe pregnancy in SSA pointed out that, in spite of high rates of knowledge about contraception in some countries, FP use was low due to traditional pronatalist attitudes, limited access to services, misinformation and poor quality services (Mashabala, 1989).

A common finding in the grey literature was the high rate of repeat abortion among abortion patients. Most had never used a modern method of contraception before, reportedly due to a lack of knowledge or access (Alihonou, 1993; Family Planning Association of Madagascar, 1994). These authors also cited fear of dismissal from school or being banned from their home; unwanted pregnancy; financial constraints; mental disharmony; and extramarital relations as other reasons for non-use of contraceptive methods. For the few women experiencing method

failure in studies in Uganda and Kenya, the reasons reported for method failure included: expulsion of the intrauterine device (IUD) and discontinuation or misuse of OCs (Mirembe, 1994; Fomulu, 1981).

Recommendations from the authors cited in this section included intensifying FP services for men and women (for both postpartum and postabortal women); expanding FP services to include a strong educational component, especially for adolescents; liberalising abortion laws; and making safe abortion services more widely available.

## **CONCLUSION**

Although the quality of the research varied, the articles provided some insight into abortion and contraception behaviour, especially among adolescents. The studies indicated that contraceptive use is limited; that induced abortion is not uncommon (especially among adolescents); and that serious obstacles remain to increasing the use of FP methods, in particular, misconceptions about the risks associated with contraceptive use.

As this review illustrates, serious gaps remain in our understanding of the relationship between contraception and abortion. A fair amount of information exists on current and ever use of contraception and ever use of abortion. The relationship between the two over time, however, has not been well examined (e.g., What are the contraceptive antecedents to an unintended or unwanted pregnancy and a subsequent abortion? Prior to the abortion, did the woman or her partner use contraception? Did they switch and/or stop using methods, and if so, why?). Few studies have attempted to quantify the relationship between socio-demographic characteristics and contraceptive use and abortion.

Furthermore, the existing descriptive data constitute only the first step towards understanding the relationship between contraception and abortion. Almost no good qualitative data exist on this topic. Such information could tell us, for example, why knowledge about contraception does not necessarily lead to use; why women fear contraception more than the risks of pregnancy; and what the effects of an abortion experience are on future contraceptive use.

The virtual non-existence of literature on postabortion FP services highlights that research on this topic needs to be done. Studies on the effect of postabortion FP programmes on contraceptive acceptance, future contraceptive use, unintended pregnancy rates and repeat abortion are essential. Finally, there is a real need for operations research on the most effective ways to link emergency treatment of complications and FP programmes, a linkage that seldom occurs in any health care system in SSA at present.

## **POLICY AND PROGRAMME IMPLICATIONS OF THE FINDINGS**

The literature reviewed under this topical area points to policy and programmatic actions that could be taken by health decision-makers in SSA to improve the links between abortion treatment services and FP:

- Committing resources to integrate emergency abortion treatment and postabortion FP services (including counselling) throughout the health care system

- Modifying community FP education efforts to better address concerns about the safety of contraceptives
- Increasing the availability of FP services tailored to adolescents' needs
- Revising the education/training curricula for FP staff to include the special needs of postabortion patients
- Revising the education/training curricula for providers of emergency treatment for abortion complications to include essential components of FP services (in particular, information about FP counselling)
- Supporting research on the relationship between contraception and abortion and on postabortion FP programmes and their effect

# MALE PERSPECTIVES

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## INTRODUCTION

One published article, an opinion survey from Nigeria, focused specifically on males' perspectives regarding abortion (Adebayo and Nassif, 1985). The article reported findings on abortion attitudes from a larger study of fertility attitudes among 117 Nigerian males attending college in the US. The grey literature on this topic, although limited, provided some additional insights into the role of men in the decision to terminate a pregnancy.

## MAJOR FINDINGS FROM THE LITERATURE

In response to the question, "In general, do you favour or oppose abortion?", of male Nigerian undergraduates studying in the US who were interviewed for the study, 64% were opposed, 18% were in favour, and 17% were uncertain (Adebayo and Nassif, 1985). Their attitudes about abortion were *statistically significantly* associated with the number and gender of their own children and their marital status. For example, those with fewer children were more likely to be against abortion ( $p=0,01$ ); those with no male children were more likely to be against abortion ( $p=0,01$ ); and those who were unmarried were more likely to favour abortion ( $p=0,001$ ). The authors concluded that the values and opinions acquired in one's own culture are often preserved, despite exposure to Western culture.

According to one grey literature study from Tanzania, 30% of the women became pregnant by casual partners, 12% of the married women became pregnant by men who were not their husbands, and 31% of the teenagers (17 years and below) became pregnant by men over age 40 (Mpangile, et al., 1992). Findings such as these support the contention that spousal authorisation for services could be a significant barrier to access and timely care (Armstrong, 1987). Despite the finding that abortion patients usually inform the partner involved about their decision to terminate, other evidence suggests that the partner does not share the burden of finding a solution to the problem. Postabortal psychological support from the male partner often was found to be lacking, although a number of studies indicated that male partners usually pay for the woman's care.

## CONCLUSION

The focus of the study on attitudes about fertility decisions among Nigerian male college students in the US is of particular interest. This study, however, was methodologically weak; for example, no baseline information was provided, so there was no way to assess if the students' views had changed since arrival in the US. In addition, no comparative information was provided to be able to assess whether their views were different from those of their peers in Nigeria. Also, the wording of the question, "Do you favour or oppose abortion?" was problematic because it did not capture the diversity of personal circumstances surrounding the decision to terminate a pregnancy.

The paucity of literature on male perspectives on abortion underscores the need for additional research on this topic. This information is important for improving understanding of the role of males as partners, specifically in terms of the decision to seek an abortion, the level of emotional and economic support offered to women seeking an abortion, and the decision to

initiate and continue the use of contraception. In the SSA, men represent the majority of practitioners who provide (legal) induced abortions or treatment services, and among policy-makers who make decisions about the national priority given to women's reproductive health issues. Thus, a thorough understanding of the male position on these issues and factors which affect male decision-making in these areas is critical. The growing literature on gender studies should provide methodological guidance in the development of sound research on this subject.

## **POLICY AND PROGRAMME IMPLICATIONS OF THE FINDINGS**

The literature reviewed under this topical area points to the following policy and programmatic actions that could be taken by health decision-makers in SSA to promote male involvement in FP and to encourage supportive attitudes among men related to the issue of unsafe abortion:

- Implementing educational programmes that encourage use of male contraceptive methods and male support for women's choice of a FP method
- Removing gender-related obstacles to obtaining reproductive health services (such as requiring spousal consent for contraceptive sterilisation or other FP methods)
- Supporting training at all levels (e.g., from medical school through inservice) to foster respectful attitudes and professional practises concerning postabortion care among providers
- Supporting research on the role of men in all aspects of abortion: as partners of women, providers of services and policy-makers

# ABORTION LAWS

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## INTRODUCTION

The relationship between abortion and the law was examined as the primary focus in 18 published studies. Seven articles focused on abortion law in South Africa alone. An additional four articles covered laws from a regional (e.g., Commonwealth or Francophone Africa) perspective. Nigerian abortion laws were the topic of three articles and the remaining articles focused on laws in individual countries (including Botswana, Mauritius, Swaziland, Tanzania, Zambia and Zimbabwe). Many additional articles which have been summarised elsewhere in this monograph, particularly those reporting the socio-demographic and clinical characteristics of abortion patients, recommended legal reform to help address the negative health consequences of restrictive laws.

These articles are described below under four subcategories. The first includes current abortion laws and their historical origins. The second includes articles that describe administrative or bureaucratic obstacles to obtaining legal, induced abortion. Articles reporting results from opinion surveys of physicians form the third subcategory. The final subcategory includes articles with a legal advocacy focus, for example, descriptions of efforts to reform the legal code and opinion pieces. Analyses prepared by law students of abortion laws, primarily in Kenya, provided a significant source of the grey literature on this topic.

## MAJOR FINDINGS FROM THE LITERATURE

### Abortion Laws

Abortion laws in many countries in SSA trace their origins to English or French legal codes (Cook, et al., 1981; Knoppers, et al., 1990). Some of the authors categorised Commonwealth and Francophone laws by their “level of evolution” (common to advanced) or by the extent of restrictions on legal abortion. Laws in SSA are generally restrictive, allowing legal abortion only for a narrow range of indications such as saving the life of the mother (**Annex 16**). In addition, some laws include procedural requirements, for example, consultation with more than one medical professional, committee approval, etc. Of note, the author of overviews of the Nigerian abortion law pointed out that, despite the existence of such laws, authorities in that country were reluctant to prosecute medical practitioners for performing abortions or women for obtaining them (Okagbue, 1988; Okagbue, 1990).

Law reform was recommended in many of these articles so that the legal code for abortion reflects a public health rather than a criminal orientation. Some of the specific suggestions for reform included: clarification of current law; broadening the indications for legal abortion; removing the liability for women who seek, and providers who perform, abortions; and clarification of the requirements for health facilities offering pregnancy termination. Several authors noted that few legal reform efforts have been seriously initiated and/or have succeeded to date. A number of grey literature authors argued that more liberalised laws would contribute to reducing mortality and morbidity resulting from unsafely induced abortions *if* accompanied by increased access to quality abortion and FP services (Likwa and Whittaker, 1986; Rees, 1991).

One published article focused on Commonwealth abortion law at the time the article was written and medical technologies (such as post-coital contraception and fertility regulation methods) that can be used before a pregnancy is confirmed (Cook, 1983). The article stated that both abortion performed by someone else and self-induced abortion are punishable under the law but *only* if it can be proven that "quickening" (usually 12 to 14 weeks after the LMP) has occurred. The author thus concluded that methods used for fertility regulation before pregnancy can be confirmed could *legally* be introduced in Commonwealth countries.

### **Obstacles to Legal Abortion**

Three published articles, two from South Africa, the other from Zambia, commented on the administrative requirements and other conditions which create barriers for women seeking an abortion. The South African Abortion and Sterilisation Act of 1975 is very restrictive, requiring women seeking legal abortion to overcome "nearly insurmountable" bureaucratic regulations (Sarkin-Hughes and Sarkin-Hughes, 1990). It allows for legal termination of pregnancy only if the life of the woman is in danger; if the woman will suffer permanent mental damage (which must be assessed *independently* by a social worker and by a state-employed psychiatrist); if there are proven foetal abnormalities (determined by amniocentesis); or if the woman is the victim of rape or incest (Cope, 1993). Even if one of these conditions has been met, according to the law, the woman must still obtain certificates of permission from two doctors before receiving treatment from a third, unrelated doctor. In many areas of the country, especially rural locations, these conditions cannot possibly be met because rarely will one find three different gynaecologists and a psychiatrist working together in the same location. Even in more urban areas where the combination of physicians may be available, the paperwork required may take so long to complete satisfactorily that the woman's pregnancy advances beyond the gestational age limit permissible for legal termination.

Sarkin-Hughes and Sarkin-Hughes (1990) argue that the provisions of the law result in unequal access to legal abortion services for black South Africans because they live in the poor, more rural areas where services are not as readily available. This is evidenced by the fact that 78% of legal abortions performed in 1984-85 were for white women. The authors pointed out that almost 250 000 South African women have clandestine abortions each year (as a result of the administrative and policy barriers to safe, legal services) and, therefore, they recommended that the law be liberalised to allow abortion for all women in that country up to 20 weeks of pregnancy.

Another South African article described the 6-year experience of a hospital psychiatry department in which patients who were referred for abortion on psychiatric grounds were assessed (Nash, 1983). Thirty-one percent of the 1251 women seen were granted a pregnancy termination for psychiatric reasons. The authors reported that only 10 black women were referred for evaluation and almost one third of all women referred were under the age of 19. Few of the adolescents, however, showed evidence of psychiatric disorder. The authors concluded that abortion has become an "accepted medical responsibility" but expressed concern over the few women referred for counselling and the large number of clandestine abortions being sought.

The Zambian article described the results of a day of observation at the main teaching hospital in Lusaka, Zambia (Castle, et al., 1990). Zambia's abortion law is relatively liberal although a number of barriers to obtaining legal abortion still exist. First, women lack the knowledge and means to secure legal abortions. In addition, administrative requirements for

legal procedures are stringent. Three medical practitioners must sign the consent form for the procedure and one of these must be specialised in the field of medicine related to why the woman is seeking the abortion; for example, a woman seeking abortion for mental health reasons must be examined by a psychiatrist. Finally, legal abortion services are only available in that one teaching hospital. Therefore, the facility is still inundated with women seeking treatment for complications of an unsafe abortion. Even though there are nine positions for gynaecologists at the provincial level within Zambia, very few posts are filled. A programme which has resulted in improvements in the quality of abortion services in the Lusaka teaching hospital was described in another article from Zambia (Bradley, et al., 1991). The authors of that article remarked that even though the laws are liberal, there is very little awareness of the law on the part of women and service providers. Because the availability of services is so poor and the requirements for an elective procedure are so great, most abortions still continue to be clandestine, occurring under unsafe conditions which often result in complications and death.

### **Opinion Surveys**

Two published South African articles described the results of opinion surveys carried out on members of the country's gynaecologic and psychiatric professional societies (Domisse, 1980; Nash, et al., 1992). Respondents were asked to provide their opinions on South Africa's abortion law. Although the studies were conducted about 10 years apart, the results were similar from both groups. Over 80% (n=162) of the gynaecologists surveyed supported changes in the law while 89% (n=133) of the psychiatrist respondents believed that the existing law should be reviewed. Large percentages of both groups supported pregnancy terminations in populations such as the very young (e.g., under 14 or 16) or older women (over 40), those experiencing failed contraception, or those with high parity (six or more). The percentages of each group supporting abortion on request varied. Just over half of the psychiatrists and 32% of the gynaecologists believed that abortion at 12 weeks gestation or less should be allowed. The authors of one article concluded that the guidelines for termination of pregnancy should be reviewed, given the level of support from both physician groups (Nash, et al., 1992).

### **Legal Advocacy**

Four published articles offered accounts of efforts to reform abortion laws in individual countries. A South African activist described the efforts of an advocacy group to pressure the government to approve first-trimester legal abortion on request (Cope, 1993). The existing law (approved in 1975) was quite restrictive, allowing abortion only for limited indications and after compliance with administrative requirements. The author contended that the government went to great lengths to oppose a more liberal law and that this opposition was part of the more general apartheid policies. The author believed that, with the dismantling of apartheid, the existing abortion law should be liberalised.

Legal reform efforts in Mauritius and Botswana were reviewed in separate publications (Muvman Liberasyon Fam, 1988; Mogwe, 1992, respectively). The Botswana account described the ultimately successful struggle in the early 1990s to liberalise the abortion law in that country. The author commented that the impetus for change came from the medical profession rather than from women's or human rights' organisations and recommended that reform efforts involve women because they are most affected by abortion laws. A chapter in a book presented the

perspectives of a Nigerian gynaecologist who argued that restrictive laws only drive abortions underground where they are performed by poorly trained practitioners working in unsanitary conditions (Ladipo, 1986). The author described unsuccessful efforts to liberalise the Nigerian law in 1981 and advocated liberalisation of the laws and promotion of postabortion contraceptive services.

Three published opinion pieces presented various arguments for maintaining or liberalising restrictive abortion laws. One discussed the rights of the woman versus those of the foetus from the viewpoint of a South African obstetrician-gynaecologist (Davey, 1989). Another publication addressed the abortion debate from the South African constitutional perspective. That author believed that the country's Bill of Rights allows abortion under conditions such as risk to the life of the mother, danger to the woman's physical or mental health, or risk of foetal deformity (Leyshon, 1991). A Zimbabwean editorial noted the prevalence of clandestine abortions under the current restrictive law which most negatively affects poor women. The author thus advocated liberalising the legal code (Speak Out, 1990).

Several authors of grey articles indicated that, although few abortion cases are actually prosecuted, those that are tried in court have a major inhibiting effect on other women in terms of seeking *safe* abortion services. Another paper argued that abortion laws should not divorce themselves from the issue of women's rights (Mwangi, 1989).

## CONCLUSION

Virtually all the authors, whether writing from the viewpoint of physician, legal scholar or women's advocate, noted that restrictive abortion laws are ultimately detrimental to women's health. The published literature on legal issues is plentiful and, in most cases, the publications are well-referenced. The variety of perspectives is helpful in placing SSA abortion laws in an historical and legal context.

There is a need, however, to analyse the feasibility of legal reform in a variety of political, cultural and religious settings. Examination of these issues by African legal experts, social scientists, public health professionals and proponents of women's rights would inform the debate about the direction reform efforts could and should take. In addition, the impact of other reproductive laws and policies on women who seek abortion should be explored. For example, regulations that prohibit contraceptives for adolescents or require spousal consent are particularly onerous for those treated for abortion complications who will continue to be at risk for a subsequent unwanted pregnancy.

## POLICY AND PROGRAMME IMPLICATIONS OF THE FINDINGS

The literature reviewed under this topical area points to policy and programmatic actions that could be taken by health decision-makers in SSA to improve the legal and administrative environment surrounding the issue of abortion:

- Removing legal or policy restrictions on practitioners who provide treatment, or women who seek treatment, for complications of unsafe abortion
- Modifying contraceptive and other laws or policies which negatively affect women, especially those who have had an abortion

- Improving access to legal abortion services, that is, abortions performed under the indications allowed by a country's law. Access can be improved through such steps as decreasing the administrative obstacles to legal services and increasing the availability of safe legal services in public sector facilities
- Clarifying current abortion laws
- Disseminating public health data on the effect of unsafe abortion on women, their families and the society-at-large

**FINDINGS:**

**PRIMARY DATA  
COLLECTION**

**COUNTRY  
REPORTS**

# MALAWI

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## INTRODUCTION

Permission for the study in this country was obtained through the Health Services Research Committee. Data were collected from four hospitals: two tertiary hospitals located in Blantyre and Lilongwe, a nongovernmental (NGO) hospital located in Mzuzu and a teaching hospital in southern Malawi.

Queen Elizabeth Hospital (QEH) is one of two main tertiary hospitals in all of Malawi, providing services to over 500 000 people. QEH has been a teaching hospital for medical graduates since 1991 and thus has a considerable number of specialists on staff including obstetricians/gynaecologists. The Obs/Gynae Department has 58 beds and is the ward where all incomplete abortion patients are admitted and treated. As the only public hospital facility in the city, it provides services to women who cannot afford treatment from the (one) private hospital in Blantyre.

Kamuzu Central Hospital (KCH) is a tertiary hospital situated in the administrative capital, Lilongwe. It is a MOH institution and because it does not function as a teaching hospital, it has fewer specialists than QEH. It serves as both a district and referral centre for Lilongwe and all incomplete abortion patients in the area are admitted to the gynaecology wards there. The gynaecology and obstetric units are separated by a considerable distance (5 km) which has led to staff shortages and delays in attending to abortion patients. There are 40 beds in the gynaecology ward and because MVA services have not yet been introduced, all evacuation procedures are done in the (overcrowded) general operating theatres.

Mzuzu (Ekwendeni) Hospital is one of two main hospitals in the northern region; it is located in Mzuzu—the third and smallest city in the country. It is a NGO hospital and, together with another NGO hospital in Mzuzu, provides services to all incomplete abortion patients from the city and surrounding areas. Abortion patients are admitted into either a female or maternity ward which together have a capacity of 29 beds. Because it charges a minimum fee, some financial data on abortions were available from this facility (although they were not recorded in the manner requested by the study).

Mangochi District Hospital (MDH) is situated in the predominantly Muslim, southern region of Malawi. All incomplete abortion patients are admitted in the female ward which has 44 beds. Data collection for the study was particularly problematic in this facility due to heavy client loads.

Primary data collection commenced at QEH in Blantyre and the experience there shaped how the data were collected at the other three hospitals. The key criterion for counting a patient as an abortion case was that an evacuation procedure had been done, after a diagnosis of incomplete abortion.

Overall, the investigators found that logbooks and case records were not well-kept nor easily retrievable in these facilities. Thus, individual patient notes ended up being the main source of information on the magnitude of the problem. Data also were obtained by reviewing operation (evacuation) books and admission/discharge registers. In addition, records that were located were frequently incomplete. All in all, considerable time was spent obtaining the study data.

The investigators noted that the registers and other records varied considerably and therefore data on the number of cases and complications are likely to be underestimates.

Accurate data on complication rates were not readily available as the logbooks did not record this information.<sup>17</sup> Due to the social stigma in Malawi of having an abortion, especially if one is unmarried, the researchers also felt that the accuracy of the socio-demographic data on abortion cases may be questionable (e.g., single women recorded as married). Health providers, while usually willing to participate, often did not have the time to go through the full questionnaire. Furthermore, the administrators (including accounts staff) did not have cost figures for either total gynaecology or abortion patients (as the official budgets are not organised along these lines). To overcome these data collection obstacles, the researchers informed the facilities in advance so that they could locate the appropriate records; in addition, they had the providers fill out the questionnaire themselves, at their convenience. Their responses were then reviewed with the researchers for clarity and accuracy. The language used for data collection was mostly Chichewa for the patient interviews and both Chichewa and English for the provider interviews.

## RESULTS

### Magnitude of the Problem

#### *Logbook*

For all four hospitals, the data collectors noted that the logbook, although incomplete, was up-to-date. The average monthly number of cases in the four hospitals ranged from a low of 10 (Ekwendeni) to a high of 192 (QEH) (Table 1). The mean age of incomplete abortion patients was similar for all four facilities (either 25 or 26 years) and the mean parity was two for all facilities except the district hospital of MDH (where the mean parity was three).

Approximately two thirds of the cases reviewed were 12 weeks gestation or less. The majority of cases 12 weeks gestation or less were treated with SC although in one hospital (QEH), 158 (62%) were treated with MVA (MVA services have been available there since 1994). The number of abortion-related deaths identified in the logbooks ranged from zero (QEH) to five (Kamuzu and MDH). Hospital case fatality rates among abortion patients for the time period reviewed were zero (QEH) and two percent (MDH and Kamuzu). These data were not recorded for Ekwendeni.

**Table 1**

HOSPITAL-SPECIFIC DATA						
	QEH	KCH	Ekwendeni	MDH	Overall Mean	Overall Median
Number of months of data reviewed	2	3	30	14	NA	NA

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<sup>17</sup>This, in fact, was the case for all countries and consequently these findings are not included in the monograph write-up. References to the *estimated* frequency of complications can be found under provider perspectives in each country report.

	QEH	KCH	Ekwendeni	MDH	Overall Mean	Overall Median
Number of incomplete abortions recorded for months reviewed*	384	330	303	308	NA	NA
Mean number of incomplete abortions per month	192	110	10	22	83,5	66%
Number of incomplete abortions per year**	2304	1320	120	264	1002	792
Percent of incomplete abortions #12 weeks***	66%	63%	58%	63%	62,5%	63%
Percent of incomplete abortions Š13 weeks***	32%	29%	27%	29%	29,3%	29%
Mean patient age	25	25	26	26	25,5	25,5
Mean patient parity	2	2	2	3	2,3	2
Mean uterine size	12	13	12	12	12,3	12
Number of abortion deaths recorded for months reviewed	0	5	NR	5	3,3	5
Facility abortion case fatality rate (%)	0	2%	NR	2%	1,3%	2%

NA=Not Applicable

NR=Not Recorded

\*Investigators were requested to review approximately 300 cases or one year of data, whichever required less reviewing.

\*\*Calculated from mean number of incomplete abortions per month multiplied by 12 months

\*\*\*Percentages do not add up to 100% due to missing data.

### ***Ward Observation***

In two hospitals (QEH and KCH), abortion patients were admitted into the gynaecology ward; in the other two hospitals they were admitted into the female ward. The mean daily number of abortion patients recorded during the 5-day observation period in the gynaecology ward was 10 (KCH) and 15 (QEH). For each of the other two hospitals, the mean daily number (admitted into the female ward) was two abortion patients. The mean daily bed occupancy<sup>18</sup> (DBO) rate for the gynaecology ward abortion patients (in the two hospitals taken together) was 26%. For the two female wards, the overall mean DBO rate for abortion patients was 3%.

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<sup>18</sup>Daily Bed Occupancy Rate for abortion patients=the number of abortion patients divided by the number of beds available for abortion patients

### *Interview with the Head of the Maternal Mortality Review Committee (MMRC)*

The head of the MMRC in each facility (usually a physician) was interviewed and asked to provide *estimates* of a number of abortion-related statistics. Estimates of the number of incomplete abortion patients treated in their hospitals each year ranged from a low of 120 (Ekwendeni) to a high of 1940 (QEH). These are close to the numbers calculated from monthly logbook averages for these hospitals which suggests that the administrators are aware of the magnitude of the problem as experienced in their facilities.

In three of the four hospitals, a MMRC exists which regularly reviews cases of maternal death; such a committee does not exist in MDH and, therefore, a senior physician provided the responses for this section. None of the MMRCs had *written* guidelines to assist them in the review process.

The *estimated* number of hospital deaths due to complications of abortion each year ranged from 1 (Ekwendeni) to 12 (QEH) (mean=8,3; median=10). Two of the three administrators who responded to this question noted that patients who die of abortion complications in their facilities are usually in their early 20s and single.

Responses about who the MMRC heads thought performed the abortion procedure varied, including traditional healers and paramedics. In terms of the types of presenting complications *typically* seen, two respondents cited localised infection, all four indicated septicaemia and three mentioned haemorrhage. The respondent for one hospital, MDH, cited uterine perforation and two respondents (from QEH and Ekwendeni) noted cervical injury.

### **Cost**

Despite the fact that cost data were very difficult to obtain, the researchers (using guidelines provided as part of the study) estimated that, in all hospitals except Ekwendeni—for which the estimate was US \$2.00—it cost approximately US \$3.00 per day to treat an abortion patient with no serious complications (**Table 2**). The longest ALOS estimate was for KCH (74,3 hours or 3,1 days), followed by Ekwendeni (48,2 hours or 2,0 days), MDH (47 hours or 2,0 days) and QEH (44,4 hours or 1,9 days). This, the researchers noted, is higher than the amount allocated per capita in 1994 by the Parliament of Malawi for the annual health care budget.

**Table 2**

COST-RELATED DATA				
	QEH	KCH	Ekwendeni	MDH
Number of gynaecology cases/year	4660	3500	404	420
Number of incomplete abortion cases/year	1942	1800	181	300
Percent of incomplete abortion cases (of gynaecology patients)	42%	51%	45%	71%
Mean cost of daily patient stay (US\$)	\$3	\$3	\$2	\$3
ALOS (days)	1,85	3,09	2,01	1,96

	QEH	KCH	Ekwendeni	MDH
Total estimated cost of treating incomplete abortion patients/year (US\$)				
a) based on estimate provided by hospital administrators of the number of incomplete abortions	\$10,778	\$16,686	\$727	\$1,764
b) based on estimate of the number of incomplete abortions per year (Table 1)	\$12,787	\$12,236	\$482	\$1,552

## Provider Perspectives

### *Provider Profile*

**Table 3** shows the number of providers interviewed for the study in each Malawian hospital. There were slightly more female than male provider respondents (57,6% and 42,4%, respectively) and over two-thirds (66,7%) were married. Of the 33 providers interviewed, 17 (51,5%) were nurses and nine (27,3%) were clinical officers. According to the country research team, this sample reflects the general distribution of human resources working in health services in the country (for example, specialists such as Obs/Gynaes work only at tertiary hospitals such as QEH). Approximately half (45,5%) of the respondents said that the medical officer is the most likely professional to provide postabortion services in their hospital; the other half (48,5%) cited the clinical officer.

**Table 3**

PROVIDERS INTERVIEWED					
	QEH	KCH	Ekwendeni	MDH	Total
Number of providers interviewed (% of total)	11 (33,3%)	9 (27,3%)	9 (27,3%)	4 (12,1%)	33 (100%)

### *Provider Role*

Almost everyone (94%) interviewed indicated that their role in caring for abortion patients is to provide medical/clinical treatment; overall, 63,6% noted that they also have a role counselling the patient about the treatment. At QEH, the proportion noting that they also have a role counselling the patient about treatment was only 27% compared to between 75% and 88% for the other three facilities. This probably reflects the fact that specialists provide different aspects of postabortion care at QEH and a number of Obs/Gynaes were interviewed at that facility as part of the study. Almost half (45,5%) of everyone surveyed cited FP counselling as one of their job functions. This proportion was highest for KCH (77,8%) and lowest for QEH (18,2%). Again, because specialists involved in different aspects of postabortion care were interviewed at QEH, it is not surprising that on an individual basis, many responded that they are

not involved in an array of job functions.<sup>19</sup> Mostly clinical officers were interviewed in KCH which suggests that in that particular facility, emergency treatment and FP services could be fairly easily integrated, with the clinical officer playing a key role.

### **Client Profile**

The providers described a “typical” incomplete abortion patient as young, aged 15 to 25 years (mean=19 years). Of those interviewed, 27,3% were of the opinion that abortions are performed in the community mostly by the traditional healer. Forty percent suspected someone other than a health professional or traditional healer (e.g., self-induced or a friend). Only one respondent said that abortions are most likely performed by doctors.

### **Complications/ALOS**

The providers interviewed identified haemorrhage and localised infection as the most frequently occurring presenting complications among abortion patients. **Table 4** lists the presenting complications occurring the most frequently, as cited by those interviewed. Estimates of the amount of time that incomplete abortion patients remain hospitalised ranged from 6 to 72 hours (mean=40; median= 48). The lowest mean estimate (34 hours) was for QEH and the highest (46 hours) was for KCH. Provider estimates of the mean number of hours patients wait before being treated ranged from 0 to 26 hours (overall mean/median=12 hours). Overall facility means for this response were highest for KH (17 hours) and lowest for Ekwendeni (8 hours). The majority (69,7%) of respondents felt that most women suffering from abortion complications in the hospital’s “catchment” area go to that facility for treatment. Despite these percentages, 76% still agreed that death from abortion complications is a major problem in their community (91% agreed in QEH; 50% in MDH).

**Table 4**

<b>MOST FREQUENTLY OCCURRING PRESENTING COMPLICATIONS AMONG INCOMPLETE ABORTION PATIENTS</b>	
<b>Complication</b>	<b>Percent of Providers Citing (n=33)</b>
Localised infection	81,8%
Haemorrhage	69,7%
Septicaemia	57,6%
Uterine perforation	15,2%
Cervical injury	27,3%

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<sup>19</sup>In facilities such as this, the important question becomes whether or not the services (e.g., treatment and FP counselling) are offered to each patient by someone (not necessarily the same person) at the hospitals.

## *Contraceptive Use Among Patients*

There was a general consensus among all providers that incomplete abortion patients are not FP users. They cited lack of knowledge (67,7%), spouse/partner disapproval (39,4%) and poor access (27,3%), among others, as reasons why women do not use contraception.

## *Provision of FP Information/Services*

Ninety-seven percent of providers surveyed felt that FP *information* should be *offered* to incomplete abortion patients post-procedure. Fewer, 66,7%, thought that patients are *interested* in getting this type of information while hospitalised. (This response was given by only 44% of the providers interviewed at Ekwendeni compared to around 75% in the other three facilities.) A substantial percentage (e.g., 44% in Ekwendeni), however, said that this depends on the woman's situation. In three of the four hospitals (not in MDH), some respondents said that FP information is currently already being provided. These proportions ranged from 18% (QEH) to 40–50% (KCH and Ekwendeni).

The majority, 81%, expressed that FP *services* should be provided to the patients in the hospital post-procedure. Overall, however, 79% noted that such FP services are *not* currently available. In KCH and Ekwendeni, these services appear to be available to some degree as evidenced by the fact that 30-40% of the providers interviewed from those facilities responded yes to this question. Oral contraceptives, condoms, injectables, IUDs, Norplant®<sup>20</sup> implants and both male and female sterilisation were all noted as available FP methods, albeit by only a few respondents in the two centres. In addition to the lack of FP services offered to patients post-procedure in the hospitals surveyed, 45,5% noted that incomplete abortion patients are not routinely provided with information about where in the *community* they could obtain a contraceptive method. For these women in particular, the possibility of a repeat unplanned pregnancy and induced abortion is a real concern. Of the four facilities, fewer respondents (25%) in MDH and more (78%) in Ekwendeni said that such information was provided. In terms of access to services, 75,7% of the providers felt that FP services are easily accessible to women in the local community.

## *Abortion Laws*

In general, the providers lacked awareness of the provisions under which induced abortion is legally allowed in Malawi. According to *World Abortion Policies 1994*,<sup>21</sup> (Annex 16) abortion is legally permitted in Malawi to save the woman's life and to preserve physical health. **Table 5** shows the conditions under which the providers *believed* abortion is legal in their country. Approximately half (45,5%) of the providers felt that the current laws in Malawi on this reproductive health issue are too restrictive; 36,4% stated that the laws are appropriate. Despite

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<sup>20</sup>NORPLANT® is the registered trademark of The Population Council for subdermal levonorgestrel implants.

<sup>21</sup>United Nations Department for Economic and Social Information and Policy Analysis Population Division. *World Abortion Policies 1994*. March 1994.

these figures, almost everyone (91%) felt that women make their decision regarding pregnancy termination and that providers perform the procedure without regard for the law.

**Table 5**

<b>CONDITIONS UNDER WHICH ABORTION IS BELIEVED BY PROVIDERS TO BE LEGAL</b>	
<b>Condition</b>	<b>Percent of Providers Citing (n=33)</b>
Save a woman's life	45,5%
Woman's mental health	24,2%
Foetal deformity	9,1%
Rape	9,1%
On demand	6,1%
Social reasons	6,1%
Incest	3,0%

***Reasons Women Seek an Abortion***

The overwhelming majority (87,9%) of providers believed that the reason why women decide to terminate their pregnancy is because they are unmarried. The next most common reason cited was poor timing of the pregnancy. Other reasons why the providers surveyed thought women seek an abortion are listed in **Table 6**.

**Table 6**

<b>REASONS WHY PROVIDERS BELIEVE WOMEN SEEK AN ABORTION</b>	
<b>Reason</b>	<b>Percent of Providers Citing (n=33)</b>
Unmarried	87,9%
Timing of pregnancy	45,5%
Children too close in age	39,4%
Too many children	33,3%
Financial reasons	30,3%
Rape	12,1%

Reason	Percent of Providers Citing (n=33)
Woman's health	6,1%
Foetal deformity	3,0%
Mental health	3,0%

### *Access to Abortion Services*

A majority (58%) of the providers responded that access to abortion for Malawian women is relatively easy. Seventy-nine percent also thought that treatment for complications of an induced abortion is easy to obtain. The proportion stating that access is difficult was much higher (50%) in the district facility, MDH, than in any other centre. At QEHE, the main tertiary referral hospital in Blantyre, 64% said that access is *very easy*.

### **Patient Perspectives**

#### *Patient Profile*

Fifty abortion patients from the four facilities surveyed in this country were interviewed for the study (**Table 7**). The age of these abortion patients ranged from 17 to 43 years (mean=25,9; median=24,5). Twenty-eight percent of the patients interviewed were aged 20 years or younger (defined here as adolescents). The mean age of the adolescents was approximately 18 years. Parity levels among all of the women interviewed ranged from nulliparous to eight children (overall mean = 1,5). The overwhelming majority (82%) stated that they were married. Personal information recorded in the patient files did not differ much from the information given during the interviews, which suggests that the values are accurate as provided.

**Table 7**

PATIENTS INTERVIEWED					
	QEHE	KCH	Ekwendeni	MDH	Total
Number of patients interviewed (% of total)	20 (40%)	20 (40%)	3 (6%)	7 (14%)	50 (100%)

### *Contraceptive Use Among Patients*

Consistent with the opinions of the providers, only 12% (6) of the patients interviewed had ever used a modern method of FP prior to their most recent pregnancy (no one from MDH). Of these six, 33,3% had used OCs and 16,7% had used injectables. Two (33,3%) of these six women (both from KCH) said they had become pregnant sometime in the past while using a FP method. Overall, only two (4%) out of the 50 women interviewed were using a contraceptive method at the time of the latest pregnancy (both from KCH, possibly the same two as for the previous question).

### ***Reasons Patients Sought Treatment***

The two main reasons why the women interviewed said they went to the hospital were vaginal bleeding (82%) and abdominal pain (66%) (**Table 8**). Forty-two percent said their symptom(s) had persisted for one day or less before they sought treatment at the hospital; 20% indicated 2 days; and 36% noticed their symptom(s) 3 or more days before seeking treatment.

**Table 8**

<b>REASONS FOR WHICH PATIENTS SOUGHT TREATMENT</b>	
<b>Reason</b>	<b>Percent of Patients Citing (n=50)</b>
Vaginal bleeding	82,0%
Abdominal pain	66,0%
Fever	2,0%

### ***Transportation***

The interval between onset of symptoms and arrival at the hospital was 3 or more days for 66,7% of the women interviewed at Ekwendeni compared to 25–45% for the other three centres. This suggests that women in the northern region are either travelling to Ekwendeni from farther away, transportation is poorer or they are waiting longer before making the decision to seek treatment. Twenty-four percent of the women interviewed (i.e., all of those who were surveyed from Ekwendeni), said that they walked to the facility. In the other centres, the women used both private (36%) and public (30%) transport to get to the hospital. Eighty percent overall expressed that it was easy for them to get to the facility. It took less than 2 hours for 61,2% of those interviewed to get to the hospital; for 26,5%, it took 2 to 4 hours. Interestingly, 100% of the women interviewed from Ekwendeni—all of whom walked—said that it took them between 0 to 2 hours to reach the hospital.

### ***Waiting Period***

Once at the hospital, 60% said they had waited 2 hours or less before seeing a doctor. Twenty-eight percent, however, had waited from 6 to more than 10 hours to be treated. This proportion was highest for QEH, the tertiary referral hospital. Despite these figures, the majority (74%) indicated that they felt the amount of time they had waited was “acceptable.”

### ***Procedure Experience***

Overall, only 20% responded that they felt pain during the procedure. Thirty percent of *these* patients, however, indicated that the pain was severe. In only 8% of the cases (no patients from MDH) did the patient remember someone explaining to her what the treatment would

entail; and, alarmingly, 86% noted that they had received *no* information about how to care for themselves once they had been discharged and returned home.

### ***Provision of FP Information/Services***

In contrast to the providers' responses, 92–100% of the patients said that no one had either talked to them about FP nor made any FP method available to them yet. In only 4% of the cases (no one from QEH or Ekwendeni) could the woman remember anyone telling her where in the community she could go to obtain a FP method. Overall, only 52% of the respondents were in favour of having a FP *method* offered to them in the hospital post-procedure. The proportion of women in MDH who responded yes to this question was particularly low at 14%. Only approximately 40% felt that any woman seeking treatment for complications of an incomplete abortion would like to have FP services made available to her while still in the hospital. A fair number, 48%, however, said they “didn't know” as the response to this question.

### ***Personal Treatment at the Hospital***

All of the patients said that staff at the hospital treated them considerately. Almost everyone (92%) expressed that they were satisfied or very satisfied with the services they had received. The patients responded unanimously that they would encourage any friend or relative who had the same problem to be treated at that facility. As with the other countries, a little over one third (34%) said that they knew a friend or relative who had either died or become seriously ill from an incomplete abortion.

## INTRODUCTION

Pregnancy termination is illegal in Uganda except on medical grounds (i.e., abnormal conceptus or life threatening maternal conditions). Consequently, information on morbidity and mortality due to complications of unsafe abortion is not well documented. Nine out of more than 40 hospitals (government and private) nationwide have Obstetric and Gynaecology specialists on staff who provide postabortion care. Data for this monograph were collected from four of these nine facilities. Three are located in urban centres (two in the capital city of Kampala and one in Jinja, the second largest urban centre) and one is a rural district hospital.

New Mulago Hospital (NMH) is a government, tertiary level hospital as well as the teaching hospital for Makerere University. It has a total capacity of 1000 beds with a gynaecological capacity of approximately 90 beds. Some 17 000 births occur in this facility every year. This hospital, together with Nsambya and two smaller hospitals, serves the population of Kampala plus an additional 500 000 persons from adjacent districts (and referrals from distant centres).

Nsambya is a private missionary referral centre for the population of Kampala. It is a 450-bed facility with approximately 8500 deliveries annually and 2000 gynaecology admissions. It is a teaching hospital for junior residents (medical interns) as well as for nurses and midwives.

Jinja Hospital is a government provincial hospital with training facilities for junior residents and an affiliated nurse/midwifery training school. It has approximately 400 beds and between 1000 and 1500 gynaecological admissions per year. It serves a population of about 600 000 people in the immediate and surrounding area.

Masaka Hospital is a government district referral hospital which provides nurse/midwifery training. It has a 21-bed gynaecology capacity and averages about 5000 deliveries annually.

In all four hospitals, logbooks in the emergency, casualty, gynaecology and maternity wards were consulted to locate the study data, as well as patient hospital notes. In terms of completeness of the data, however, not all patients admitted to the wards were registered for a number of reasons (including the sensitive nature of their condition). In general, the researchers found that collecting the logbook information was very time consuming as often the records were lost or could not be located. In addition, in order to obtain the desired cost-related information, more than one interview with a hospital administrator usually was necessary. Even then the administrator frequently was not able to answer the questions and thus the interviewer had to consult staff from the accounts and the records departments to complete the questionnaire.

At each hospital, a minimum of three medical personnel were interviewed (i.e., a nurse, resident and supervisor) for a total of 17 in the four facilities. An important finding was that a substantial number of nurses approached by the research team (up to 30%) declined to be interviewed as it was unclear to them what benefit this would bring. Thus, the data presented for this section are biased in this regard. This was not a problem with the physicians interviewed.

In two facilities in Kampala—the tertiary centre and the private referral hospital—a minimum of four abortion patients were interviewed on the wards during the observation period. Due to a smaller abortion client load in the other two facilities, often fewer than four abortion patients were interviewed per day. Thus, the goal of interviewing 20 patients over the 5-day observation period could not be met in those hospitals. Most patients and all

providers/administrators could speak and understand English and therefore this was the language used for most interviews.

## RESULTS

### Magnitude of the Problem

#### *Logbook*

In three of the four hospitals, the data collectors reviewed almost 300 cases for this study, covering from 4 months of logbook admissions (in the case of NMH and Nsambya hospitals) to 1 year (Jinja). In the district hospital (Masaka), slightly more than 100 cases logged for the previous year were reviewed. The logbooks were current in all four hospitals. In none of the hospitals, however, were the logbook entries complete for patients.

The number of incomplete abortion cases per year (calculated or estimated from the logbook data) ranged from a low of 150 (the district hospital-Masaka) to a high of 3600 (the tertiary referral hospital-NMH). The average *monthly* number of cases for the four hospitals ranged from 9 to 95 (mean = 47,5; median = 43). The percent of gynaecological cases that were incomplete abortion patients ranged from 28% to a high of 64% (NMH). The average age of the abortion patients in all four hospitals was similar, ranging from 23 to 28 years (overall mean/median = 25). In all hospitals but one (Masaka, where the average parity was one), abortion patients had an average parity of two.

Overall, approximately equal percentages of cases were 12 weeks gestation or less versus 13 weeks gestation or more. These percentages varied among the hospitals, however, with a higher proportion of cases 13 weeks gestation or more since LMP being recorded for NMH and the reverse being recorded for Nsambya (the missionary referral hospital). In the one hospital reporting treatment modalities for incomplete abortion (Masaka), all abortion patients 12 weeks gestation or less were treated with sharp curettage and none were treated with vacuum aspiration.

Abortion case fatality rates (as recorded in the logbooks for the period reviewed) were around 1% for Jinja; 0,003% for Nsambya; 2% for Masaka; and 2,4% for NMH. The ALOS for incomplete abortion patients ranged from a low of 0,55 days (in the tertiary referral hospital) to 4 days (Jinja). The case fatality rate was highest (2,4%) in NMH which can be explained, in part, by the fact that it is a tertiary level referral hospital. Statistics describing the magnitude of the problem in these four institutions are summarised in **Table 9**.

**Table 9**

HOSPITAL-SPECIFIC DATA						
	NMH	Jinja	Nsambya	Masaka	Overall Mean	Overall Median
Number of months of data reviewed	4	12	4	11	NA	NA
Number of incomplete abortions recorded for months reviewed*	251	294	287	114	NA	NA
Mean number of incomplete abortions per month	63	25	72	10	42,5	43
Number of incomplete abortions per year**	756	300	864	120	510	210
Percent of incomplete abortions #12 weeks***	37,5%	40,5%	48,4%	31,6%	39,5%	39%
Percent of incomplete abortions \$13 weeks***	57,4%	42,9%	8,7%	28,9%	34,5%	35,9%
Mean patient age	26	28	24	23	25,3	25
Mean patient parity	2	2	2	1	1,75	2
Mean uterine size	14	12	6	7	9,75	9,5
Number of abortion deaths recorded for months reviewed	6	2	1	2	2,75	2
Facility abortion case fatality rate (%)	2,4	0,7	0,3	1,8	1,5	1,5

NA=Not Applicable

NR=Not recorded

\*Investigators were requested to review approximately 300 cases or one year of data, whichever required less reviewing.

\*\*Calculated from mean number of incomplete abortions per month multiplied by 12 months

\*\*\*Percentages do not add up to 100% due to missing data.

### ***Ward Observation***

In all four hospitals, abortion patients recuperate in the gynaecological ward; in two hospitals, they also are admitted into the (gynaecological) casualty ward. The average DBO rate observed during the observation period for abortion patients in the casualty ward was 21% in one hospital (Nsambya) and 49% in another (NMH). For the gynaecological ward, the rate for all four hospitals ranged from 2% (Nsambya) to 17% (Jinja) (mean/median = 9%). Fatality rates varied by ward in which the patient was registered.

### ***Interview with the Head of the Maternal Mortality Review Committee (MMRC)***

Interviews with the head of the MMRC (or senior provider) yielded estimates of the number of incomplete abortion patients seen in each hospital annually. These estimates ranged from a low of 150 (Masaka) to a high of 3600 (NMH) (mean = 1438; median = 1000). These numbers are close to those calculated by the research team for each hospital from the logbook data. In terms of the types of complications typically seen, all four hospital respondents cited localised infection, septicaemia and haemorrhage. The respondent from NMH also cited uterine perforation and cervical injury.

Estimates of how long incomplete abortion patients remain in the hospital for treatment and recuperation ranged from 12 to 48 hours (mean = 27,5 hours; median = 25 hours). For some facilities, the estimate provided by the MMRC was low compared to the ALOS calculated by the research team for the study period (e.g., for Jinja Hospital the *documented* ALOS was 4 days).

The estimated number of hospital deaths due to complications of abortion each year ranged from two to ten. These estimates also are close to those calculated from the logbooks for each hospital which suggests that those interviewed are aware of the magnitude of the problem in their facilities. Respondents described patients who die of abortion complications as being in their early 20s and single (three respondents) or married (NMH). A mortality review committee exists in three of the four hospitals (not in the district facility) although written procedures and post-mortem exams are not standardised or routinely carried out in any facility surveyed.

### **Cost**

Budgets do not exist for gynaecology or abortion treatment services in any of the four hospitals. Therefore, the amounts listed in **Table 10** represent estimates extrapolated from a number of different sources. The estimated cost of treating incomplete abortion cases was lowest in the rural facility and highest in the tertiary centre. Despite the fact that the hospital administrator(s) had difficulties quantifying the cost of treating abortion complications in their facilities, they all agreed that this service constitutes a major cost to the hospital.

**Table 10**

<b>COST-RELATED DATA</b>				
	<b>NMH</b>	<b>Jinja</b>	<b>Nsambya</b>	<b>Masaka</b>
Number of gynaecology cases/year	5600	1051	1850	450
Number of incomplete abortion cases/year	3600	300	975	130
Percent of incomplete abortion cases (of gynaecology patients)	64,3%	28,5%	52,7%	28,9%
Gynaecology budget/year (US\$)	\$248,812	\$137,755	\$275,510	\$38,775
Mean cost of daily patient stay (US\$)	\$20.40	\$5.60	\$2.00	\$2.80
ALOS (days)	0,55	4,02	1,67	0,78

	NMH	Jinja	Nsambya	Masaka
Total estimated cost of treating incomplete abortions/year (US\$)				
a) Based on estimates provided by hospital administrators of the number of incomplete abortions	\$40,392	\$6,754	\$3,140	\$284
b) Based on estimated number of incomplete abortions per year from Table 9	\$8,482	\$6,754	\$2,886	\$262

## Provider Perspectives

### *Provider Profile*

**Table 11** shows the number of providers interviewed for the study in each Ugandan hospital. Of the 17 providers interviewed, seven (41,2%) were nurses, four (23,5%) were medical officers/interns and three (17,6%) were Chiefs of the Department of Obs/Gynae. The majority (82,4%) of all respondents noted that the primary postabortion care provider in the facility is the medical officer. There was an almost equal number of female and male provider respondents (52,9% and 47,1%, respectively) and just over half (58,8%) of the providers were married.

**Table 11**

PROVIDERS INTERVIEWED					
	NMH	Jinja	Nsambya	Masaka	Total
Number of providers interviewed (% of total)	5 (29,4%)	4 (23,5%)	5 (29,4%)	3 (17,6%)	17 (100%)

### *Provider Role*

Almost everyone (94,1%) interviewed indicated that their role in caring for abortion patients is to provide medical/clinical treatment; over three-quarters (76,5%) noted that they also have a role counselling patients about the treatment. In only two hospitals (NMH and Masaka) did any providers also say that they provide some FP counselling (2 out of 5 providers interviewed or 40% in the former; 2 out of 3 or 66,7% in the latter facility). This suggests that some linkage between abortion and FP services exists in these two facilities.

### *Client Profile*

The providers had similar impressions of what constitutes a “typical” incomplete abortion patient, i.e., young, aged 17 to 24 (mean response = 20 years), either single or married (52,9% said single, 41,2% said married), unemployed and often still in school. Half of the providers

were of the opinion that doctors perform the initial abortion procedure. None of the providers suggested traditional healers or midwives as the abortion provider.

### ***Complications/ALOS***

Haemorrhage was the most common presenting complication noted by providers in all hospitals. **Table 12** shows the types of complications cited as occurring the most frequently among abortion patients. Providers' estimates of the amount of time that incomplete abortion patients remain hospitalised ranged between 12 and 35 hours (mean/median = 24 hours). These figures are close to those estimated by the head of the MMRC interviewed and those calculated from patient discharge information for the study. Opinions regarding whether most women in the community suffering from abortion complications end up going to the hospital for treatment were split, with 41,2% of the providers saying they do and 47,1% saying they do not. Interestingly, the large majority (76,5%) of respondents did not think that maternal deaths from complications of abortion is a major problem in their community. Only in NMH (tertiary centre) did a majority (60%) of the providers interviewed perceive abortion to be a major problem in the area. This finding is notable especially given that the hospital administrators all agreed that the cost of treating abortion complications constitutes a major cost to these four hospitals.

**Table 12**

<b>MOST FREQUENTLY OCCURRING PRESENTING COMPLICATIONS AMONG INCOMPLETE ABORTION PATIENTS</b>	
<b>Complications</b>	<b>Percent of Providers Citing (n=17)</b>
Haemorrhage	100%
Localised infection	82,4%
Septicaemia	41,2%
Uterine perforation	35,3%
Cervical injury	23,5%

### ***Contraceptive Use Among Patients***

There was consensus among all providers interviewed that the majority of women treated for incomplete abortion were *not* using a method of FP at the time they became pregnant. Their opinions regarding reasons for non-use included: health concerns, partner disapproval, lack of access and lack of information about FP services/methods (**Table 13**).

**Table 13**

REASONS SUSPECTED BY PROVIDERS FOR NON-USE OF CONTRACEPTION AMONG INCOMPLETE ABORTION PATIENTS	
Reasons	Percent of Providers Citing (n=17)
Lack of FP information	88,2%
Partner disapproval	58,8%
Lack of access	47,1%
Health concerns	41,2%
Method inconvenience	35,3%
Infrequent sexual relations	17,6%
Cost	11,8%

### *Provision of FP Information/Services*

An overwhelming majority (88,2%) of the providers interviewed stated that incomplete abortion patients should receive FP information while they are still in the hospital (40% of the providers in the missionary facility responded that this depends on the individual's situation). Fewer, 70,6%, thought that patients are *interested* in getting this type of information while hospitalised (23,5% overall were of the opinion that this depends on the situation). Only 35,3%, however, noted that FP information is currently offered *routinely* to incomplete abortion patients in their facility. In NMH, three out of five providers stated that patients *are* routinely provided with this information. In the other three hospitals, the majority of providers stated that patients do *not* receive FP information.

The providers were divided on their views about making FP *methods* available in hospital post-procedure. Approximately 67% indicated that they were supportive of this (none were supportive in the missionary facility). Only 12%, however, (one provider each from NMH and Jinja) said that contraceptives are, in fact, currently provided to patients before they are discharged.

### *Abortion Laws*

According to *World Abortion Policies 1994*<sup>22</sup> (**Annex 16**), abortion is legally permitted in Uganda to save the woman's life and to preserve physical health. **Table 14** shows the conditions under which the providers interviewed believe abortion is legal in their country. In all but the missionary hospital (Nsambya), the providers were in agreement that the current law is too restrictive. Similarly, everywhere but in the missionary facility, most (64,7%) providers believed

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<sup>22</sup>United Nations Department for Economic and Social Information and Policy Analysis Population Division. *World Abortion Policies 1994*. March 1994.

that women will make decisions about pregnancy termination and providers will perform abortion services regardless of the statutes of the law.

**Table 14**

<b>CONDITIONS UNDER WHICH ABORTION IS BELIEVED BY PROVIDERS TO BE LEGAL</b>	
<b>Condition</b>	<b>Percent of Providers Citing (n=17)</b>
Save a woman's life	88,2%
Foetal deformity	58,8%
Women's mental health	35,3%
Incest	11,8%

***Reasons Women Seek an Abortion***

The majority of providers in all four hospitals agreed that the primary reasons women seek abortion are that they have too many children or their children are too close in age or that they lack financial resources. The fourth most important reason cited was not being married (**Table 15**). In Masaka, one of the areas in Uganda hardest hit with acquired immune deficiency syndrome (AIDS), HIV infection also was cited as a reason for terminating the pregnancy.

**Table 15**

<b>REASONS WHY PROVIDERS BELIEVE WOMEN SEEK ABORTION</b>	
<b>Reason</b>	<b>Percent of Providers Citing (n=17)</b>
Too many children	76,5%
Lack of financial resources	76,5%
Children too close in age	58,8%
Unmarried	52,9%
Foetal deformity	29,4%
Timing of pregnancy	23,5%
Woman's health	17,6%
Rape/Incest	11,8%
Mental health	11,8%

## *Access to Abortion Services*

The providers' views were varied in regard to ease of access to abortion services and treatment for incomplete abortion. About 70% thought that it was either somewhat or very difficult to get an abortion in Uganda. Sixty percent, however, felt that it was either very or somewhat easy for women in the hospital's catchment area to obtain medical *treatment for complications* of an abortion; all of the respondents in NMH and Masaka responded that access to treatment was easy. Two reasons cited for the difficulty in access to abortion were the prohibitive law and cost. All providers at the missionary hospital stated that access to FP was somewhat or very difficult, while the majority (67–100%) of providers at the other hospitals responded that access was somewhat or very easy.

## **Patient Perspectives**

### *Patient Profile*

A total of 77 patients were interviewed during the study period (**Table 16**). The age range of these patients was from 16 to 39 years (mean = 24; median = 23). Of interest is the difference in age distribution of patients from urban versus more rural areas. No patient interviewed in the urban capital city was older than 35 while in the more rural, district hospital (Masaka), there were no teenagers admitted during the study observation period (minimum age was 20). Overall, 36,8% of the patients interviewed were aged 20 or younger (i.e., adolescents), and the youngest patient interviewed was 16 years old. The mean age of the adolescents was 18,6 years (median = 19). Many (63,6%) women interviewed said they were married (as high as 80% in Masaka). Overall, only 20,8% responded that they were single. Personal information recorded in the patient files did not differ much from that provided by the patient during the interview. This suggests that the information is accurate although the women could have provided incorrect information on both accounts. Overall, parity levels ranged from nulliparous to ten. The mean number of living children ranged from two in NMH and Nsambya to four in Jinja (overall mean/median = 2).

**Table 16**

<b>PATIENTS INTERVIEWED</b>					
	<b>NMH</b>	<b>Jinja</b>	<b>Nsambya</b>	<b>Masaka</b>	<b>Total</b>
Number of patients interviewed (% of total)	30 (39,0%)	17 (22,0%)	20 (26,0%)	10 (13,0%)	77 (100%)

### *Contraceptive Use Among Patients*

In terms of prior contraceptive use, 35,1% of the patients interviewed said they had previously used a method of FP (of these, 66,7% had used OCs; 34,6% had used condoms; and 7,7% had used injectables). The proportion who had ever used a FP method was similar (30–40%) in all hospitals except for the district facility where only 20% of the women had ever used a contraceptive method before. Almost 20% of the women said they had become pregnant

sometime in the past while using a contraceptive method. Of these women, 22,2% were using OCs, 22,2% were using condoms and 11,1% were using injectables when they became pregnant. Among the four hospitals, the highest proportion (3 out of 7 or 43%) of women reporting a pregnancy while using a FP method (not necessarily a modern method) were from Jinja. Seven out of 75 (9,3%) indicated that they were using contraception at the time of the most *recent* pregnancy. Of these women, 25% were using OCs, 12,5% were using condoms and 62,5% were using some other non-modern method of FP.

### ***Reasons Patients Sought Treatment***

The medical reason(s) for which the patients said they came to the hospital for treatment are listed in **Table 17**. The major problem cited by patients was vaginal bleeding (85,7%). Overall, 55,2% indicated that their symptom(s) had persisted for 1 day or less before they sought treatment at the hospital; 25% said their symptom(s) had persisted 3 or more days; and, for 19,7%, the time between onset of the problem and hospitalisation was 2 days. Women interviewed from the rural area tended to have longer intervals between onset of symptoms and presentation to the hospital. This is evidenced by the finding that 50% of the women interviewed in Masaka—the district hospital—presented 3 days or more after onset of symptoms compared to a low of 6,9% for NMH. The reason for the long interval between onset of symptoms and seeking treatment among this group may relate to real or perceived access to services, the woman’s perception of risk of morbidity/mortality, and/or her ability to take time out to attend to her own health needs.

**Table 17**

<b>REASONS FOR WHICH PATIENTS SOUGHT TREATMENT</b>	
<b>Reason</b>	<b>Percent of Patients Citing (n=77)</b>
Vaginal bleeding	85,7%
Abdominal pain	46,8%
Fever	23,4%

### ***Transportation***

The women interviewed used both private (46,8%) and public (33,8%) transportation to access the facilities. In the district area, where public transport is scarce, private means had to be used by all of the women. Interestingly, the majority (82,9%) of the women interviewed expressed the opinion that it was either very or somewhat easy for them to get to the facility. For over 70% of all patients surveyed, it took them between 15 minutes and 1 hour to reach the hospital. For 80,3%, it took them less than 2 hours to get to the hospital. This finding substantiates the contention that populations identified in hospital-based studies are those with relatively easy access to facilities where abortion complications can be treated (and represent those who are well enough and decide to make the trip).

### ***Waiting Period***

Sixty-two percent said that, once at the hospital, they had waited two hours or less to see a doctor. The majority (65,8%) indicated that the amount of time they had waited was “acceptable” to them.

### ***Procedure Experience***

Pain was experienced by the majority (74,6%) of patients interviewed. One third (32,8%) indicated that the pain was severe (in Nsambya, no patients reported severe pain). Approximately three quarters of the women interviewed in each centre except Masaka had *not* received any information about how to take care of themselves at home. In contrast, at the district facility, up to almost 70% *had* received this advice. Overall, less than half (41,6%) of the patients remembered someone explaining to them what their treatment would involve. The proportion saying they had received *no* explanation was highest (76,7%) in NMH (tertiary centre) and lowest in the missionary and district hospitals (30% in each facility).

### ***Provision of FP Information/Services***

The overwhelming majority (83%) of patients said that no one had talked to them about FP services during their hospital stay. In only 36% of the cases was the woman told where she could go in the community to obtain a FP method. In every hospital except Nsambya (missionary hospital), the number who were told and who were not told was almost equal. At Nsambya, 95% of the women interviewed said they were *not* given any FP information. Overall, 75% indicated that they would have liked to have had information and a FP method offered to them. The majority (75%) thought that other women in the community being treated for the same problem would like to both receive FP information and have FP methods made available to them while still in the hospital. (The majority of the other responses were “don’t know” for all hospitals.) These findings are particularly important in light of the fact that the majority of patients had never used a method of FP prior to the most recent (index) pregnancy.

### ***Personal Treatment at Hospital***

Patient opinions regarding their interactions with provider(s) varied. Almost all from Nsambya and Masaka said that the hospital staff had been very considerate. Only half in the other two hospitals responded that the staff was very considerate. Overall, 70,7% said that they were very satisfied with the services they had received. An overwhelming majority, 93,2%, said they would encourage any friend or relative who had the same problem to be treated at that facility.

# ZAMBIA—ABORTION COMPLICATIONS

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## INTRODUCTION

Data for the study were collected from one tertiary, one provincial and two district hospitals. The providers noted that there was a wide variation in the monthly number of cases treated and that actual figures were often well in excess of logged (documented) patients.

The University Teaching Hospital in Lusaka is a tertiary care centre where patients with incomplete abortion are admitted into the gynaecology or gynaecology casualty wards or into the intensive care unit. Two out of fifteen beds are designated for abortion patients (stable or recuperating) in the gynaecology casualty ward. Only very seriously ill abortion patients are assigned to one of the other 13 gynaecology ward beds. In this hospital, therefore, the DBO rates could be calculated as either 386% (using two beds as the denominator) or 51% (using all 15 beds as the denominator).

Ndola Hospital is a provincial hospital with one gynaecology ward exclusively for gynaecology patients and a combined gynaecological/female surgery ward (20 beds) where abortion patients are treated.

Livingstone District Hospital (LDH) has one combined female gynaecological and surgical ward of 20 beds. In Mongu District Hospital (Mongu), all female medical, gynaecology and surgery patients are assigned to a female ward with 57 beds.

## RESULTS

### Magnitude of the Problem

#### *Logbook*

Logbooks were considered up-to-date in only two of the hospitals. In the two other facilities, the researchers noted that it was very difficult to collect the study information. Data on parity, uterine size and deaths were unavailable in some places. At the two district hospitals, records had to be reviewed for over a year to reach the desired number of cases (300) for the study. In contrast, this number was exceeded after reviewing only 2 months of logbook cases at the tertiary centre in Lusaka. The average monthly number of cases in the four hospitals ranged from a low of 20 (Mongu) to a high of 270 (Lusaka). Approximately half of the cases reviewed over the data collection period were 12 weeks gestation or less. In the Lusaka and Ndola centres, all cases 12 weeks gestation or less were treated with MVA. MVA was not used as an evacuation technique in the other two study sites.

The mean age of the incomplete abortion patients for the months reviewed was approximately equal for all four facilities (i.e., 25 years). For the two hospitals where parity data were available, the average parity was two. **Table 18** provides a hospital-specific summary of the most important statistics collected from the facility logbooks.

**Table 18**

HOSPITAL-SPECIFIC DATA
------------------------

	Lusaka	Ndola	LDH	Mongu	Overall Mean	Overall Median
Number of months of data reviewed	2	5	13	13	NA	NA
Number of incomplete abortions recorded for months reviewed*	525	347	291	258	NA	NA
Mean number of incomplete abortions per month	263	69	22	20	93,5	45,5
Number of incomplete abortions per year**	3156	828	264	240	1122	546
Percent of incomplete abortions #12 weeks***	39%	62%	100%	NR	67%	62%
Percent of incomplete abortions ≤13 weeks***	29%	34%	0%	NR	21%	29%
Mean patient age	26	25	23	25	24,8	25
Mean patient parity	2	2	NR	NR	2	2
Mean uterine size	13	12	NR	NR	12,5	12,5

NA=Not Applicable

NR=Not Recorded

\*Investigators were requested to review approximately 300 cases or one year of data, whichever required less reviewing.

\*\*Calculated from mean number of incomplete abortions per month multiplied by 12 months

\*\*\*Percentages do not add up to 100% due to missing data.

### ***Ward Observation***

In three hospitals (not in Mongu), abortion patients are admitted into the gynaecology ward. In Mongu, incomplete abortion patients are treated in the female ward. In Lusaka, they also are admitted to the gynaecology casualty ward. Overall, the average DBO rate for abortion patients treated in the gynaecology wards during the observation period was 8%. For the female ward at Mongu, it was 5%.

### ***Interview with the Head of the Maternal Mortality Review Committee (MMRC)***

Interviews with the head of each MMRC yielded estimates of the number of incomplete abortion patients seen each year. These ranged from 1500 for Ndola to a high of 4000 for Lusaka (mean = 2325). These estimates are slightly higher than those calculated by the researchers using the logbooks' monthly averages. In three of the four hospitals (not in Mongu), a committee exists which regularly reviews cases of maternal death. Only in one hospital (Ndola), however, are deaths due to complications of abortion reviewed by this committee. Written guidelines are not available in any of these facilities to assist the MMRC in their review process.

The estimated number of hospital deaths due to complications of incomplete abortion each year ranged from 12 (Ndola) to 60 (Lusaka). In terms of the amount of time incomplete

abortion patients remain hospitalised, three respondents (all but Ndola) estimated 24 hours (i.e., one day); the respondent from Ndola estimated slightly longer (30 hours).

### *Cost*

Interviews were held with hospital administrators and financial controllers at the four hospitals to obtain cost estimates for treating abortion complications. In most centres, cost information was not easily obtainable as the budget breakdown for gynaecology and abortion treatment services was not readily available.

There was a marked variation in the ALOS for incomplete abortion patients in the four centres. The shortest time was in Lusaka (0,57 days) followed by Ndola (1,2 days)—both centres where MVA procedures are performed. In the two other hospitals—where MVA is not available, there is only one doctor, and evacuations are done in the operating theatre using SC—the ALOS was markedly higher (e.g., over seven times that for Lusaka in Mongu).

In the Lusaka hospital, the estimated daily patient cost was US \$14–\$17. Given an ALOS for abortion patients of 0,57 days, the average cost of treating an incomplete abortion patient was approximately US \$8.

In Ndola, the situation was similar although the administrators interviewed gave different cost estimates. This probably reflects the fact that they were referring to different documents (e.g., approved versus projected budgets versus actual expenditures). Their estimates of daily hospital patient costs were between US \$9 and \$100, the latter representing the amount for a higher cost ward.

In Mongu, four administrators were interviewed and, although all were familiar with the hospital budget, none could easily estimate gynaecology services costs (because the budget is not broken down this way). Daily hospital patient costs were ultimately estimated to be between US \$4–\$21, close to the estimates for Lusaka Hospital. **Table 19** lists cost-related data for Zambia.

**Table 19**

COST-RELATED DATA				
	Lusaka	Ndola	LDH	Mongu
Number of gynaecology cases/year	NR	NR	NR	2464
Number of incomplete abortion cases/year	NR	NR	480	708
Percent of incomplete abortion cases (of gynaecology patients)	42%	NR	NR	7,3%
Mean cost of daily patient stay (in US\$)	\$15.50	\$46.70	NR	\$13.00
ALOS (days)	,57	1,16	3,5	4,4

	Lusaka	Ndola	LDH	Mongu
Total estimated cost of treating incomplete abortions/year (US\$)				
a) Based on estimates provided by hospital administrators of the number of incomplete abortions	NC	NC	NC	\$40,498
b) Based on estimated number of incomplete abortions per year from Table 18	\$27,883	\$44,854	NC	\$13,728

NR=Not Recorded

NC=Not Calculated

## Provider Perspectives

### *Provider Profile*

A total of 64 providers were interviewed in the four hospitals (**Table 20**). These included nurses, clinical officers, residents, interns, registers and chief medical officers. Approximately two thirds (65,6%) of the respondents reported that the primary abortion care provider in the facility is the nurse. Another 10,9% cited the clinical officer or the Obs/Gynae chief. In this country, there were significantly more female than male provider respondents (73,4% and 26,6% respectively) and over two thirds (70,3%) were married.

**Table 20**

PROVIDERS INTERVIEWED					
	Lusaka	Ndola	LDH	Mongu	Total
Number of providers interviewed (% of total)	22 (34,4%)	16 (25%)	11 (17,2%)	15 (23,4%)	64 100%

### *Provider Role*

Approximately half (51,6%) of the respondents indicated that their role in caring for abortion patients is to provide medical treatment; 51,6% noted that they also have a role counselling the patient about the treatment. The proportion noting that they have a role counselling the patient was highest for LDH (73%) and lowest for Ndola (31%). Overall, only about a third (31,3%) cited FP counselling as part of their perceived role.

### *Client Profile*

The providers described the “typical” abortion patient as a woman in her early 20s, single, at school, and from a relatively well-off family. Only 7,9% thought that doctors typically perform the termination procedure. Traditional healers and someone else (other than either a

health professional or a traditional practitioner) also were cited often (approximately 35%) as the person most likely to terminate a pregnancy.

### ***Complications/ALOS***

Haemorrhage and localised infection were noted as the most common types of complication treated. **Table 21** lists the complications cited by providers as occurring the most frequently among abortion patients. Where the logbook records revealed longer ALOS (LDH and Mongu), the providers also remarked that patients had to remain a long time for treatment. Providers' estimates of the amount of time incomplete abortion patients remain hospitalised varied considerably within facilities which suggests that some are less informed about the situation in their facility than others (overall mean = 31 hours; median = 24 hours). Estimates of the average amount of time patients wait before they have an evacuation procedure also varied among providers in the same facility. The highest estimate (48 hours) was given by a Mongu respondent.

**Table 21**

<b>MOST FREQUENTLY OCCURRING PRESENTING COMPLICATIONS AMONG INCOMPLETE ABORTION PATIENTS</b>	
<b>Complications</b>	<b>Percent of Providers Citing (n=64)</b>
Haemorrhage	60,3%
Localised infection	59,7%
Septicaemia	37,1%
Uterine perforation	23,0%
Cervical injury	18,0%

### ***Contraceptive Use Among Patients***

Providers generally concurred that patients treated for incomplete abortion were not using a method of FP before becoming pregnant. The main reasons they cited for non-use were lack of information and poor access (**Table 22**).

**Table 22**

<b>REASONS SUSPECTED BY PROVIDERS FOR NON-USE OF CONTRACEPTION AMONG INCOMPLETE ABORTION PATIENTS</b>
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Reasons	Percent of Providers Citing (n=64)
Lack of FP information	80,8%
Lack of access	36,5%
Partner disapproval	17,3%
Cost	9,6%
Infrequent sexual relations	9,6%
Method inconvenience	7,7%
Health concerns	3,8%

### *Provision of FP Information/Services*

In general, providers were of the opinion that patients treated for an incomplete abortion should be *offered* FP information while still in the hospital (92% responded yes to this question). Slightly fewer, 83,9%, thought that patients are *interested* in getting this type of information while hospitalised. Only in Ndola, however, was it noted that patients are *routinely* given this information. Information about sources in the community where FP methods may be obtained also is not routinely provided at these facilities. Sixty-seven percent of the providers interviewed indicated that they were supportive of making FP methods available to incomplete abortion patients while still hospitalised. Only 10,2%, however, said that contraceptives are, in fact, currently offered to abortion patients before being discharged (in Ndola and Lusaka). OCs, condoms, injectables, IUDs, Norplant implants and both male and female sterilisation were all noted, albeit by only a few respondents, as methods available in one or both of these hospitals.

### *Abortion Laws*

According to *World Abortion Policies 1994*<sup>23</sup> (**Annex 16**) abortion is legally permitted in Zambia to save the woman's life, to preserve physical health, to preserve mental health, in the event of foetal impairment and for economic and social reasons. **Table 23** shows the conditions under which the providers interviewed *believe* abortion is legal in their country. Approximately one third of the providers felt that the current laws in Zambia on this issue are too restrictive; one third were of the opinion that the laws are appropriate and about a quarter felt they are too liberal. A higher proportion of providers in Ndola and LDH felt that the current laws are too restrictive, whereas in Lusaka and Mongu more found them to be either appropriate or too liberal. Most (88,7%) providers were in agreement that women do not seriously consider the legality of obtaining an abortion when making the decision to terminate. Similarly, most (87,1%) of those interviewed said providers will perform the procedure regardless of the statutes of the law.

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<sup>23</sup>United Nations Department for Economic and Social Information and Policy Analysis Population Division. *World Abortion Policies 1994*. March 1994.

**Table 23**

<b>CONDITIONS UNDER WHICH ABORTION IS BELIEVED BY PROVIDERS TO BE LEGAL</b>	
<b>Condition</b>	<b>Percent of Providers Citing (n=64)</b>
Save a woman's life	81,0%
Woman's mental health	52,4%
Social reasons	39,7%
Foetal deformity	27,0%
Rape	8,1%
Incest	3,2%
On demand	3,2%

***Reasons Women Seek an Abortion***

Reasons providers thought women seek an abortion are indicated in **Table 24**. In all centres, particularly in LDH and Mongu, the majority of providers felt that it was generally easy for a woman to obtain an induced abortion in the community. Similarly, most (95,3%) of the providers felt that it was very easy for a woman to have complications of an induced abortion treated. Despite the fact that FP services are usually not provided to abortion patients in the hospitals, the providers generally (89%) felt that it was relatively easy to obtain a FP method (as numerous FP clinics exist near the hospitals). Of note is the finding that, although the providers felt treatment is easily accessible, the majority (68,8%) responded that death from complications of abortion is a major problem in the community.

**Table 24**

<b>REASONS WHY PROVIDERS BELIEVE WOMEN SEEK ABORTION</b>	
<b>Reason</b>	<b>Percent of Providers Citing (n=64)</b>
Unmarried	71,4%
Timing of pregnancy	49,2%
Children too close in age	37,1%
Financial reasons	33,3%
Too many children	30,6%

Reason	Percent of Providers Citing (n=64)
Woman's health	29,0%
Mental health	12,9%
Foetal deformity	11,3%
Rape/Incest	9,7%

## Patient Perspectives

### *Patient Profile*

A total of 55 abortion patients in the four hospitals were interviewed for the study (**Table 25**). The age range of these patients was from 15 to 38 years (mean = 25; median = 24). Twenty-four percent of the patients interviewed were aged 20 years or younger (defined here as adolescents). The average age of the adolescent patients was 18 years. Parity levels among all the women interviewed ranged from nulliparous to seven. The majority (69,1%) responded that they were married (27,3% said they were single). Personal information recorded in the patient files did not differ much from that provided by the patient during the interview except in a few cases for parity.

**Table 25**

PATIENTS INTERVIEWED					
	Lusaka	Ndola	LDH	Mongu	Total
Number of patients interviewed (% of total)	30 (54,5%)	17 (30,9%)	4 (7,3%)	4 (7,3%)	55 (100%)

### *Contraceptive Use Among Patients*

About half of those interviewed in each center said they had *never* used a method of FP before. Of the 47,3% overall who had ever used a method of contraception, 84,6% had used OCs and 3,8% had used injectables. Lack of information and the desire to conceive were cited as reasons for non-use of contraception. Of note, 38,5% of the women said they had become pregnant sometime in the past while using a method of birth control (not necessarily a modern method). Ten out of 55 (18,2%) indicated that the most recent pregnancy was the result of a FP method failure. Of these, 50% (5 out of 10) were using OCs and 30% were using condoms when they became pregnant.

### ***Reasons Patients Sought Treatment***

Most of those surveyed had come to the hospital with pain (81,8%) and/or vaginal bleeding (83,6%). Over sixty percent indicated that their symptom(s) had existed for 1 day or less before they sought treatment at the hospital. Almost one fourth had noticed their symptom(s) 3 or more days before deciding to seek treatment. This was the case particularly in Mongu—a district hospital—where 75% of the women had waited 3 days or longer before seeking treatment.

### ***Transportation***

The patients indicated that they had come to the hospital because it was relatively close, the facility was usually open and it was affordable. Most (85,5%) arrived at the facility within 2 hours (which suggests that many women delay seeking care since many presented 3 or more days after onset of symptoms). The women interviewed used both private (47,3%) and public (41,8%) means of transportation to reach the hospital.

### ***Waiting Period***

In the two larger hospitals, most patients were seen by a doctor within 2 hours of reaching the facility; the average wait was much longer in the two district centres. Overall, 16,3% of the women said they had waited 6 to more than 10 hours before being treated. Not surprisingly, most patients expressed that they found the wait acceptable in facilities where they had waited 2 hours or less and not acceptable in the facilities where they had waited 6 hours or longer.

### ***Procedure Experience***

Written consent was obtained from patients in all centres although it was only in LDH—a district facility—where someone explained to *each* patient what the treatment procedure entailed. Overall, 43,6% of the patients remembered someone explaining to them what their treatment would involve. Eighty percent responded that they felt pain during the procedure. This proportion was highest for Lusaka (93%) and lowest for LDH (25%). Almost 40% indicated that the pain was severe (mostly women from Lusaka and Ndola).

### ***Provision of FP Information/Services***

According to the patients interviewed, FP usually was not discussed or provided although the majority (79%) expressed a desire for such services. In only 21,8% of the cases was the woman told where she could go in the community to obtain a FP method. Approximately 60% felt that most women seeking treatment for complications of an incomplete abortion would like to have a FP method and/or information made available to them while still in the hospital.

### *Personal Treatment at Hospital*

Overall, the women felt that staff at the hospital had been considerate to them. Eighty-seven percent expressed that they were satisfied with the services they had received. The respondents were almost unanimous (92,7%) in their response that they would encourage any friend or relative who had the same problem to be treated at that facility.

# ZAMBIA—INDUCED ABORTION/MR

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## INTRODUCTION

According to *World Abortion Policies 1994*<sup>24</sup> (**Annex 16**) abortion is legally permitted in Zambia to save the woman's life, to preserve physical health, to preserve mental health, in the event of foetal impairment, and for economic and social reasons. Legal induced abortion or MR is offered in each of the four study hospitals in Zambia although the overwhelming majority of the cases reviewed for the study were from the teaching hospital in Lusaka.

## RESULTS

### Magnitude of Demand for Services

#### *Logbook*

Over a 13-month period, 544 induced abortion cases were recorded in Lusaka Hospital; this yields a monthly average of 42 MR clients. Almost all evacuation procedures were performed in the gynaecology theatre using MVA (without general anaesthesia). In Ndola, 7 cases were recorded for the same period. All procedures there were performed in the main theatre using SC. In LDH, there were 22 recorded cases over 13 months and all procedures were done using SC. In Mongu, only one case was recorded for the previous year. The investigators were given the impression that more were probably performed (e.g., between 10 and 20) but were not documented in the logbooks for a variety of reasons. Age and parity data for MR clients for the different hospitals are provided in **Table 26**.

**Table 26**

HOSPITAL-SPECIFIC DATA				
	Lusaka	Ndola	LDH	Mongu
Number of months of data reviewed	13	13	13	12
Number of legal abortions recorded for months reviewed	544	7	22	1
Mean number of cases/month	41,8	0,54	1,7	0,08

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<sup>24</sup>United Nations Department for Economic and Social Information and Policy Analysis Population Division. *World Abortion Policies 1994*. March 1994.

	Lusaka	Ndola	LDH	Mongu
Mean age	28	32	27	29
Mean parity	2,4	4	NR	NR

NA=Not Applicable  
NR=Not Recorded

### ***Interviews with the Heads of the Maternal Mortality Review Committee (MMRC)***

Estimates made by the heads of the MMRC of the number of induced abortions performed annually were close to those documented in the logbooks for Lusaka (500) and LDH (20) but were higher for Ndola (20) and Mongu (10). As suggested elsewhere, logbooks may not be the best source for accurate information in these facilities on the total number of procedures performed. The procedural complication rate among MR patients was estimated by the Lusaka respondent to be approximately 4%.

### **Client Perspectives**

#### ***Client Profile***

MR clients were available to be interviewed for the study only in Lusaka Hospital. The MVA theatre staff there, however, were reluctant to inform the clients about the study and, thus, a number chose to decline when asked by the researchers. Consequently, only 9 clients were interviewed out of the 22 who had a MR procedure during the study observation period. The average age of those interviewed (29 years) was close to that recorded for the year-long logbook review (mean = 28 years). Parity levels ranged from nulliparous to five among the nine women interviewed (logbook mean = 2,4). Almost equal numbers of the women interviewed were married versus single.

#### ***Contraception Use Among Patients***

Interestingly, 78% of the nine women interviewed said that they had used a method of birth control *some time prior* to the latest pregnancy (66% had used OCs; 22% had used condoms; and 22% had used IUDs); 33% said they were using a method of FP *at the time* of the index pregnancy.

#### ***Reasons Patients Sought MR***

Reasons cited by the study clients for having a MR are listed in **Table 27**. The main reason cited was “unmarried” (44,4%) although spacing and family size also were important issues.

**Table 27**

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<b>REASONS WHY CLIENTS SOUGHT A MR PROCEDURE</b>	
<b>Reasons</b>	<b>Percent of Clients Citing (n=9)</b>
Unmarried	44,4%
Spacing of children	33,3%
Timing of pregnancy	22,2%
Too many children	11,1%
Physical health	11,1%

### ***Transportation***

All of the women interviewed lived within 2 hours of the hospital (22% said they had walked). This finding is similar to that noted for study patients who had come to the facility with abortion complications.

### ***Waiting Period***

Four (44%) of the clients claimed to have waited up to 2 hours for MR services. An additional 44% said they had waited up to 4 hours before having the procedure.

### ***Procedure Experience***

Five (56%) of the nine women interviewed had the procedure explained to them beforehand by the medical staff. Most clients gave written consent for the procedure. The overwhelming majority responded that the procedure had been painful. Some type of medication was given to all but one client to reduce the pain. This finding suggests that additional training in how to deliver quality MR services (e.g., using appropriate and adequate levels of pain control) may be needed by the staff performing MR procedures in this facility. As with the patients seeking treatment for complications of an induced abortion, information was not routinely given by the medical staff to the MR clients about how to care for themselves after the procedure; 83% noted that they had received no such information.

### ***Provision of FP Information/Services***

Family planning had been discussed with only 33% of the clients interviewed and none had been offered a contraceptive method to take home with them post-procedure. The majority (78%) said they would like to have received some FP information while still in the hospital; 44% said they would have liked to have received a FP method.

### *Personal Treatment at Hospital*

Most (78%) of the nine women interviewed felt that the staff in the hospital had treated them very considerately and thus they were very satisfied with the services they had received. All of them said they would encourage a friend or relative who wanted to terminate their pregnancy to go to that facility. Forty-four percent of these women said they knew of a friend or relative who had died or become very ill from complications of an abortion. This percentage is very similar to that reported by the abortion complication patients interviewed as part of the study from all three countries. This suggests that this experience may, in fact, be as prevalent as these study data indicate.

## SUMMARY/CONCLUSIONS

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### MAGNITUDE OF UNSAFE ABORTION

#### Mortality and Morbidity Statistics

Although primarily obtained from hospitals, research findings from the literature suggest that unsafe abortion is common in SSA, placing heavy demands on national health care systems. The magnitude of this problem is evident from statistics such as the proportion of hospital maternal deaths attributable to abortion (more than half of all maternal deaths in a few studies) and the percentage of gynaecological admissions attributable to abortion complications (up to 77% in one hospital).

Despite difficulties in obtaining some of the information, the primary data collected for this study from hospitals in Malawi, Uganda and Zambia confirm the literature review findings. At the urban tertiary care centres, large numbers of women present for treatment of incomplete abortion and other complications of spontaneous or (poorly-performed) induced abortions. Annual logbook estimates of the number of cases of abortion complications at the major teaching hospital in each of the three countries were approximately 2300 in Malawi, 700 in Uganda, and 3200 in Zambia. In addition, the contribution of abortion patients to overall gynaecological admissions is significant: in the two hospitals surveyed in the capital city of Uganda, for example, abortion cases (as estimated by providers interviewed) accounted for 53% and 64% of annual gynaecological admissions.

At the regional and district levels, the *absolute* number of cases is lower—for example, nine cases per month were recorded in a rural Ugandan district hospital and 69 were documented per month in a provincial facility in Zambia. Consequently, at these more peripheral levels, the *relative* contribution of abortion complications to the total gynaecological caseload may provide a better indication of the magnitude of the problem. To illustrate, at one Malawi district hospital, an estimated 300 patients are treated for complications of abortion each year. This figure represents approximately 70% of the total annual gynaecological cases admitted to that facility.

Abortion patient DBO rates are another indicator of the demand for treatment services. In the Ugandan hospitals surveyed for this monograph, abortion patients occupied between 2% and 49% of *available* beds (although shared beds and/or patients lying on ward floors were observed frequently). The overall DBO rate for abortion patients at the major Zambian hospital in this study was calculated at 386% because only two beds were available for abortion cases and the daily turnover of patients was quite high. And, this figure does not quantify the inconvenience and discomfort experienced by women waiting on benches because the two beds were occupied. At the major teaching hospital in Malawi, over one quarter of available beds in the gynaecology ward were filled with abortion patients during the study observation period.

What is evident from both of the monograph data sources is that treatment of women with abortion complications constitutes a significant part of the total gynaecological services offered by health care facilities in SSA countries. What these data do not tell us is the magnitude of abortion complications at the *population* level, specifically, the number of women who do not seek care in public facilities because: 1) they only have minor complications, 2) they cannot or choose not to seek care in such facilities, 3) their complications have been attended to through other channels (e.g., private practitioners), or 4) they die before receiving medical treatment. The fact that about a third of the abortion patients interviewed for the study in the various facilities

knew of a relative or friend who had died or become very ill from complications of abortion suggests that the problem in the community is larger than hospital-based studies have been able to document.

### **Patient Characteristics**

Women seeking care for abortion complications represent all women of reproductive age (i.e., married and single, young and old, low and high parity). The published literature indicates that young, often unmarried women make up a large percentage of abortion patients treated in *hospitals*. And, in hospital settings, young women are often overrepresented among cases with serious complications such as septicaemia (hence, also among abortion-related deaths). The high prevalence of young, unmarried women, in part, reflects the fact that many facility-based studies are conducted in urban teaching hospitals where single women, some still in school, are likely to seek treatment for abortion complications. As the data collected for this study suggest, this is less the case in more rural locations where women marry and begin their families at younger ages.

The providers surveyed in the three countries reported that women seek abortions from private physicians, traditional healers and friends, or they self-induce. Providers' views on the reasons women seek abortion are consistent with the published literature: unmarried; inconvenient timing of the pregnancy; financial constraints; and too many children or children spaced too closely. In Uganda, providers commented that pregnancy resulting from an extra-marital relationship or identification of HIV-positive status also may be reasons why women seek abortion.

Most of the women interviewed in the three countries were not using a contraceptive method at the time of pregnancy. A number indicated, however, that their pregnancy was initially desired—a response that suggests these patients may have experienced a spontaneous abortion or that for some reason they changed their mind and decided to terminate their pregnancy. The health concerns about contraception expressed by women interviewed for the study (e.g., that contraception use might lead to infertility) were consistent with the findings from the literature. Lack of FP information and access to services were mentioned as the main reasons for non-use of contraception in SSA. This finding is somewhat inconsistent with surveys which show that FP knowledge levels are fairly high in many SSA communities. What specifically constitutes “lack of information,” however, is not clearly defined. Does this mean lack of knowledge of where to obtain methods, or lack of confidence in which method is the best/most appropriate for use given particular situations and reproductive goals? These issues have important implications for counselling and communication strategies and warrant further in-depth exploration.

### **CLINICAL ISSUES**

The clinical literature from SSA, while often reporting findings from small, non-controlled studies, provides a body of evidence about the negative outcomes of poorly performed abortions. For example, septicaemia and haemorrhage, often associated with poorly-performed procedures, are cited as the two most common causes of abortion-related deaths in both the published and grey literature. In the three study countries, haemorrhage and localised infection were noted as the two most common problems, with sepsis cited as another important complication.

As presented in the summary for this topical issue, the length of hospital stay for women with intestinal injuries from unsafe abortions can be high (over 30 days in one Nigerian study). In a study of 650 South African women with abortion-related *sepsis*, they remained in the hospital an average of 2 weeks compared to 1 to 2 days for *non-septic* abortion patients. These numbers are particularly distressing when compared to statistics on induced abortions performed by skilled providers working under hygienic conditions for which the complication rates are low, particularly in the early stages of pregnancy.

The South African article on prostaglandin use highlights the negative impact of stringent administrative requirements for legal abortion. These requirements often mean that women are not able to obtain an abortion until later in their pregnancy, when the risk of complications is greater. Almost one third of legal abortions performed in the study hospital were for women in the second-trimester, due in part to the strict regulations for obtaining a legal abortion: the consent of two doctors and the performance of the procedure by a third.

Pain control practises related to treatment of incomplete abortion appear to fall at one of two ends of the continuum: one extreme is standard administration of heavy sedation or other pain control measures that increase the risk of complications, lengthen patients' recovery times, and increase costs; the other extreme involves no individual assessment of the woman's clinical need for pain control and no provision of pain control medication.

The clinical literature on MVA for treating incomplete abortion in the first-trimester documents the safety and effectiveness of this evacuation technique. Additionally, positive findings on the use of MVA on an outpatient basis, and the resulting reductions in patient stay and associated hospital costs, warrant increased use of this technique.

Despite recommendations from previously conducted clinical studies, data from the three countries document that the use of MVA remains primarily confined to the urban teaching hospitals. MVA is used at the tertiary and provincial hospitals in Zambia but not at the two district hospitals surveyed. More than half of the evacuations are performed with MVA at the major Malawian hospital while SC is utilised in the remaining facilities. Data about the evacuation technique used were limited in Uganda but SC is used at the district hospital surveyed. Obstacles that limit the use of more appropriate evacuation techniques need to be identified and strategies to overcome them need to be developed.

## **COST ISSUES**

Most of the published literature on the cost of treating abortion complications focuses on the ALOS in the hospital. Patients treated for complications of induced abortion generally have longer stays than spontaneous abortion cases. Furthermore, as noted above, women with major complications such as septicaemia (often as a result of poorly performed, unsafe abortions) have especially long stays. These data are supported by the grey literature which indicates stays as high as three weeks for septic abortion patients. One published study analysed differences in the cost of treating incomplete abortion patients with MVA versus SC in Kenya; patient ALOS was one of the major factors affecting the cost of treatment. The average cost of treatment with MVA was reported to be 66% less in one district hospital and 23% less in another.

Information gathered in Malawi, Uganda and Zambia for the monograph confirms that, in many sites, abortion patients remain for extended periods of time in the hospital. Ugandan women at the provincial hospital usually remain about 4 days. The shortest lengths of stay were recorded at the tertiary level in Uganda and Zambia, about one half day in each country. For

facilities like the Lusaka hospital, reduced stays for abortion patients, numbering over 3000 per year, can mean substantial cost savings to already overburdened hospital budgets.

Budgets for gynaecological services were unavailable in all monograph study hospitals and thus administrators were not able to provide exact figures on the cost of treating abortion patients. Rough estimates, developed based on data from a variety of other sources, indicated that the cost of treating *one* incomplete abortion patient (with *no* major complications) in Malawi at the time of data collection was approximately US \$3.00. In contrast, the Malawian government has an annual per capita budget of US \$2.55 for full health coverage. Women presenting with conditions such as septicaemia and haemorrhage inevitably require *more* medications, *more* attention from staff, and even *longer* recuperation in the hospital, and hence treatment costs for these patients are likely to be even higher.

Clearly, health care systems in SSA are currently expending relatively large amounts of scarce resources including personnel time, medications, bed space, utilities, and meals on patients suffering from abortion complications. Given the magnitude of resources spent to provide care for abortion patients, it is essential to ensure that expenditures result in the most cost-effective, high-quality services. Investigators for the Kenyan cost study suggest several mechanisms to achieve this objective including: 1) using MVA to treat first-trimester incomplete abortion patients, 2) performing uterine evacuation procedures in outpatient settings instead of in operating theatres, and 3) decentralizing abortion treatment to lower level health care facilities to reduce costs and increase access.

## CONTRACEPTION AND ABORTION

One of the most striking findings of both the published and unpublished literature is the virtual absence of research on postabortion FP. The need for comprehensive postabortion care—that is, treatment of complications in conjunction with FP and other reproductive health services—appears self-evident. No studies were found, however, that examine women's reproductive intentions after abortion, how best to offer such services, or policy changes necessary to promote comprehensive postabortion services.

What little research has been done describes contraception use among women, in particular, adolescent FP practises. Overall, the literature suggests relatively low use of contraception, especially among adolescents, and widespread fear of the potential risks or side effects (real and imagined) associated with contraceptive use.

Findings from the hospitals in Malawi, Uganda and Zambia provide some insights into why studies on postabortion FP are lacking. While some of the facilities offer some FP counselling and/or methods to abortion patients, most do not. In the Ugandan hospitals, for example, the vast majority of the 77 women interviewed received no FP information (although 75% said that they would have liked someone to have made FP methods and/or information available to them). Similarly, FP information was not offered to most of the 55 Zambian patients questioned. In Malawi, where 50 patients predominantly from tertiary hospitals in the capital city were interviewed, almost all indicated that no one in the hospital had talked to them about FP, offered them a FP method or told them where they could obtain FP services once discharged.

Providers interviewed in all three countries mostly concurred with the need to offer postabortion FP services, and findings from both components of this study underscore this need. Many providers, however, expressed the need for staff training and their concern about staff shortages as issues to be considered whenever postabortion FP services are to be introduced.

Testing of various models of staffing, logistics, counselling and referrals would assist service managers and policymakers in efforts to modify current programmes to include postabortion FP services.

## **MALE PERSPECTIVES**

The degree of male “involvement” in the woman's decision to abort appears to vary. There is an indication that some pregnancies are terminated because the male partner does not want a child at that time. The literature, however, reveals that often the male is not actively involved in decisions related to *how* and *where* the abortion procedure is performed except perhaps to provide financial support. The extent to which this pattern of communication varies between married and unmarried couples is not clear from the available data. In addition, how this communication (or lack thereof) affects where women go to have their pregnancy terminated, and how long they wait until seeking medical assistance if there is a problem, are not well understood.

## **ABORTION LAWS**

Numerous articles address the fact that legal abortion is restricted to a very limited set of circumstances in the region. Although written from a variety of perspectives, virtually all the articles conclude that restrictive laws negatively affect women's health, primarily because clandestine, unsafe abortions occur in greater numbers in such environments. Recommendations for improving the situation include codifying abortion laws so that they reflect health concerns; removing administrative barriers to legal abortion; and expanding public sector services for abortions which are permissible under existing laws.

One article from Tunisia emphasizes the positive results of liberalising laws to allow abortion at the request of the woman and the effect of this change on maternal mortality (Bejaoui, 1988). The data show a reduction in maternal mortality rates, and in general, a fall in caseloads and admissions related to abortion complications. The author acknowledges that while such changes are rare in Muslim societies, the interrelationships among law, religion and policy can work toward the benefit of women's health.

Providers in hospitals in Malawi, Uganda and Zambia were interviewed about their views toward their country's laws and how the laws affect treatment services. Laws in Malawi and Uganda allow abortion only under limited circumstances while the law in Zambia permits abortion for a broad range of indications. A majority of providers in Uganda were aware of the provisions of their law regarding abortion; in the other two countries providers were less knowledgeable. Responses from Zambia indicate a lack of familiarity with the existing laws on abortion.

Most of the providers surveyed either thought that their country's abortion laws were too restrictive or appropriate as written. The majority, however, also were of the opinion that women will seek, and practitioners will perform, abortion regardless of the law.

The statistics on MR procedures at the Zambian hospitals underscore the need for legal abortion services to be more readily available in that country. The main teaching hospital in Lusaka is the only location where MR is performed on a regular basis; the published literature from this country confirms this finding. Very few MRs were reported at the provincial facility surveyed although the number of unrecorded procedures in all sites is unknown. To lower the

rate of mortality and morbidity resulting from unsafely performed abortion, low-cost, safe, legal services clearly need to be more widely available and publicised in Zambia.

## **QUALITY OF SERVICE ISSUES**

The published literature focuses on two aspects of quality: clinical safety and duration of patient stay. The need to use the safest techniques available for uterine evacuation, to appropriately manage complications and to ensure the availability of supplies and equipment are all touched upon as concerns in these articles. In addition to documenting that abortion patients often have lengthy hospital stays, the studies also show that improved organisation of services (e.g., evacuations performed on an ambulatory basis with MVA) can substantially reduce the amount of time abortion patients must remain in the hospital. The published and grey literature presents little or nothing about provider-patient interactions or women's perspectives on access to and the delivery of services.

This gap in the literature stands in contrast to the primary data collected for this monograph. Both providers and women were interviewed specifically to gain insights into the quality of and access to postabortion treatment services. No consistent finding emerged from providers and patients about the quality of their interactions although many women expressed that the care they had received was good. This finding, however, could reflect a "courtesy" bias. A series of questions eliciting information on indicators of quality, as perceived by users of the system needs to be incorporated as much as possible in future studies. The most common complaints voiced by patients were long waiting times for treatment, lack of adequate pain relief, overcrowding, need for FP counselling and methods, and, in the case of Zambia, where administrative requirements restrict access to safe, legal abortion services, fear of criminal prosecution. A number of providers commented on the need for more personnel to handle the patient load.

In several hospitals, women were given an explanation of the treatment they would be receiving although in most cases, no information was given prior to the procedure. Frequently, no instructions on post-procedure care at home were given either. Investigators from the three countries concluded that abortion patients remain a low priority in almost all hospitals. Evidence supporting this conclusion can be found in the form of long waits; restrictions in some centres on the number of beds available for abortion patients; and the fact that some patients are forced to sit on benches or lie on ward floors.

Many providers in the three study countries felt that women have relatively easy access to induced abortion, treatment of complications and FP services. Transportation to obtain care for complications was not identified as a key problem by most patients although women in rural areas noted this as a difficulty more than did urban women. The most common reasons stated by those interviewed for coming to a particular hospital were its proximity, affordability and quality of care provided.

These findings summarise some of the more important quality concerns/needs of abortion patients. Addressing some of these concerns/needs requires the dedication of significant resources. Other concerns, such as providing patients with pre- and post-treatment information, can markedly increase the quality of services with only minimal monetary investment.

## **CONCLUSIONS**

The findings from the literature and the experiences in hospitals in Malawi, Uganda and Zambia are essentially similar. The combined results reveal a consistent picture across the region:

- Unsafe abortion is a large public health problem.
- Injuries, acute and chronic complications, and deaths from unsafe abortion affect women in the prime of their lives.
- Health care systems are currently allocating large sums of money, personnel and space to treat the consequences of unsafe abortion.
- Safe, effective clinical techniques to treat abortion complications exist but their use is mainly confined to large urban hospitals, out of reach of many women.
- Postabortion FP services, including counselling, are almost non-existent in the region, setting the stage for repeat unwanted pregnancies and unsafe abortions.
- The quality of existing treatment services in many locations is characterised by long waits, overcrowding and little information offered to patients, indicating an overall low priority given to the needs of abortion patients.
- Restrictive laws foster the proliferation of unsafe, clandestine abortions.

# **POLICY AND PROGRAMME IMPLICATIONS**

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## **INTRODUCTION**

The study findings summarized in this monograph point to policy and health programme changes which, if enacted, would reduce the problem of unsafe abortion in the region. These changes or reforms are practical, feasible and within the means of most SSA governments. To dramatically alter the current situation, however, these reforms also should be accompanied by strengthened efforts to reduce the *occurrence* of unwanted pregnancy. Each of the following initiatives would contribute to reversing the trend of repeat unwanted pregnancy and abortion:

- Improved access to FP services in both urban and rural settings
- Introduction or expansion of programmes for special groups (such as adolescents and HIV-positive women)
- Initiatives to address women's and providers' concerns about the health risks of contraception
- Programmes to encourage male responsibility for FP
- Removal of obstacles to obtaining FP services (such as spousal consent)

## **IMPROVEMENTS IN QUALITY AND AVAILABILITY OF POSTABORTION CARE**

Governments in the CRHCS member countries already are expending a considerable amount of resources to treat women for complications of unsafe abortion. The following policy and programme implications describe how resources could be used more efficiently to deliver better services. Key areas to target are health policies and procedures, training and material resource provision. The vast majority of possible reform measures listed do not require additional funds. They do, however, require that policymakers recognize unsafe abortion and treatment of abortion complications as priority health problems.

### **Policies and Procedures**

- Development of national and local clinical protocols to improve the provision of emergency treatment of abortion complications
- Development of national and local strategies/protocols to link FP services with services for emergency treatment of abortion complications
- Development of procedures for maintaining the confidentiality of abortion patients, implementing processes for informed consent and protecting against coercion

- Modification of official FP policies and programmes to promote the availability of a range of contraceptive methods to all women who desire them
- Assessment of the needs of adolescents, HIV-positive women and other special groups for postabortion care (and modifications in services to reflect these needs)

### **Training**

- Pre-service and in-service training of gynaecological and FP personnel in postabortion FP (including method use, counselling and referral)
- Pre-service and in-service training for physicians, nurses and other personnel in:
  - MVA and support procedures (e.g., infection prevention and pain control)
  - management of abortion complications
  - stabilisation, referral and transport of complicated cases

### **Equipment and Supplies**

- Addition of MVA instruments to Ministry of Health's essential supply and equipment lists
- Increasing the allocation of hospital beds for abortion patients
- Addition of basic contraceptive methods (such as OCs, condoms and injectables) as well as FP patient education materials to the supply stocks of hospital wards where incomplete abortion patients are treated

## **IMPROVEMENTS IN THE MANAGEMENT OF POSTABORTION CARE**

The overall management and organisation of postabortion care markedly influences the quality, accessibility and utilisation of services. Health ministries can improve these services through the following steps:

- Implementation of improvements in record keeping and programme monitoring through:
  - identifying and measuring key programme indicators
  - training staff in the collection and use of information
  - implementing systems to monitor quality of services (quality assurance)
  - following up on hospital abortion-related complications and deaths

- Implementation of improved staff training and supervision to ensure respectful provider-patient interactions
- Reduction of the number of triage points abortion patients must pass through prior to receiving treatment in hospitals
- Performance of uterine evacuation with MVA in gynaecological wards or other appropriate non-theatre locations
- Implementation of improvements in logistical systems which provide supplies and medications (such as gloves, disinfectants, needles, pain control medications and MVA instruments)
- Development of accounting systems which allow administrators to monitor budgeted and expended costs for emergency gynaecological services

### **IMPROVEMENTS IN THE ACCESSIBILITY OF POSTABORTION CARE SERVICES**

Emergency abortion treatment services in SSA usually are found only in major teaching centres and in provincial and district hospitals. This centralisation of care results in severe overcrowding of hospitals, increased expenditures due to the higher cost of services at larger facilities, and limited accessibility to safe care for most women. The following changes would help address the problem of access:

- Decentralisation of postabortion care to the lowest levels of the health care system where appropriately trained staff, supplies and equipment are known to exist
- Provision of basic equipment, supplies and drugs to such sites to ensure that emergency treatment services can be safely and routinely provided
- Modification of policies and procedures to allow trained nurses and clinical officers to provide assessment, stabilisation, treatment and referral for patients experiencing complications from unsafe abortion
- Implementation of improvements in transport systems to ensure that emergency transport of abortion patients is available from and at the peripheral level
- Assurance that the cost of treatment services is affordable for women seeking postabortion care
- Provision of information to the general public about where postabortion care is available, and education about the importance of seeking care promptly

### **IMPROVEMENTS IN THE LEGAL/ADMINISTRATIVE ENVIRONMENT**

Major improvements in the delivery of postabortion care can be made under existing laws in the region. Restrictive abortion laws, however, remain a major limiting factor in the reform process. The following are areas where modifications in existing laws, policies and programmes could be beneficial:

- Education/sensitisation of service providers on the provisions of existing abortion laws
- Public education about which services are available within the provisions of existing laws
- Wider dissemination of data to policymakers on the impact of unsafe abortion and the recognised benefits of timely postabortion care
- Removal of barriers to the provision of safe, legal induced abortion services (e.g., abolishing unnecessary administrative obstacles)
- Increased availability of safe, legal services in the public sector facilities (as permitted under local laws)
- Removal of legal or policy restrictions regulating which practitioners can manage incomplete abortion patients
- Elimination of legal sanctions against women who seek care for complications of unsafe abortion
- Modifications in policies and laws which limit the availability of FP to specific women (e.g., adolescents and unmarried women)

## RECOMMENDATIONS FOR PRIORITY RESEARCH

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This monograph is a testimony to the wealth of information that exists on the epidemiology of unsafe abortion in the region, particularly as this problem intersects with country health care systems. Consequently, further similar research (e.g., hospital logbook reviews to document that the problem exists) should not be considered a priority. On the other hand, gaps in important information do exist, as evidenced by the limited amount of published or grey literature on certain dimensions of the problem (e.g., cost, male perspectives, postabortion FP acceptance and continuation). Based on the findings of the literature review, recommendations for priority research include:

- Conducting operations research on the integration of emergency treatment with FP services; decentralisation of postabortion care; organisation of treatment services; and other similar topics to address quality and accessibility of care
- Documenting work-years and income lost to abortion-related morbidity and mortality; health system-wide resources expended on postabortion care; and projections of the amount of resources saved with increased accessibility to and use of organised postabortion care services
- Examining the social, cultural and economic context within which induced abortion occurs, the role of males as partners, as service providers, and as policy-makers; and the relationship between contraceptive use and abortion
- Setting up clinical studies to evaluate different combinations of pain control medications and procedures; options for treatment regimens; and provision of postabortion care by non-physician providers
- Preparing case studies that describe experiences with the provision of safe, legal abortion services in countries where the abortion law has been liberalised (in order to identify constraints and lessons learned)

*Research on the topic of abortion is an integral part of improved postabortion care. Research needs, however, should not delay decisions or action. Unsafe abortion has been clearly identified and documented as a major public health problem in the region. What is needed now are concrete plans and actions to address the problem.*

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# MAGNITUDE OF UNSAFE ABORTION

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## PUBLISHED LITERATURE

1. Abortion and its Associated Problems in Kenya (Editorial). *East African Medical Journal*. December 1986.

This editorial discusses abortion and its associated problems in Kenya. The commentary states that spontaneous abortions have fewer complications because patients seek medical aid in good time. Before 12 weeks, spontaneous abortion may result from foetal death from causes such as maternal febrile illness, hypertensive diseases and chronic renal diseases. After 12 weeks, important etiological factors include: cervical incompetence, uterine abnormalities and premature rupture of membranes. At this stage, patients require bed rest, sedation and treatment of febrile illness. Those with inevitable or incomplete abortion require immediate evacuation after resuscitation. Induced abortions pose the danger of haemorrhage and shock, uterine perforation, visceral injuries and broad ligament hematoma (which is almost always followed by sepsis). Infection by Gram-negative and anaerobic bacteria is common and death may result from tetanus, gas gangrene, septicaemia, bacteraemic shock and renal failure. Those who survived may end up with chronic pelvic inflammatory disease, infertility or psychiatric disturbances. The author notes that abortion cases in Kenya are reported to be on the increase. Most affected are young school girls and unemployed, unmarried women. In sub-Saharan Africa, mortality, morbidity, hospital stay and actual cost in labour and materials are all high, biting deeply into meager national health budgets. The author also notes that, in Kenya, abortion is illegal except when maternal or foetal conditions contraindicate continuation of the pregnancy. Abortion is thus surrounded by secrecy because offenders can be punished severely. The editorial argues that there is a need to liberalise abortion because studies elsewhere indicate that mortality and morbidity from criminal abortions and emergency evacuations diminish with liberalisation of the law.

Kenya/Induced/Abortion/Complication/Legal/Strengths.

2. Adetoro, O. O. (University of Ilorin, Ilorin, Nigeria). A 15-Year Study of Illegally Induced Abortion Mortality at Ilorin, Nigeria. *International Journal of Gynaecology and Obstetrics*. 1989 May; 29(1): 65–72; ISSN: 0020-7292.

The purpose of this study was to document the incidence of and deaths related to illegally induced abortion in Ilorin, Nigeria. The researcher conducted a retrospective review of the case records of all of the patients (n=53) who presented with complications of induced abortion and subsequently died in the University of Ilorin Teaching Hospital (UIITH) during the 15-year period from January 1972 through December 1986 (p. 66). The causes of death were identified, the age and parity composition of the patients was determined and the abortion rate, abortion ratio, mortality rate and mortality ratio all were calculated (p. 66). The results showed that 17 (32,2%) of these 53 deaths were among women under 20 years of age, and 28 (52,8%) of the women were nulliparous. The abortion rate was 210 per 100 000 population with an abortion mortality rate of 0,9 per 100 000 (abstract, p. 65). The abortion ratio was 73,4 per 1000 live births while the abortion fatality rate (referred to as mortality ratio by the author) was 4,2 per 1000 abortions. Sepsis and haemorrhage were the two most common avoidable causes of death and were due mostly to unskilled, unsanitary provision of service or lack of access to quality services (p. 68). The majority of patients in this study were young, unmarried students without children who turned to abortion because contraceptives were not available to them and pregnancy was grounds for expulsion from school (p. 68). Overall, these results demonstrate that illegally induced abortion was responsible for 7,1% of all maternal deaths in UIITH (p. 68) and that the mortality associated with unsafe abortion is an avoidable medical condition if family planning education is available and offered in a manner acceptable to each community (p. 70). The researcher suggests that legalisation of abortion would lower the high mortality rates associated with unsafe abortion (p. 70).

Nigeria/Induced/AbRate/AbRatio/Incidence/Matmort/TAR/Sepsis/Haemorrhage/Adolescents/Unsafe.

3. Adetoro, O. O.; Babarinsa, A. B.; Sotiloye, O. S. (Department of Obstetrics and Gynaecology, University of Ilorin, Ilorin, Nigeria). Socio-Cultural Factors in Adolescent Septic Illicit Abortions in Ilorin, Nigeria. *African Journal of Medicine and Medical Sciences*. 1991 Jun; 20(2): 149–153; ISSN: 0309-3913.

The purpose of this study was to highlight the socio-cultural factors associated with adolescent illicit septic abortions and to examine the consequences of those events on the population, with the aim of suggesting measures for reducing abortion-related problems (pp. 149–150). All adolescent girls admitted to the University of Ilorin Teaching Hospital with illicit septic abortion between January 1, 1987 and December 30, 1989 (n=192) were interviewed to document their socioeconomic characteristics; their knowledge, attitudes and practise of family planning; and their parents' biosocial data (p. 150). During this period, there were 1709 cases of abortion, of which 264 (15.5%) were induced. Of these, 192 (73%) were septic. The total number of deliveries for the period was 18 056, and the abortion ratio was 94,6/1000 deliveries. Abortions of all types accounted for 60,3% of all gynaecological admissions, and 74,4% of the induced abortions were among the group of adolescent girls. Only 12,5% of the patients were living with both parents at the time of the abortion (p. 150). The most prominent social consequence of adolescent illicit septic abortion was expulsion from school, which occurred in over 50% of the cases. Haemorrhage and septicaemia were the most common major medical complications (p. 150). The authors conclude that: the majority of the adolescents were unmarried and ignorant of contraception; inadequate parental supervision was a major contributor to unplanned pregnancies; and the poor economic conditions under which the patients lived influenced the occurrence of illicit septic abortions. The authors suggest that widespread availability of family planning services and improved socioeconomic status of the adolescents would serve to alleviate some of the issues that contribute to illicit septic abortions (p. 149).

Nigeria/Social/Sepsis/Legal/SES/Adolescents/KAP/FP/AbRate.

4. Adetoro, O. O. (Department of Obstetrics and Gynaecology, University of Ilorin, Ilorin, Nigeria). Septic Induced Abortion at Ilorin, Nigeria: An Increasing Gynaecological Problem in the Developing Countries. *Asia-Oceania Journal of Obstetrics and Gynaecology*. 1986 Jun; 12(2): 201–205.

**Note:** Funded in part by the University of Ilorin Senate Research grant.

The purpose of this study was to gather information on septic induced abortion cases treated at the University of Ilorin Teaching Hospital (UITH); it was prompted by the high number of septic induced abortion cases among school girls during the month of January 1983 (p. 202). The researcher conducted a retrospective case-record review to identify all patients admitted with a diagnosis of septic induced abortion (n=102) at UITH between February 1983 and July 1984. The septic induced abortion cases were analysed with respect to age, parity, gestational age of the pregnancy, marital status and educational background (p. 202). During the study period, septic induced abortion accounted for 12% of all abortion cases (p. 202). Adolescents (11–19 years old) accounted for 60,7% of the septic induced abortion patients; most (77,5%) patients were unmarried, 87 (85%) were students and 83 (81,3%) admitted to interference with the pregnancy, while 77 (75,5%) had previously had an induced abortion (pp. 202–203). Major complications were noted in many of the cases. The overall mortality rate for septic induced abortion was 5,9%—significantly higher than in previous reports (p. 203). Eighty-seven (85,3%) of the patients had no family planning knowledge. The author concludes that easy access to contraceptive services, routine sex education and a liberal abortion law would contribute greatly to reducing septic induced abortion (p. 204).

Nigeria/Sepsis/Induced/Matmort/Complication/FP/Adolescents/MS.

5. Adewole, I. F. (Fertility Research Unit, Department of Obstetrics and Gynaecology, College of Medicine, University College Hospital, Ibadan, Nigeria). Trends in Postabortal Mortality and Morbidity in Ibadan, Nigeria. *International Journal of Gynaecology and Obstetrics*. 1992 Jun; 38(2): 115-118; ISSN: 0020-7292.

This study was based on a retrospective analysis of 4448 abortion cases seen at the University College Hospital in Ibadan, Nigeria between 1980 and 1989 (p. 116). Of these cases, 912 (20,5%) were judged to have been illegally induced, based on their clinical history and pattern of presentation or injury. Of the induced abortions, 840 (92%) had enough complete information to be included in the analysis (p. 116). The study documented

that illegally induced abortion increased during the 10-year period despite an increased availability of family planning services. Abortion was the most common cause of death in the hospital gynaecology service during the study period, constituting 36,6% of all deaths (abstract, p. 115). The majority (79,1%) of the patients were aged 15 to 29 years; many (57,9%) were single. The majority (76,2%) had not used a contraceptive method before becoming pregnant (p. 117). Almost one third of the illegal terminations had been performed by a physician (p. 117), and the proportion of abortion-related fatalities associated with a physician provider increased over the 10-year period (up to 66,7% of the fatalities in 1989) (p. 118). The author concludes that deficiencies exist in physician training and in their ability to perform abortion aftercare. The author suggests that physicians be trained in abortion care and that laws be changed—in conjunction with a greater effort to improve contraceptive utilisation—as a means of reducing mortality associated with unsafely induced abortions.

Nigeria/Matmort/Morbidity/Induced/Age/MS/FP/ProvStatus.

6. Aggarwal, V. P.; Mati, J. K. G. (Department of Obstetrics and Gynaecology, University of Nairobi, Nairobi, Kenya). Epidemiology of Induced Abortion in Nairobi, Kenya. *Journal of Obstetrics and Gynaecology for East and Central Africa*. 1982; 1(54): 54–57.

**Note:** Funding provided by Special Programme of Research, Development and Research Training in Human Reproduction, World Health Organisation.

This study was prompted by the results of the 1980 Aggarwal and Mati study which suggested that induced abortion was a major gynaecological problem in Nairobi, Kenya. The purpose of this study was to determine the epidemiology of induced abortion in Nairobi. This study involved an analysis of 610 patients admitted with abortion to Kenyatta National Hospital (KNH) between May and October 1991 (abstract, p. 54). During this period, 3084 patients were admitted to the acute gynaecological ward; 1832 (60%) of these were abortion admissions, and a 1:3 sequential sampling scheme was used to arrive at a sample of 610 patients (p. 54). A female medical social worker interviewed the patients after their procedure to determine: age, marital status, occupation, family planning awareness, previous pregnancies, previous abortions, probability of interference with the index pregnancy, method of abortion, complications and length of hospital stay. Key results of the study are as follows: 60% of the acute gynaecological beds were occupied by abortion patients; 62,3% of these patients had induced or likely induced; 43% were adolescents (10–19 years old) and 79% were unmarried; 60% were school girls or unemployed; 64% were aware of family planning, but only 20% had used any contraception in the previous 12 months; only 11% of the procedures were performed by a qualified gynaecologist (25% were terminated by non-medical personnel); 24,4% were found to be septic; sepsis was four times more common in the induced group as compared to the non-interfered group; and the mean hospital stay was 98 hours for the interfered group and 32 hours for the non-interfered group (pp. 55–56). The authors suggest introducing national sex education and family planning programmes to reduce the incidence of induced abortion (p. 56).

Kenya/Induced/Age/MS/KAP/Occup/Prevab/ProvStatus/Sepsis/HospTm/Hospbeds.

7. Aggarwal, V. P.; Mati, J. K. G. (Department of Obstetrics and Gynaecology, University of Nairobi, Nairobi, Kenya). Review of Abortions at Kenyatta National Hospital, Nairobi. *East African Medical Journal*. 1980 Feb; 57(2): 138–143; ISSN: 0012-835x.

The purpose of this study was to document the incidence of induced abortion in Nairobi. The researchers conducted a retrospective analysis of the case notes of 1424 patients admitted with abortion to Kenyatta National Hospital between January 1, 1978 and June 30, 1978 (abstract, p. 138). The characteristics of all patients in terms of age, marital status, contraceptive practise, obstetric history, pregnancy gestation, type of abortion and associated morbidity and mortality were determined. Sixteen percent (224) of the 1424 were septic and among these, most (53%) were adolescents (14–20 years old) and unmarried (74,1%) (p. 139). The mean hospital stay in the induced group was 91 hours compared to 39 hours in the non-induced group (p. 140). On average, there were two maternal deaths per 1000 abortion admissions, and the cause of death was complications of septic abortion (p. 142). The authors recommend that emphasis be put on prevention of unwanted pregnancy by providing facilities for sex education and contraception (p. 143).

8. Archibong, E. I. (Department of Obstetrics and Gynaecology, University of Calabar Teaching Hospital, Calabar, Nigeria). Illegal Induced Abortion—A Continuing Problem in Nigeria. *International Journal of Gynaecology and Obstetrics*. 1991 Mar; 34(3): 261–265; ISSN: 0020-7292.

The purpose of this study was to demonstrate that illegal induced abortion is a major contributing factor to maternal morbidity and mortality among young Nigerian women. This study involved a brief interview about their reproductive history and a clinical assessment of all abortion patients admitted to the gynaecological ward at the University of Calabar Teaching Hospital (UCTH) from January 1985 to December 1988. Women for whom the abortion had been induced were then administered a more detailed follow-up questionnaire to document certain characteristics. There were 3903 gynaecological admissions, of which 1568 (40%) were cases of abortion (147 induced and 1421 spontaneous) (p. 262). Eleven of the 147 women who had an induced abortion had inadequate histories, so only 136 women were administered a follow-up questionnaire (p. 262). The results showed a ratio (referred to as rate by the author) of 12,1 induced abortions and 117,3 spontaneous abortions per 1000 live births in the hospital (p. 262). The majority of these patients were unmarried (80,9%) and were teenagers (72%). This study found that untrained personnel, such as traditional healers and chemists, topped the list of abortion providers, performing over 50% of the illegal abortions, while trained medical practitioners contributed to only 18,4% of the total (p. 262). Most patients were admitted with severe sepsis (72,1%) or haemorrhage (41,2%); all deaths from induced abortion (16) were due to sepsis (p. 263). Induced abortion accounted for 20% of all maternal deaths in the hospital during the study period (p. 263). Reasons women gave for wanting to have an abortion included: not ready to have a baby (55 women, or 40,4%); educational career will be interrupted (45 women, or 33,1%); and no financial support (20 women, or 14,7%) (p. 263). The average hospital stay was 11 days (p. 264). Only 7 (5,1%) patients stated that they had ever used contraception (p. 264). The author suggests that these results demonstrate: 1) the need for contraception education in schools and in the home to reduce the present trend of high morbidity and mortality associated with induced abortion; and 2) that liberalisation of the existing restrictive abortion law will reduce the incidence of maternal morbidity by providing safe services to patients (pp. 264–265).

Nigeria/Induced/Adolescents/MS/ProvStatus/Unwanted/HospTm/Contraception.

9. Baker, J.; Khasiani, S. (Management Sciences for Health//Population Studies Research Institute, University of Nairobi, Nairobi, Kenya). Induced Abortion in Kenya: Case Histories. *Studies in Family Planning*. 1992 Jan; 23(1): 34–44; ISSN: 0039-3665.

This qualitative study explores various dimensions of induced abortion in Nairobi, Kenya. The research was conducted in two phases. The first phase, beginning in October 1989 and ending in January 1990, consisted of key informant interviews with twenty people who were believed to be knowledgeable about induced abortion in Kenya (p. 35). These interviews were used to determine topics and subjects for subsequent in-depth interviews. The in-depth interviews were carried out between January and April 1990, among a group of 30 urban women, to identify sources of information about induced abortion, to explore the decision-making process and to describe the abortion experience among this group (p. 35). The researchers found that being unmarried and unemployed contributed to the decision to abort (abstract, p. 34). Two main types of induced abortion, one provided in private facilities by medical personnel and the other performed by a variety of untrained practitioners, are described. Eight case studies are included to illustrate the range of experience among the group of women (abstract, p. 34). The findings indicate that: abortion is not an uncommon experience; most women feel that abortion is a “woman's issue”; women seek abortion because of their single status, lack of employment, economic dependence or inability to support a child; the price of an abortion varies widely depending on the site and the status of provider; contraceptive failure and discontinuation due to side effects may contribute significantly to the use of induced abortion as an alternative to unwanted pregnancy; the issue for women is not so much access to services as the quality of the services rendered; and young, single urban women are not being effectively reached by contraceptive services despite being at high risk for unwanted pregnancy (pp. 36, 41–43).

Kenya/Access/ContrPrev/Price/PatPers/ProvStatus/Urban.

10. Binkin, N. J.; Burton, N. N.; Touré, A. H.; Traoré, M. L.; Rochat, R.W. (Division of Reproductive Health, Center for Health Promotion and Education, Centers for Disease Control, U.S. Department of Health and Human Services, USA//Family Health International, Research Triangle Park, North Carolina, USA//Centre de Santé de Yorosso, Mali//Department of Surgery, Hôpital Point G, Bamako, Mali//Division of Reproductive Health, Center for Health Promotion and Education, Centers for Disease Control, U.S. Department of Health and Human Services, USA). Women Hospitalised for Abortion Complications in Mali. *International Family Planning Perspectives*. 1984 Mar; 10(1): 8–12; ISSN: 0162-2749.

This study investigates the problems associated with induced abortion in Mali. The authors conducted a 1-year observational study, from August 1981 through July 1982, in 15 hospitals and maternity clinics throughout the country (abstract, p. 8). They included 1031 women in the study; 113 (11%) fell into the induced abortion group. The spontaneous abortion group included 774 women (75%); the remaining 144 women (14%) were eliminated from the analysis because of their indeterminate classification (p. 9). In comparing the women in the 15 different hospitals and clinics the authors found that, of the 887 abortions in the two study groups, 13% had been induced and 87% had been spontaneous. Women who were hospitalised for complications of induced abortion tended to be young, unmarried, urban students (p. 9). They were more likely than women hospitalised after a spontaneous abortion to suffer from major complications. They also required greater use of antibiotics, oxytocics and anaesthetics, more surgical procedures and longer hospital stays than did women who had spontaneously aborted (p. 10). The death-to-case rate was nearly five times higher among women hospitalised with complications of induced abortion than among women hospitalised following spontaneous abortion. Although women with complications of induced abortion accounted for only 0.5% of total obstetric admissions in the capital city of Bamako, they accounted for at least 4% of maternal deaths (p. 10). The authors' recommendations are as follows: improve availability of family planning services; distribute information on sex education and contraception; and ensure that abortions are performed by properly trained clinicians under aseptic conditions (p. 11).

Mali/Induced/Spontaneous/Complication/Incidence/RelRsk/Urban.

11. Bleek, W. (University of Amsterdam, Amsterdam, The Netherlands). Lying Informants: A Fieldwork Experience from Ghana. *Population and Development Review*. 1987 Jun; 13(2): 314–322; ISSN: 0098-7921.

The purpose of this article was to point out the problem of data quality due to “lying” about abortion and contraception among informants in Southern Ghana. The author used two techniques—participant observation (including conversation) and clinic-based surveys—and found that women responded to the same types of questions in very different ways depending on the data collection technique being used. For the participant observation study, the author conducted fieldwork in 1971 and 1973 among townspeople in the Kwahu area (part of the Akan group) of Southern Ghana (p. 314). The sample consisted of 42 adults from the same lineage, 19 of whom were women. The author found during his conversations that induced abortion was a common occurrence among women who were school-aged or among those who lacked a partner willing to share financial responsibilities. Ten of the nineteen women had had an abortion and five had had more than three abortions (p. 317). For the clinic survey, the author interviewed 100 men (aged 18 to 60) and 179 women who had at least one child in a child-welfare clinic (p. 317). He employed six nurses from a local hospital to conduct the survey. Six of the women involved in the clinic survey were also involved in the observation study; thus the author was able to compare their responses across the two studies (p. 319). The author concludes that there was a discrepancy between the responses given to survey questions and those given to him personally during his participant observation periods (e.g., only 4% admitted having had an abortion during the interview, while in reality, over half of the women in the lineage had had an abortion [p. 318]). Thus he concludes that: 1) researchers must be cautious in how they apply their research techniques and interpret their findings; and 2) responses regarding abortion and contraception are often associated with shame and thus are suspect (p. 320).

Ghana/Rural/Induced/Access/Bias/Policy.

12. Bleek, W. (University of Amsterdam, Amsterdam, The Netherlands). Avoiding Shame: The Ethical Context of Abortion in Ghana. *Anthropological Quarterly*. 1981; 54(4): 203–209; ISSN: 0003-5491.

**Note:** Funding provided by the University of Ghana, the Netherlands Foundation for the Advancement of Tropical Research, and the University of Amsterdam.

This article describes how “shame” among the Akan of Ghana provides an explanation for their paradoxical view of abortion: induced abortion is reprehensible when it becomes publicly known or causes medical accidents, yet it is approved of when it remains both secret and successful (abstract, p. 203). This paper is based in part on a study carried out by the author within Akan society in Ghana in 1973. His research included: participant observations, in-depth interviews and questionnaires (p. 203). The subject of the research was sexual relationships and birth control, including abortion. Forty-two members of an Akan matrilineage were intensively interviewed and observed, and 100 men and 179 women in the same community were interviewed through questionnaires (p. 203). In addition, this article is based on the research of Asante-Darko, who studied the consequences of unwanted pregnancy and abortion on the education of young Ghanaian women (p. 203). He sent questionnaires by mail to 206 schools in two regions (secondary schools) and two districts (middle schools) in Southern Ghana. He further interviewed a number of informants about 55 cases of abortion, involving mostly female school pupils (p. 203). Bleek points out three factors that are key to women in deciding to have an induced abortion: 1) a pregnancy often means the end of a young woman's education; 2) many pregnancies are terminated because they are the result of premarital or extramarital affairs; and 3) a rapid succession of pregnancies is undesirable and may lead to termination (pp. 204–205). Bleek concludes that, although abortion is generally disapproved of in public, it is frequently practised in secret. The reason is that, although both childbirth and abortion are potentially shameful, the shame of the latter can be hidden and thus avoided (abstract, p. 203).

Ghana/Induced/Social/Psychol/Race-Ethnic.

13. Boes, E. G. M. (Department of Obstetrics and Gynaecology, Medical University of Southern Africa, Pretoria, Republic of South Africa). Maternal Mortality in Southern Africa, 1980–1982, Part II: Causes of Maternal Deaths. *South African Medical Journal*. 1987 Feb 7; 71(3): 160–161; ISSN: 0038-2469.

This study reviews the causes of maternal mortality in order to educate doctors and the public about the causes and prevention of deaths associated with pregnancy. The author conducted a retrospective review of 737 cases of maternal deaths from the period January 1980 through December 1982 in the Republic of South Africa to determine cause of death (abstract, p. 160). The records were submitted by hospitals participating in an ongoing study of maternal mortality in South Africa (p. 160). Of the 737 cases, 660 (89,5%) were classified as direct obstetric deaths, 61 (8,3%) as indirect obstetric deaths and 13 (1,8%) as unrelated deaths (using the ninth revision of the *International Classification of Diseases*). Three were unclassified because of insufficient information (p. 160). Hypertensive disorders of pregnancy were the most frequent cause of death (30%). Obstetric haemorrhage and infection were associated with 20% and 19% of maternal deaths, respectively. Of the 140 deaths from sepsis, 34 (24,3%) were from abortions (less than 1% of all maternal deaths during the study period) and 15 of these occurred in primigravid women (p. 160). Advancing age and increased parity were strongly associated with death from obstetric haemorrhage (abstract, p. 160). The author concludes that continued study of these problems by health care providers is imperative to improving these conditions (p. 161).

South Africa/Matmort/Incidence/Complication/Haemorrhage/Sepsis.

14. Chatterjee, T. K. (Department of Obstetrics and Gynaecology, School of Medicine, University of Zambia, University Teaching Hospital, Lusaka, Zambia). Socioeconomic and Demographic Characteristics of Induced Abortion Cases. *International Journal of Gynaecology and Obstetrics*. 1985 Apr; 23(3): 149–152; ISSN: 0020-7292.

This study analyses the relationship between patient characteristics and the decision to seek an abortion. It was carried out in 1980 at the Gynaecological Clinics at the University Teaching Hospital in Lusaka, Zambia. Two hundred consecutive patients presenting with requests for termination of pregnancy (TOP) were interviewed and given questionnaires to complete (p. 149). The results were as follows: 74% of the women were more than 20 years old, 75% had attended secondary school, 63% were students or clerks, 53% came from lower- or middle-class families, 40% were Roman Catholics, 45% were unmarried, 40% were nulliparous and 57% had little or no knowledge of contraception (p. 149). Fifty-three percent of the students, 60% of the nulliparous

women and 86% of the women with secondary education applied for a TOP after 12 weeks gestation (p. 151). The author concludes that better health and sex education for young women may prevent some pregnancies and will, at the very least, let women know that help is available, thus encouraging them to apply early for a TOP (p. 152).

Zambia/Induced/Age/MS/Parity/Educ/Occup/Gest/KAP/Urban.

15. Chukudebelu, W. O.; Ozumba, B. C. (Department of Obstetrics and Gynaecology, University of Nigeria Teaching Hospital, Enugu, Nigeria). Maternal Mortality in Anambra State of Nigeria. *International Journal of Gynaecology and Obstetrics*. 1988 Dec; 27(3): 365–370; ISSN: 0020-7292.

This study documents the “institutional” maternal mortality rate (MMR) in Anambra State, Nigeria. The survey data collected covered a 5-year period between 1981 and 1985 in ten hospitals (urban, semi-urban and rural) throughout the state (p. 365). The authors found 48 046 births recorded during this time period in the ten institutions, with 239 maternal deaths, for an MMR of 4,97 per 1000 births (p. 367). Women with parity of five or more were two times more likely to die than were those with parity of four and almost three times more likely to die than were those of para one. The major causes of death were ruptured uterus (27,6%), obstetric haemorrhage (23%), obstructed labour (13%) and sepsis (12,1%); 87,5% of the deaths occurred among unbooked (unregistered) women. Illegal abortion accounted for only five deaths (2,1%), all of which were complicated by sepsis. The authors viewed this low figure as the result of gross underreporting (p. 367). The authors call for more accurate data collection, improved health facilities, improved socioeconomic status and better basic education. In relation to abortion, the authors suggest legalisation of abortion and limiting the performance of pregnancy termination to gynaecologists (p. 369).

Nigeria/Matmort/Parity.

16. Crowther, C.; Verkuyl, D. (Department of Obstetrics and Gynaecology, Harare Hospital, Harare, Zimbabwe). Characteristics of Patients Attending Harare Hospital With Incomplete Abortion. *The Central African Journal of Medicine*. 1985 Apr; 31(4): 67–70; ISSN: 0008-9176.

This study assesses the characteristics of abortion patients presenting at Harare Hospital to determine their knowledge and previous use of contraceptive methods and to find out their contraceptive intentions following the abortion (p. 67). Ninety-nine patients were included in the study which consisted of a questionnaire, a clinical assessment and a follow-up visit to obtain information about contraceptive intentions (p. 67). Patients tended to be older and of higher parity compared to the general obstetric population at the hospital. There were many (26,4%) unwanted pregnancies, and this figure may be severely underestimated because a large percentage (40,4%) of the women did not answer this question. Contraceptive failure occurred in 18,2% of the cases, and 44% of the failures occurred in patients taking combined oral contraceptives. The rate of induced abortion was estimated at 23,2%. Forty-four percent of patients at follow-up expressed an interest in contraception, compared to 18% of patients who were using a contraceptive prior to the abortion (p. 69). Many (24,2%) patients failed to attend the follow-up exam, and 33% (8% of the entire sample) of those patients had a known unwanted pregnancy (p. 70). The authors suggest providing contraceptive counselling to women immediately following their abortion.

Zimbabwe/Unwanted/Age/Parity/MS/Incomplete/Effectiveness/PAFP.

17. Huntington, D.; Mensch, B.; Toubia, N. (The Population Council, New York, USA). A New Approach to Eliciting Information about Induced Abortion. *Studies in Family Planning*. 1993 Mar; 24(2): 120–124; ISSN: 0039-3665.

This article presents the results of an experiment to collect data on induced abortion in Côte d'Ivoire within the context of a family planning operations research study (abstract, p. 120). The 9-month study began in February 1992 and the data were collected in April 1992 at all of the family planning service delivery points (SDPs) in the country that had been operational for at least 3 months prior to the study (p. 121). Two teams, each consisting of one nurse-midwife, an interviewer and a supervisor, spent two consecutive days at each SDP (p.

121). Exit interviews were conducted with 347 randomly selected women after their family planning counselling. The study showed the following: 44% reported a history of unwanted pregnancy and 59% of those said they had terminated that unwanted pregnancy; thus, over 25% of all women at that clinic on that day had had an abortion (p. 122). Women who reported a successful abortion were significantly younger (and thus, more likely to be unmarried and have fewer children) than those who took other actions (p. 123). The most popular reasons for not wanting a pregnancy were: partner's objection (35%), economic constraints (16%) and the socially unacceptable nature of being pregnant and single (16%) (p. 123). Approximately three fourths of clinic staff acknowledged clients' requests for information on pregnancy termination (p. 123). The authors conclude that when questions about abortion are asked in a nonjudgemental manner, respondents are forthcoming in their answers. The authors call for studies to compare these types of questions with standard, direct questions for eliciting information about induced abortion (p. 124).

Ivory Coast/Evaluation/Prevab.

18. Kampikaho, A.; Irwig, L. M. (Institute of Public Health, Makerere University, Kampala, Uganda//Department of Public Health, Sydney University, Sydney, Australia). Incidence and Causes of Maternal Mortality in Five Kampala Hospitals, 1980–1986. *East African Medical Journal*. 1991 Aug; 68(8): 624–631; ISSN: 0012-835x.

The purpose of this study was to estimate maternal mortality levels and to identify the type and causes of maternal deaths in five Kampala hospitals in Uganda. The study was conducted in 1987 and was based on a case record review (n=580) of all maternal deaths in five Kampala hospitals (Mulago, Nsambya, Old Kampala, Rubaga and Mengo) between January 1, 1980 and December 31, 1986 (pp. 624–625). The researchers found that the non-abortion-related maternal mortality ratio (author used the term rate) was 2,65 per 1000 deliveries while the abortion case fatality rate (author used the term mortality) was 3,58 deaths per 1000 abortions. There was a doubling of the former from 1980 to 1986, which was statistically significant (the authors report  $p < 0,5$ , but it is assumed they meant  $p < 0,05$ ), while the increase in the latter was not significant over the 7-year period ( $p=0,10$ ) (p. 627). Of all maternal deaths, 80% were non-abortion-related, 20% were abortion-related. The most common immediate causes of death, in order of frequency, were sepsis, haemorrhage, ruptured uterus, anaesthesia and anaemia (abstract, p. 624). The most common patient management factors which contributed to death, in order of frequency, were lack of drugs (79 of 195, or 41%), theatre problems (20%), doctor-related factors (14%) and lack of intravenous fluids (7%) (p. 628). The authors conclude that there is a great need to improve the availability and accessibility of gynaecological and obstetrical services; they recommend training traditional birth attendants in safe delivery methods and providing rural ambulance service, health education, antenatal care and health unit emergency services (p. 630). The authors also conclude that the problem of high mortality in developing countries is not due to scarce resources alone, but also to a lack of creativity and imagination on the part of health workers (p. 630).

Uganda/Matmort/Complication/Haemorrhage/Sepsis.

19. Kidula, N. A.; Kamau R.K.; Ojwang, S. B.; Mwathe, E. G. (University of Nairobi, Nairobi, Kenya). A Survey of the Knowledge, Attitude and Practice of Induced Abortion among Nurses in Kisii District, Kenya. *Journal of Obstetrics and Gynaecology of Eastern and Central Africa*. 1992; 10(10): 10–12.

**Note:** Funding provided by The Population Council, USA.

This descriptive, cross-sectional study is based on a survey of 218 nurses practising in hospitals, clinics, health centres and schools of nursing in Kisii District, Kenya; the survey was administered between April 1 and 28, 1991. Data were collected using a structured, partially-coded, self-administered questionnaire. The objective of the study was to determine the nurses' knowledge about various aspects of induced abortion, their attitudes towards induced abortion and abortion patients and their involvement in abortion (p. 10). This study was deemed necessary by researchers because nurses compose the majority of health care workers and, therefore, their knowledge, attitudes and practises relating to abortion are the greatest determinant of the quality of care received by abortion patients (p. 10). Most (75–83%) of these nurses were female, less than 40 years old and married. Researchers found that these nurses had deficient knowledge about all aspects of induced abortion, especially: 1) safe methods for inducing abortion; 2) safe gestation periods (only 26–28% thought it was safe

to induce abortion at 1 and 2 months gestation) (p. 11); and 3) potential complications (abstract, p. 10). Twenty-four (11%) nurses indicated that they had performed an abortion for another person in the past (using medical drugs [82,1%], insertion of foreign bodies in the vagina [63,6%], or traditional herbs [48,2%]) (pp. 11–12); yet most were in favour of the existing restrictive abortion law which allowed abortion only to save the life of the woman (p. 11). The authors conclude that the nurses' lack of knowledge may be partly responsible for the high abortion-related morbidity and mortality rates in Kenya. They suggest that: 1) the nursing curriculum should include abortion training; 2) further studies of nurses' attitudes towards abortion should be undertaken; and 3) nationwide studies on nurses' knowledge, attitudes and practises regarding induced abortion need to be conducted (p. 12).

Kenya/KAP/Induced/ProvPers/Matmort/Morbidity.

20. Konje, J. C.; Obisesan, K. A. (Department of Obstetrics and Gynaecology, University College Hospital, Ibadan, Nigeria). Septic Abortion in University College Hospital, Ibadan, Nigeria. *International Journal of Gynaecology and Obstetrics*. 1991 Oct; 36(2): 121–125; ISSN: 0020-7292.

This quantitative study involves a review of septic abortion cases treated at the University College Hospital, Ibadan from January 1981 to December 1985 (p. 121). During this 5-year period, 709 cases of abortion were treated. Of these, 143 (20,2%) were septic. Only 119 (83,2%) septic abortion case records were retrieved and had adequate information to be included in the study (thus, study n=119) (p. 122). The largest age and education groups affected by septic abortion were single women, aged 12 to 20 (36,9%) and secondary school students (42,9%) (p. 122). Most (82,3%) septic cases were induced abortions. The data showed that: private hospitals and clinics were the most popular places for induced abortion (57,1%); non-gynaecologists were the largest group of abortion providers (45,9%); instrumentation was the most common method of inducing abortion (87,8%) (p. 122); most women presented within 7 days of their abortion (56,3%); suction evacuation was the most common treatment modality (47,8%) (p. 122); only nine (7,6%) cases were free of complications; peritonitis was the most common complication (35,5%); the average hospital stay was 24 days; most 40 (33,6%) of the abortions occurred between 8 and 10 weeks of gestation; and the most common organism obtained from the cervix and vagina was *Escherichia coli* (43,1%) (p. 123). The authors stress the need for a standard antimicrobial regimen and report that ampicillin and cloxacillin are no longer useful because of resistant strains (p. 125). According to the authors, the study data reinforce findings from previous studies which showed that abortions increasingly contribute to the high maternal morbidity and mortality rate in Nigeria (p. 123). Mortality in this study was highest among nullipara, unmarried, women employed as maids and students (abstract, p. 288). The authors attribute this phenomenon to increasing adolescent sexuality. The authors suggest that these problems may be alleviated by liberalising abortion laws, promoting sex education in schools and the home and offering family planning to all sexually active individuals.

Nigeria/Induced/Sepsis/FP/Legal/Adolescents.

21. Kwast, B.E.; Rochat, R.W.; Kidane-Mariam, W. (Department of Obstetrics and Gynaecology, Addis Ababa University, Addis Ababa, Ethiopia/Master of Public Health Program, Department of Community Health, Emory University School of Medicine, Atlanta, Georgia, USA//Department of Obstetrics and Gynaecology, Yekatit 12 Hospital, Addis Ababa, Ethiopia). Maternal Mortality in Addis Ababa, Ethiopia. *Studies in Family Planning*. 1986 Nov; 17(6): 288–301; ISSN: 0039-3665.

**Note:** Funding provided by Swedish Save the Children Federation.

This two-stage probability housing survey focuses on the level and patterns of risk factors for maternal mortality in Addis Ababa, Ethiopia (p. 288). The survey covers a 2-year period, from September 11, 1981 to September 10, 1983. Two data collection forms were used: a housing list and a questionnaire. The housing list was used: to determine the *de jure* (registered) number of women aged 13–49 who usually lived in the selected house; to record the pregnancy outcomes of these women during 1981–1983; to record the women aged 13–49 who died during 1981–1983; to determine the *de jure* number of people living in each selected house; and to register the women who were pregnant at the time of the interview. When the housing list showed that a given house had been the site of a delivery, abortion or maternal death in the 2-year period, the interview was extended in order to complete the questionnaire (p. 289). The questionnaire contained items on the social and

economic characteristics of women with a pregnancy outcome during 1981–83, the use of maternity services among women who continued their pregnancy to term, neonatal and infant survival, the planning status of the pregnancy (wanted vs. unwanted) and interval since the previous birth or abortion (p. 289). Researchers conducted a pilot survey between April 25 and May 25, 1983 to improve the research techniques, to estimate the time and daily workload and to evaluate the research assumptions before beginning the main survey (p. 289); 415 houses were visited in a pre-selected sub-district targeted for the main survey. The duration of the main survey was 9 weeks, from July 11 to September 11, 1983. The survey universe included a population of 182 836 persons residing in 32 215 houses. While 9954 pregnancies were reported for 9315 women in the population over the 2-year period, the total number of births was 9385 (9155 of these being live births). The birth rate for the population was 27,5 for 1981-82 and 24,8 for 1982–83 (p. 291). The estimated maternal mortality rate for 1981–82 was 353 per 100 000 live births and for 1982–3 was 566 per 100 000 live births. Overall maternal mortality was highest among women aged 15–19 and among primiparas. Estimates of the mean abortion/live birth ratio within the 25 districts was 56,1/1000 in 1981-82 and 61,7/1000 in 1982-83 (p. 292). There were 45 maternal deaths reported, 24 direct obstetric deaths and 21 indirect obstetric deaths, which yields a maternal mortality rate of 2,6 and 2,3 per 1000 live births, respectively (p. 292); abortion accounted for 13 of the 24 direct obstetric deaths (p. 293) and was the main cause of maternal deaths (54%). Illegal methods of abortion (92%) were revealed in the majority of cases (p. 297). Thus, the authors estimate that approximately 3,0% of women in Ethiopia die due to pregnancy and childbirth (p. 298). The authors conclude that this study demonstrates that a probability housing survey is extremely effective in determining maternal mortality rates and social and economic determinants.

Ethiopia/Matmort/Induced/Sepsis/AbRatio.

22. Lamptey, P.; Janowitz, B.; Smith, J. B.; Klufio, C. (Family Health International, Research Triangle Park, North Carolina, USA). Abortion Experience Among Obstetric Patients at Korle-Bu Hospital, Accra, Ghana. *Journal of Biosocial Science*. 1985 Apr; 17(2): 195–203; ISSN: 0021-9320.

**Note:** Partial funding provided by Family Health International with funds provided to them by the United States Agency for International Development.

This retrospective study provides a measure of the occurrence of previous abortion among women delivering at the Korle-Bu Hospital in Accra, Ghana. The data for this paper were collected from a maternity record, developed by Family Health International (FHI), which included information on socio-demographic characteristics, obstetric history, the course of the index labour and delivery, outcomes for the mother and infant(s) and contraceptive use (p. 196). The data were collected on a random sample of 4990 women out of about 12 000 women hospitalised for birth at Korle-Bu Hospital between August 1981 and August 1982. Women with ectopic or molar pregnancies and abortion patients were not included (p. 196). Researchers began the study by comparing maternity records from hospitals in Ghana, Nigeria, Zaire, Tanzania and Mali. They found that there was a wide variation in the percentage of women who reported spontaneous versus induced abortion experiences (pp. 196–197). The women in Korle-Bu Hospital had the highest reported percentage of previous abortion experience (about 58%). In order to identify factors that affected the likelihood of a woman to report an abortion, especially an induced abortion, the women from Korle-Bu Hospital were studied further (p. 198). Researchers found that among obstetric patients with at least one previous pregnancy, over 25% reported having had at least one induced abortion. Abortion experience was more common among women with lower gravidities and among women with the highest levels of education, suggesting that abortion is mostly used to delay the first birth, particularly among young women still in school. The proportion of women who reported that they used contraception prior to their pregnancy was low, suggesting that knowledge and attitudes towards and availability of family planning services need to be improved (abstract, p. 195). The authors conclude that, while the actual number of deaths from illegally induced abortion is unknown, it is clear that illegal abortion is a serious public health problem (p. 202).

Ghana/Induced/AbRate/FP/PAFP.

23. MacPherson, T.A. (Department of Obstetrics and Gynaecology, University of Zimbabwe, Harare Hospital, Salisbury, Zimbabwe). A Retrospective Study of Maternal Deaths in the Zimbabwean Black. *The Central African Journal of Medicine*. 1981 Apr; 27(4): 57–60.

The purpose of this retrospective study of maternal deaths at Harare Hospital, Salisbury, Zimbabwe was to determine the extent of and the reasons for the deaths. All maternal deaths (n=73), aged 14 to 55, were evaluated for the period January 1, 1972 to December 31, 1973. Patients were included in the study if they had delivered a viable foetus or had an abortion or an ectopic pregnancy during the 12 months prior to death (p. 58). They were divided into two groups: obstetric deaths (above 20 weeks of gestation) and death due to abortion (below 20 weeks of gestation). If the pregnancy contributed to death, avoidable factors were identified. There were 30 494 deliveries and 2273 non-therapeutic abortions during the 2-year period. Seventy-three deaths occurred, 53 (72,6%) obstetric and 20 (27,4%) due to abortion. Pregnancy contributed to death in 56 (76,7%) patients of whom 39 (69,6%) were in the obstetric group and 17 (30,4%) in the abortion group. Maternal mortality was calculated at 1,70 per 1000 deliveries plus abortions. Forty-nine patients (57,7%) were para 4 or less; 53 (72,6%) patients were 30 years of age or less; and almost all patients were of low socioeconomic status (p. 58). The author concludes that several avoidable factors contributed to maternal deaths: patient delay in seeking obstetrical care; lack of supervision of registrars in training leading to a high rate of surgical errors; and an excessively high patient/staff ratio.

Zimbabwe/Matmort/Induced/AbRatio/Access/Complication/SES.

24. Makokha, A. E. (Department of Obstetrics and Gynaecology, College of Health Sciences, University of Nairobi, Nairobi, Kenya). Medico-socio and Socio-demographic Factors Associated with Maternal Mortality at Kenyatta National Hospital Nairobi, Kenya. *Journal of Obstetrics and Gynaecology of Eastern and Central Africa*. 1991; 9(3): 3–6.

This descriptive study analyses all maternal deaths that occurred at Kenyatta National Hospital (KNH) in Nairobi, Kenya from January 1978 to December 1987. During this period there were 49 335 deliveries at KNH and a total of 156 maternal deaths, giving a maternal mortality ratio (referred to in the article as rate) of 3,2 deaths per 1000 deliveries (compared to the previously reported statistic of 4,8 for KNH). The analysis of deaths was done by medical cause and the following variables: age, parity, marital status, attendance at an antenatal clinic where the woman had delivered and how she had delivered (the latter two to investigate the association between delivery services and maternal mortality) (p. 3). The author found that women aged 24 and below accounted for over 50% of the female deaths; about 64% of the women who had died were of low parity; 27,6% were single and 50% of these had died from abortion complications (a total of 38 women [24,3%] died from abortion complications). Single women accounted for 57,9% of the abortion-related deaths (p. 6). In general, the author found that there was a high proportion of deaths among women outside the “optimal reproductive age” (24–34 years old); and among this group, abortion complications were the single most frequent cause of death, particularly among adolescents (p. 6). The author concludes that shifts and adjustments in age, parity, marital status and antenatal clinic attendance among women will not lower the MMR without serious improvements in all aspects of reproductive health services and early referrals of patients, whenever this is necessary (p. 6).

Kenya/Matmort/Social/Adolescents.

25. McDougall, G.; McGibbon, C. (Weekend Argus) Backstreet Slaughter. *Weekend Argus*. Johannesburg, South Africa; 1992 Feb 1; Weekend Focus: 13.

This commentary documents the risks and consequences of illegal abortion in South Africa. It focuses on illegal abortion in the 1980s and discusses implications of the Abortion and Sterilisations Act of 1975. The authors argue the importance of providing safe abortion services to South African women to alleviate the mortality, morbidity and psychological costs of illegal abortions.

South Africa/Induced/Unwanted/Unsafe.

26. Megafu, U.; Ozumba, B. C. (Department of Obstetrics and Gynaecology, College of Medicine, University of Nigeria Teaching Hospital, Enugu, Nigeria). Morbidity and Mortality from Induced Illegal Abortion at the

This retrospective study provides an estimate of the number of induced illegal abortions seen at the University of Nigeria Teaching Hospital (UNTH) Enugu and their contribution to maternal mortality. The study was based on a review of records of cases of induced abortion presented at UNTH over a 5-year period (1982–1986) (n=84). During this period, 21 193 deliveries and 483 cases of abortion occurred (of these 483 abortions, 354 were spontaneous and 84 were illegally induced outside the hospital and then brought in for treatment). This yields an abortion ratio (authors use the term rate) of 20 abortions (both spontaneous and induced) per 1000 deliveries and a ratio (referred to as incidence by the authors) of 4 cases of complications of an illegally induced abortion per 1000 deliveries. One out of five cases of abortion reviewed during the study period was a case of induced illegal abortion (p. 164). The mean age of the 84 patients being treated for complications due to abortion induced outside the hospital was 20,4 years; 71% were aged 20 years or less and the majority (89%) were nulliparous (p. 164). Non-medical persons, a good number of whom were chemists, were the leading abortionists, being responsible for 44 (52%) of the cases of illegally induced abortion; medical practitioners were responsible for another 29 (35%) cases (p. 164). Vaginal bleeding (51%) and fever (51%) were the most common presenting symptoms, followed by septicaemia (49%), abdominal pain (48%) and foul smelling vaginal discharge (46%) (pp. 164–165). Evacuation by sharp curette was the primary method of treatment (68%) (p. 165). A total of 15 maternal deaths were recorded, yielding a maternal mortality level of 179 deaths per 1000 cases of illegally induced abortion, compared to a case fatality level (referred to as rate by the authors) of 3 deaths per 1000 cases of illegally induced abortion for the entire hospital during the same period (p. 165). The authors conclude that since termination of pregnancy for social reasons in Nigeria is illegal, a market for non-medical abortion practitioners has been created, the results of which can be seen in high maternal mortality due to illegally induced abortion. The authors conclude that to alleviate some of these problems, preventive measures, such as the creation of contraceptive facilities and the teaching of sex education in schools, are necessary.

Nigeria/Induced/Legal/Matmort/Morbidity/AbRate/ProvStatus/FP.

27. Melrose, E. B. (Department of Obstetrics and Gynaecology, University of Natal and King Edward VIII Hospital, Durban, Republic of South Africa). Maternal Deaths at King Edward VIII Hospital, Durban: A Review of 258 Consecutive Cases. *South African Medical Journal*. 1984 Feb 4; 65: 161–165; ISSN: 0038-2469.

This study examines the causes of maternal death, from January 1, 1975 to December 31, 1982, at King Edward VIII Hospital, Durban, Republic of South Africa. During this period, there were 177 277 deliveries in the hospital and peripheral clinics and 258 maternal deaths (182 direct obstetric and 76 indirect obstetric deaths), yielding a maternal mortality ratio (author used the term rate) of 1,46 deaths per 1000 deliveries; 48 (18,6%) of these deaths were due to abortion. The four most common causes of death were: hypertensive disease of pregnancy (n=49), abortion, puerperal sepsis and haemorrhage. The majority (54,1%) of patients were 25 years or younger and were para 4 or less (66,7%) (p. 163). The author stresses that lack of antenatal care is one of the greatest causes of maternal mortality (84% who died had not received antenatal care). Policy suggestions include: educating the public and politicians about the grave importance of antenatal care and family planning; improving antenatal services and providing more trained staff throughout the area; improving transportation and communication systems to reach rural areas; and creating a centrally based emergency team.

South Africa/Matmort/Induced/Sepsis/Haemorrhage/Referral.

28. Mhango, C.; Rochat, R.; Arkutu, A. (Department of Obstetrics and Gynaecology, University Teaching Hospital, Lusaka, Zambia//Master of Public Health Program, Emory University School of Medicine, Atlanta, Georgia, USA//United Nations Fund for Population Activities, Harare, Zimbabwe). Reproductive Mortality in Lusaka Zambia, 1982–1983. *Studies in Family Planning*. 1986 Sep; 17(5): 243–251; ISSN: 0039-3665.

This study reviews all maternal deaths at the University Teaching Hospital (UTH) in Lusaka, Zambia in order to estimate the level of maternal mortality and to determine causes of death and the extent to which they are preventable (p. 243). Researchers reviewed the clinical, laboratory and autopsy findings of all institutional

maternal deaths (i.e., deaths that occurred at UTH during a pregnancy or within 42 days after termination of pregnancy) during 1982–1983 (p. 243). Sixty maternal deaths and 50 780 live births occurred at UTH during this time period from which the authors estimated a crude birth rate of 43,8 per 1000 population and a maternal mortality rate of 118 per 100 000 live births (p. 244). The classifications for cause of death were: pregnancies with abortive outcomes; embolism; haemorrhage; hypertensive disease; puerperal sepsis; and non-obstetric causes (p. 244). Each death also was classified by one or more “preventable risk factors” (p. 244). Women were classified by socioeconomic status (p. 244). Sixteen (27%) of the maternal deaths were women who had been referred from outside the hospital who had died in the hospital (p. 245). Overall risk of maternal mortality was five times higher for women aged 35 and older than for younger women. Haemorrhage and puerperal sepsis were strongly associated with the risk of dying and this risk was two times higher for women of parity greater than four than for women with lower parity (p. 245). Abortion is legal in Zambia for social and economic reasons, yet approximately 50% of the patients admitted to UTH for induced abortion reported that it had been performed in an illegal setting—either self-induced or induced by non-medical practitioners (p. 250). Of the 14 deaths associated with abortion, nine (64,3%) were due to induced abortion. Four of these women were unmarried; the median age was 23 and the median parity was two (p. 245). Over 50% of the women who died from an induced abortion had a socioeconomic status (SES) of 1 or 2 (SES: 1=high, 2=average, 3=poorest) (p. 246). The most important finding of this study was that of the 60 maternal deaths, 51 (85%) were judged to be avoidable (p. 249). The primary factors associated with maternal death included: not using an effective method of contraception; using an unsafe means to terminate unintended pregnancies; lack of prenatal care; refusing a blood transfusion (for religious reasons); and inadequate treatment for hypertensive disease of pregnancy. Overall, 31 (51,7%) of the 60 women who died lacked adequate or appropriate medical care and 19 (31,7%) failed to obtain available health care (9 of the 19, or 47,4%, failed to obtain a legal abortion, primarily because of burdensome administrative requirements). Medical case management problems occurred more frequently during the night shift (abstract, p. 243). Effective contraception and accessible safe abortion services should have prevented the deaths of the ten women who died from abortion and the one woman who committed suicide because of an unwanted pregnancy (p. 248). The UTH obstetrical faculty believe that 52% of the maternal deaths could have been prevented by improving the skills of the health care providers, and that an additional 30% could have been prevented through health care promotion and education among women and in the community (p. 249). The major factors that were implicated in maternal deaths were: 1) health care provider and institutional deficiencies; 2) lack of prenatal care; 3) unwanted pregnancies; 4) home deliveries; and 5) low SES (p. 249). The authors suggest the following courses of action to address these problems: improve training and referral practises of traditional birth attendants; provide on-going training of health care staff; ensure adequate and timely provision of resuscitation equipment and supplies at all times (day and night); improve prenatal care; institute and/or improve local postgraduate training in obstetrics; carefully monitor all maternal deaths; ensure safe, acceptable means of family planning (FP) and termination of unwanted pregnancy (TOP); use mass communication to stress the importance of FP and the use of prenatal and postpartum health care; liberalise the administrative requirements for TOP; make permanent methods of contraception available; and ensure timely transportation to essential health care services (p. 250).

Zambia/Matmortality/Induced/FP/Access/Referral/SES/Age/Parity.

29. Msoka, V. Unwanted and Early Pregnancies. *Sauti Ya Siti*. 1990 Apr; (9): 13–15; ISSN: 0856-230x.

This article identifies “baby dumping” as a problem in Tanzania and suggests strategies for addressing the practise. The article was written in response to a couple of recent (1990) cases of “baby dumping” in Shinyanga and Dar es Salaam (p. 13). The author, drawing on the opinions of gynaecologists, concluded that: adolescents are at high risk for this practise, since most are unmarried and thus most of their pregnancies are unwanted (p. 13); and unwanted pregnancy, abortion and “baby dumping” are interrelated, each leading to the next (p. 14). The author, again based upon the recommendations of gynaecologists, suggests a general public health campaign and the incorporation of Family Life Education into the school system to address this problem.

Tanzania/Unwanted/Adolescents.

30. Mtimavalye, L. A. R.; Lisasi, D.; Ntuyabaliwe, W. K. (Department of Obstetrics and Gynaecology, Muhimbili Medical Centre, University of Dar es Salaam, Dar es Salaam, Tanzania). Maternal Mortality in

Dar es Salaam, Tanzania, 1974–1977. *East African Medical Journal*. 1980 Feb; 57(2): 111–118; ISSN: 0012-835x.

This study reviews causes of maternal mortality from 1974 to 1977 at Muhimbili Medical Centre, a referral hospital in urban Dar es Salaam, Tanzania. The maternal mortality rate during this time was 2,1 per 1000 deliveries (i.e., 224 maternal deaths out of 105 311 deliveries); there were 11 534 abortions during the same time period (abstract, p. 111). An obstetrician reviewed the case records of all maternal deaths, assigned cause of death and discussed the findings with other obstetricians in the centre. Thirty-six deaths were attributed to abortion during the 4-year period, giving a case fatality rate of 3,1 deaths per 1000 abortions (p. 112). The largest number of maternal deaths was among women aged 17–20 (17%, 35,1% and 29,4% for 1975, 1976 and 1977, respectively) and a parity level of 2–4 (54,3%, 39,6%, 21,1% and 34,9% for years 1974–77, respectively) (p. 113). Prenatal care was received by 72,3% of the women who had died. The major causes of maternal deaths were: toxæmia related to pregnancy; caesarean section; anaemia; sepsis; and haemorrhage (abstract, p. 111). The authors suggest that antenatal care should be an important focus for women and the state; and they encourage increased awareness among women of the need for antenatal care and the provision of enough trained staff and antenatal centres to ensure accessibility throughout the region.

Tanzania/Matmort/Induced/AbRate/Decentral.

31. Nichols, D.; Janowitz, B.; Smith, J. Birth Spacing. Chapter Three in: *Reproductive Health in Africa: Issues and Options*. Research Triangle Park, North Carolina: Family Health International; 1984: 33–54. 72 pages. ISBN: 0-939704-04-8.

**Note:** Partial funding provided by the Office of Population, United States Agency for International Development.

In the mid-1970s, Family Health International developed the Maternity Care Monitoring (MCM) system to provide information on: the reproductive histories of women (to identify groups at increased risk of complications); selected antenatal conditions (to identify factors affecting pregnancy outcome and maternal health and to identify specific management techniques which improve pregnancy outcome); and family size expectations and contraceptive behaviour (to determine whether hospitals are meeting the family planning needs of their patients and to provide a source of current information for developing instructional materials) (p. 4). This monograph reports on the outcome of the system pre-test in 23 centres in ten sub-Saharan African countries (Ghana, Ivory Coast, Mali, Nigeria, Rwanda, Senegal, Sierra Leone, Sudan, Tanzania and Zaire) (p. ii). Twelve of the centres serve urban populations, three serve urban and rural populations and a total of 15 of the centres are major referral hospitals (p. 5). The time period for the data collection varied by site, but all of the data collection was done sometime between January 1977 and November 1982 (pp. 6–7). The sample sizes also varied significantly by site, ranging from 86 deliveries monitored in a small, rural medical clinic in Sudan to 10 730 deliveries monitored in a major, urban referral hospital in Senegal (p. 6). The following data were collected on a one-page, pre-coded Maternity Record data collection form: socio-demographic characteristics of the delivering woman, obstetric history, contraceptive practises, antenatal care, management of labour and delivery and maternal and perinatal outcomes (p. 4). Data on pregnancy wastage are provided for the sites in Accra, Ghana; Bamako, Mali; Benin City, Nigeria; Mwanza, Tanzania and Karawa, Zaire (p. 48), with a focus on the results from Ghana. Salient pregnancy wastage results include the following: less than 1% of the women in three centres (Mali, Tanzania, Zaire) reported having had an induced abortion as compared with over 20% for the other two centres (p. 48); one third of the women with only one previous pregnancy reported that their pregnancy had ended in an induced abortion, compared to fewer than one quarter of women with two previous pregnancies (and only 10% of those with three or more) (p. 49); two thirds of teenagers reported that their first pregnancy had ended in abortion, and 45,6% of them reported having had an induced abortion (p. 50); the proportion of women whose first pregnancy was reported to have ended in an induced abortion was under 5% for women with no education and over 50% for women with a university education; and, of the 34,4% of women with one previous pregnancy that had ended in an abortion, only 10% reported that they used contraception after that abortion (p. 51). The authors conclude that increased gravidity results in decreased rates of induced abortion. These women seem to be using abortion as a means of delaying the first birth rather than of spacing later births or limiting family size (p. 49). The authors also conclude that the percentage of women reporting an abortion decreased sharply with age (p. 50) and higher levels of education (p. 51). The authors suggest improving family planning access, particularly among adolescents (p. 51).

32. Odujinrin, O. M. T. (Department of Community Health, College of Medicine, University of Lagos, Lagos, Nigeria). Sexual Activity, Contraceptive Practice and Abortion among Adolescents in Lagos, Nigeria. *International Journal of Gynaecology and Obstetrics*. 1991 Mar; 34(4): 361–366; ISSN: 0020-7292.

This study assesses the sexual activity, contraceptive use and abortion experiences of teenage secondary school girls in Lagos, Nigeria (p. 362). A pilot questionnaire was tested on a group of 50 girls from two schools not included in the sampling frame (p. 362). The final survey questionnaire was administered to 950 girls from five girls' secondary schools in Lagos; the schools were chosen by ballot and the study participants were chosen by systematic random sampling (p. 362). The questionnaire sought information on age, menstrual status, sexual activity, frequency of intercourse, number of sexual partners, contraceptive use, abortion experiences and who performed the abortion (p. 362). The girls ranged in age from 10 to 20, and the single largest grouping was 16 year-olds (25,3%) (p. 362). The study results include the following: 29% of the study population claimed to be sexually active; the youngest sexually active schoolgirl was 12 years old and the mean age of the sexually active interviewees was 16,87 years (p. 362); of the sexually active girls, 37,3%, 32,2%, 13,8% and 12,3% reported having sexual activity rarely, occasionally, daily and frequently, respectively (p. 363); 66,3% of the sexually active girls had only one sexual partner, and 2,9% reported more than four (p. 363); only 20,3% of the sexually active girls used reliable contraceptive methods (in this case, oral contraceptives, IUD), while 43,5% used the rhythm method and 24,6% used no method (p. 364); 65 (23,5%) of the 276 sexually active females claimed to have had at least one abortion, and 2,5% reported more than three (p. 364); and most of the girls had had their abortion performed by either a doctor (31, or 47,7%) or themselves (self-induced) (14, or 21,5%) (p. 364). The author concludes that Nigerian teenagers: are sexually active as early as 12 years of age; have multiple sexual partners; are involved in sexual activities regularly; have poor knowledge and practise of contraception; and obtain illegal abortions, often from unskilled personnel using dangerous methods (p. 365). Thus, the author advocates incorporating Family Health Education into the school curriculum, providing teenagers with family planning services and allowing safe termination of pregnancy in appropriate health institutions in cases of unwanted pregnancy (p. 365).

Nigeria/Adolescents/Contraception/Pill/IUD/Traditional/Induced/ProvStatus.

33. Ogunniyi, S. O.; Makinde, O. O.; Dare, F. O. (Department of Obstetrics, Gynaecology and Perinatology, Faculty of Health Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria). Abortion-Related Deaths in Ile-Ife, Nigeria: A 12-Year Review. *African Journal of Medicine and Medical Sciences*. 1990 Dec; 19(4): 271–274; ISSN: 0309-3913.

This article reports on abortion-related deaths at Obafemi Awolowo University Teaching Hospitals (OAUTH) in Ile-Ife, Nigeria (p. 271). The authors reviewed the case records of 1372 women who presented with abortion complications to OAUTH between January 1977 and September 1988. During this period, there were 232 maternal deaths and 29 deaths due to abortion (i.e. 12,5% of the maternal deaths; 2,1% of all abortion cases [p.272]). The case records of 27 (93,1%) of the abortion deaths were available for review for the article. The majority of the patients were of low educational status (secondary school or below, 92,6%) and had a gestation of 12 weeks or less (17, or 63%) (p. 272). Adolescents (15–20 year olds) constituted 29,6% of the cases (p. 272). Twenty-four deaths (88,9% of all abortion-related deaths and 10,4% of all maternal deaths) were due to illegal abortion (p. 272). Instrumentation was employed in 81,5% of the abortions, and unqualified personnel were involved in 74,1% of such cases (p. 272). The majority (26, or 96,3%) of the patients were admitted in a poor clinical state: 25 (92,6%) had multiple complications, most commonly septicaemia (20, or 74,1%) or peritonitis (15, or 55,6%); and the majority (74,1%) of deaths were related to sepsis (p. 273). The authors point out that 59,3% of the cases in this review were married women, and they thus conclude that illegal abortion affects all women. The authors suggest educating women about the use of contraception and liberalising the abortion law (p. 274).

Nigeria/Matmort/Death/Sepsis.

34. Ojwang', S. B. O.; Omuga, B. (Department of Obstetrics and Gynaecology, Faculty of Medicine, University of Nairobi, Nairobi, Kenya//Specialist Obstetrician, Siaya District Hospital, Siaya, Kenya). Contraceptive Use among Women Admitted with Abortion in Nairobi. *East African Medical Journal*. 1991 Mar; 68(3): 197–203; ISSN: 0012-835x. PIP 067121

This study was conducted to discover trends in the characteristics of patients admitted to Nairobi's Kenyatta National Hospital for treatment of abortion complications (in order to develop strategies for reducing maternal morbidity and mortality). The use of contraception was a particular focus of the study. The researchers interviewed 519 subjects—all of the women admitted to the acute gynaecological ward with abortion-related complications during the study period—using a pre-tested questionnaire. The researchers discovered that 59,3% of the subjects were less than 24 years old, and 286 (55,11%) were married (p. 198). The majority (82,5%) of the subjects presented with non-septic incomplete abortion (60 cases, or 11,6%, were septic), and the remaining 6% of the subjects presented with other difficulties. Four hundred and sixty (88,6%) of the women had not been using a contraceptive method prior to the index pregnancy (p. 198). Among ever-users of contraception, the pill (115 of 218, or 52,75%) and the intrauterine device (84 of 218, or 38,53%) were the most frequently used (p. 199). The results also revealed that the women who were using contraceptives obtained contraceptive information primarily from nurses (52%), the mass media (19%) and other women (15%) (p. 202). The researchers conclude from these data that health workers and the media should collaborate to educate women about contraceptive methods to prevent unwanted pregnancy (p. 202).

Kenya/ContrPrev/Adolescents/Patient Ed.

35. Okonofua, F. E.; Onwudiegwu, U.; Odunsi, O. A. (Department of Obstetrics, Gynaecology and Perinatology, Obafemi Awolowo University, Ile-Ife, Nigeria). Illegal Induced Abortion: A Study of 74 Cases in Ile-Ife, Nigeria. *Tropical Doctor*. 1992 Apr; 22(2): 75–78; ISSN: 0049-4755.

This study provides information about the social characteristics of women who seek termination of pregnancy and their attitudes toward contraception and the Nigerian abortion law (p. 76). The study was conducted between November 1, 1988 and December 31, 1989 at Obafemi Awolowo University Hospital in Ile-Ife, Nigeria. The 74 women who presented for treatment of complications of illegal induced abortion during the study period were included. Details of their clinical condition at presentation, methods of case management and the clinical outcome of each case were noted at admission; following treatment the women were also interviewed privately about: 1) the abortion provider and method of abortion; 2) the reasons for the abortion; 3) the cost of the abortion; 4) their socioeconomic background; 5) their knowledge, attitude and practise of contraception; and 6) their knowledge and attitude about the Nigerian national abortion law (p. 76). Results showed that the mean age of the subjects was 22,8, with a range of 15–49 years; 46 (62%) were nulliparous; 43 (58%) were unmarried (p. 76). The study also showed that 24 (32%) of the abortions had been conducted by medical practitioners, and that 62 (84%) of the women had suffered from sepsis (p. 76). The abortion-related mortality rate (i.e., proportionate mortality rate) was 18%, accounting for 35% of all maternal deaths which occurred in the hospital during the study period (p. 77). The mean hospital stay among study patients was 9,8 days (p. 76). Twenty women completed the private interview following treatment. From the interviews, the researchers reported that 90% of the women had never previously used contraception, and only 45% intended to do so in the future, primarily because of fears of side effects (p. 77). Notably, only four (20%) of the women interviewed were aware that abortion is illegal in Nigeria, and 90% of those interviewed believed that abortion should remain illegal for religious reasons (p. 77). The authors observed that, contrary to popular belief, abortions are sought by both married and unmarried women in all age groups (p. 77), and that medical practitioners are responsible for many of the unsuccessful abortions (pp. 77–78). The authors recommend more provider training in abortion care (p. 78), consideration to liberalise the abortion law and increased availability of education and confidential counselling about contraception (p. 78).

Nigeria/Matmort/Induced/KAP/SES/Legal

36. Omu, A. E.; Oronsaye, A. U.; Faal, M. K. B.; Asuquo, E. E. J. (Department of Obstetrics and Gynaecology, University of Benin Teaching Hospital, Benin City, Nigeria). Adolescent Induced Abortion

in Benin City, Nigeria. *International Journal of Gynaecology and Obstetrics*. 1981 Dec; 19(6): 495–499; ISSN: 0020-7292.

This study highlights the problem of induced abortion among Nigerian adolescents and examines the associated causes and consequences in order to suggest some solutions to ameliorate the problem. The available records of all adolescent girls admitted to the gynaecologic ward of the University of Benin Teaching Hospital in the 6-year period from January 1, 1974 to December 31, 1979 were reviewed (p. 495). During the study period, there were 13 500 deliveries and 1418 abortion cases (induced illegally outside of the hospital and spontaneous), giving an abortion ratio of 105/1000 deliveries. Abortions of all types constituted 28,4% of all gynaecologic admissions. Of all induced abortion patients, 349 (60,8%) were adolescents; however, only 244 of their records were available for analysis (p. 496). The majority (175, or 71,7%) were primary and secondary school students, and only 24 (9,8%) of them were married. A large proportion (90, or 37,5%) had had one to three previous induced abortions, which were most often performed by unqualified personnel; 41(16,8%) of the abortions had been performed by physicians, while 82,8% had been performed by nurses, traditional healers, chemists, shopkeepers or the woman/adolescent herself. Most patients had more than one complication—the most common being haemorrhage, sepsis and cervical laceration—and there were significantly more complications associated with terminations after 12 weeks gestation (p. 496). The mean hospital stay was 9,5 days, and for the adolescents who had had an induced abortion, it was 10,6 days (range 3–84 days) (p. 496). Mortality from induced abortion accounted for 34,8% of all gynaecologic deaths, whereas induced adolescent abortion accounted for 21,8% all gynaecological deaths (p. 496). Policy suggestions include: liberalising the abortion law; relaxing social mores concerning abortion; teaching sex education in the school curriculum; making family planning education and methods available to adolescents; and ensuring the availability of safe termination of pregnancy services in cases of unwanted pregnancy (p. 498).

Nigeria/Adolescents/Induced/Matmort/Complication/AbRate/Prevab/ProvStatus/HospTm/PAFP.

37. Otsea, K. (IPAS, Carrboro, North Carolina, USA). The Place of Abortion Care in Safe Motherhood Programs. Sinei, S. K., Editor. *Journal of Obstetrics & Gynaecology of Eastern and Central Africa*. 1993; 11(1): 3–7.

This paper discusses steps that Safe Motherhood programmes can take to address the problem of unsafe abortion. The author discusses studies and training programmes throughout the 1980s and 1990s, focusing on studies and programmes in sub-Saharan Africa (in Kenya, in particular). The author notes that previous studies have shown abortion-related mortality in Africa to be extremely high, ranging anywhere from 20% to 50% (one study cited a rate of 80% of all maternal deaths) (p. 3). Two strategies are identified for decreasing maternal mortality due to unsafe abortion: improvements in abortion services and removing legal restrictions to safe abortion (p. 4). The author suggests the following actions as a means of improving the situation: improving the treatment of abortion complications; decentralising safe abortion services; and providing post-abortion family planning services (p. 4). The author also delineates a number of actions related to the legal/policy environment: liberalising the abortion law; removing or revising policies that restrict access to services such as restrictions on the types of providers who can perform the services and administrative requirements that must be met before the procedure can be performed (e.g., committee approval, multiple signatures from certified physicians) (p. 6). Based upon the high levels of maternal mortality due to unsafe abortion, the author concludes that Safe Motherhood programmes have a responsibility to address this issue and to incorporate some of the suggested changes into their programmes (p. 7).

Kenya/Matmort/Morbidity/Incomplete/Decentral/PAFP/Legal/Policy.

38. Ruminjo, J. K. (Department of Obstetrics & Gynaecology, University of Nairobi, Nairobi, Kenya). Socio-Demographic and Gynaecological Variables of Maternal Mortality in a Kenyan Subdistrict: January 1981–September 1988. *East African Medical Journal*. 1990 Feb; 67(2): 118–125; ISSN: 0012-835x.

This study describes institutional maternal deaths in Thika subdistrict in Kenya and identifies socio-demographic and gynaecological factors that may have some bearing in reducing this mortality (p. 118). The study was conducted retrospectively from January 1981 until January 1985 and then prospectively until September 1988; it was based upon data from maternal death case reports from the three main institutions

offering maternity/delivery services in Thika subdistrict (p. 118). Maternal mortality is defined in the study as death of a woman occurring during pregnancy or labour, or as a consequence of pregnancy within 42 days from termination of pregnancy; the number of deaths was compared to the number of live births (p. 118). During the study period there were 86 248 live births and 164 maternal deaths, giving a maternal mortality rate of 190 per 100 000 live births (p. 118); there were 124 deaths among obstetric cases (those greater than or equal to 28 weeks gestation), giving an obstetric mortality ratio (referred to in the article as rate) of 144 per 100 000 live births (pp. 118–119). Abortion was involved in 24,4% of the maternal deaths (p. 121). Sepsis was found to be the primary cause of maternal death (46 cases, or 28,1%), with postabortal sepsis, in particular, accounting for 16 deaths (9,76%) (p. 123); postabortal haemorrhage accounted for 4 deaths or 2,4% of maternal deaths (p. 123). The author notes that several of the postabortal deaths from sepsis and/or haemorrhage followed termination of pregnancy in the hospital for a variety of reasons—generally because the procedure was carried out by a non-specialised medical officer—but the majority of the pregnancy disruptions were initiated outside of the hospital (p. 125). The author concludes that many deaths could be avoided by improving: women's socioeconomic status; the health system's infrastructure; administration and distribution of available supplies; and antenatal care services (p. 125).

Kenya/Matmortality/SES/Sepsis/Haemorrhage.

39. Toure, B.; Thonneau, P.; Cantrelle, P.; Barry, T. M.; Ngo-Khac, T.; Papiernik, E. (Maternity Unit, Donka Hospital, Conakry, Guinea//National Institute of Health and Medical Research, Paris, France//ORSTOM, Population and Health Division, Paris, France//Maternity Unit, Donka Hospital, Conakry, Guinea//Safe Motherhood Programme of Operational Research, World Health Organisation, Geneva, Switzerland//Department of Gynaecology and Obstetrics, Cochin Hospital, Paris, France). Level and Causes of Maternal Mortality in Guinea (West Africa). *International Journal of Gynaecology and Obstetrics*. 1992 Feb; 37(2): 89–95; ISSN: 0020-7292.

**Note:** Funding provided by the French Ministry of Cooperation and Development and by the World Health Organisation.

The purpose of this study was to document the level and causes of maternal mortality in Conakry, Guinea. Researchers conducted this epidemiological research project in eight maternity units (six municipal, two referral) in Conakry, recording all maternal deaths that occurred in these hospitals between July 1, 1989 and June 30, 1990 (total maternity hospital deaths=123). Where patient information was inadequate, researchers interviewed the families of the deceased patient using a standard questionnaire that included information on personal characteristics and socioeconomic variables. The researchers supplemented these data with a 3-month survey (April to June 1990) in the urban community; the survey involved the use of Imams (local Muslim religious authorities) and local cemetery caretakers who recorded maternal deaths that occurred at home and were thus not registered at the hospital (total community deaths=11) (p. 91). The authors noted that there was a total 123 registered maternal deaths from July 1, 1989–June 30, 1990, and an additional eleven maternal deaths were recorded during the 3-month community survey (i.e., 44 maternal deaths per annum), giving a total estimate of 167 Conakry resident women (123+44) who died within 42 days of giving birth (p. 92). During this same 1-year period, there were 33 000 live births, giving an annual maternal mortality rate of 559/100 000 live births (abstract, p. 89). The women who died had an average age of 24,8 years; 93% of them were under 35 and 25% were under 20; 83% were married; and 60% came from a lower socioeconomic class. The average number of children was 2,1 (p. 92). Twenty-two maternal deaths were associated with hypertension, 21 were related to delivery complications and 25 were abortion-related (19 [15%] of 123 deaths in the maternity units and six [54%] of eleven deaths in the community). Of the 19 maternity unit abortion-related deaths, 13 (80%) were from an induced abortion, and sepsis accounted for 71% of the postabortion complications (p. 93). The authors conclude that: 1) due to underreporting, most measures of maternal mortality represent only a fraction of maternal deaths, which was confirmed by the high occurrence of maternal deaths found in the urban community study; 2) for nulliparous resident women under the age of 30, clandestine abortion is probably one of the main causes of death related to pregnancy (p. 94).

Guinea/Matmortality/Induced/Complication/Sepsis.

40. Unuigbo, J. A.; Oronsaye, A. U.; Orhue, A. A. E. (Department of Obstetrics and Gynaecology, College of Medical Sciences, University of Benin, Benin City, Nigeria). Abortion-Related Morbidity and Mortality

in Benin City, Nigeria: 1973–1985. *International Journal of Gynaecology and Obstetrics*. 1988 Jun; 26(3): 435–439; ISSN: 0020-7292.

This study examines the consequences of illegal abortion in Nigeria. Data for the study were gathered from a case review of maternal deaths at the University of Benin Teaching Hospital, Benin City from its establishment in May 1973 through December 1985. During this period, there was a total of 29 324 deliveries and a total of 165 maternal deaths, giving a maternal mortality ratio (authors used the term rate) of 563 per 100 000 deliveries; 37 (22,4%) of these deaths were due to abortion (i.e., proportionate mortality rate). Of these 37 abortion-related deaths, 32 cases were available for study (five lacked sufficient information) (p. 436). The abortion cases accounted for 26,6% of all gynaecological admissions. During this time, there was a total of 1264 induced abortions, and induced abortion was responsible for 34 (91,2%) of the 37 deaths from abortion; the majority (59,4%) of the fatal abortions had been induced in the second trimester of pregnancy. Almost 60% of deaths from abortion occurred in teenagers. Sepsis (including tetanus), haemorrhage and injuries to vital organs were the major causes of deaths among abortion cases (p. 436). The results revealed that abortion, almost entirely induced, is the second major cause of maternal death (following malignancies) in Benin City (p. 436). To address some of the consequences of induced abortion, the authors advocate: 1) a total revision of the health care delivery system, with particular emphasis on the needs of high-risk groups such as teenagers; 2) incorporating Family Life Education and family planning programmes into the educational system; and 3) universal accessibility to government-subsidised contraception services (p. 438).

Nigeria/Induced/Matmortality/Morbidity/Legal/FP/Sepsis.

41. Urass, E. J. N.; Kilewo, C.; SR. Mtavangu, R.; Mhalu, F. S.; Mbena, E.; Biberfeld, G. (Department of Obstetrics and Gynaecology, Muhimbili University College of Health Sciences, Dar es Salaam, Tanzania//Department of Microbiology/Immunology, Muhimbili University College of Health Sciences, Dar es Salaam, Tanzania//Swedish Bacterial Laboratories, Stockholm, Sweden). The Role of HIV Infection in Pregnancy Wastage in Dar es Salaam, Tanzania. *Journal of Obstetrics and Gynaecology of Eastern and Central Africa*. 1992; 10: 70–72.

This study examines the role of HIV infection in pregnancy wastage. The study compared two distinct groups of women from the same geographical region—women presenting with spontaneous abortion and those presenting for delivery (p. 70). Data were collected in two stages. In the first stage, 400 pregnant women were matched to 186 women presenting with spontaneous abortion (excluding all women who admitted to or were suspected of having a voluntary abortion) by age, parity and marital status. Each woman was interviewed about her obstetric history from the past 4 years; each was given a physical exam; and each had blood drawn to test for HIV seropositivity. In addition, details about birth weight and gestation at delivery were taken from the pregnant mothers upon delivery (pp. 70–71). To evaluate the effect of HIV infection on pregnancy wastage and the prevalence of clinical signs in the infected group, an additional 290 women, comprising 51 abortion patients and 239 pregnant controls, were screened in a similar manner (p. 71). Researchers found that: 1) women presenting with spontaneous abortion had a significantly higher rate of HIV infection than those presenting for antenatal care or delivery (20,7% versus 11,9%, respectively) ( $p=0,05$ ); 2) the infected group had a much higher rate of recent history of foetal wastage (i.e., late abortions, neonatal deaths, premature delivery) than did the non-infected group ( $p < 0,05$ ); and 3) babies of HIV-infected mothers had lower birth weights than did the babies of the non-infected group ( $p < 0,01$ ) (p. 71). The authors point out that these results contradict those from Europe and the United States, where no such adverse pregnancy outcomes have been observed in HIV-infected women. They suggest that future studies account for the immunological state of the women and the physical and other social characteristics that are likely to affect pregnancy outcome (p. 72).

Tanzania/HIV-AIDS/Spontaneous.

42. Yoseph, S. ; Kifle, G. (Department of Obstetrics and Gynaecology, Faculty of Medicine, Addis Ababa University, Addis Ababa, Ethiopia). A Six-Year Review of Maternal Mortality in a Teaching Hospital in Addis Ababa. *Ethiopian Medical Journal*. 1988 Jun; 26(3): 115–119; ISSN: 0014-1755.

This study reviews the causes of maternal mortality in Ethiopia to identify preventable, actionable factors which would reduce the country's maternal mortality rate (p. 115). The Faculty of Medicine of the Department of

Obstetrics and Gynaecology at Addis Ababa University conducted the study in Tikur Anbessa Teaching Hospital, Addis Ababa, between January 1980 and December 1985. The case records of all patients who had died as a result of conditions associated with pregnancy, labour and the puerperium during this period were reviewed (p. 115). Researchers reported 216 maternal deaths and 22 404 live births, giving a rate of 9.6 per 1000 live births (p. 115). Of the 216 deaths, 197 (91.2%) occurred in “unbooked” women, 31 (14.4%) of whom were 20 years of age or less and 155 (71.7%) of whom were between 20 and 34 years of age; 53 (24.5%) were nulliparous, and 84 (38.9%) had 2, 3 or 4 children (abstract, pp. 115–117). Direct causes of death included complications of abortion (22.2%), puerperal sepsis (16.7%), ruptured uterus (13.4%), postpartum haemorrhage (6.5%), eclampsia (5.5%), antepartum haemorrhage (2.8%) and ectopic pregnancy (1.9%). Of the indirect causes, infectious hepatitis accounted for 13.4%, relapsing fever for 2.3%, intestinal obstruction for 2.3%, malaria for 1.9% and other causes for 11.1% (abstract, p. 115). The authors conclude that maternal mortality in Ethiopia is exceptionally high and that the group at highest risk is aged 20–29 years (almost half of the deaths occurred in this age group) (p. 119). They argue that the death rate is high because of poor or inadequate antenatal and postnatal care, poor transportation and communication systems and poor socioeconomic conditions. To help lower maternal mortality, the authors suggest: building more hospitals with maternity wards; improving home-delivery systems; training increased numbers of medical personnel; improving transportation and communication lines; increasing blood supplies; and increasing accessibility to contraceptive services (p. 119).

Ethiopia/Matmort/Complication.

## GREY LITERATURE

1. Acuda, S. W. Abortion: The Stress of Unwanted Pregnancy. *Medicus* 1983; 2(5): 12.\*

On realising that she has an unplanned and unwanted pregnancy, a woman may have various forms of stress which may in some cases culminate in psychotic disorders. The reaction may be aggravated by social factors such as marital status, occupation or future aspirations. Many of the symptoms may disappear once the pregnancy is terminated. Follow-up studies have shown that 90% of such women return to a normal condition within a few days or weeks after the termination. A few other women go through episodes of depression associated with guilt feelings of regret about the termination. A small proportion, especially those with personality disorders, show no change in their emotional state even after the termination. Individual counselling prior to and after termination, together with provision of supportive therapy and mobilisation of social or family support, which is very effective in removing stress, are recommended. With these measures some women may opt to carry the pregnancy to term as if the pregnancy were wanted and planned for.

Kenya/Induced/Counselling/Clinical.

2. Addis Ababa University. Illegal Abortion at Five Hospitals in the City of Addis Ababa. Addis Ababa: 1993.

**Note:** Funded by the University of Addis Ababa.

This is a summary of a research study carried out to determine the sort of person who terminates unwanted pregnancies, methods used in inducing abortion and the number of abortions attempted. The results were based on interviews with abortion patients and documentation of information on the patients from hospital records. The study was undertaken over a 6-month period, in five hospitals around Addis Ababa. Interviews were conducted by experienced nurses who were trained in how to conduct interviews between July 16 and 25, 1990. Analysis indicated that 2275 abortion cases were treated and out of those, 56.7% of the respondents admitted having interfered with the pregnancy. Reasons for terminating the pregnancy varied. Over a quarter (26%) cited the desire not to have a child, 14.2% said their partner did not want a child and 13% aborted because they did not want more children. Only 2.7% did so because their partners did not want more children. Approximately nine percent sought abortion because they were students. Unqualified personnel, including health assistants (35.2%), self (28.4%) and anonymous (23.7%), terminated most of the pregnancies under unhygienic conditions. Sixty percent were carried out at the abortion providers' home and 35% at the patients' home. Only 3.8% of the abortions were terminated by gynaecologists, nurses or a midwife. Of the total, 1.8% of abortions

were terminated in hospitals. Methods used by patients themselves were dangerous with 32,1% of the patients using plastic tubes, 32,3% using metallic rods and 1,5% using tree twigs. Out of the total, two thirds (67,4%) of the patients had attempted abortion once, 25% had attempted twice and one patient had attempted seven times. Nine hundred out of 100 000 pregnant women in Ethiopia routinely die as a result of complications of pregnancy and child birth. Thus there is need to increase the prevalence of contraceptive use through imaginative and attractive family planning activities and also the need to introduce Family Life Education in all schools.

Ethiopia/Incidence/Contraception/Matmortality.

3. Asser, I. (Department of Obstetrics and Gynaecology, Muhimbili University College of Health Sciences, Dar es Salaam, Tanzania). *Family Planning Issues in Abortion Care*. Dar es Salaam: 1993. 4 pages.

This article makes a case for the necessity of post-abortion family planning at Muhimbili, the University Teaching Hospital in Dar es Salaam, Tanzania. The author states that abortion-related conditions account for 50–70% of all gynaecological admissions in Dar es Salaam, with 30–60% of these being induced abortions (p. 1). Post-abortion family planning usually is not provided at this hospital because of the heavy patient load (i.e., 200% occupancy in Muhimbili's two gynaecological wards), administrative or logistical restrictions on its provision (the Family Planning Clinic at Muhimbili only operates on Mondays) and a lack of knowledge and experience regarding how to deliver these services (p. 2). The author suggests training the entire gynaecologic ward staff in basic family planning information and services, training the non-family planning nurses in counselling techniques with a special emphasis on post-abortion methods and training dedicated midwife counsellors to administer information and contraceptive methods (p. 4). The author hopes that these suggestions will be implemented in hospitals throughout Dar es Salaam and will decrease the incidence of repeat abortion.

Tanzania/PAFP/Access/Policy/Counselling.

4. Ayangade, O. (Department of Obstetrics, Gynaecology and Perinatology, University of Ife, Ife, Nigeria). *Patterns of Voluntary Interruption of Pregnancy in Nigeria*. 17 pages.

The purpose of this study was to examine voluntary interruption of pregnancy in relation to the attitudes, knowledge and practise of family planning in a medium-sized, urban traditional setting (p. 1). Data were collected from three sources: hospital admission records of induced abortion cases, questionnaires administered to 250 undergraduate women and a field survey of 4800 women between the ages of 15 and 44 years (p. 2). Admission records were reviewed for all abortion cases inclusive of those with complications during the period January 1978 through December 1981; data were collected on age, marital status, parity, education, prior knowledge and practise of contraception and number of previous terminations. Results from a KAP survey from 1979–1980 were used to represent the general population's attitudes about induced abortion and family planning. A random sample of women who had an induced abortion were administered a follow-up questionnaire to determine their level of contraceptive practise since discharge from the hospital (p. 2). The results of the review of hospital records showed that induced abortion accounted for 11% of all abortions and 8,9% of all gynaecological admissions during the period of study (p. 2). Teenagers (age not defined) constituted 41% of the abortion cases (p. 2). Ninety-five percent of the patients had good knowledge of family planning, but only 15% used effective methods (p. 2). The average duration of hospitalisation was 8,9 days (p. 3). The follow-up study found that most women who had previously aborted (92%) were using contraception to prevent becoming pregnant again (p. 3). The survey of undergraduates found that 25% had terminated a pregnancy in the preceding 2 years; and of this group, only 50% were currently using any contraception (p. 4). The population survey found that those women seeking induced abortion were older, married and had an average of 1,4 surviving children. The author concludes that abortion is women's first option for contraception, and that this experience compels women to start using more traditional forms of contraception (p. 7).

Nigeria/Induced/KAP/Adolescents/PAFP.

5. Bleek, W. Did the Akan Resort to Abortion in Pre-Colonial Ghana? Some Conjectures. *Africa*. 1990; 60(1):121–131. PIP 063043.

The question of abortion practise in pre-colonial Ghana is the central topic of this work. The author performed exhaustive field work and data analysis. The study involved interviews of women in a rural village as well as a control group consisting of men and women. Currently the women living in the region in question commonly abort in an attempt to control their fertility; thus it is assumed that the practise has gone on for a long time. The author points out, however, three reasons why this is not necessarily the case: the circumstances that now provoke women to have abortions did not manifest themselves in the pre-colonial era; the cultural and economic situation of pre-colonial women was such that abortion would not have made sense; and reliable field work failed to disclose any significant occurrence of pre-colonial abortion. The author questions the reliability of a male researcher interviewing male informers about the past practises of women. It is possible that pre-colonial women performed abortions without their husbands' knowledge although the author feels that this is unlikely because there are no indications of any knowledge of this practise. If abortion occurred in pre-colonial Ghana it would have occurred only in circumstances where pregnancy would have led to shame or hardship for woman, e.g., adultery or pre-puberty rite pregnancies.

Ghana/KAP/Abortion.

6. Bleek, W.; Asante-Darko, N. K. Illegal Abortion In Southern Ghana: Methods, Motives and Consequences. *Human Organization*. 1986 Winter; 45(4): 333–344. PIP 041750.

This paper provides information on various aspects of illegally induced abortion among the Akan in Southern Ghana. It discusses the frequency of abortion, the techniques used, the social, medical and juridical circumstances in which abortion takes place and medical, juridical and educational consequences. The most important conclusion is that the restrictiveness of the Ghanaian legislation has not been able to prevent or limit the incidence of abortion. Rather, outlawing abortion has led to the use of unsafe means of terminating a pregnancy (particularly among younger women).

Ghana/Legal.

7. Bongwele O; Nichols D; Miatudila M; Whatley A; Burton N; Janowitz B (Comité National des Naissances Désirables, Kinshasa, République du Zaïre//Family Health International, Research Triangle Park, North Carolina, USA//Comité National des Naissances Désirables, Kinshasa, République du Zaïre//Family Health International, Research Triangle Park, North Carolina, USA//Family Health International, Research Triangle Park, North Carolina, USA). Determinants and Consequences of Pregnancy Waste in Zaïre: A Study of Patients with Complications Requiring Hospital Treatment in Kinshasa, Matadi and Bukavu. 1986 Feb; 37 pages.

**Note:** Funding provided by the Office of Population, United States Agency for International Development (Grant AID/pha-G–1198).

This study documents the determinants and consequences of abortion (induced and spontaneous) in Zaïre. The authors' goal was to impress upon policymakers in Zaïre the critical importance of making contraceptive services available to all sectors of the population to reduce the incidence and costs of illegal abortions (p. 1). The study, which took place from November 1982 through March 1984, was conducted in 10 centres located in three regions of Zaïre (four in Kinshasa, four in Matadi and two in Bukavu) (pp. 1–2). Study questionnaires were used to record admissions of abortion patients (both induced and spontaneous) and their histories, including contraceptive use and medical treatment. In addition, the researchers administered a questionnaire to service providers concerning their attitudes toward the use of family planning and their patient care practises (p. 3). A total of 2465 women were admitted for treatment of abortion complications to the 10 centres participating during the study period—79% from Kinshasa, 11% from Matadi and 10% from Bukavu (p. 4). Of these, 617 (25%) of the cases were diagnosed as having been illegally induced and 1848 (75%) were spontaneous abortions (p. 4). Researchers found the following: among abortion patients aged 18 years or less, nearly 60% were treated for complications of induced abortion (p. 5); use of contraceptive methods was low

for the entire study population (18,9% in the induced group, 8,3% in the spontaneous group); women in the two groups not using contraception did so for very different reasons (induced group—did not know about family planning; spontaneous group—wanted pregnancy) (p. 7); of the 617 women admitted for complications of an induced abortion, nearly two thirds (62%) said the procedure was initiated by a person who had some medical training (p. 8); over half (57%) of the induced group were diagnosed as having infection, fever, lesions or haemorrhage requiring medical treatment (p. 9); 13 of the women admitted with complications following induced abortion died while in the hospital, giving a death-to-case rate of 21 per 1000 (p. 12); and the patients who died were young and unmarried (p. 12). The complications resulting from illegally induced abortion and the use of scarce hospital resources to treat patients with complications clearly demonstrate the consequences of inadequate knowledge, distribution and use of modern contraceptive methods in Zaire (p. 14). The authors suggest educating women about contraception and the risks of unwanted pregnancy and sexually transmitted diseases through Family Life Education courses and media campaigns (p. 17).

Zaire/Induced/Spontaneous/Complication/Contraception/ProvPers.

8. Country paper on The Gambia by a Family Planning Association representative. Abortion in the Gambia. 1994.

**Note:** Presented at the Conference on Unsafe Abortion and Post Abortion Family Planning in Africa, Mauritius, March 24-28, 1994.

The legal status of abortion in The Gambia is ambiguous. The country has not yet developed its own legislation pertaining to abortion, thus theoretically it is bound to the English Offences Against the Person Act of 1961. As an Anglophone African country, however, Sections 198 and 199 of the Penal Code that permit abortion when necessary to save the life of the mother also apply. As a mostly (95%) Moslem country, the Koran is referred to in cases which come before Moslem courts. The cost of a private clinic abortion in The Gambia ranges from US \$50–100; at a government hospital the cost is about \$12. Thus, the majority of abortions are performed by lay people in nonmedical settings. In periurban areas, many illegal abortions are performed by midwives and male nurse technicians, especially theatre staff. Given the high incidence of clandestine abortion, it is not possible to estimate the number of procedures performed each year. However, official records indicate that 1635 induced abortions were performed in government hospitals in 1989. Although Family Life Education is taught in many middle schools, adolescents from urban and peri-urban areas are believed to compose the largest group of abortion seekers (over 50% in private clinics). Thus it is recommended that this age group be targeted for interventions aimed at reducing the need for unsafe abortion, including greater access to contraception, intensified sex education campaigns and financial aid to enable teenagers to access hospitals for their termination.

Gambia/Induced/FP/Legal.

9. DeClerque, J. (IPAS, Carrboro, North Carolina, USA). Unsafe Abortion Practices in Sub-Saharan Africa and Latin America: A Call to Policy Makers.

**Note:** Presented at Association for Women in Development (AWID) 1989 Conference: Cultural Empowerment, 17–19 November 1989; Washington, D.C. 11 pages.

The focus of the 1989 AWID conference was cultural empowerment. The topic of the panel of which this presentation was a part was culture, public policy and reproductive health. The purpose of the presentation was to inform policymakers about existing indigenous fertility regulation practises and costly consequences of these practises to both the women and health ministries (p. 2). Emphasis was on the problem of unsafe abortion and how different policies and their interpretations influence access to services (p. 4). The author argues that even with legalisation of abortion or the liberalisation of existing laws, induced abortion remains a serious health problem to women of the developing world. Several general policy suggestions are made including: the importance of going beyond legalisation of abortion to improving safe access; the need for an increased supply of trained health personnel who are supportive of providing safe abortion services; the need for adequate facilities and improved technologies, such as MVA; and the need to improve the social climate and thus the accessibility of these services (pp. 10–11).

10. Editorial. *Medicus*. 1983; 2(5): 1.\*

The author states that despite the fact that abortion is illegal in Kenya, it is one of the most common operations performed—often under a different procedure classification—in hospitals. For example, at Kenyatta National Hospital, abortion constitutes 60% of all gynaecological admissions. One to three of every 1000 women who have had an illegally induced abortion die and a significant number suffer long-term sequelae such as infertility. The cost to hospitals and thus the nation as a whole of treating these women is substantial. The author comments on the idea of legalising abortion, especially in light of already stretched hospital services and resources. The author concludes that increased utilisation of family planning services may reduce the incidence of induced abortions.

Kenya/Abortion/Legal.

11. Ekwempu, C. C.; Giwa-Osagie, O. F.; Ogedengbe, O. K. Clinical Treatment Needs and Family Planning Use Among Women Treated for Incomplete Abortion in Teaching Hospitals in Nigeria. 9 pages.

**Note:** Presented at 1991 Annual Conference of the Society of Obstetrics and Gynaecology of Nigeria (SOGON), September 5–7, 1991; Lagos, Nigeria.

The purpose of this study was to document service delivery needs related to using manual vacuum aspiration (MVA) for treating incomplete abortion and to discuss issues surrounding provision of post-abortion family planning (p. 1). This study was carried out at four Nigerian hospitals (Ahmadu Bello University Teaching Hospital [ABUTH], Lagos University Teaching Hospital School of Clinical Science [LUTH], University of Port Harcourt College of Health Sciences [UPHTH] and University of Nigeria Enugu Campus College of Medicine [UNTH-E]) over varying periods of time between March 1989 and August 1990 (p. 1). During the study period, MVA was used to manage 888 obstetric and gynaecological procedures, but the presentation only covered the results of the 366 patients treated for incomplete abortion (175 at ABUTH, 119 at LUTH, 43 at UPHTH and 29 at UNTH-E) (p. 1). Data were collected only on half the cases treated for incomplete abortion; thus the authors urge that their results should only be viewed as descriptive (p. 2). The study results were grouped into three major topic areas: socio-demographic characteristics of the women treated; clinical requirements for the use of MVA; and the patients' family planning use prior to and acceptance after the MVA procedure. The socio-demographic results showed the following: 86% of the women were married, 14% were single; 12% were 10–19 years old, 49% were 20–29 and 39% were 30 or older; and 34% had no education, 13% had 1–6 years of education, 28% had 7–12 years of education and 25% had 13 or more years of education (p. 3). The clinical results were as follows: 35% of all cases showed evidence of attempted induced abortion, with younger women and those with the fewest previous pregnancies more likely than others to have tried to induce the abortion (p. 3); 90% of the MVA procedures were performed on an outpatient basis with only 18% receiving any type of pain control (p. 4); there were only 10 (2.7%) procedural complications and no deaths were reported (p. 5); and all types of practitioners performed MVA with equal safety (p. 3). The family planning results demonstrated that: 16% of women treated for incomplete abortion were using a family planning method in the month prior to their last menstrual period; 30% accepted a modern family planning method after the MVA procedure; and 68% of the MVA patients received family planning counselling. Of those, 39% accepted a method, while only 8% of the women who were not counselled accepted a method (p. 6). The authors conclude that MVA is a simple technique for treating incomplete abortion through 12 weeks uterine size (p. 7). They suggest that, given the safety of the procedure across all types of practitioners, non-specialists should be trained in order to facilitate the decentralisation of abortion care (p. 8). They also suggest that, given the positive influence of post-abortion family planning counselling on acceptance rates, counselling and contraceptive methods should be incorporated into the normal management of abortion patients (p. 8).

Nigeria/MVA/Age/Parity/MS/Educ/Complication/ProvStatus/Counselling/PAFP.

12. Ennaifer, R. Tunisia's Abortion Law; Risks and Benefits. *People*. 1988; 15(3): 12. PIP 050431.

Tunisia has the most liberal abortion law of all Arab countries, permitting abortion on demand since 1973. Tunisia legalised abortion for medical reasons in 1966. In 1987, 11 542 women had an abortion making this the third most popular means of preventing births, after the IUD and the pill. The abortion rate in Tunisia is 22,5/1000 women aged 15–49. In Tunis, abortion typically is used in cases of failed contraception—usually associated with an inefficient method or inconsistent method use. Most women who have an abortion in the country go on to adopt a more effective contraceptive method. Increased medical risks, especially for women having repeat abortions, include ectopic pregnancy, premature rupture of membranes, bleeding in third trimester and premature delivery. On the other hand, hospitalisation for complications of illegal abortion is unknown, compared to a rate of 25% in 1956 of all hospital beds. As a consequence, maternal mortality has fallen proportionally.

Tunisia/Complication/Educ/Matmort/Legal/FP.

13. Maternal and Child Health, Family Planning and Abortion in Madagascar. 1994. 5 pages.

**Note:** Presented at the Conference on Unsafe Abortion and Post Abortion Family Planning in Africa, Mauritius, March 24-28, 1994.

Although therapeutic abortion is legal in Madagascar, three physicians must certify that the procedure is necessary to save the life of the mother. For other circumstances, the repercussions for providers who perform abortions are severe: 5 years imprisonment and a stiff fine, 10 years imprisonment and an even larger fine if it is established that the individual is a habitual provider and possible withdrawal of one's license to practise. For women who undergo an illegal abortion, the penal code specifies 6–24 months imprisonment and a fine. Despite these sanctions, illegal abortion is widespread. Department of Health and Population statistics for 1988 indicate that 8934 women presented to hospitals in Madagascar for treatment of complications related to clandestine abortions; 166 of these women died. This statistic understates the extent of the problem as procedures performed, without complications, by traditional doctors, midwives and paramedics are not recorded. A Ministry of Health survey conducted in Malagasy identified the following age-specific abortion rates: 15–19 years, 18/1000 women; 20–24 years, 80/1000 women; 25–29 years, 136/1000 women; 30–34 years, 171/1000 women; 35–39 years, 162/1000 women; 40–44 years, 141/1000 women and 45-49 years, 102/1000 women. Another survey conducted in Malagasy found that 38% of women of reproductive age (45% of those 25–34 years of age) would pursue illegal abortion in the event of an unwanted pregnancy. Forty-four percent of couples in urban areas and 55% of those in rural Madagascar have already exceeded their desired family size, but only 17% overall use a contraceptive method (5% use a modern method). Given the government's intransigence on easing restrictions on abortion, there is an urgent need to increase knowledge of and access to reliable contraceptive methods. At present, there are only 166 family planning service delivery sites in a country with a population of 12 million.

Madagascar/KAP/Contraception/Access/Incidence/Policy.

14. Fawcus, S. R.; Mbizvo, M.; Lindmark, G.; Nystrom, L. Contribution of Septic Abortion and Unwanted Pregnancy to Maternal Mortality in Rural and Urban Zimbabwe. South Africa; 1994 Jun.

The objective of the investigation was to determine the contribution of induced abortion to maternal deaths through a community-based incident case-referent study in rural and urban settings in Zimbabwe. A questionnaire was administered and case notes studied at village, primary and referral health care levels. Thirty abortion-related maternal deaths were identified (24,7 and 10,1 per 100 000 live births in the rural and urban settings, respectively); abortion was the second leading cause of maternal mortality in both areas. Further, four women committed suicide due to unwanted pregnancy. The majority of the women were single and often self-supporting. Often, there was a delay in seeking care following the induced abortion, resulting in women presenting with advanced sepsis. Unwanted pregnancy was reported by 47% and 37% of abortion cases and referents, respectively. Accessible family planning services (including for women not formally married) and

allowing the use of the formal health care system for legal termination of pregnancy are the most important measures recommended to prevent deaths due to unsafe abortions.

Zimbabwe/Abortion/Induced/Matmort/FP.

15. Ferguson, A. D. School Girl Pregnancy in Kenya. Ministry of Health, Division of Family Health, GTZ Support Unit: Nairobi; 1988.

The author reports that an average of 8000 to 10 000 girls dropped out of school every year for the year(s) studied due to pregnancy. The drop-out rates were higher in urban than rural schools. Half of the conceptions leading to pregnancy-related drop-out occurred during school holidays. Only 40,0% of the girls cited the man who was responsible for the pregnancy. Of these, 23,0% were age-mates, 12,0% were people much older than themselves, while 5,0% were their teachers. Of the 237 reportedly confirmed school girl pregnancies in 1987, only 9 (3,8%) were known by the teachers to have been terminated. There were slightly more abortions in urban than rural areas, and the girls who had terminated their pregnancies tended to be older. These differences suggest easier access to abortion services among older girls and those living in urban areas. The author concludes by recommending contraceptives for sexually active girls.

Kenya/Educ/Contraception.

16. Gambia Family Planning Association; Family Health International; The Pathfinder Fund. (Final Report). Reproductive Health Survey of Young Adults in Greater Banjul, The Gambia. Taylor-Thomas, J. T. (ed.) Kanifing, The Gambia; 1988 Dec. 94 pages.

**Note:** Financial support provided by the Office of Population, United States Agency for International Development (Cooperative Agreement AID/DPE-0537-A-00-4047-00) to Family Health International, and by a grant to the Gambia Family Planning Association from the Pathfinder Fund.

The purpose of this study was to provide data to the Greater Family Planning Association (GFPA) of the Gambia to enable it to develop, evaluate and improve programmes targeted to meet the reproductive health and family planning needs of young adults in the greater Banjul region (p. 3). The predominantly urban study population was composed of 1687 married and unmarried females and 834 unmarried males age 14 to 24 years old. The fieldwork was carried out from November 1986 through February 1987, using a two-stage stratified probability sample that was self-weighting (the probability of selection of the primary sampling units was proportionate to the population size of that enumeration area) (p.6). Information was obtained on respondents' attitudes toward dating, age of marriage, premarital sex, pregnancy, abortion, contraceptive use, sexual behaviour, pregnancy history, coital frequency and experience with sexually transmitted disease (STDs) (p. iii). Salient results regarding abortion include: two thirds of currently married and never married females (69% and 64%, respectively) and over three fourths (76%) of the males thought that having an abortion was acceptable under certain circumstances (i.e., if the pregnancy was life-threatening, if the women was still in school and if the only alternative was abandonment) (p. 22); for seven out of eight scenarios, males were more accepting of abortion than females (p. 22); and 17% of ever-pregnant women reported having had an abortion or miscarriage (p. 30). The number of abortions and miscarriages is probably an underestimate, however, because of undetected early miscarriages and respondents' reluctance to report an illegal abortion (p. 31). Researchers reached several conclusions: 1) there is a general lack of knowledge surrounding family planning, STDs and other reproductive health issues among the survey population; 2) contraception was often difficult for adolescents to obtain (p. 45); and 3) unplanned pregnancies are quite common (p. 46). Major recommendations of the project include: 1) improving information, education and communication of family planning issues to young people; and 2) improving the availability and accessibility of services (pp. 45–49).

Gambia/Adolescents/FP/Induced/Spontaneous/STD/Evaluation.

17. Hirsch, J. S.; Barker, G. (Center for Population Options//International Center on Adolescent Fertility). *Adolescents and Unsafe Abortion in Developing Countries: A Preventable Tragedy*. Based upon Proceedings of the International Forum on Adolescent Fertility, September 1990; Arlington, Virginia. 1992 Mar; 68 pages.

**Note:** Funding provided by IPAS, International Women's Health Coalition and the Population Crisis Committee.

The purpose of the International Forum on Adolescent Fertility was to bring together an international group of experts to discuss adolescent fertility in developing countries. The meeting was held in Arlington, Virginia in September 1990. Sixty-eight experts from North, South and Central America, Africa and Europe participated. These professionals represented various disciplines including the legal and public health fields. In exploring the topic of adolescent fertility, the Forum focused on past policies, progress and future actions on three specific themes: 1) adolescent reproductive health rights in the developing world; 2) adolescent fertility in sub-Saharan Africa; and 3) funding adolescent fertility programmes in developing countries (p. 1). Recommendations by the Forum participants included: 1) improving access to reproductive health services and information for young people; 2) creating a climate conducive to adolescent family planning use; 3) conducting additional research on adolescent reproductive health issues, including abortion; 4) using existing legal avenues to expand adolescent access to contraception and abortion while pressing for better laws; 5) training physicians and traditional medical personnel regarding abortion and the treatment of abortion complications; and 6) involving broad sectors of society to forge coalitions on behalf of adolescent reproductive health (pp. 4-5). The authors feel that these measures are urgently needed to give women the freedom to make decisions about themselves, enabling them to take advantage of the additional educational and career opportunities that are becoming available to them. The proceedings include a useful annotated bibliography of articles on adolescents and abortion, broken down by country.

Cameroon/Ghana/Kenya/Mali/Nigeria/SierraLeone/Zaire/Zambia/Adolescents/Access/Induced/FP/PAFP/KAP/Costs/Policy/Legal/Bibliography.

18. Hyhazi, V.Y.; Diallo, M.S. *Illegal or Unsafe Abortion in Guinea*. Conakre, Guinea: 1994.

**Note:** Presented at the Conference on Unsafe Abortion and Post Abortion Family Planning in Africa, Mauritius, March 24-28, 1994.

The presentation was based on two hospital surveys. The first study carried out between January 1 and December 31, 1992, involved 83 patients with complications arising from illegal abortions at Ignace Dean Medical Training Centre (CHU). During the study period, 2649 patients were admitted for obstetric services at Ignace Dean Medical Training Centre (CHU). Analysis of the results indicated that abortion-related cases constituted 3,13% of all gynaecological admissions. Adolescents made up 37,35% of the abortion cases. The main complications were infection (50%), haemorrhage (37,4%) and medical poisoning (12,4%). Ten of the 83 patients died; the most frequent causes of death were infection and haemorrhage. Reasons patients gave for having an abortion included: having a child out of wedlock, being in school and contraceptive failure. The second study, a retrospective one, covered the period 1990 to 1993. It involved 94 patients with complications associated with illegal abortion who were admitted for treatment at the Gynaecology/Obstetric section of Dona University Teaching Hospital (CHI). During that period, 2740 patients were admitted to the obstetric section. Analysis of the results indicated that abortion-related admissions were 3,4% of the total gynaecology admissions. Adolescents constituted 32% of the study sample. Eighty-three percent of the adolescents were single women while 40% were school girls. The main methods used to obtain an abortion were instruments (66%) and medicines (26%). Half the patients suffered from haemorrhage and 37% from infection. The death rate was 20%, mainly resulting from infection (50%) and toxic shock (33,3%). The two studies indicated that single women and school girls are most affected by abortion. The study recommends the incorporation of Family Life Education in the school curriculum, improvement in access to family planning for adolescents, establishment of structures for re-admission of girls who quit school due to pregnancy and the legalisation of abortion.

Guinea/Induced/Complication/Sepsis/Adolescents.

19. International Fertility Research Program (IFRP). Patients Admitted for Pregnancy Wastage at Princess Christian Hospital, Freetown, Sierra Leone; Center 415, Study 146. Prepared for Dr. D. Jarrett. Research Triangle Park, North Carolina; 1982 Oct. 16 pages.

**Note:** Funding provided by IFRP.

This report presents the results of an analysis of data gathered using a Hospital Abortion Record Summary at the Princess Christian Hospital in Freetown, Sierra Leone. Data were collected on 804 women who were admitted to the hospital for treatment of abortion complications during the 12-month period from November 1980 through October 1981 (p. 1). The report describes some of the major socio-demographic characteristics of the patients experiencing pregnancy loss in the hospital, some aspects related to the treatment and complications of abortions and the contraceptive practises of these patients (p. 1). The majority of the women were between the ages of 20 and 34 and one third of the women had previously had an abortion, either spontaneous or induced (p. 6). Induced abortion was conducted in the hospital on 57% of the cases; 41% were treated for spontaneous abortion and 2% were reported as having abortions that had been induced outside of the hospital. Sharp curettage was used to treat almost all (93%) of the patients (p. 2), and general anaesthesia was administered to most (90%) of the patients (p. 3). Ninety-six percent were discharged with no complications, and no serious complications were noted (though 3% were septic and there were two unconfirmed deaths) (p. 6). In the month of conception, 77% of the women were not using contraception (p. 6). Following treatment, patients were counselled and 48% were given contraception at the time of discharge. A follow-up study was done 2–4 weeks later on the majority of women (596 women, or 74%) (p. 4). Sixty-nine percent of these women reported using some method of contraception at follow-up (95% of the women who had been prescribed a method and an additional 25% of the women who had not been prescribed a method at discharge) (p. 5).

Sierra Leone/Induced/Curettage/PAFP.

20. Johnston, T. (UNFPA Nairobi). Institutional Pregnancy: Kenyatta University: A Case Study of “Mythconceptions.” Monograph Series. 1991; 12: 101–142.

The purpose of this study was to test some of the conventional wisdom about institutional adolescent fertility (e.g., student pregnancy rates are so high because students, especially those coming from single-sex schools, lack self-discipline; student health clinics are not patronised or properly funded) (p. 102). The study also was designed to produce baseline data for assessing the effectiveness of university-based fertility management education programmes and clinic services (p. 102). The study was conducted at Kenyatta University (primarily at the Health Services) in 1991, covering data from July 1988 to July 1991. The following data sources were used: records concerning student enrolment by year, sex and faculty; medical records from the Health Services; exemption letters from the Academic Dean, allowing pregnant women to continue their studies; records from various, mostly Nairobi-based, hospitals reporting menstrual regulation, abortion and treatment of incomplete abortion among pregnant students from Kenyatta University; and data from unpublished reports on the incidence of pregnancy (pp. 102–104). This case study found that institutional pregnancy rates (i.e., women who get pregnant while attending the university) at Kenyatta University fell dramatically during the study period because of: negative values associated with institutional pregnancy and positive values in favour of responsible fertility management; greater supply, distribution and use of scientific methods of contraception; and the emergence of fertility management providers in the area surrounding Kenyatta University, offering menstrual regulation and termination of pregnancy services at a low cost within a medical setting which is known by and accessible to university students (p. 134). Although hospital-based terminations of pregnancy increased, the number of women presenting with an incomplete abortion significantly decreased. The authors suggest that, as university women become aware of safe, low-cost termination services, they resort much less to dangerous self-abortion techniques (p. 115). The researchers also found that: there is no evidence that women drop out of school following institutional pregnancy; there is no relation between pregnancy rates and faculty enrolment (area of study); there is no relation between coming from a single-sex school and pregnancy rates, although rural secondary school girls were at slightly higher risk of pregnancy than their urban counterparts; and there is no evidence that first-year students are more likely to get pregnant than older students (in fact, second-year students were more likely to get pregnant) (pp. 134–136). They also discovered that pregnancy rates seemed to be rising again slightly (they suggest because of the admission of younger students) and that conception rates increase during vacations, during the period immediately preceding examinations

(when students study together) and in the months student financial aid payments are made (pp. 136). They suggest that these results can have widespread implications for university pregnancy rates if university programmes focus on the following: better on-campus health and family planning information and services; better education of students about the on-campus and off-campus risk environments (e.g., vacation, before exams); better education about modern contraceptive use; reinforcement of the present positive fertility attitudes; better information about the off-campus health services network (e.g., hospitals) to reduce the incidence of self-induced abortion; time management classes for all students; and education for institutional health providers and administrative staff to teach them how to better deal with this problem (p. 137).

Kenya/Adolescents/Educ/Incidence/Unwanted/KAP/FP/Access.

21. Katzenellenbogen, J.; Fawcus, J.; Mezzabottam, S.; Schoonbee, J. The Profile of Women Presenting at Groote Schuur Hospital with Incomplete Abortion.

**Note:** Presented at the 1st Reproductive Health Priorities Conference. 1994 Jun 21: South Africa.

This hospital-based study describes the demographic, obstetric and medical profile of women presenting at Groote Schuur Hospital with incomplete abortion. The first 100 consecutive cases of incomplete abortion admitted to the gynaecology emergency ward in March 1993 were included in the study. Data collection was retrospective, with information being collected from hospital files and transferred onto data capture sheets. Key results included the following: the women's ages ranged from 16 to 44 years (mean of 28,2 years); 53% of the women were African and 46% were married; 40% of the women aborted in their second trimester of pregnancy; 67% of the patients stayed in hospital for less than 24 hours and 37% had one or more indicators of morbidity. African women had significantly more indicators of morbidity than Colored women. Likewise, African women had longer periods of hospital stay. The data collected could not adequately differentiate between spontaneous and induced abortion. Longer hospital stays and the presence of indicators of morbidity, however, indicate that 25–35% may have been induced.

22. Kigundu, J. G. Adolescent Fertility. Proceedings of a Workshop held at Kwale, Coast Province, Kenya, K.O. Rogo, ed. Kwale, Kenya: 1986.\*

The author states that most abortions among adolescents are due to fear of shame and missing out on future life opportunities (e.g., education, marriage, good jobs, etc.). Of deaths due to abortion at the Kenyatta National Hospital for the years 1973–1983, 67,4% were of females aged 25 years or less—78,9% of whom had interfered with their pregnancy; 24,2% were aged 19 years or less—of whom 95,7% had an induced abortion. The author stresses the need for preventing unwanted pregnancy and resulting abortions by providing Family Life Education and reconsidering the existing laws on abortion in Kenya.

Kenya/Adolescents/Contraception/Legal.

23. Kinoti, S.N.; Mpanju-Shumbusho, W.; Mati, J.K.G. Policy Implications of Reproductive Health Research Findings in East, Central and Southern Africa: Summarized Outline Results. 1993.

**Note:** Funding by the Rockefeller Foundation.

The research findings reported in this book are from two studies. One was a study on risk factors associated with maternal mortality undertaken in four countries, and the other study, in five countries, was on patterns of contraceptive use and the health of women. Abortion-related conclusions include the following: abortion was reported more frequently among urban rather than rural dwellers, married rather than single women, among women aged 20–24 years rather than teenagers or older women and among non-users of contraceptives. Abortion in these studies contributed to about 30% of all maternal deaths. The authors recommend promotion and provision of contraception to special groups of women as a preventive measure against unwanted pregnancy at the individual level (e.g., adolescents; single women not desiring to be pregnant; and married

women who want to space their children and limit their fertility). They further recommend legal provisions to ensure abortion where it is necessary or inevitable for a woman. The recommendations were adopted by the Conference of Regional Health Ministers for use in developing action plans to improve reproductive health in the region.

ECSA/Contraception/ContrPrev/FP/Matmort/Policy.

24. Kirumira, E.; Katahoire, A.; Aboda, A. *Sexual and Reproductive Health in Uganda*. Child Health and Development Centre, Makerere University; 1993 Oct.

**Note:** Funding provided by The World Bank, Swedish International Development Agency.

This report summarises the findings on the health and social problems of women in Uganda, in particular those related to their sexual and reproductive roles, with the aim of providing a basis for forming national strategy for improving women's sexual and reproductive health. The findings are based on the review of reports, articles and unpublished documents from government ministries, NGOs and other institutions. Interviews with key people at district health facilities and community levels were conducted in Kampala, Gulu, Mbale and Mbarara Districts. The report notes that, although abortion laws are restrictive and induced abortion is illegal, one in five pregnancies in Kampala ends up in either an induced or spontaneous abortion. In five Kampala hospitals, maternal mortality rose from 265 per 100 000 live births in 1980 to 480 in 1986. Of those deaths, 53 (20%) in 1980 and 89 (18,54%) in 1986 were abortion-related. The main cause of deaths were sepsis (41,3%) and haemorrhage (12,6%). Of the 1991 patients admitted to emergency gynaecological wards in Kampala in 1986, 59% were abortion-related, 25,3% of whom admitted to having an illegal abortion. Abortion in the country seems to be mainly a problem of adolescents (80% of the abortion patients handled at Mulago hospital between 1983 and 1987 were less than 20 years old), single women and the unemployed. Sepsis, severe haemorrhage and maternal deaths accounted for 40,4%, 17,5% and 3,0% of the complications associated with abortion, respectively. Although contraceptive awareness was high (84%) and most (70%) of the Ugandan women had a favorable attitude towards their use, the contraceptive prevalence rate was only 5,5%. Of the users, according to a 1988–89 survey, 18,5% were aged between 15 and 18 years. Methods commonly used were: the pill (49%), IUCDs (25%) and injectables (21%). The reasons given for not using contraceptives were: religion, poor accessibility, husband disapproval, inconvenience in using and infrequent sex. The report concludes by calling for urgent attention to what the authors term an unacknowledged problem.

Uganda/Contraception/Induced/Sepsis/Religion.

25. Leke, J. I. R. (Department of Obstetrics and Gynaecology, Université de Yaounde, Cameroon). *Access to Health Services in Rural Areas: The Cameroon Experience*. 13 pages.

**Note:** Funding provided by the International Women's Health Coalition (IWHC). Presented at The Christopher Tietze International Symposium, 29–30 October 1988; Rio de Janeiro, Brazil.

This paper addresses the inadequate number of health personnel and the inaccessibility of health services in rural Cameroon. The doctor/patient ratio in the country stands at 1:16 000 inhabitants while the nurse/midwife-to-patient ratio is 1:12 000 inhabitants (p. 1). The author used a quasi-experimental design to evaluate decentralisation of services over a 3-year study period. The author's objectives were to increase the use of the antenatal clinics by pregnant women in rural areas and to improve the identification, management and referral of high-risk pregnancy patients in these areas (p. 3). Results of the study that relate to abortion include the following: 1) the acceptability of modern contraception methods was less than 5%; 2) adolescent pregnancy is the second most prevalent high-risk factor after grand multiparity (22,8% of the study group were adolescents) (p. 5); 3) there is a lack of sex education for adolescents in Cameroon, particularly for children between the ages of 6 and 14 years (p. 5); 4) adolescents will resort to illegal induced abortion because of restrictive abortion laws (p. 7); and 5) induced abortion often leads to complications such as perforation,

haemorrhage and sepsis (p. 8). The author concludes that, in order to improve access to health services, developing countries should: use a multisectoral approach with an emphasis on well-defined priority areas of health (risk approach); and use cost-effective, preventive measures, with the participation of the community, to achieve better health at the individual and the collective levels (p. 11).

Cameroon/Access/Decentral/Adolescents/Incomplete.

26. Lema, V. M.; Kamau, R. K.; Rogo, K. O. *Epidemiology of Abortion in Kenya*. Nairobi, Kenya: The Centre for the Study of Adolescence (CSA); 1989 Sep. 125 pages.\*

**Note:** Funding provided by the Population Council.

The purpose of this study was to determine the epidemiology of abortion throughout Kenya, especially in the rural areas, to supplement the information provided from urban, hospital-based studies that already have been conducted (p. 6). The study was conducted over the 6-month period from October 1988 through March 1989 in eight (seven district and one missionary) hospitals from six of the eight provinces in Kenya (all but the North-Eastern Province and Nairobi Province) (pp. 20–21). All women who presented to these hospitals with abortion or its complications and whose gestational age was less than 20 weeks, were administered a semi-structured questionnaire (included in the paper as appendices) (total n=1077) (pp. 1, 20).

Key study results were as follows: abortion patients composed 1,3% to 4,6% of total hospital admissions and 13,4% to 51,6% of all gynaecological admissions (p. 1); the majority of patients were less than 30 years old (teenagers accounted for 15,2% of the total) (p. 27), were more educated (i.e., had attended secondary school or college) and were married (73,4%) (most of the women in the induced group, however, were unmarried) (p. 1); 38,6% of all patients, mainly the younger women, did not want the index pregnancy (p. 1); contraceptive knowledge was very high (85,8%) but the number of ever-users was only 29,1%; and the proportion using contraception at the time of the index pregnancy was only 12,1% (p. 1); 25% of the women had no living children, yet only 2,5% had not had a previous pregnancy, indicating a high level of foetal loss or infant deaths (p. 45); 338 (42,7%) of the currently married women had had previous abortion(s) (p. 46); 115 (10,7%) patients admitted to having had a previous induced abortion(s) but according to the doctors' assessment, for 164 (15,7%) women the index abortion had been induced (p. 2); most of the induced abortions were induced by non-medical personnel (58, or 70,7%) or were self-induced (33, or 28,7%), usually in the home (pp. 2, 85); induced abortions were common in both rural and urban areas (p. 88); most (88,8%) of the induced abortions were performed late in the pregnancy (i.e., after the first 2 months), leading to a high rate of complications (21% of all patients) (p. 3); case-fatality rates were 6,1 per 1000 *induced* abortion admissions compared to 1,1 per 1000 *non-induced* abortion admissions (p. 3); the period of hospitalisation ranged from 1 to 86 days, with a mean of 3 days (p. 3); 9,1% of the induced group stayed in the hospital for more than 1 week, while only 2,1% of the non-induced group did (p. 98); the induced group needed far more expensive treatment (e.g., I.V. fluids and blood transfusions) than did the non-induced group (p. 98); the proportion of all patients who wanted to contracept following the abortion (61,5%) was double the number of women who had been ever-users before their abortion (30%) (p. 65); and many women felt that abortion should be legal in cases of rape (54,6%) or foetal deformity (40,9%), but not for socioeconomic reasons (p. 104).

The authors conclude that: abortion is a problem in rural Kenya; induced abortions are still sought despite restrictive legislation; contrary to the belief held by some people, abortion is a problem among all women, irrespective of socioeconomic status; abortions consume a substantial portion of available health care resources; despite the availability of free family planning services, many women do not seek advice about how to space or limit their children; young, single, unmarried women are more likely to seek termination of unwanted pregnancies; most induced abortions are provided by unqualified people; and women themselves approve of abortion in certain circumstances (pp. 106–107). The authors recommend: conducting more in-depth community-based studies; conducting studies to assess women's perspectives on contraception and abortion; reviewing available services within the country's health institutions; providing contraceptives free of charge to all women, including unmarried women and adolescents; and conducting studies to determine the economic impact of abortion (pp. 107–108).

Kenya/Country Report/Induced/Age/SES/Unwanted/Complication/Contraception/ProvStatus.

27. Maranga, J.M. Incidence of Induced Abortion in Kenyatta National Hospital. Nairobi, Kenya: Nairobi Faculty of Nursing, College of Health Professions; 1987.\*

The author states that 58,0% of the respondents of a study conducted at Kenyatta National Hospital had had an induced abortion. Twenty-four percent of those who had induced were aged 15 to 19 years ( 26,0% of the total). Of the total, 52,0% were married and 44,0% were single, although 58,6% of the induced were single and 34,5% were married; 77,3% of the abortions among single women were induced while only 38,5% of those among the married women were; 46,0% were unemployed and 10,0% were still in school, while 37,9% of the induced group were unemployed of the total and 13,8% were in school. The peak gestational age for the total group was 11 to 15 weeks (44,0%), followed by 16 to 20 weeks (30,0%). For the induced group, 44,9% were 16 to 20 weeks (30,0%) and 44,9% were 16 weeks or more; the peak gestational age was 11 to 15 weeks (31,0%); 61,9% of the spontaneous abortions were 11 to 15 weeks and 9,5% were less than that. Reasons for terminating the pregnancies included: fear of missing education, failure of contraception, extramarital affairs, financial constraints, being single and desire to space children. The author concludes by stressing the need for Family Life Education, contraception, legalising abortion, training youths and striving for more matrimonial harmony.

Kenya/Age/Contraception/Counselling/Induced/Incidence/Parity/Patient Ed/PatPers/KAP.

28. Mati, J. K. G. The Abortion Question. *Medicus* 2(5): 6.1983.\*

The author states that induced abortion is worrying due to the associated high morbidity and mortality. Although statistics are incomplete and unreliable, induced abortion is believed to be very common. If there are no complications, however, often it goes unnoticed. A study at the Kenyatta National Hospital from 1971 to 1975 showed that septic abortions formed 17,0% to 20,0% of all abortion admissions (1978 it was 16,0%). The total number of abortion admissions rose from 1838 in 1971 to 3048 in 1975. The mortality from abortion is high at this institution at 3 per 1,000 abortion admissions. Morbidity is also high and includes curtailment of the future fertility potentials of young women. The acute gynaecological ward admits about one sixth of all patients in Kenyatta National Hospital, 60,0% of whom are admitted due to abortions. Therefore, the cost to the taxpayer is substantial. The author stresses the need for preventive measures such as sex education by parents, increased contraceptive use and broadening of provisions for abortion in Kenya.

Kenya/Incidence/ContrPrev/Costs/Contraception.

29. Mauritius Family Planning Association. The Use of Induced Abortion to Mauritius: Alternative to Fertility Regulation or Emergency Procedure? 35 pages. PIP 094229.

**Note:** Presented at the International Planned Parenthood Federation (IPPF) Conference, Mauritius, March 1994.

To facilitate informed consideration of the issue of abortion, the Mauritius Family Planning Association (MFPA) interviewed 475 women admitted to three large government hospitals with complications of self-induced or clandestine abortion. Although abortion is strictly illegal in Mauritius, extrapolation of hospital data suggests that approximately 10 000 procedures (52% of live births) are performed each year. The study sample included 90% of women admitted to the three hospitals in January–April 1992 who agreed to provide qualitative and quantitative information. The mean age of the study subjects was 28,3 years; 32% were under 25 years of age; 91% had at least one living child. The sample was evenly divided between urban and rural residents. Only 27,4% had attended secondary school. 93% used a crude and/or self-induced method to induce the abortion (insertion of bicycle spokes into the vagina, herbs, misoprostol ingestion); 20% of the procedures were performed in the second trimester. Before the abortion, 12% used condoms, 9% relied on natural family planning, 33% used withdrawal and 17% were not using any family planning method. Ministry of Health clinics and pharmacies, not MFPA facilities, were the major source of contraceptive supplies. Qualitative analysis revealed these women to have different needs, attitudes and behaviours based on their stage in the family cycle (unmarried, delayers, spacers and limiters). In this sample, women who desired no additional children were the largest grouping (62%), followed by birth spacers (23%). Post-procedure, 63% of the women

indicated they planned to use a modern method of contraception. Most significant was the intent of 27% of those who expressed the desire to limit their family size to seek sterilisation. Despite their hospitalisation, 16% of unmarried subjects, 13,6% of delayers, 6,4% of spacers and 34,1% of limiters reported they would consider another abortion. This finding suggests that abortion is viewed by many as an alternative method of fertility regulation. Most families in Mauritius accept the small family norm; the challenge is to increase the volume of family planning services to meet this demand, make sterilisation part of public health care services and identify subgroups at greatest risk of nonuse or ineffective use of contraceptives.

Mauritius/Contraception/Educ/Incidence/Induced/KAP/Legal/Policy.

30. Mbizvo, M.T. *Unsafe Abortions and Unwanted Pregnancy Contribute to Maternal Mortality in Zimbabwe*. Harare, Zimbabwe: Department of Obstetrics and Gynaecology, University of Zimbabwe; 1993.

This is a summary of a research study undertaken to estimate the magnitude of maternal mortality, to identify preventable factors associated with maternal deaths and to quantify the contribution of induced abortion and unwanted pregnancy to maternal mortality. The results are based on an assessment of all deaths reported in a rural province and urban Greater Harare Unit. In Harare, deaths of women aged between 12 and 49 were identified through a multiple source reporting system involving community workers. The information was obtained by the research team after several meetings were held all over Masvingo to sensitise the local community and health workers to the problem of maternal deaths. One hundred five maternal deaths in Masvingo and 61 in Harare were analysed. Analysis of the results obtained during the study period (1989–90) indicate that the maternal mortality rate was 168 per 100 000 live births in Masvingo and 85 per 100 000 in Harare. Abortion-related mortality was 25 per 100 000 live births for Masvingo and 18 for Harare. Abortal sepsis was the second major cause of death after haemorrhage and eclampsia in Masvingo and Harare, respectively. Most of those who died had a history of abortion (90,9%), were not married (95,5%) and had not revealed the pregnancy to anyone. Just over sixty percent of the abortion deaths in Masvingo and 86,7% in Harare were certainly due to induced abortions. Over half the women (56,3% in Masvingo and 57,1% in Harare) died because of delays in seeking medical care. Failure and/or delay to refer the women to a more specialised level of care contributed to 31,1% of the 16 deaths in Masvingo. Eighteen deaths were analysed in Harare Central Hospital. Two thirds of the deaths were due to delays in giving appropriate treatment (33,3%) and failure to appreciate the severity of the condition. Forty-four percent of the deaths were related to poor treatment. The study points to the need to offer contraceptives to unmarried women to provide postabortion counselling and to legalise abortion to reduce the gap between those who can afford high cost but safe abortions and those who cannot.

Zimbabwe/Complication/ContrPrev/Incidence/Induced/Legal/Matmort/Policy.

31. Mirembe, F. M. *A Situational Analysis of Induced Abortions in Uganda*. Makerere University; 1994.

In Uganda, abortion is illegal except to save the mother's life. Abortion contributes significantly to the high maternal mortality rate. Studies by Turyasingura in 1984 at Mulago Hospital indicated that abortion-related death represented 35% of all maternal deaths. An analysis by Bazira of all abortion cases in Mulago between 1983 and 1987 indicated that induced abortions constituted 25,4% of all abortion-related cases admitted in the gynaecological emergency ward. Studies by Irumba and Bazira indicated that women who were single, young, of low parity and in secondary schools or university formed the bulk of all induced abortions. There was low contraceptive prevalence among the patients who had had an induced abortion. Reasons for non-use ranged from lack of knowledge about contraception to unavailability of contraceptives. Pregnancies were terminated for the following reasons: continue with their education (50%), fear of parents (25,7%), not being able to afford to care for the child (8,3%), spouse not wanting the child (9%) and already having the desired family size (5,3%). Abortion patients had complications such as haemorrhage (93%) and sepsis (60%). Only 15,3% suffered from genital tract trauma. This was due to the shift in illegal abortions being performed by medical doctors. Self-induced or induction by non-medically trained personnel remained the most frequent causes of genital trauma (which can be fatal). In Mulago Hospital, nearly 50% of the deliveries were among adolescents aged less than 20 years. The study calls for youth/adolescent programmes in and out of school, government commitment to the family planning campaign, provision of postabortal family planning counselling (in places

where abortions are managed) and liberalisation and legalisation of abortion to make it safe, available and accessible.

Uganda/Adolescents/Bleeding/Counselling/Country Report/Contraception/Haemorrhage/  
Complication/ Matmort/Sepsis.

32. Mosaase, M.L.; Tlebere, P.; Abortion: The Case of Lesotho. Presentation at the Abortion Conference in Mauritius. 1994: Lesotho.

Hospital-based data estimate maternal mortality at 220 per 100 000 live births in Lesotho but many women die at home due to complications of pregnancy and childbirth. A large proportion of these are due to unsafe abortion.

Lesotho/Matmort/Abortion.

33. Mtimavalye, L. Session 3: Prevention of High-Risk Pregnancies and Deliveries. *Reproductive Maternal Morbidity*. 19 pages.

The purpose of this paper is to discuss the causes and sequelae of maternal health morbidities. The author states that sexuality among adolescents leads to the following morbidities: sexually transmitted diseases; high-risk planned pregnancies; unplanned pregnancies that lead to clandestine abortion; psychosomatic problems; and a demographic imbalance (p. 2). The author also states that high parity and some traditional practises negatively impact women's reproductive health (p. 4). Finally, the author concludes that the following people, situations and factors influence a woman's decision to seek traditional versus formal health care: the woman's status in society; the reputation of formal health services; friends' stories; the woman's relatives; the husband's decisions; relatives of the husband; and whether she has a planned or unplanned pregnancy (p. 15).

Tanzania/Zambia/Zimbabwe/Morbidity/STD/Unwanted/Psychol.

34. Mumia, J. A. Adolescent Fertility at the Eldoret District Hospital: Its Effects on Uasin Gishu District Demography: Proceedings of a Workshop held at Kwale, Coast Province, Kenya. 1986. Eldoret District Hospital.\*

The author observed that adolescent pregnancies formed 18,5% of the total obstetric population of Eldoret District Hospital. Almost half (47,6%) of the adolescents were aged 16 years or less, while 52,4% were 17 to 19 year old; 14,0% of the teenagers had one or more previous pregnancies; almost half (47,9%) of the group studied for the paper had had an abortion in the index pregnancy.

Kenya/Incidence/Adolescents/Abortion.

35. Muraya, G. N. Teenage Pregnancy in Rural Kenya. Master of Medicine Thesis in Obstetrics and Gynaecology, University of Nairobi, 1986.\*

The author found that, in the group studied, the ages of the adolescents ranged from 14 to 19 years; 21,3% were aged 17 or less; 40,6% were 18 years; and 37,9% were 19 years old; almost three quarters (73,9%) were nulliparous; 26,1% were parous. Of the teenagers, 66,4% had conceived while in school; and 47,6% were unmarried. Overall, 12,7% of the teenagers had had an abortion.

Kenya/Age/Incidence/Parity/Abortion.

36. Murugu, N. M. A 10-Year Review of Mortality Due to Abortion at Kenyatta National Hospital, 1974–1983. Master of Medicine Thesis in Obstetrics and Gynaecology, University of Nairobi, 1985. 1983: Nairobi; Kenyatta National Hospital.\*

The author states that the case-fatality rate for the time period reviewed was 3,0 per 1000 abortion admissions. Of these, 65,3% were certainly induced, 14,7% were probably induced and 20,0% were spontaneous. The ages of the patients ranged from 13 to 38 years; 24,2% were less than 20 years old, of whom 95,7% had had an induced abortion. The largest age group was 20 to 24 years (43,2%), of whom 78,9% had an induced abortion. The death and interference rates fell sharply after 30 years of age. Of the nulliparous, 97,1% had had an induced abortion. Approximately 70% were single, of whom 85,5% had evidence of interference; 18,9% were married, of whom 5,3% were induced. All of the students had evidence of interference. The treatment required included haemodialysis (76,8%); blood transfusion (48,4%); broad spectrum antibiotics; and surgery. The induced group required more of these treatments than did the non-induced group. Some patients died before treatment could be initiated. There were more complications among the induced than the non-induced group. They included bacterial endotoxin shock (69,5%), pelvic abscesses (40,0%), acute renal failure (32,6%), respiratory problems (25,3%), haemorrhagic shock, intravascular coagulation, uterine perforation (6,3%), gas gangrene (4,4%) and tetanus (2,1%). The hospital stay ranged from 1 day to more than 3 weeks (21,1%). The mean stay was 11,6 days; 48,4% stayed for more than a week; 31,6% of the patients stayed in the intensive care unit for a mean of 15,4 days. The author concludes by recommending health education and improved services, including family planning, to reduce the incidence of induced abortion.

Kenya/Induced/Complication/Costs/Policy.

37. Ngotho, D. K. Abortion in Provincial General Hospital, Nakuru.\*

**Note:** Paper presented at the 15th Annual Scientific Conference of the Kenya Obstetrical and Gynaecological Society (KOGS), Nairobi, February 1990.

The author states that abortions formed 31,4% of the total admissions at Nakuru Provincial General Hospital during the study period. The patients' ages ranged from 15 to 47 years. Adolescents formed 20,0% of the total and the peak age was 20 to 24 years (34,0%); 69,9% of the women were married, 29,4% were single; 46,2% were para 2 or less, 27,1% were para 3 or 4 and the range was 0 to 12 children; 79,0% had reached primary level education or less and only 0,9% had reached university or college level; 87,0% were unemployed. The gestational ages were 7 weeks or less for 12,1%, 8 to 12 weeks for 30,1%, 12 to 15 weeks for 29,1%, 16 to 19 weeks for 15,1% and 20 to 27 weeks for 13,5% of the patients. Of all the patients, 68,0% stayed in hospital for more than 3 days; 10,6% had complications, of whom 52,7% had haemorrhage and septic shock; 38,4% had sepsis and 8,9% had anaemia. The case-fatality rate was 14,3%. The author concludes by recommending sex education and provision of family planning.

38. Njau, P.W. Social and Cultural Factors Associated with Pregnancy Among Unmarried Teenage Girls. University of Nairobi.

This paper was presented during a symposium on adolescent fertility in 1986. The author attempts to explain the social and cultural factors associated with pregnancy among unmarried teenage girls. According to the author, the number of teenagers getting pregnant is on the increase especially at early ages. These early pregnancies bring with them disruption of education, unemployment, dependence of the teenagers and their offspring on parents, stigmatisation, discrimination and health problems. The author goes on to review biological and psychoanalytical theory related to sexual behaviour and how this is related to teenage sexual activities.

Kenya/Adolescents/Psychol/SES.

39. Njuki, S. K. Abortion: Is it a Problem at Nakuru General (Provincial) Hospital? Nakuru Provincial Hospital.\*

In this paper written for a symposium on adolescent fertility held in 1986, the author (the Provincial Gynaecologist at Nakuru Provincial Hospital) emphasises the need not only to educate female teenagers about the risks of unplanned pregnancies but also the need to adopt family planning methods. This paper is based on an analysis of the last 100 abortion cases treated at the hospital before data collection, an analysis of all acute gynaecological admissions between June 17, 1986 and July 17, 1986 and analysis of all theatre records between May and July 1986. Results indicated that 64% of the abortion cases were in the 14–20 years age bracket. Although there was no differentiation in the study between induced and spontaneous abortions, the author argues that, in his experience, induced abortions are the more common. One out of the four theatres in the hospital is allocated exclusively for uterine evacuation because of the high number of evacuations. Fifty percent of all obstetrical and gynaecological operations are evacuations. There were 168 acute gynaecological admissions between June and July 1986. Of these, 105 (62,5%) were abortion-related. Between May and July 1986, there were 402 obstetrical and gynaecological procedures, about half (200 or 49,8%) of which were evacuations. The author did not review abortion-related complications but says complications such as sepsis, acute renal failure, bowel injury and uterine perforation have been reported in the hospital.

Kenya/Adolescents/Age/Incidence/Abortion.

40. Nyakeri, L. N. Follow-up of Septic Abortion at the Kenyatta National Hospital. Master of Medicine Thesis, University of Nairobi, 1975. Nairobi: Kenyatta National Hospital.\*

Approximately 43% of all gynaecological admissions at Kenyatta National Hospital were due to abortions, 19,3% of which were septic. The patients' ages ranged from 14 to 41 years (with a mean of 23,9 years for the septic and 24,6 years for the non-septic group). The peak age group was 21 to 25 years for all women and for the non-septic group, while for the septic patients it was less than 20 years (38,5%). Regarding marital status, 54,4% of the non-septic and 41,5% of the septic group were married, while 54,5% of the septic and 39,5% of the non-septic patients were single; 51,5% of the non-septic and 72,5% of the septic group were para 2 or less; 75,0% of the septic and 53,0% of the non-septic patients had no previous abortions. The majority of the patients had very expensive treatment in the form of broad spectrum antibiotics and surgery. The duration of pyrexia ranged from 1 to 45 days with a mean of 2,4 days. The case-fatality rate (referred to as mortality rate by the author) was 0,96 per 1000 abortion admissions and 5,0 per septic abortion admissions. The author concludes by recommending legalisation of abortion and provision of adequate and safe abortion facilities.

Kenya/Age/Antibiotic/Complication/Incidence/Matmort/Legal.

41. Obwaka, J. M. L. Adolescent Pregnancies: Kisii District Hospital. Kisii District Hospital; 1986.\*

The author states that adolescents formed 31,5% of the total deliveries in Kisii District Hospital, of whom 79,5% were single; 32,2% of the abortion admissions were teenagers. Abortion-related deaths among the adolescents were three times those in the total delivery population. Deaths were mostly due to complications such as sepsis and haemorrhage.

Kenya/Incidence/Adolescents/Matmort.

42. Odejide, T. O. Offering an Alternative to Illegal Abortion in Nigeria. *New Era Nursing Image International* 1986; 2(2): 39–42.

In Nigeria, the problems of unplanned pregnancies and induced abortions have both social and health repercussions. A Ministerial committee of inquiry reported an estimate of 500 000 illegal abortions in 1980. Abortion is widespread among both young unmarried and married women. There are no nationwide data on illegal abortions, but available information from clinics, hospitals and sample surveys show that abortion is becoming a significant problem, particularly among adolescents. Illegal abortions constitute one of the major causes of adolescent maternal morbidity and mortality in Nigeria. It is the main cause of death among

unmarried women aged 15–24, particularly those attending secondary school. Infertility due to tubal damage is one of the serious long-term complications of an unsafe abortion, invariably following pelvic infection. Despite the risks, abortion continues to be chosen as the course of action by over 90% of pregnant unmarried and working women in Nigeria. According to the author, every woman needs family planning information, education and practise to avoid unwanted pregnancy. The lack of widespread organisation of effective family planning services in Nigeria is possibly the greatest obstacle to overcome. Although family planning information is widespread, public knowledge of the concept is limited. Consequently, the use of family planning is low.

Nigeria/Adolescents/Age/Contraception/FP/Incidence/Matmort.

43. Oluande K'Oduol, G. A. Adolescent Pregnancy in Kenya: A Study of Adolescent Mothers at the Pumwani Maternity Hospital, Nairobi. Adolescent Fertility: Proceedings of a Workshop Held at Kwale, Coast Province, Kenya. K.O. Rogo, ed. Nairobi: Pumwani Maternity Hospital; 1986. page 66.\*

The author states that adolescents (aged 10–19 years) formed 28,9% of all the mothers delivering at Pumwani hospital, Nairobi, during the study period; 71,8% of the adolescents were married and 28,1% were single; 42,9% of the adolescents were para 1 or more with the highest parity being 3; 3,4% of the total and 7,9% of the adolescents who had one or more previous pregnancies had had an abortion preceding the index pregnancy.

Kenya/Adolescents/Age/Parity/Abortion.

44. Omuga, B. O. O. Presentation of Abortion and the Preventive Problems at the Kenyatta National Hospital. Master of Medicine Thesis on Obstetrics and Gynaecology. Nairobi: University of Nairobi, Kenyatta National Hospital; 1989.\*

Abortion formed 61,4% of all gynaecological emergency admissions at Kenyatta National Hospital in 1989. The ages of the patients ranged from 12 to 44 years, the peak age group being 20 to 24 years (47,2%). Adolescents formed 17,5% of the total. Of the study group, 55,0% were married and 38,3% were single; 5,7% were students; and 44,3% were employed. The majority, 93,8%, had attained primary and secondary education (with about equal proportions for each education level). Only 0,4% had attained university education. There was not much variation in the number of admissions by month or week. For 99,4% of the married women, the husband was responsible for the index pregnancy. For the single women, their fiances were responsible in 41,3% and boyfriends in 53,7% of the index pregnancies. The women's parity ranged from 1 to 12 children, the majority being para 2 or less. Nulliparous women constituted 26,5% of the total; 24,9% had had a previous abortion with the highest number being 3 (18,4%=1; 4,9%=2; 1,6%=3); 43,8% of the pregnancies had terminated at 13 to 20 weeks gestation and 30,6% at 9 to 12 weeks gestation. Of the induced abortion patients, 76,8% were single, while 57,4% of the non-induced patients were married. While 7,8% were happy that they had aborted, 1,1% expressed regret/guilt feelings and 88,4% were unhappy about it; 77,9% of the total reported a desire to maintain the index pregnancy to term. Of the total, 7,2% had used contraception, of whom 79,5% had natural family planning (safe days), 9,0% oral pills and 3,9% condoms. Of the patients, 93,3% said abortion should not be legalised. The author concludes by expressing the need to prevent abortion by increasing the utilisation of contraceptives and by education.

Kenya/Age/Contraception/FP/Incomplete/Educ.

45. Owuor, O. Abortion: A Major Hitch at Kenyatta National Hospital. *The Daily Nation*. 1987 October 24: p. 14.\*

The author points out that based on studies conducted at the Kenyatta National Hospital, induced abortions form 60,0% of gynaecological admissions. About 40,0% of deaths seen over an 18-month period were as a result of infections following abortion.

Kenya/Induced/Incidence/Matmort/Sepsis//MR/Safety.

46. Pазie, A. J. *Abortion in Burkina Faso. Quagadougou, Burkina Faso; 1993.*

This paper describes the situation of abortion in Burkina Faso; it is based on studies conducted in the country's two national hospitals in Quagadougou and in Bobo-dioulasso. All identified abortions performed illegally most likely under unsafe conditions by unskilled persons. Analysis of the study results indicated that the incidence of abortion was 4.4% in Quagadougou and 5% in Bobo-dioulasso. Seventy percent of the patients were aged between 16 and 24 years and for 45%, this was their first pregnancy. A quarter of the patients obtained their abortion between the third and fourth gestational month. Eighty percent of the patients were either school girls, college students or unemployed women who wanted an abortion because the child was unwanted, they wanted to continue with their education, they feared their parents or simply because of financial factors. The abortions were by health workers, notably nurses, "traditional doctors" and the patient herself. Methods used included D&C without anaesthesia, insertion of various objects into the cervix to rupture amniotic membranes and chemicals. Mortality was 6% at Quagadougou and 7% at Bobo-dioulasso; major causes of death were haemorrhage, peritonitis with septicaemia, renal failure and hepatitis. The author suggests that abortion be legalised, that obstacles to contraceptive use be identified and that clubs managed by the youth be used to disseminate contraception information. The author regards illegal abortion as a problem that can best be managed through the use of modern contraceptives supported by sex education and information dissemination.

Burkina Faso/Adolescents/Complication/D&C/Educ/Incidence.

47. Rakwach, P. O. *Review of Mortality in the Emergency Ward at the Kenyatta National Hospital (1977–1986). Master of Medicine Thesis in Obstetrics and Gynaecology, Nairobi: University of Nairobi, Kenyatta National Hospital; 1988.\**

The author states that, for the years studied, mortality was 6.9 per 1000 admissions at Kenyatta National Hospital, Nairobi, Kenya. The peak age group among the cases reviewed was 15 to 25 years (26.9%), while those aged 26 to 35 formed 25.1% of the total. Of the deaths, 22.0% were abortion-related; the major causes were sepsis, haemorrhage and perforation of the uterus. The author concludes by recommending increased utilisation of contraception to reduce unwanted pregnancy, legalisation of abortion and improved services for treating abortion and its complications.

Kenya/Age/Complications//Matmort.

48. Ramalefe, C.; Modisaotsile, I. M. *The State of Unsafe Abortion in Botswana: Evidence by Proxy Indicators. Botswana; 1994. PIP 094221.*

**Note:** Presented at the Conference on Unsafe Abortion and Post Abortion Family Planning in Africa, Mauritius, March 24-28, 1994.

Although Botswana's abortion law was liberalised in 1991 to permit the procedure in cases where the pregnancy is a result of rape/incest or could endanger the woman's health, the majority of abortion seekers (i.e., women who want to abort for social or financial reasons) still have to obtain an illegal pregnancy termination. No comprehensive studies have evaluated the magnitude of abortion in Botswana; however, four proxy indicators—unmet need for family planning, adolescent pregnancy, maternal morbidity and maternal mortality—suggest that unsafe abortion is a common social problem. The 1991 Demographic Health Survey found that 45% of women in Botswana who wanted to control their fertility did not have contact with a family planning program. This large, unmet need for contraception suggests high numbers of unwanted pregnancies. There has been an especially rapid increase in teenage parenthood (in 1988, 24% of females 15–19 years old were mothers). Evidence that many teenagers attempt to terminate unwanted pregnancies rather than carry them to term is proved by statistics compiled from the country's hospitals; 43% of the 3731 patients treated in 1992 for complications of illegal abortion were under 25 years of age. Hospital personnel concur that unsafe abortion represents a major health problem and accounts for at least 14% of total maternal mortality. The author's recommendations include the need to arrest the high incidence of unsafe abortions; family planning and Family Life Education should be made more accessible and the country's legal position should be broadened to allow

women to abort on demand. They add, however, that liberalisation or decriminalisation of abortion should not be considered the panacea to combatting unsafe abortion.

Botswana/Induced/FP/Educ.

49. Rogo, K. O. (ed.) (Chairman, Family Planning Committee, Kenya Medical Association). *Adolescent Fertility: Proceedings of a Workshop Held at Kwale, Coast Province, Kenya*; 1986 Aug; Kwale, Coast Province, Kenya. Nairobi, Kenya: Kenya Medical Association; 1987. 161 pages.

**Note:** Funding provided by the Kenya Ministry of Health, Division of Family Planning Health (GTZ Support) and the National Council for Population Development (NCPD).

The purpose of the workshop was to discuss unwanted pregnancy among adolescent girls. Following the Annual Scientific Conference of the Kenya Medical Association (KMA) in 1986, the KMA established a Family Planning Committee which was charged with organising this workshop to discuss adolescents' lack of knowledge about and access to family planning (p. 2). The workshop was held in Kwale during August 1986, and the attendees included: gynaecologists, educators, legal experts, religious and community leaders, etc. The workshop was divided into the following topic areas as they relate to adolescent fertility: overview; socio-cultural and psychological aspects; medical aspects; religious aspects; educational aspects; and the law. Participants presented papers on each of these topics, followed by an expert panel and finally, divided into working groups. The three working groups were organised around the following themes: 1) conducting needed research; 2) preventing early pregnancy: providing family planning education and services; and 3) preventing illegal abortions: offering an alternative to abortion. The recommendations of the first group called for appropriately-designed research on women aged 13–24 (definition of adolescence in this context); the design of a database of reproductive health information; and the delivery of family planning services to adolescents through the KMA and NGOs (pp. 151–153). The second group recommended focusing on: increasing the scope of, reach of and participation in Family Life Education for all family and community members; allowing pregnant adolescents to stay in school and offering them services through school-based clinics; and designing a community-based distribution system for family planning through NCPD, NGOs and government ministries (pp. 153–154). The third group called for: identification of target groups (sugar daddies, etc.); determination of the reasons for unwanted pregnancy; development of family planning outreach programmes; study on the legal aspects of contraception; and revision of the abortion law to take into account the health of the woman, the interest of the unborn child, the type of procedure used and the necessity of protecting the confidentiality of the patient (pp. 155–157). These proceedings should help guide Kenyan policymakers to make rational policy decisions about this sensitive topic.

Kenya/Adolescents/Unwanted/Social/Psychol/Incidence/FP/Educ/Legal/Country Report.

50. Rosenfield, A. Abortion: the Neglected Problem. *People*. 1988; 15(4): 4. CPFH 24237 CR 988.

The World Health Organisation has estimated that 150 000 to 200 000 women die every year from complications resulting from illegal abortions. These deaths constitute 30–40% of the estimated total of 500 000 pregnancy-related deaths/year. Too many of the world's health professionals have been ignoring this problem, although these deaths are almost completely preventable in societies where abortion is legal. A survey by the International Planned Parenthood Federation of 60 developing countries found that, in the late 1970s, there were approximately 207 induced abortions per 100 live births, although in most of those countries abortion was illegal. Recent studies from Zimbabwe, Ghana, Kenya, South Africa, Bangladesh, Brazil and Colombia indicate very high rates of abortion-related morbidity and mortality. Data from New York City indicate that in 1946–56, maternal mortality remained at levels of 40–50/100 000 births which was partly a result of high rates of illegal abortions. The author states that poorer women probably suffer most from the lack of access to safe legal abortions.

Induced/Legal/Matmort/ECSA.

51. Rwebangira, M. K. (Teenage Girls' Reproductive Health Study Group, Women's Research and Documentation Project). *Legal Aspects of Teenage Girls' Reproductive Health in Tanzania: A Look at Contraception, Abortion and Infanticide*. Dar es Salaam, Tanzania; 1992 Jun. 81 pages.

**Note:** Funding provided by the Swedish Agency for Research Cooperation with Developing Countries (SAREC). Preliminary results of this study were originally presented at the First Inter-African Conference on Adolescent Health held in Nairobi, Kenya from 24–27 March 1992.

The purpose of this study was to determine how Tanzanian girls interacted with the law (i.e., actions for which they were prosecuted or for which they could prosecute others) and how those interactions impacted on their lives. Specifically, it focused on the issues of contraception, abortion and infanticide (p. 4) The author used a variety of methodologies to study these issues including: 1) literature review; 2) legal review, especially the penal laws related to the author's three major topics (p. 5); 3) court record review—conducted in 1991 and 1992—on all cases during the years 1985–1990 that involved women between 15 and 19 years old in four districts (pp. 6–7); 4) personal interviews (structured and unstructured questionnaires) with medical personnel, law enforcers, community leaders, Maternal and Child Health clinic personnel, the UMATI (Family Planning Association of Tanzania) staff and the Ministry of Health's Family Planning unit personnel (pp. 7–8); and 5) focus group discussions with the police, advocates and magistrates (p. 9). The research was conducted in the Kagera and Dar es Salaam regions of Tanzania (pp. 10–11). The major findings were: 1) family planning often is inaccessible for teenage girls (p. 12); 2) despite the fact that the abortion law allows for termination only to save the life of the woman, abortions on request do occur illegally, but safely, in both public and private hospitals; 3) although the majority of safe but illegal abortion seekers are adult women, teenage women are the majority of those that doctors treat for complications of unsafe illegal abortion; 4) schooling was the major reason given by teenage girls for seeking illegal abortion; 5) parents or boyfriends most often accompanied girls seeking either safe, legal abortion (33% for parents and 50% for boyfriends) or safe, illegal abortion (68% for both groups) (p. 13); 6) all medical personnel thought it would be cheaper to provide abortion services initially than to treat its complications later, and all of them advocated legalising abortion (p. 14); and 7) the incidence of infanticide has decreased as the prevalence of illegal abortion has increased (p. 15). The author concludes that abortion and treatment of septic abortion occur in hospitals and communities despite existing restrictive legislation. In many cases, however, the woman must reveal who performed the abortion to obtain treatment; often women refuse and ultimately die (case studies are included). The author concludes that abortion on demand must be legalised in Tanzania (p. 55). In addition, she includes the following recommendations: 1) strengthening family planning programmes; 2) including information on: avoidance of pregnancy and sexually-transmitted diseases, intimacy, relationships, opportunity costs of unwanted pregnancy, responsible parenthood and socialisation of gender roles in Family Life Education Programmes; 3) emphasising AIDS education; and 4) providing non-medical, government-subsidised contraceptive methods in schools and other youth centres (pp. 55–56).

Tanzania/Legal/Adolescents/Induced/Incomplete/FP/HIV-AIDS.

52. Sanghvi, H.C.G. *Medical Consequences of Adolescent Fertility in Kenya*. 1986.

**Note:** Presented as part of a symposium on adolescent fertility held in Kenya in 1986.

Adolescent fertility has become a fast growing concern in Kenya and has reached epidemic proportions in a short period of time. A 1979 contraceptive prevalence survey showed that 8% of girls aged between 15 and 19 years were pregnant. Increased sexuality and fertility among adolescents gives rise to sexually transmitted diseases, cervical neoplasia, unwanted pregnancy, pregnancy complications, low infant birth weight and psychological sequelae. A 1980 survey at Kenyatta National Hospital (KNH) showed that 32% of syphilis in pregnancy cases occurred in patients aged 19 years and below. Most adolescents do not get appropriate, adequate and urgent treatment for STDs. Twenty-eight percent of all abortions at KNH occurred among females less than 19 years. Almost a quarter (24%) of abortion-related deaths were among teenagers, but teenagers who seek contraceptive help from family planning clinics are likely to be discouraged by the medical staff—who let their own moral judgements interfere with their medical practises. Eighteen percent of all maternity patients in Kenya were 19 years and below. They contributed to 38% of all cases of eclampsia, 36% of all cases of intrauterine growth retardation and 45% of all cases of vesico-vaginal fistula. Teenagers start antenatal care late and they may suffer from anaemia and pre-eclampsia. During labour, they suffer from a higher incidence

of foetal distress and prolonged labour. In Nairobi, the early perinatal mortality rate for adolescents was 45% compared to 35% for all mothers. Fertility rates in those aged below 19 years increased from 141 per 1000 females in 1960 to 168 per 1000 females in 1979. Contraceptive use among adolescents is limited while their sexual activity is increasing. Action needs to be taken on family life and sex education, contraception and legalised, free abortion services.

Kenya/Adolescents/Age/Contraception/FP/Complication.

53. Teenage Pregnancies in Botswana: How Big Is the Problem, and What Are the Implications? University of Botswana. National Institute of Development Research and Demonstration. 1988; PIP 064552: Gaborone.

One thousand two hundred sixty-four male and female adolescents aged 12–19 from six districts in Botswana (including the capital, towns and villages) were interviewed to study the nature and extent of teenage pregnancy, to learn contributing factors, and to examine school dropouts and the effectiveness of Family Life Education in schools. In Botswana, the birth rate is 48,7/1000, and 22,6% of girls become pregnant before age 20, an increase of 7,2% per year since 1971. In the study group, 124 of 688 (18%) girls had been pregnant sometime in the past. Seven boys admitted having impregnated a girl. Factors associated with pregnancy were: lack of education, older age, unemployed, unmarried parents, school drop-out and no church affiliation. Half claimed they did not know they could become pregnant, while 12% said they chose to. Options considered were to deliver (61%), illegal abortion (8%), adoption (4%), suicide (4%) and other (20%). Among school girls, pregnancy largely occurs as a result of relationships with adult men in the community; only 11%, however, receive child support. Family Life Education is optional in primary school and required and examinable in secondary school. Recommendations include: Family Life Education compulsory and examinable at all schools; more teaching aids; teacher training and in-service training for teachers, health workers and youth leaders; use of the mass media; provision of counselling; provision of more youth recreation; allowing previously pregnant girls back in school; informing teens of new contraceptive distribution policies; formulating a comprehensive youth and family policy and hiring a program coordinator for Family Life Education in the Ministry of Education.

Botswana/Age/FP/Adolescents

54. Wanjiku, C. Abortion and Society. *The Sunday Nation*. 1987 October 18: 10.\*

The article points out that abortion is a major cause of death among women and that it is time action be taken to reduce the problem. The author recalls a study done at the Kenyatta National Hospital which showed that most of the women who had had an induced abortion were young (20,0% were aged 19 years or less; a total of 72,3% were aged less than 25 years; and 25,0% were school girls). The author observed that women who could afford to pay for a termination of pregnancy were charged Kshs 2000 to 3000 by their doctors. The majority of women who desire to have an abortion, however, often cannot afford to pay this fee; therefore they end up going to an unskilled abortion provider or some other less qualified medical person. These patients are the ones who go to Kenyatta National Hospital to be treated. Despite the stringent laws on abortion in Kenya, abortions continue to be performed. Some people have suggested that Section 240 of the Penal Code (Cap 63) should be amended to include the psychological, mental and physical health of the mother. The author concludes by saying that the question of abortion and provision of family planning services raises issues on the status of women. It is an issue which is central in any discussion on fertility control.

Kenya/Incidence/Age/Costs.

## CLINICAL ISSUES

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### PUBLISHED LITERATURE

1. Abudu, O.; Rotimi, V.; Uguru, V.; Agboola, A. (Department of Obstetrics and Gynaecology and Microbiology, College of Medicine, Lagos University Teaching Hospital, Lagos, Nigeria). Cefoxitin: Single Agent Treatment of Septic Abortion. *African Journal of Medicine and Medical Sciences*. 1986 Mar-Jun; 15(1-2): 35–40.

The purpose of this uncontrolled clinical trial was to evaluate the efficacy of cefoxitin as the sole antimicrobial agent in the treatment of 25 cases of septic abortion in Lagos, Nigeria (abstract, p. 35). The following data were documented for each patient: age, marital status, social class, whether abortion was spontaneous or induced, history of antimicrobial use in the previous fortnight and history of drug allergy (p. 36). Patients were examined daily to assess their clinical response and were classified as cured if all signs and symptoms of illness (sepsis) had disappeared and as failed if signs were still present 72 hours after treatment (p. 36). Three of the 25 patients did not have a full investigation according to the protocol and thus were not included in the analysis (p. 37). The mean age of the patients was 21 years, and 50% of them were married. All unmarried patients (n=11) were included among the 14 patients who stated that their abortion had been induced (p. 37). Most (20, or 89,9%) of the patients were of the lowest socioeconomic classes (p. 37). The study showed that cefoxitin as a single agent was very effective in 77% of the 22 cases of septic abortion (p. 39). While a variety of bacteria were identified, anaerobes were the predominant organisms. Most organisms isolated were sensitive to cefoxitin but *Pseudomonas aeruginosa* was markedly resistant (abstract, p. 35). There was a significant ( $p < 0,05$ ) difference between the two groups in the mean duration of hospital stay after therapy (an average of 9 days versus 21 days for the cured and failed group, respectively) (pp. 37–38). The researchers note that this study confirms the polymicrobial aetiology of septic abortion and defines the role of anaerobes as important causative agents in septic abortion (p. 40). The authors suggest that cefoxitin be used instead of a combination of antimicrobials for treatment of septic abortion (p. 40).

Nigeria/Sepsis/Antibiotic/Effectiveness.

2. Aguwa, C. N.; Mittal, G. C. (Department of Pharmacology and Toxicology, University of Nigeria, Nsukka, Nigeria). Abortifacient Effects of the Roots of *Momordica Angustisepala*. *Journal of Ethnopharmacology*. 1983 Mar; 7(2): 169-173; ISSN: 0378-8741.

The purpose of this study, conducted at the University of Nigeria, was to assess the abortifacient effects, in albino female mice and guinea pigs, of an aqueous extract of the root of *Momordica angustisepala* (Cucurbitaceae) (abstract, p. 169). This study was prompted by the fact that this plant is used locally in Igboland and that literature on its abortifacient effects was non-existent (p. 169). Researchers administered 0,8 mg dry matter/ml at dosages of 3,5 ml and 4 ml per kilogram body weight to albino mice and guinea pigs. In the first experiment, forty pregnant albino mice were divided into four groups (including a control group); they were administered the extract and observed for a 24-hour period (p. 170). Eight out of 10 mice in two of the groups aborted and 9 out of 10 in the third group aborted (p. 170). In the second experiment, 10 pregnant guinea pigs were divided into two groups (one as a control group) and were observed for a 24-hour period (p. 170). All guinea pigs given the extract aborted (p. 170). According to the authors, the drug appears to be effective at all stages of pregnancy (explaining its use by herbalists in some parts of Nigeria to induce abortion in women). The mechanism of action appears to be similar to that of oxytocics, prostaglandins and ergot

alkaloids (abstract, p. 169). Since abortion was induced in all three trimesters of pregnancy as part of this study, however, the authors note that some hormonal disturbance also could have caused the abortion (p. 172).

Nigeria/Effectiveness/Induced/Traditional.

**EDITORS' NOTE:** The author conducted this study with guinea pigs and mice; additional study of this plant is suggested before it is considered appropriate for human use.

3. Bradley, J.; Sikazwe, N.; Healy, J. (Regional Representative, IPAS, Carrboro, North Carolina, USA//Department of Obstetrics and Gynaecology, University of Zambia, Lusaka, Zambia/IPAS, Carrboro, North Carolina, USA). Improving Abortion Care in Zambia. *Studies in Family Planning*. 1991 Nov; 22(6): 391–394; ISSN: 0039-3665.

**Note:** Funding provided by the Population Crisis Committee and IPAS.

This article reports on efforts to improve the management of incomplete abortion and to increase the capacity for providing legal pregnancy terminations in Zambia. In late 1988, the University Teaching Hospital in Lusaka began working on a 3-year training and service delivery programme that focused on establishing ambulatory services for early uterine evacuation, using manual vacuum aspiration (MVA) (p. 391). The authors compared data on usage of MVA versus dilation and curettage (D&C) for treating the 3000 to 4000 women that presented for treatment of incomplete abortion or pregnancy termination each year between 1988 and 1990 (p. 392). They found that use of the MVA method improved patient flow; improved quality of care; enhanced the site's capacity to provide legal termination of pregnancy and postabortion family planning services (pp. 392–393). According to the authors, these results demonstrate the usefulness of MVA in Zambia for abortion cases. The authors note that other Zambian medical centres did not yet (at the time of the study) have the resources to implement similar projects. The authors suggest that action to expand access to safe legal abortion services, including treatment of complications and termination of pregnancy, is urgently needed (p. 394).

Zambia/Effectiveness/MVA/D&C/HospTm/WaitTm/CostEff/Incomplete/Induced.

4. Bugalho, A.; Bique, C.; Almeida, L.; Faúndes, A. (Department of Obstetrics and Gynaecology, Maputo Central Hospital, Maputo, Mozambique//Department of Obstetrics and Gynaecology, Maputo Central Hospital, Maputo, Mozambique//The Population Council, São Paulo Brazil). The Effectiveness of Intravaginal Misoprostol (Cytotec) in Inducing Abortion after Eleven Weeks of Pregnancy. *Studies in Family Planning*. 1993 Sep; 24(5): 319–323; ISSN: 0039-3665.

This study assesses whether intravaginal misoprostol (Cytotec), a PGE<sub>2</sub> methyl-analogue, is effective at interrupting pregnancies after 12 weeks gestation. The study was conducted at Maputo Central Hospital in Mozambique—where abortion is offered on demand after evaluation and authorisation by a medical committee—between January and September 1992 (p. 320). The study included 169 women (gestation of pregnancy between 12 and 23 weeks) who had requested a termination (p. 320). An initial dose of 800 micrograms (mcg) of misoprostol was given to 121 subjects. This was repeated 24 hours later if medical abortion had not occurred/started. During the course of the study, the dosage was successively reduced to 600 mcg (10 subjects), then to 400 mcg (28 subjects) and finally to 200 mcg (10 subjects) (p. 320). The abortion was considered a failure if it had not advanced 48 hours after the initial dose (abstract, p. 319); surgical abortion was then performed on these women. Vacuum aspiration was carried out on all subjects following the abortion, even though it did not appear to be necessary in most cases. (abstract, p. 319) The study subjects were predominantly young (52% were 20 years or younger) and of low parity (49,5% were nulliparous). Medical abortion was achieved in 154 (91%) cases and there were 10 (5,9%) failures (these women then had a surgical abortion); five (3%) women dropped out of the study, opting instead for vacuum aspiration. The mean time from initial dose to expulsion was 14,3 hours (p. 321). Neither the rate of success nor the time from dosage to expulsion was significantly correlated with the amount of initial dose, age, parity, previous abortion or gestational age (p. 321). Side effects of medication, such as vomiting, diarrhoea, fever and sweating were not observed (p. 321). The authors conclude that intravaginal misoprostol is at least as effective as other

prostaglandins for medical interruption of pregnancy between 12 and 22 weeks of gestation, independent of the characteristics of the patients (p. 322). Misoprostol's main advantages over other prostaglandins are its low cost, easy storage at room temperature and low occurrence of side effects (which facilitates case management with limited staff) (p. 322). The authors conclude that this drug could ease some of the problem of abortion in poor countries, where costly drugs are not available and where clandestine abortion accounts for a large proportion of maternal deaths (p. 320).

Mozambique/2ndTri/Prost/Effectiveness/Time.

**EDITORS' NOTE:** Since 1) the initial dose of 800 mcg was arbitrarily selected, 2) the initial dose protocol was incrementally reduced throughout the course of the study and 3) the proportion of successfully completed abortions with this protocol was not determined, the protocol should be considered preliminary. Given that the dosages changed throughout the study, additional research is suggested to determine the minimum effective dose and the optimal interval for administering each dose.

5. Ekwempu, C. C. Uterine Aspiration Using the Karman Cannulae and Syringe: The Zaria Experience. *Tropical Journal of Obstetrics & Gynaecology*. 1990; 8(2): 37–38.

**Note:** Funding provided by IPAS.

This paper reports on a research project carried out at the Department of Obstetrics and Gynaecology of Ahmadu Bello University Teaching Hospital in Zaria, Nigeria, between April 1987 and May 1988. The purpose of the study was to determine the efficacy, safety and acceptability of manual vacuum aspiration (MVA) using a Karman cannula and syringe to terminate a pregnancy in an outpatient facility without anaesthesia. (The study was also designed to determine the suitability of endometrial biopsy specimens obtained with MVA.) (p. 37). All patients who arrived in the daytime for evacuation (and all patients requiring endometrial biopsy) were included in the study for a total of 375 cases (272 endometrial biopsies, 89 non-septic abortions, 10 missed abortions and 4 septic abortions) (p. 37). The subjects were interviewed about their medical history, then treated with MVA, observed, given the contraceptive of their choice and discharged. The mean duration of the whole process was 35 minutes (with evacuation taking 5–7 minutes) (p. 37). Most patients spent 10–15 minutes in the hospital before discharge; no patient required hospitalisation (p. 37). There were very few (6) complications and none of them were serious (p. 37). The evacuations were virtually without discomfort (p. 38). In this setting, use of this procedure reduced the waiting list for dilation and curettage (D&C) for uterine evacuation. The author concludes that uterine aspiration using the Karman cannulae and syringe is quite effective, safe, reliable, convenient and economical and that MVA is suitable for an outpatient setting (p. 38).

Nigeria/MVA/CostEff/Efficacy/KarCan/KarSyr/Safety/WaitTm/HospTm.

6. Görden, R.; Maier, B.; Diesfeld, H. J. (Institute of Tropical Hygiene and Public Health, University of Heidelberg, Germany). Problems Related to Schoolgirl Pregnancies in Burkina Faso. *Studies in Family Planning*. 1993 Sep; 24(5): 283–294; ISSN: 0039-3665.

**Note:** Funding provided by the German-Burkina Health Project “Amélioration des Services de Santé en Milieu Rural”; study grant provided by Deutscher Akademischer Austauschdienst.

This qualitative study on pregnancy among school girls in Burkina Faso focuses on pregnant students and their motherhood, their social environment and that of their children. It is based on focus group interviews (three to six participants in each group) conducted in 1991 in three secondary schools in a town of 30 000 (p. 283). Twenty-eight student mothers participated in the focus-group interviews, and an in-depth follow-up interview was conducted with three of these girls (p. 285). Individual and group interviews also were carried out with twenty teachers, four parents of the student mothers and nine medical personnel from the family planning and maternity services. School life and family planning services were observed, and the records of the maternity ward and the family planning services were analysed to verify the information gained from informants (p. 285). An analysis of the findings revealed four main factors that influenced student pregnancies: lack of contraceptive knowledge, ambiguous feelings about pregnancy and contraception, conflicting messages concerning the reproductive role of young women, and the girls' low self-esteem resulting from their

interactions with older, experienced male partners (abstract, p. 283). Induced abortion is discussed, particularly regarding young women's response to unwanted pregnancy (p. 288). The girls named a range of abortion methods, including traditional chemical, modern chemical and medical methods—most of which are extremely dangerous (e.g., eating crushed beer bottles) (pp. 288–289). Costs of an abortion ranged from US\$22 to \$44 per month of gestation, depending on the health risk of the pregnancy to the woman (p. 289). The study revealed that existing family planning programmes fail to address the needs of the sexually active school-age population. Recommendations are made concerning sex education, counselling and service delivery (p. 283). The authors suggest that more research needs to be done on the role of the older male partners and on contraceptive decision-making (p. 293).

Burkina Faso/Adolescents/PatPers/Induced/Unsafe/Unwanted/Contraception/ContrPrev/Counselling/KAP/Emmenagogue.

7. Guidozzi, F.; Van der Griendt, M.; Israelstam, D. (Department of Obstetrics and Gynaecology, University of the Witwatersrand and Johannesburg Hospital, Johannesburg, Republic of South Africa). Major Complications Associated with Extra-Amniotic Prostaglandin F<sub>2a</sub> Termination of the Mid-Trimester Pregnancy. *South African Medical Journal*. 1992 Aug; 82(2): 102–104; ISSN: 0038–2469.

This study documents the risk factors for morbidity and mortality among second-trimester (13 weeks or greater) abortion cases induced using PGF<sub>2a</sub> (p. 102). The study involved a retrospective analysis of the case reports of 319 patients (271 for legal abortion and 48 for missed abortion) who had undergone intrauterine PGF<sub>2a</sub> termination at Johannesburg Hospital between January 1984 and April 1991 (p. 102). Intra-amniotic instillation was utilised in 21 of the legal abortions; extra-amniotic instillation was used in the remaining 298 patients. The ages of the patients ranged from 13 to 43 years and the range of pregnancy gestation was from 13 to 22 weeks (p. 102). Only major surgery and death were included in this study as major complications (p. 102). Results showed that three patients required hysterectomy, one developed a large tear of the posterior cervix and one died suddenly during the procedure—a high rate of major complications for this size sample (p. 102). Extra-amniotic instillation was the preferred route of administration among faculty providers (p. 102); the authors note, however, that extra-amniotic instillation was associated with high levels of morbidity and even mortality (p. 103). One of the possible reasons cited for the high level of complications was that almost 32% of the patients admitted for legal abortion were in their second trimester (p. 103). The authors conclude that Johannesburg Hospital should change its practises in the management of second-trimester abortion; they cite as options use of the following: another type of intrauterine prostaglandin such as PGE<sub>1</sub>; or non-invasive methods, such as sulprostone or gemeprost, which are more acceptable, effective and safe (p. 103).

South Africa/2ndTri/Prost/Complication/Death/Sepsis/Haemorrhage/CervTrauma.

**EDITORS' NOTE:** Several investigators have observed that when an experienced provider is available, the safest method of second-trimester abortion is the dilation and evacuation (D&E) procedure. There are significant advantages of the D&E procedure for the patient and the complication rates are lower.

8. Imoedemhe, D. A. G.; Ezimokhai, M.; Okpere, E. E.; Aboh, I. F. O. (University of Benin Teaching Hospital, Benin City, Nigeria). Intestinal Injuries Following Induced Abortion. *International Journal of Gynaecology and Obstetrics*. 1984; 22: 303–306; ISSN: 0020-7292.

This study documents the frequency of intestinal injuries following induced abortion at the University of Benin Teaching Hospital (UBTH). The researchers reviewed the cases of all induced abortion patients admitted to UBTH between August 1973 and July 1981 (p. 303). During this period, there were 1972 abortion admissions, 798 (40,4%) of which were for induced abortion; for 87 (10,9%) of these, a laparotomy was performed and 38 (43,7%) of these suffered a uterine perforation; 16 (42,1%) of the 38 had intestinal injury (p. 304). The sixteen cases of intestinal injury following induced abortion are the ones reviewed in the article. The authors noted that the majority of the patients were under age 20 (8 or 50%), nulliparous (10, or 62,5%), and unmarried (9, or 56%) (p. 304). Ten (62,5%) cases were identified as having ileal injuries and the remaining six (37,5%) had colonic injuries (p. 304). The mean duration of hospitalisation was 33,4 days (range, 5–97 days). The rate of intestinal injury following induced abortion was found to be 2% (i.e., 16 women out of 798 admitted) (p. 305). The researchers conclude that nulliparous patients are more likely to experience intestinal injury because the cervix in these women is more difficult to dilate; they also conclude that pregnancy gestation affects the

frequency and type of intestinal injury, since all injuries among women under 10 weeks gestation were colonic, while ileal injuries were more frequent after 10 weeks (p. 305).

Nigeria/Induced/Unsafe/Morbidity/Age/Parity/Gest.

9. Kizza, A. P. M.; Rogo, K. O. (Department of Obstetrics and Gynaecology, College of Health Sciences, University of Nairobi, Nairobi, Kenya//Department of Gynaecologic Oncology, Umea University Hospital, Umea, Sweden). Assessment of the Manual Vacuum Aspiration (MVA) Equipment in the Management of Incomplete Abortion. *East African Medical Journal*. 1990 Nov; 67(11): 812–821; ISSN: 0012-835x.

**Note:** Partial funding provided through equipment donation by IPAS.

This study focused on the efficacy and safety of manual vacuum aspiration (MVA) at Kenyatta National Hospital (KNH), Nairobi, Kenya (p. 813). Study patients were drawn from women presenting at KNH for treatment of incomplete abortion. During the study period, the patients were systematically allocated to either a control or study group (p. 813). The study group consisted of 300 patients with non-septic abortion who were evacuated using MVA in the ward; the control group included 285 patients who were evacuated in the theatre using sharp curettage (abstract, p. 812). All patients were followed up at 7, 14 and 21 days post-evacuation. The researchers controlled for age, parity, marital status and uterine size (p. 813). All of the control patients were given intravenous pethidine and valium, while 54,7% of the study patients were evacuated without any anaesthesia (19,6% of the study group was administered aspergic alone or with valium) (abstract, p. 812 and p. 818). The mean duration of the MVA procedure was 4–5 minutes (range, 3–15 minutes) (p. 818). Re-evacuation rates were similar for the two groups (2,3% for MVA and 3,5% for sharp curettage) as was the proportion of women in each group that had no discharge or bleeding at the 7-day follow-up (70,3% of the study group, 64,6% of the control group) (abstract, p. 812). Nausea and vomiting were sufficiently more frequent in the study group (5,3% versus 0%,  $p < 0,001$ ); there was one uterine perforation in the control group. Similar proportions of women in each group (5,4% of the study and 6,0% of the control patients) developed mild to severe sepsis (abstract, p. 812). The total hospital stay was significantly shorter for the study patients (range 6–14 hours) than for the control group, (range 24–48 hours) (p. 819). The researchers conclude that this study confirms the efficacy of MVA for the management of incomplete abortion, and they suggest MVA as the treatment of choice for non-septic incomplete abortion where the uterine size is equivalent to 14 weeks or less (p. 819).

Kenya/MVA/Efficacy/RelRsk/Anaesthesia/Complication/HospTm/OpTm.

10. Mahomed, K.; Healy, J.; Tandon, S. (Department of Obstetrics and Gynaecology, University of Zimbabwe, Harare, Zimbabwe/IPAS, Carrboro, North Carolina, USA). A Comparison of Manual Vacuum Aspiration (MVA) and Sharp Curettage in the Management of Incomplete Abortion. *International Journal of Gynaecology and Obstetrics*. 1994 Jul; 46(1): 27–32; ISSN: 0020-7292.

**Note:** Funding provided by IPAS.

This study was conducted from July 1990 to October 1991 in Harare Central and Parirenyatwa Hospitals in Harare, Zimbabwe, to determine whether manual vacuum aspiration (MVA) is as safe and effective as sharp curettage (SC) for treatment of incomplete abortion. Over a 3-month period in 1990, researchers collected demographic and clinical data on 589 women treated with SC for an incomplete abortion of up to 12 weeks gestation. One year later, after the introduction of MVA at the facility, data were similarly collected on 834 women treated with MVA for an incomplete abortion (abstract, p. 1). In 1990, abortion accounted for 12% of maternal deaths and represented 67% of all gynaecology emergency patients at Harare Central Hospital, a tertiary care facility (p. 2). Researchers found that there were higher rates presenting sepsis among women in the SC group than in the MVA group (17% vs. 11%) ( $p < 0,001$ ) (p. 3). Based on the comparative data, MVA was found to be as safe as SC in treating incomplete abortion and more effective than SC in achieving complete uterine evacuation (0% incomplete evacuations vs. 0,7%, respectively) ( $p < 0,05$ ) (p. 1). At the 2-week follow-up visit, the following results were found: 0,3% of the MVA patients were experiencing extreme pain compared with 2,7% of the patients treated with SC; 1,6% of the MVA patients had an infection compared with 2,5% of the SC patients and 0,7% of the MVA patients had other complications compared with 4,5% of the

SC group (p. 4). The authors conclude that, given the safety and effectiveness of the MVA procedure, and the potential for reducing health care costs and improving patient management with MVA, this technology should be considered by health care systems in developing countries for improving the treatment of abortion complications (p. 1).

Zimbabwe/Incomplete/Complication/MVA/Curettage/Effectiveness/Safety/Pain/HospTm/OpTm.

11. Mason, P. R.; Katzenstein, D. A.; Chimbira, T. H. K.; Mtimavalye, L. et al (University of Zimbabwe Medical School, Harare, Zimbabwe). Vaginal Flora of Women Admitted to Hospital with Signs of Sepsis Following Normal Delivery, Caesarian Section or Abortion. *Central African Journal of Medicine*. 1989 Mar; 35(3): 344–351.

**Note:** Funding provided by the University of Zimbabwe Research Board and diagnostic kits provided by Abbott Laboratories.

This article documents the frequency, causes and treatment of obstetric infection in women admitted to the Harare Maternity Hospital (HMH) in Harare, Zimbabwe. The study was limited to women admitted from August 1986 to May 1987 between 2100 hr and 1200 hr Sundays to Wednesdays. The importance of this study was prompted by reports from HMH showing that sepsis accounted for 15% of admissions and over 40% of maternal deaths in 1983 (p. 345). The microbial flora of the genital tract of 95 women who developed clinical signs of infection within 48 hours of extra-vaginal delivery, Caesarian-section delivery or abortion were compared with that of 111 women who delivered at HMH during the same time period but showed no signs of sepsis (p. 344). Women who developed sepsis were categorised into one of three groups: 1) puerperal sepsis (PVS), 2) post-Caesarian sepsis (CSS), and 3) postabortal sepsis (ABS). Women who were admitted to HMH for reasons other than sepsis were placed into one of two control groups: 1) normal vaginal delivery and 2) normal Caesarian section (p. 345). As part of the standard procedure for investigating sepsis, blood and urine samples were obtained for culture from PVS, CSS and ABS patients. Among the patients who developed sepsis, 17 had delivered by Caesarian section, 23 had aborted and 55 had delivered vaginally (p. 346). Researchers found a higher prevalence of gonococcal, chlamydial and anaerobic infection in the sepsis group; gonococci were isolated from over 20% of untreated women with sepsis, more than three times the prevalence rate in controls (p. 344). Chlamydial antigen was detected in 16–20% of women with sepsis following vaginal delivery or abortion, compared with 6% of the controls (p. 345). Clue cells, indicative of *G. vaginalis* infection, were noted in 20% of the patients with sepsis compared to 7% of the controls (p. 345). These findings suggest to the authors that antepartum investigation of infection-causing agents may identify patients who are at high risk for obstetric sepsis and who might therefore benefit from early antibiotic treatment (p. 345).

Zimbabwe/Sepsis/Induced/STD.

12. Megafu, U. (Department of Obstetrics and Gynaecology, University of Nigeria Teaching Hospital, Enugu, Nigeria). Bowel Injury in Septic Abortion: The Need for More Aggressive Management. *International Journal of Gynaecology and Obstetrics*. 1980 Mar-Apr; 17(5): 450–453; ISSN: 0020-7292.

This study involved an analysis of bowel injury in cases of septic abortion treated over a 6-year period (1972–1978) at the University of Nigeria Teaching Hospital at Enugu. The aim was to determine both the frequency of injury to the bowels and the mortality rate from such cases (p. 450). During this period, 1498 cases of abortion were treated and 21 151 deliveries were performed. Sixty-seven (4%) patients were diagnosed with septic abortion, of whom 16,4% had intestinal injuries (p. 451). Laparotomy was performed if there was evidence of perforation of the uterus or when peritonitis failed to improve (p. 451). Of the 15 patients who had laparotomy, 11 (73%) had perforated bowels. The case-fatality rate for those patients with perforation of the bowel was 63,6%. Survival of patients with intestinal injuries was dependent on the operative procedure used. When a colostomy was involved the mortality was 0,0%. In patients who had simple closure of the perforation (n=3), or primary resection and anaestomosis (n=3), mortality was 66,6% (p. 450). Thus the author concludes that, in the case of septic abortion, it is imperative to perform laparotomy much sooner than usual.

Nigeria/Induced/Sepsis/Complication/AbRate/Perforation.

13. Oyebola, D. D. O. (Research Fellow, Department of Medicine, University of Ibadan, Ibadan, Nigeria). Yoruba Traditional Healers' Knowledge of Contraception, Abortion and Infertility. *East African Medical Journal*. 1981 Oct; 58(10): 777–784; ISSN: 0012-835X.

The purpose of this study was to research the knowledge of Yoruba traditional healers (herbalists) concerning contraception, abortion and infertility (p. 777, abstract). The subject population was composed of 106 traditional healers (96 males and 10 females) who lived in 31 towns/villages in the Yoruba-speaking areas of Nigeria. This group was interviewed using a semi-structured questionnaire. Forty-six (43,4%) of the herbalists interviewed knew about contraceptive methods, 41 (38,7%) did not know about contraceptive methods and 19 (17,9%) gave no response (p. 778). Twenty-one (19,8%) of the herbalists had been asked to perform an abortion, 72 (67%) had not and 13 (12,3%) did not respond. Of those asked, only one (4,8%) had performed an abortion (p. 781); in general, the herbalists were against the idea of inducing abortion (p. 783). Concerning infertility, 77 (72,6%) of the healers stated that infertility could always be treated successfully, 16 (15,1%) stated that success with the treatment was not achieved in all cases, while 13 (12,3%) did not respond (p. 782). The author concludes that further studies need to be undertaken to determine the efficacy of some traditional methods of contraception and fertility treatment.

Nigeria/Race-Ethnic/Traditional/Contraception/Induced.

14. Oyieke, J. B. O. (Department of Obstetrics and Gynaecology, College of Health Sciences, University of Nairobi, Nairobi, Kenya). Menstrual Regulation in Nairobi Between October 1982 and October 1985. *East African Medical Journal*. 1986 Dec; 63(12): 792–797; ISSN: 0012-835x.

**Note:** Equipment for the study provided by International Women's Health Coalition.

The purpose of this article was to report on the efficacy of and complication rates associated with menstrual regulation (MR) procedures (performed using the Karman cannulae and syringe) between October 1982 and October 1985 in Nairobi, Kenya (p. 792). The methodology comprised a review of the case notes of 223 MR procedures performed during this period. The characteristics of the study patients were as follows: only 4 (1,85%) were less than 20 years old; the largest proportion (110, or 49,3%) were 21–25 years old; most were of low parity (21,5% were nulliparous, 30% were para 1, and 42,2% were para 2); most pregnancies were between 5 and 7 weeks of pregnancy gestation (28,3% were at 5–6 weeks and 53,4% were at 6–7 weeks) (pp. 794–795). Over 90% of the women had knowledge of a method of contraception (p. 793). Salient results were as follows: MR was found to be a simple procedure which could be done on an outpatient or office basis; the procedure required no anaesthetic agent and took an average of 7 minutes to perform; 90% of the patients lost no more than 50 ml of blood (abstract, p. 792); a complete evacuation was achieved in 214 (96%) cases; very few immediate complications were noted, the most prominent being pain in 12 (5,4%) cases, which was treated with an intramuscular injection of indomethacin (p. 796); and no cases of postabortion sepsis or uterine perforation were observed (abstract, p. 792). The author suggests that MR be provided as a back-up to failed contraception and that family planning providers be trained in the MR technique (p. 797).

Kenya/MR/Efficacy/Effectiveness/Gest/Complication/Pain/KarCan/KarSyr.

15. Richards, A.; Lachman, E.; Pitsoe, S. B.; Moodley, J. (Department of Obstetrics and Gynaecology, University of Natal and King Edward VIII Hospital, Durban, Republic of South Africa). The Incidence of Major Abdominal Surgery after Septic Abortion—An Indicator of Complications Due to Illegal Abortion. *South African Medical Journal*. 1985 Nov 23; 68(11): 799–800; ISSN: 0038-2469.

This report analyses the use of abdominal surgery to treat complications of septic abortion at King Edward VIII Hospital, a facility which serves five million people in Durban and surrounding areas in Natal (p. 799). The hospital records of 2450 women admitted for treatment of abortion complications during the 15-month period of June 1, 1983 through August 1, 1984 were reviewed (p. 799); the mean gestational age was 15,2 weeks; the mean age of women undergoing laparotomy was 24,4 years; and the mean parity was 2,5 (p. 800). Approximately a quarter (647 or 26,4%) of the cases met the criteria for septic abortion (p. 799). The results were as follows: 42 (6,49%) women underwent laparotomy; 35 (5,41%) patients had a hysterectomy (p. 799);

12 (1,8%) patients died (7 of these had a hysterectomy); sepsis was the main indication for surgery; and the mean hospital stay was 14,6 days (range, 2–57 days) (compared with an average stay for non-septic abortion patients of 1 or 2 days) (p. 800). The authors conclude that there was a high incidence of serious complications after illegal abortion, and that there was a particularly high amount of abdominal surgical procedures carried out to treat abortion sepsis (p. 800). They also note, based upon findings in other countries, that the rate of hysterectomy following legal abortion was significantly lower than the rate following illegal abortion (p. 800). The authors suggest a reappraisal of the abortion law and the institution of family planning and sex education in the community (p. 800).

South Africa/Induced/Sepsis.

16. Rogo, K. O.; Nyamu, J. M. (Department of Obstetrics and Gynaecology, College of Health Sciences, University of Nairobi, Nairobi, Kenya//Department of Obstetrics and Gynaecology, Kenyatta National Hospital, Nairobi, Kenya). Legal Termination of Pregnancy at the Kenyatta National Hospital Using Prostaglandin F<sub>2a</sub> in Mid Trimester. *East African Medical Journal*. 1989 May; 66(5): 333–339; ISSN: 0012-835x.

This article presents the results of a research study on legal mid-trimester termination of pregnancy (TOP) using the extra-amniotic prostaglandin F<sub>2a</sub> (PGF<sub>2a</sub>) at Kenyatta National Hospital (KNH) in Nairobi (p. 333). It is a routine practise at KNH to terminate pregnancies below 12 weeks gestation by dilation and evacuation (D&E) under a sedative or general anaesthesia and to instill extra-amniotic Prostaglandin F<sub>2a</sub> for those 14 weeks and above (pp. 333–334). The case notes of all (n=58) the patients who were admitted to the acute gynaecology ward for legal mid-trimester TOP in the 4-year period 1981–1984 were examined for the study (27 were treated with D&E and 31 were treated with PGF<sub>2a</sub>). During the study period, the same ward admitted an estimated 7200–10 000 cases of incomplete abortion per annum (p. 334). Information on the following for each patient was obtained: reason for termination; age; parity; gestation; marital status and complications (p. 334). The most common reason for TOP was psychosocial (30, or 51,7%), and only eight (13,8%) of the cases were for contraceptive failure (p. 335). The women in the study sample were primarily young (32,3% were teenagers), nulliparous (51,7%) and single (83,9%) (p. 335). The 31 women treated with PGF<sub>2a</sub> were studied further. The results for these cases showed that: the mean induction-delivery interval was 16,6 hours; induction-delivery time was significantly shorter for the 25 to 29 year-olds than for the 20 to 24 year-olds, and it was shortest in patients with the highest parity (p. 336); no major complications were recorded and the minor complication rate was low (6 patients, or 19,2%). The mean duration of hospital stay was 3,5 days (p. 337). The authors conclude that using PGF<sub>2a</sub> to terminate mid-trimester pregnancies is safe and effective. They suggest that other centres adopt procedures for extra-amniotic instillation of this drug to provide better services for women seeking a TOP (p. 339).

Kenya/2ndTri/Prost/Effectiveness/Safety/Age/Parity/Complication/OpTm/HospTm.

**EDITORS' NOTE:** The authors state that it is routine practise at KNH to use D&E to terminate pregnancies of 12 weeks uterine size or less; this is unusual as D&E is usually confined to use in the second trimester.

17. Rotimi, V. O.; Abudu, O. O. (College of Medicine, Idi-Araba, Lagos, Nigeria). Anaerobes and Septic Abortion. *African Journal of Medicine and Medical Science*. 1986; 15: 41–47.

This study describes the bacterial flora of the genital tracts of patients with septic abortion, with particular emphasis on anaerobic bacteria (p. 42). Twenty-two patients with septic abortion who were admitted to the gynaecological wards of Lagos University Teaching Hospital (LUTH) were studied bacteriologically. Twenty other Nigerian women attending LUTH's Gynaecological Clinic outpatient department (for reasons other than infection) were used as a control group; each patient was investigated for possible concurrent bacteraemia (p. 42). Antibiotics taken by individual patients prior to admission were noted (none of the control subjects had been taking antibiotics during the preceding month), and high vaginal specimens (HVS) and cervical specimens (CS) and blood samples were obtained from each patient (p. 42). The predominant flora in the 22 septic abortion patients were anaerobes. The most common anaerobe, *Bacteroides bivius*, was isolated from all 22 study patients and from 12 of the 20 controls. The most common facultative bacteria isolated from both groups were *Escherichia coli*, *Klebsiella aerogenes* and *Streptococcus faecalis* (abstract, p. 41). The results

demonstrate that the HVS and CS of afebrile normal women contain abundant bacteria that are essentially identical to the flora of patients with septic abortion. Yet, the quantity of each bacterial isolate was significantly different in the two groups, with the study population having higher counts (p. 44). The authors conclude that this study underscores the importance of anaerobes in sepsis among abortion patients (abstract, p. 41).

Nigeria/Sepsis/Antibiotic/STD.

18. Seeras, R. Evaluation of Prophylactic Use of Tetracycline After Evacuation in Abortion in Harare Central Hospital. *East African Medical Journal*. 1989 Sep; 66(9): 607–611; ISSN: 0012-835x.

The purpose of this randomised controlled study was to determine the efficacy of tetracycline as a prophylactic antibiotic therapy in treating non-septic incomplete abortion patients. One hundred forty patients presenting with non-septic incomplete abortion from February through May 1985 at Harare Central Hospital were recruited for the study. The study patients were randomly divided into a treatment (n=62) and control (n=78) group, and all had an aseptic evacuation procedure. (In 1984, the gynaecology emergency unit of Harare Central Hospital admitted 3240 cases of incomplete abortion, of which 2891 [89,2%] were non-septic on admission [p. 607].) Following evacuation, the treatment group was given tetracycline (500 mg four times daily for 1 week) (p. 607). Examination for sepsis, based on defined parameters, was performed 1 week later by the author, who did not know to which group the patient belonged. The majority of the patients in both groups were 15–24 years old and of parity one through four (p. 608). An overall sepsis rate of 35,6% was recorded for this study (p. 610). No statistically significant difference in sepsis rates between treatment and control groups was noted. The higher frequency of sepsis recorded in the treatment group (25 of 62, or 40,32%) in comparison to the control group (23 of 78, or 29,5%) was not found to be *statistically* significantly different (p. 608). Although all patients said they took their drugs as instructed, further questioning and counting of remaining capsules revealed that the majority (82,6%) had not taken a part, or any, of the course and the patients who did complete the course had not followed the instructions properly. Thus, the lack of significant reduction in occurrence of sepsis with the use of prophylactic tetracycline was thought to be due to poor compliance (abstract, p. 607). The author argues that this was due to the young age, low socioeconomic status and lack of understanding of the regimen among the patients. In conclusion, the author suggests that tetracycline treatment be replaced by an inexpensive, single-dose, hospital-administered prophylaxis regimen that covers a wide range of organisms (e.g., Doxycycline).

Zimbabwe/Antibiotic/Efficacy/CostEff/Evaluation/Incomplete.

19. Verkuyl, D. A. A.; Crowther, C. A. (Department of Obstetrics and Gynaecology, Harare Central Hospital, Zimbabwe). Suction v. Conventional Curettage in Incomplete Abortion: A Randomised Controlled Trial. *South African Medical Journal*. 1993 Jan; 83(1): 13–15; ISSN: 0038–2469.

The purpose of this study was to compare the use of suction curettage, using the Karman cannulae and syringe, to the use of conventional sharp curettage for treating incomplete abortion patients at Harare Central Hospital (whose over 4000 patients per year undergo uterine evacuation for an incomplete abortion) (p. 13). Criteria for inclusion in the study were: evidence of incomplete abortion suitable for evacuation as an outpatient, gestational age less than 18 weeks and no evidence of sepsis or other complication that would require hospitalisation. All patients had a haemoglobin level of 10 g/dl or higher prior to the procedure, although this was not a requirement of the study (p. 13). The authors recruited 357 patients during the study period and randomly assigned them to one of two treatment groups—179 were allocated to the suction group and 178 to the conventional curettage group. Two weeks following the procedure, the patients were asked to return for a follow-up visit. The suction curettage group had a significantly lower mean intra-operative blood loss (19,2 ml versus 36,3 ml,  $p < 0,0001$ ) and a significantly higher mean haemoglobin level (11,3 g/dl versus 10,8 g/dl,  $p < 0,04$ ) at follow-up than did the patients in the conventional curettage group (pp. 14–15). Suction curettage was a significantly faster procedure (2,2 versus 3,4 minutes,  $p < 0,0001$ ) and was determined by the provider to be significantly less painful than sharp curettage (9 suction curettage patients v. 22 sharp curettage patients experienced severe pain) ( $p=0,02$ ). No difference was found between the two groups with regard to the incidence of postabortal sepsis or the need for re-evacuation. No problems were encountered with the use of suction curettage in the presence of uterine sepsis (abstract, p. 13). The authors conclude that suction is preferable to conventional curettage because it requires fewer blood transfusions; it reduces patient wait time

(since there is no need for an operating theatre or an anaesthesiologist) and it is less painful. In addition, they recommend that postabortion family planning counselling be a mandatory component of patient care.

Zimbabwe/Incomplete/MVA/KarCan/KarSyr/Curettag/Bleeding/OpTm/Pain.

20. World Health Organisation Geneva, Switzerland. Infections, Pregnancies, and Infertility: Perspectives on Prevention. *Fertility and Sterility*. 1987 Jun; 47(6): 964–968. PIP 043430

**Note:** Supported by the Special Programme of Research, Development and Research Training in Human Reproduction, World Health Organisation (WHO). Task Force on the Diagnosis and Treatment of Infertility.

This study documents how sexually transmitted diseases (STDs), pelvic inflammatory disease (PID) and postpartum/postabortion infections affect the incidence of bilateral tubal occlusion (BTO) among infertile couples. The authors note that BTO in female patients is the most common cause of infection-related infertility, and it is believed to occur in three regional patterns worldwide: one in Africa, one in non-African developing countries and one in developed countries. This study was conducted to determine if the pattern truly exists and, if so, to determine the causes for these differences by region. The WHO supported a multicentre, collaborative investigation of infertile couples using a standardised diagnostic approach between 1979 and 1984 in 33 centres covering 25 countries throughout the developed and the developing world. Nearly 8500 couples enrolled in the study (290 from Africa, 1353 from Asia, 882 from Latin America and 3038 from various developed countries), and more than 5800 (69%) completed the investigation to the point where both partners were assessed (abstract, p. 964). Researchers found that BTO and other infectious infertility aetiologies were clearly and consistently related to a woman's history of STDs, PID and pregnancy complications in every region studied (p. 965). The developed country group had a higher *relative risk* (RR) of BTO associated with a history of STDs (RR=2,8) or pregnancy complications (RR=2,3). The African centres, however, had the highest *absolute rates* of BTO (p. 966). More than 40% of African women who had never been pregnant and who eventually sought infertility evaluation were diagnosed as having BTO (p. 966). In the developed countries and Asia, the number of previous abortions was associated with a more severe BTO gradient than the number of live births, while the reverse was true for Africa and Latin America (p. 966). Researchers conclude that STD and pregnancy complications affect the level of BTO and other infection-related infertility in each of the four regions studied, with the most widespread causes in Africa (p. 966). Concluding remarks stress that infection-related infertility is preventable. The authors recommend channelling funds and programme efforts to the diagnosis and treatment of infections as opposed to the current efforts directed at repairing the damage of STD sequelae (p. 968).

Prevab/STD/Complication.

## GREY LITERATURE

1. Aggarwal, V. P. Septic Abortion: Management and Prevention in *Reproductive Health in Africa*. J.K.G. Mati and O.O. Ladipo (eds.) Nairobi: 1985. page 204.\*

The author states that reasons for seeking termination of pregnancy include: fear of dismissal from school, financial constraints, extramarital relations and poor marital harmony. Reported septic abortion constituted 24,4% of the total abortion admissions during 1984. Sepsis was four times more common among women with induced versus non-induced abortion. The most serious observed complication was endotoxin shock with circulatory failure. The author therefore recommends use of broad spectrum antibiotics, monitoring of renal function and circulation, as well as appropriate surgery for those who need it. The author concludes by emphasising the need to prevent abortion by providing sex education and contraceptives.

SSA/Antibiotic/Sepsis.

2. Bradley, J. (IPAS Regional Representative). An Evaluation of MVA in Kenya: Service Delivery Issues. 1992 Mar. 25 pages.

This study evaluated the appropriateness of IPAS' training strategy as it related to decentralised abortion services in Kenya. It documented the status of manual vacuum aspiration (MVA) services at clinical sites to determine additional inputs required to offer high-quality services, and provided the Ministry of Health with a summary of the status of MVA services, which could serve as a basis for expanding the programme (p. 2). Visits to all 18 of IPAS' MVA service delivery sites were conducted by the IPAS Regional Representative and MVA/infection control nurses between January and March 1992 (p. 2); only 14 sites are included in this analysis, however, because four sites had temporarily or permanently discontinued use of MVA (usually because of problems in keeping equipment or supplies, such as sterilisation solution, stocked). The data collection methodology included interviews with district gynaecologists, medical officers and ward staff, and observation of the MVA service delivery areas, the equipment used and sterilisation methods (p. 2). Service delivery issues investigated included: continuity of services subsequent to training; ongoing training within the hospital among service providers; patient selection criteria; sedation protocol; case loads; quality of the service delivery area; record keeping; patient follow-up; family planning counselling; infection control; and equipment supplies (p. 2). Results showed that MVA has been institutionalised and has become the evacuation method of choice for most of these locations (p. 4). Training in the MVA technique also has been incorporated into Kenyatta National Hospital's undergraduate and postgraduate courses of study (p. 12). Patient management was greatly improved with MVA in Kenya because of: lower levels of sedation necessary; shorter hospital stays (from 90 hours to 10 hours after the introduction of MVA at one site); procedure performed in a non-theatre setting; and non-use of anaesthesia (p. 13). Deficiencies were found in some areas including: shortage of instruments at some sites; lack of knowledge about infection control among nursing staff; lack of care for the equipment; and lack of family planning counselling at a place and time convenient to the patients (pp. 13–16). The author suggests the following actions: supply limited funds for minor structural repairs; supply equipment to sites where necessary; arrange training for nursing staff on infection control procedures; arrange for postabortion family planning training for nurses on the gynaecological wards and discuss patient management for this service; continue negotiations with the Ministry of Health and World Bank for financial and logistical support to ensure continuity of supplies (in order to create a sustainable, self-financing system); and conduct follow-up monitoring visits twice per year (p. 17).

Kenya/MVA/Country Report.

3. Brokenshire, C. Family Planning Policy's Impact on Abortion Practices in Kenya. 6 pages.

**Note:** Funding provided by IPAS. Presented at The American Public Health Association's Annual Meeting, Chicago, Illinois; 22–26 October 1989.

This paper discusses the impact that restrictive family planning policies have had on the provision of abortion services in Kenya (p. 1). The author discusses the provision of abortion services at Kenyatta National Hospital (KNH) both pre- and post-1987, when IPAS introduced a training programme in manual vacuum aspiration (MVA). The majority of abortion complications presenting at KNH were suspected to be illegally induced, mostly among single adolescent girls who had little or no knowledge about family planning. The author feels that this was the result of policies stating that only married people can receive contraceptives and prohibiting schools from providing sexuality education (p. 2). The author then discusses the training programme at KNH, the advantages of MVA over dilation and curettage (D&C), and the important outcomes of this programme: reduction in duration of hospital stay from 91 hours to less than 24 hours; reduction of bed occupancy rate from 3 to a bed to 1 to a bed; and a marked reduction in time and resource utilisation of operating theatres (pp. 4–5). The author concludes that maternal deaths in many developing countries could be reduced by 25–40% if unmet need were satisfied (p. 5), and calls for more funding for abortion research.

Kenya/Policy/Access/FP/MVA/D&C/HospTm.

4. Burch, V. C.; Richards, G. A. *Escherichia Coli* Septicaemia and Meningitis Complicating a Septic Incomplete Abortion. [letter]. *South African Medical Journal*. 1991 Jan. PIP 066768.

Physicians at the University of Witwatersrand admitted a feverish, confused and semicomatose 36-year-old black woman with a stiff neck to Coronation Hospital in Johannesburg, South Africa. They found pelvic sepsis and a bulky and forward-tipped, 10-week-size uterus still containing conceptus and a thickened endometrium.

Tested blood samples revealed leucocytosis, especially neutrophils. Laboratory personnel analysed the cerebral spinal fluid (CSF), peripheral blood samples and endometrial curettings. They found *Escherichia coli* which was the aetiologic organism responsible for the subsequently diagnosed acute pyogenic meningitis. The physicians performed a dilation and curettage and started the woman on penicillin and chloramphenicol. Later she received cefotaxime for 14 days. She did not experience any other illness so they released her 1 month after admission. This case represented the first documented case of meningitis in a septic abortion case. Third-generation cephalosporin has been responsible for the fall in mortality from meningitis (40–80% to 10–20%) because they are effective against Gram-negative enteric organisms and penetrate inflamed meninges easily. To be effective, they should be administered for 21 days. If the organisms are resistant, however, physicians should administer ureidopenicillins or more specific cephalosporin. Chloramphenicol is not effective because it does not yield adequate bactericidal effect.

South Africa/Induced/Complication/Antibiotic.

5. Chikamata, D. M. (The Population Council, New York, New York, USA). Abortion-Related Complications. 16 pages.

**Note:** Presented at The Safe Motherhood Conference for the SADCC Countries. Harare, Zimbabwe; 1990 Oct 29.

The purpose of this paper was to review abortion-related issues in sub-Saharan Africa. The author discusses abortion and its consequences, including maternal mortality, morbidity and infertility, access to abortion, legal issues, the quality of abortion-related services, and the need to improve the management of abortion complications (p. 9). The author argues for improving the management of patients at all levels of the health system, including the community, the primary, the first referral and the second and tertiary levels (p.5); suggestions for improving the management at each of these levels also are presented (pp. 14–15). The paper concludes with a call to reform abortion laws within the SADCC countries.

Angola/Botswana/Lesotho/Malawi/Mozambique/Swaziland/Tanzania/Zambia/Zimbabwe/Induced/Unsafe/Legal/Complication/Access/FP.

6. de Wet, G. H.; de Jonge, E. T. M.; Venter, C. P.; Makin, J. A Comparison Between Hydroxyzine (Aterax) & Fentanyl and Midazolam (Dormicum) & Fentanyl for Systemic Analgesia for Evacuation of Uncomplicated Incomplete Abortion.

**Note:** Presented at the First Reproductive Health Priorities Conference. South Africa. 1994 June.

This study involved a randomised trial to compare two methods of systemic analgesia for evacuation of uncomplicated incomplete abortions. The study population, which included 99 patients with the diagnosis of uncomplicated incomplete abortion and a uterus size of less than 16 weeks, was randomised to either the midazolam or hydroxyzine group. The main outcome measures were: evacuation duration, vital signs during the procedure, patient acceptability and duration of hospitalisation. There was no significant difference between the two groups with respect to the time taken for evacuation, duration of evacuation, pre-and post-evacuation pulse rate and oxygen saturation. There also was no difference in the systolic blood pressure between the two groups. There was, however, a statistically significantly lower post-analgesia pre-evacuation diastolic blood pressure ( $p < 0.001$ ). Moderate to severe pain was experienced by 10% of patients undergoing evacuation with midazolam and by 29% in the hydroxyzine group ( $p = 0.03$ ). Seventeen percent of the patients experienced post-operative amnesia and significantly more of these were in the midazolam group ( $p = 0.05$ ). The authors conclude that both methods of systemic analgesia are effective and safe for evacuation of uncomplicated incomplete abortions, but midazolam is more acceptable to the patients although it may be less cost-effective. (The price at the time of writing for midazolam is R5,58 per 5 mg [one ampoule] and R3,43 per 100 mg [one ampoule] for hydroxyzine.)

South Africa/Efficacy/Evaluation/Injectable/Pain/Price/CostEff.

7. Dhabiialla, H. S. Prevalence of *Toxoplasma* Antibodies in Women of Productive Age in Nairobi and its Relationship with Abortion and Blood Groups. Nairobi, Kenya: Kenyatta National Hospital, University of Nairobi; 1986.

This report summarises the results of a research study undertaken to determine the prevalence of *Toxoplasma* antibodies (an indication of *Toxoplasma gondii* infection) and the relationship between *Toxoplasma* antibodies, abortion and blood groups. The study was a component of a master of medicine degree. The results were based on interviews and analysis of serum of 610 patients at Kenyatta National Hospital (KNH). Three hundred five of these patients were attending the antenatal clinic at KNH and had a normal (no complications) pregnancy. The other 305 were patients admitted to the acute gynaecological ward at KNH following an abortion or were in the process of aborting at 28 weeks of gestation or less. Analysis of the results indicated that while 75% of the patients in the group with normal pregnancies were between 21 and 30 years of age, 75% of those in the abortion group were aged between 16 and 30 years suggesting that there were more young (i.e., <20 years) patients admitted to the abortion ward. The overall prevalence of *Toxoplasma* antibodies in women between 11 and 40 years was 28,4%. The prevalence was 42,3% for those with a history of abortion(s) and 18,5% for those with no such history. The proportion of all patients whose serum *Toxoplasma* antibody levels were suggestive of active infection was 5,6%. Prevalence increased with an increase in the number of abortions—and was higher among second trimester abortion patients (31,2%) than among patients who aborted in the first trimester (29,45). Prevalence was not noticeably higher in any particular blood group, indicating lack of a relationship between *Toxoplasma* antibodies and blood groups. The authors recommend that, before being booked at an antenatal clinic, all patients—especially those with a past history of abortion(s)—be screened for *Toxoplasma* antibodies and if suggestive of active infection, treatment be initiated.

Kenya/Induced.

8. Doclub, A. Abortion Practice in Mauritius. University of Mauritius; 1994.

Though it is difficult to trace the history of abortion in Mauritius, the author believes that it has been a problem, though not widespread, for considerable time. That abortion was practised can be deduced from the fact that there was an existing French law on abortion in Mauritius in 1778. That abortion was not widespread at the time, however, can be deduced from how the community functioned. Frequent pregnancies were encouraged and pregnancy was socially, economically and culturally acceptable. Out-of-wedlock pregnancies were likely to be rare as the society was highly rigid. Women had time to care for their children as they did not work and also were assisted by their relatives. Women who did decide to abort used primitive methods—running and jumping, carrying heavy loads, doing hard and exhaustive work, taking concoctions and inserting instruments into the uterus to dislodge the foetus.

Mauritius/Abortion.

9. Fomulu, M. Bacteriological and Sensitivity Patterns in Septic Abortion, Post-abortal Sepsis and Associated Pelvic Abscesses at Kenyatta National Hospital. Nairobi, Kenya: Kenyatta National Hospital, Nairobi; 1980.

This is a summary of the results of a research study 1) to identify the different organisms responsible for septic abortion, postabortal sepsis and associated pelvic abscesses, and 2) to establish which antibiotics are most effective in the treatment of abortion and abortion-related sepsis. The results were based on the analysis of urethral swabs and interviews with 82 patients admitted to the emergency gynaecological ward at Kenyatta National Hospital for septic abortion and postabortal sepsis between January and December 1979. Cultures and antibiotic sensitivity tests on isolated stains were performed. During the interviews, the investigator found that the highest occurrences of abortion sepsis were in the 21–25 years age group. During the study period, there were 44 332 deliveries in the maternity ward as compared to 3922 abortions and 16 abortion deaths. The results indicated that the incidence of abortion decreased with increasing parity. Of the 62,5% patients who admitted to having interfered with the pregnancy, 90,3% were single (23,2% of them were students). Termination according to the patients was most often carried out by medical personnel in private institutions (37%); 10 patients obtained their pregnancy termination in a government institution. Both aerobic and anaerobic organisms were found to be the cause of infection associated with abortion.

10. Gomi E. Illegal Abortion in Senegal. (L'avortement Cladestin au Senegal). *Afrique Medicale*. 1986 Sep; 25(244): 489–90. PIP 044941.

The author analyses complications of induced abortion. He notes that induced abortion is illegal in Senegal although it is not easy to determine its frequency because women suffering from complications of an illegal abortion are often unwilling to aid in their own treatment by divulging the means used to induce the abortion. Clandestine abortions are often associated with poor hygienic conditions, which expose the woman to risk of infection. Non-medicinal abortion providers often are ignorant of genital anatomy and unskilled in gynaecological surgery. Death may result in a few minutes from shock or embolism but the provider does not take any action because of the illegal status of abortion. Secondary complications may appear because of local trauma, infection or from caustic or toxic agents used. Haemorrhage may be external and abundant, originating in the cervix, vagina or uterine cavity and/or it may occur within the abdominal cavity if an organ is perforated. In these cases, surgical treatment may be required to save the woman's life. Infections of varying degrees of seriousness may occur and may be localised in the genital organs (pelvic peritonitis), spread throughout the abdomen (generalised peritonitis) or spread throughout the body. Pelvic peritonitis results from performing abortions under septic conditions and from uterine retention of part of the embryo. Symptoms include abdominal pain, fever, vomiting and arrest of intestinal transit. Symptoms are often masked by uninformed use of antibiotics, which allows the infection to spread to the other abdominal organs. Generalised peritonitis results from grave lesions of the genital or intestinal tracts which can be produced by the instruments used. In the absence of medical and surgical treatment, the patient's condition rapidly deteriorates and death ensues. Generalised infection may be due to septicaemia, tetanus or hepatonephritis; hospitalisation in a specialised service is required. Thromboembolic complications may also follow clandestine abortions. Late complications and sequelae may include chronic abdominal pain, menstrual disturbances, secondary sterility or inability to have sexual relations because of vaginal lesions produced by caustic agents. Later pregnancies may end up as an ectopic, or may spontaneously abort because of cervical lesions caused by trauma. Psychological sequelae may include depression or confusion. The information and contraceptive services should be made available to young girls to prevent illegal abortions; and the author suggests that social legislation should be modified to assist future mothers.

Senegal/Complication/Induced.

11. Hord, C. (IPAS, Carrboro, North Carolina, USA). Access to Outpatient Treatment for Complications of Abortion in Zaria and Enugu, Nigeria.

**Note:** Funding provided by IPAS. Presented at The American Public Health Association Conference, 24 October 1989; Chicago, Illinois. 7 pages.

This paper reports on two hospital-based training programmes that introduced medical providers to the manual vacuum aspiration (MVA) technique for uterine evacuation (p. 1). The projects were begun in 1987 at Ahmadu Bello University in the predominantly Muslim Northern province of Saria and in the Christian Eastern province of Enugu at the University of Nigeria Teaching Hospital; they were still ongoing in 1989 when two other hospitals were added to the project. In 1989, the Ahmadu Bello University was treating 700 women per year for abortion complications using dilation and curettage, and the University of Nigeria Teaching Hospital was treating 60 per month. Training of providers in the MVA method was incorporated into the existing training systems at the hospitals; four or five of the most senior medical providers were trained with the understanding that they would, in turn, train the rest of the staff (p. 3). In Zaria, the procedure is performed in an outpatient family planning clinic, allowing for the provision of postabortion family planning counselling immediately following the procedure; in Enugu, the procedure is offered on the casualty ward (p. 4). The salient benefits of the introduction of the MVA method were as follows: 1) a significant reduction in patient waiting time (from 48 hours to 15 minutes) and total hospital time (primarily because MVA does not require general anaesthesia) (p. 3); 2) treatment in an outpatient setting with no cost to patients (p. 3); and 3) a significant reduction in complications from the procedure (p. 3). The importance of these findings is that: 1) there is a significant increase in practitioners trained in the MVA procedure and 2) providing postabortion family planning counselling in tandem with MVA should result in a decrease in abortion and concomitant costs (pp. 4–5).

12. Hord, C. (IPAS, Carrboro, North Carolina, USA). *Evaluation of Manual Vacuum Aspiration (MVA) Training Programs in Nigeria*. 14 pages.

**Note:** Funding provided by IPAS. Presented at Ad Hoc Training Evaluation Meeting, 20–21 February 1992; Management Sciences for Health, Boston, Massachusetts.

The paper reports on an evaluation of manual vacuum aspiration (MVA) training programmes which IPAS instituted between 1988 and 1990 in two Nigerian hospitals, one in Lagos and one in Zaria. This simple qualitative evaluation was aimed at measuring institutionalisation of the use of the technique, and gathering information about the effectiveness of the training programme before embarking on a new expanded phase of activities (p. 2). Specifically, IPAS attempted to determine whether trainees continued to use MVA following the course and had transferred these skills to other colleagues in the institution and to identify barriers that inhibit training in and use of MVA at intermediate and lower levels of the health system (p. 3). IPAS designed the evaluation in collaboration with two Nigerian consultants who conducted the interviews. Based upon a 20% convenience sample from each category of medical personnel that had been trained, 50 individuals were identified for interviews (p. 5); the sample was chosen to reflect a variety of locations, sizes of institutions and types of profession (p. 4). One questionnaire was designed to determine the extent to which trainees used the technique and any subsequent training that they conducted; it was also designed to document any use of the technique by others in the institution that the original trainees had left (p. 4). Factors that complicated the evaluation process included the following: trainees had attended different types of training courses; trainees had different skill levels and trainees were difficult to track and locate for the evaluation (p. 10). Of the 50 trainees who had been identified, 41 were interviewed (p. 3). Researchers discovered that: 1) preference for MVA as a treatment method increased from 15% before the training to 61% after the training, while preference for dilation and curettage (D&C) decreased from 56% to less than 10% (p. 5); 56% of the trainees had trained colleagues in the MVA procedure after the MVA course; 95% of the trainees knew the essential facts about MVA; 100% of the trainees worked in facilities that offer post-abortion family planning counselling services (p. 13); and all those interviewed recommended MVA training to others because of the observed reduction in morbidity and mortality among incomplete abortion patients (p. 6). According to the author, this evaluation was a useful tool for documenting the extent of family planning services being provided to abortion patients, respondents' knowledge about MVA equipment availability in Nigeria and their impressions of the structure of the MVA course (p. 6).

Nigeria/MVA/PAFP/Evaluation/ProvPers.

13. International Planned Parenthood Federation, Africa Regional Bureau. *Unsafe Abortion and Post-Abortion Family Planning in Africa*. 36 pages.

**Note:** Presented at The Mauritius Conference, 24–28 March 1994; Grand' Baie, Mauritius.

The purpose of this conference was 1) to make family planning associations (FPAs) and governments aware of the public health and social problems caused by unsafe abortion in Africa, and 2) to work out strategies and action plans for reducing the incidence of unsafe abortion (p. 3). Over 100 participants from 20 African countries and a number of international agencies attended the conference (p. 3). Participants included representatives of FPAs and health ministries from the following African countries: Benin, Botswana, Burkina Faso, Cameroon, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Guinea, Kenya, Lesotho, Madagascar, Mauritius, Niger, Nigeria, Senegal, Tanzania, Togo, Uganda and Zambia (p. 3). Philosophers, ethicists and religious leaders were not invited so that religious, moral and ethical issues could be dealt with more openly (p. 6). The proceedings include an overview of the abortion situation in Africa, as described in numerous presentations, and a map of Africa with the legal situation in each country clearly marked (p. 13). A presentation of actions that the national FPAs could undertake included the following: provide information on the sexual health needs of adolescents, levels of unwanted pregnancy among adolescents and others, the incidence of unsafe abortion, the health consequences of unsafe abortion and the costs of unsafe abortions in terms of public health resources; work with the media to publicise the problem; work with legal professionals to develop clear guidelines for health workers on interpretation of the law, and use "test cases" to urge a more liberal

interpretation of the law; improve treatment of post-abortion complications; and work with health services to provide high-quality post-abortion family planning (PAFP) services (p. 15). The proceedings then review the initiatives and commitments of donor and technical cooperating agencies on these issues (pp. 16–23). Of particular interest are those of the Commonwealth Regional Health Community Secretariat (CRHCS) and the United States Agency for International Development (USAID). As part of the action plans to improve reproductive health in the countries of East, Central and Southern Africa, adopted by the 21st Conference of Regional Health Ministers in November 1993, the CRHCS reported that the following policy changes were deemed urgent: 1) preventing the need for abortion through the promotion of family planning (FP), especially for adolescents; and 2) changing the legal provisions to ensure abortion where it is necessary or inevitable (p. 16). In this policy context, the CRHCS vowed to focus on: 1) quality of maternal and child health and FP services; 2) postabortion counselling and FP strategies to improve adolescent health; and 3) reproductive health and implementation of the reproductive health research programme (p. 17). USAID vowed to give increased emphasis to the importance of PAFP counselling and services. While USAID funds may not be used to fund abortion as a method of FP or to motivate any woman to have an abortion, they may now be used to treat women who have incomplete or septic abortions or to provide abortions in cases of rape, incest or if the woman's life is in danger in settings where such activities are legal and safe (p. 22). The participants formed working groups to develop their individual action plans; these working groups discussed the following four issues: 1) abortion and postabortion family planning services in the Africa region; 2) role of support services in abortion and postabortion family planning services; 3) counselling and contraceptive needs of postabortion clients; and 4) reducing the number of unsafe abortions in Africa (p. 24). Eighteen of the twenty delegations submitted a draft action plan at the end of the conference, based upon the perceived problems, objective, goals (and strategies to meet the goals) that they identified in the working groups (pp. 24–34). Finally, the delegates produced a summary position paper entitled the *Mauritius Declaration* for pressuring African policymakers to take action on these issues. The Declaration states that the participants recognise the following: that the restrictive abortion laws lead to high rates of maternal morbidity and mortality due to illegally induced abortion; that individuals and couples have the right to determine the size and spacing of their families; and that providing high quality, easily accessible and affordable family planning information and services for every woman and man of reproductive age is the surest way to reduce unsafe abortion (annex). They resolve to take the following immediate actions: strengthen family planning information, education and services, including wider availability of emergency contraception, particularly emphasising male responsibility in family planning; increase availability of high quality, prompt and humane emergency treatment for women with complications of unsafe abortions, and ensure the provision of postabortion counselling and family planning services; provide appropriate abortion services in accordance with the most favourable interpretation of the existing law; work to liberalise restrictive abortion laws; train health care providers and equip them with safe and appropriate technologies for treating abortion complications; link abortion treatment with family planning and other reproductive health care services; respond to the needs of adolescents and their right to sexual and reproductive health education and services; and end the conspiracy of silence that has kept the full extent of unsafe abortion out of the public eye and the public conscience for decades (annex).

Benin/Botswana/BurkinaFaso/Cameroon/Ethiopia/Gambia/Ghana/Guinea/IvoryCoast/Kenya/Lesotho/Madagascar/Mauritius/Niger/Nigeria/Senegal/Tanzania/Togo/Uganda/Zambia/Incidence/Induced/Unwanted/PAFP/Policy.

14. Kamau, R. K. (Department of Obstetrics and Gynaecology, College of Health Sciences, University of Nairobi, Nairobi, Kenya). Management of Incomplete Abortion: The Role of Manual Vacuum Aspiration. 10 pages.

**Note:** Funding provided by IPAS. Presented at The Maternal and Perinatal Mortality Seminar, 23–27 April, 1990; Neptune Beach Hotel, Mombasa, Kenya.

This paper presents the experience of the staff at Kenyatta National Hospital (KNH) using manual vacuum aspiration (MVA) for treating incomplete abortion at gestations of 16 weeks or less<sup>1</sup> (p. 1). Before the introduction in 1987 of MVA at KNH, incomplete abortion cases constituted 70% of all gynaecological

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<sup>1</sup> The package insert clearly states that MVA be used for uterine evacuation for uterine sizes of 12 weeks since the last menstrual period (LMP) or less.

emergency admissions, and bed occupancy in the 26-bed ward was 270% (p. 1). Between November 1988 and April 1989, 2436 MVA procedures were performed for an average of 394 MVA cases per month (p. 2). Health workers were requested to answer a structured questionnaire about their experiences and observations on the ward both before and after the introduction of MVA. The responses of 18 nurses are reported in the paper. Prior to the introduction of MVA at the hospital, congestion on the ward was the biggest problem (reported by 100% of the respondents), followed by a long pre-evacuation period (50% noted this); pre-evacuation hospital stays were often over 24 hours before the introduction of MVA (cited by 50%); the benefits of introducing MVA included: reduced length of hospital stay (reported by 83,3%), less congestion (66,7%), better patient care (38,9%) and lighter workload for the nurses (38,9%) (pp. 3–4). MVA was found to be easy to use (p. 5) and more effective than D&C on the seventh post-treatment day, 97,7% of the MVA cases and 96,5% of the D&C cases were assessed as being successfully evacuated, and all of the failed MVA evacuations occurred during the first month of the study, while the failed D&C evacuations occurred throughout the 3-month study period (p. 7). The authors recommend that Kenyan hospitals adopt the MVA procedure for treatment of incomplete abortion (p. 9).

Kenya/MVA/ProvPers/HospTm/KarCan/KarSyr/Effectiveness/Efficacy/Policy.

15. Kamau, R. K.; Rogo, K. O. (Department of Obstetrics and Gynaecology, University of Nairobi, Nairobi, Kenya). Use of Manual Vacuum Aspiration at Kenyatta National Hospital: Analysis of Case Notes. 30 pages.

**Note:** Funding provided by IPAS.

This report documents the impact of introducing manual vacuum aspiration (MVA) at Kenyatta National Hospital (KNH). It is based on data from patients who were treated with MVA in August 1989 (n=216). The purpose of the data collection was to: determine the general, obstetrical and gynaecological characteristics of patients treated with MVA; determine the causes of morbidity of those patients presenting with incomplete abortion; and evaluate the impact of MVA on quality of care (e.g., use of medications, length of hospital stay) (p. 2). Data on each patient were recorded by medical students on “clerkship forms,” which were later analysed (p. 3). Of the 232 patients, 194 (83,6%) had incomplete abortion, 22 (9,5%) had inevitable abortion (which eventually became incomplete), 9 (3,9%) had dysfunctional uterine bleeding (DUB), and one was admitted for legal termination of pregnancy (p. 3); MVA was used in 216 (194 + 22 = 216, or 93,1%) of the cases (p. 4). The results presented in this paper are taken from the study of these 216 cases. The characteristics of the cases treated with MVA were as follows: the majority (61,6%) of the women were below 25 years of age; the majority (93,5%) were from urban areas; the majority (51,7%) had some primary education and 41,8% had some secondary education; 46,4% worked in the formal sector; the majority (58,2%) lived with their husbands; 75,9% had been pregnant previously; 73,7% had not had any previous abortions, 19,4% had had one previous abortion, and 6,9% had had more than one previous abortion; contraceptive use prior to the last menstrual period was very low (20,7%); only 3,4% had moderate pallor and none had severe pallor; 90,1% were diagnosed with moderate vaginal bleeding, while 8,2% had severe vaginal bleeding upon admission; 14,3% had no evidence of sepsis; the only MVA complications reported were one case (0,4%) of incomplete evacuation and one case (0,4%) of excessive bleeding; the majority (56,9%) of the procedures were performed with a 12 mm cannula—which is expected given that 59,5% of the women presented with gestations greater than 12 weeks; only 46,1% were evacuated within 12 hours of admission, primarily because a large proportion (41,8%) were admitted between 6 p.m. and midnight; and, 83,2% of the procedures were completed in 10 minutes or less (pp. 3–24). The authors conclude from these findings that: 1) most of the patients who were admitted with abortion complications had previously received reproductive health care services, 2) there is a need to set up comprehensive contraceptive and reproductive health counselling programmes (p. 26); and 3) there are many advantages to using MVA, such as a reduction in the need for medication and hospital staff who treat incomplete abortion (p. 26).

Kenya/MVA/KarSyr/KarCan/SES/Gest/Prevab/Bleeding/Sepsis/WaitTm/OpTm.

16. Khasiani, S. A. (Population Studies and Research Institute, University of Nairobi, Nairobi, Kenya). Kenyatta National Hospital In-depth Individual Interviews of MVA Use in Management of Incomplete Abortions. Nairobi, Kenya; 1990 Nov. 18 pages.

**Note:** Funding provided by IPAS.

This article reports on the qualitative component of a study that investigated the impact of introducing the manual vacuum aspiration (MVA) technique for the management of incomplete abortion at Kenyatta National Hospital (KNH). MVA was introduced at KNH in 1987 and this study was conducted sometime between 1987 and 1990. The researcher conducted in-depth interviews with 20 staff who work with incomplete abortion patients at KNH including nine nurses, five resident doctors, three administrators and three consultants (pp. 1–2). More than half of the respondents (mostly the doctors and consultants) indicated that they were not working at KHN prior to the introduction of MVA, but some of them commented on what they had heard about the ward conditions at that time (p. 2). Prior to the introduction of MVA, congestion was a major problem, with 80% of the abortion patients being treated in the main theatre; the majority of the patients waited over 24 hours before being booked for the theatre, over 4 hours for evacuation after being booked, and over 24 hours following evacuation before being discharged (p. 3). Following MVA introduction, congestion was eased significantly and the whole process of treating and discharging patients was reduced to a maximum of 12 hours (p. 3); this eased pressures on the staff who were then able to take better care of their patients (p. 4). Other advantages of MVA included: fewer complications, speed and ease of the procedure, lower risk of uterine rupture, minimum personnel and space requirements and the lack of a need for anaesthesia (which allowed for better provider-patient interaction) (pp. 4–6). The respondents considered MVA more effective than D&C. Disadvantages of MVA included: inability to use beyond 16 weeks gestation and discomfort of patients since the providers were not using any form of pain control with MVA (p. 11). The respondents were generally happy with their training, although the nurses requested that more training be directed at them (p. 13). In addition, nurses requested that medical students who had received second-generation training be supervised for longer periods of time (p. 14). There was a general consensus that other hospitals and health facilities should replace D&C with MVA for cases at 12 weeks gestation or less (p. 8). Doctors felt that lower levels of staff, such as nurses and clinical officers, could handle the procedure effectively, while nurses felt that only doctors should be allowed to perform the procedure since they are trained to handle any side effects or complications (pp. 6–7).

Kenya/MVA/ProvPers/ProvStatus/Decentral/Policy.

17. Kibwana, K. A. A.; Kamau, R. K.; Bhullar, V. B. (Department of Obstetrics and Gynaecology, University of Nairobi, Nairobi, Kenya). Microbiological Profile and Sensitivity Patterns of Patients Admitted with Incomplete Abortion at Kenyatta National Hospital, Nairobi, Kenya. 35 pages.

**Note:** Partial funding provided by IPAS.

The purpose of this descriptive study was to determine which microbiological organisms were found in the products of conception of patients admitted with incomplete abortion who were managed using manual vacuum aspiration (MVA) at Kenyatta National Hospital (KNH). The microbial organisms studied were aerobes, anaerobes, and sexually transmitted diseases (STDs) (p. 5). These were: 1) Gram-positive and Gram-negative bacteria and 2) aerobic and anaerobic bacteria (p. 5). The specific objectives of this study were: 1) to determine the risk of postabortal sepsis in women with clinically septic and non-septic abortion; 2) to compare the microbiological profile in patients with induced and spontaneous abortions; 3) to determine the prevalence of STDs in the retained products of conception and 4) to relate the microbiological profile in patients with abortion to general characteristics of the same patients, such as age and marital status (p. 6). The subjects were those admitted with incomplete abortion, irrespective of whether or not there was any clinical evidence of sepsis, who were eligible to be treated with MVA (n=300) (p. 7). Information concerning their general and reproductive characteristics was recorded on a standardised questionnaire. Key results were as follows: 1) the majority of the study population was 25 years of age or less (55,7%), married (55%) and unemployed (56,0%) (pp. 10–11); 2) 26,0% of the study group had had one or more previous abortions, 11,5% of these women had had at least one previous induced abortion (p. 12); 3) febrile morbidity was diagnosed in 14,0% and clinical sepsis in 30,3% of all patients (p. 14); 4) there were high isolation rates of STD-related microorganisms from retained products of conception (found in 81,3% of all patients), with chlamydia trachomatis being the most commonly isolated (occurring in 16,7% of all patients studied) (p. 15); 5) aerobic organisms were more commonly isolated in the septic group (31,5%) than in the non-septic group (20,7%) (p=0,04) (p. 18), and in the induced abortion group (32,3%) compared to the spontaneous abortion group (20,3%) (p=0,02) (p. 19); 6)

mixed aerobic and anaerobic organisms were more commonly isolated in women with induced abortion (24,7%) than in those who had had a spontaneous abortion (15,5%) ( $p=0,05$ ) (p. 19); and 7) in general, the aerobic organisms isolated showed high levels of resistance to the antibiotics commonly used at KNH (p. 22). The authors conclude that: 1) given that anaerobes were isolated in 70,7% of the cases and aerobic organisms in 24,0% of the cases, all incomplete abortion patients should be treated aggressively with anti-microbial agents; 2) given that aerobes were isolated in 31,5% of the patients with clinical sepsis and only in 20,7% of the non-septic patients, clinical sepsis may manifest once infection with aerobic micro-organisms occurs (although in the majority of cases, anaerobic infection sets in without the manifestation of clinical sepsis) (p. 29); 3) in general, the aetiologic type of abortion (e.g., septic vs. non-septic) does not appear to influence the extent to which the culture of the retained products of conception tests positive, although some results suggested the possibility that aerobic organisms may be responsible for clinical evidence of septic abortion (pp. 29–30); and 4) most of the Gram-positive and Gram-negative isolates were resistant to the commonly prescribed antibiotics at KNH (p. 31). The authors call for further research into the causality between STDs and abortion and its complications (p. 32).

Kenya/Incomplete/MVA/STD/Sepsis/Local Infec.

18. Lema, W. M.; Njau, P. W. *Abortion in Kenya: Traditional Approach to Unwanted Pregnancy*. Nairobi: The Centre for the Study of Adolescence; 1990.\*

The authors observed that unwanted pregnancy existed, and still does, among the Maasai of Narok District. Reasons for a pregnancy being regarded as unwanted include: conception before circumcision or marriage; extra-marital affairs; the woman is breastfeeding or a widow; and relations with an age-mate's offspring. Such pregnancies are taboo and at times punishable by the community and/or family. Women thus abort to avoid any repercussions. Women acquire knowledge on how to terminate their pregnancy through talks with other women and from their mothers or grandmothers. Most terminate the pregnancy themselves; very few go to other women relatives or even mothers for assistance. The methods women use to self-induce vary and include: ingesting concoctions of excreta or droppings from different animals like sheep, goats and cows, either separately or in mixtures; herbal preparations, either of roots, leaves or bark; inserting a foreign body into the uterine cavity or cervix; uterine massage; and ingestion of drugs such as antimalarials, or other chemicals (e.g., soap, detergents or ink). When using traditional methods, the complications are and have been rare as the women take antidotes. Newer methods—which are used mainly by school and young girls—have resulted in a number of casualties. Women questioned for the study felt that termination of pregnancy is common among the Maasai but could not tell the actual magnitude, as abortions are done very secretly. Their opinion about abortion varied substantially with some saying it should not be allowed and others saying it ought to be allowed for special cases such as young school girls who get pregnant. A few others said it should be allowed for all women since they always will seek abortion if they want one. The authors conclude that induced abortion appears to have been a means of dealing with unwanted pregnancy for a considerable amount of time. They added that there is a need to do more studies among other societies in Kenya to have a national picture.

Kenya/KAP/Traditional.

19. Lutterodt, G. D. Abortifacient Properties of an Extract from *Sida Veroniceae* *folia*. *Journal of Ethnopharmacology*. 1988 May-June; 23(1): 27–37. PIP 058212.

The author presents results of a study to evaluate the abortifacient effect of an alcoholic extract of *Sida veroniceae* *folia*, previously reported to be a potent oxytocic in pregnant rats. Oral doses producing the abortifacient effects were greater than or equal to 32 mg/kg when administered from the 15th–17th day of pregnancy. Similar effects were produced by intravenous doses of greater than or equal to 3 mg/kg weight. At the minimum effective oral dose of 32 mg/kg, those animals that carried the conceptuses to term (40%) had litters with reduced average numbers/litter and weight. At twice this dose, only 10% delivered and the litters were sickly. The effects of intravenous administration of the extract was similar but more pronounced and included some unique acute side effects.

South Africa/Efficacy/Safety.

20. Makokha, A. E. Maternal Mortality—Kenyatta National Hospital 1972–1977. *East African Medical Journal* 1980; 57: 451.\*

The author states that abortions contributed to 26,2% of the maternal deaths at the Kenyatta National Hospital from 1972–1977. Of these, 22,2% were due to postabortal sepsis; 3,0% were due to perforated uteri; and 1,0% were due to haemorrhage. Of the abortion cases, 80,0% had a history of interference, mainly in the mid-trimester. These patients were mainly single and unemployed women or those in school.

Kenya/Complication/Matmort/Sepsis.

21. Mathai, S. Abortion and its Associated Problems. *East Africa Medical Journal* 1986; 63: 769.\*

The author defines abortion and reviews some of the causes of abortion. He says that induced abortion may be therapeutic (legal) or criminal (illegal). Induced abortions have more complications than non-induced, with haemorrhage being the most common. This is mainly because most induced abortions in the region are done by non-medical persons using unsterile instruments. Immediate complications include haemorrhage, shock, uterine perforation, visceral injuries and broad ligament haematoma. Later on, patients may develop sepsis which may lead to septicaemia, bacteraemic shock or acute renal failure. Others may develop tetanus or gas gangrene. All these may lead to death. Long-term complications include chronic pelvic infection with accompanying chronic pain, infertility and psychiatric disorders. The author states that very often the patient denies interfering with her pregnancy and cases are treated as spontaneous. The most seriously affected women are young school girls and unemployed, single women. The associated mortality, morbidity, hospital stay and actual cost in labour and materials are high, biting deeply into meager health budgets of poor countries. As stipulated in Kenyan law, abortion is illegal except where maternal or foetal conditions contraindicate continuation of the pregnancy. As severe punishment is given to those convicted of obtaining an abortion, abortions are normally done secretly and are therefore not easy to evaluate. The author concludes by saying that there is a need to liberalise the abortion law. He feels that termination of pregnancy should be limited to 12 weeks of gestation because the chances of severe haemorrhage are higher after that. Liberalising the abortion law, he continues, should be coupled with provision of contraceptive knowledge and services.

Kenya/Contraception/Legal.

22. Mauritius Family Planning Association and the Ministry of Health. Abortionists and Abortion Procedures in Mauritius. Mauritius; 1994.

Abortion is performed by both skilled and unskilled providers, depending mainly on the social and economic class of the woman. Women in the lower social and economic classes often go to unskilled providers who frequently use crude, indigenous pregnancy termination methods and who have little knowledge of human anatomy or medicine. Women in the middle and upper economic classes who can afford to pay the fees usually visit doctors and nurses who are considered skilled abortion providers. Doctors who are specialised in abortion procedures are known by many but difficult to count. They often perform the procedure “openly” in their consulting rooms and use medically approved methods under hygienic conditions. Such methods include dilation and curettage, stimulation of uterine contractions and uterine aspiration. Nurses mainly specialise in stimulation of uterine contractions. They insert a plastic or metal cannula into the uterus, after dilation of the cervix, to dislodge products of conception from the uterine wall. The uterine contents are removed by aspiration after the necessary vacuum is manually produced using a 50 ml syringe. This method is used during the first few days of pregnancy. Abortion providers with some knowledge of medicine may also inject a chemical solution such as sterile glycerine into the foetus through a catheter. One of the dangerous methods used by some abortion providers is inserting instruments, such as a needle, into the uterus through the vaginal passage to dislodge the foetus. This method can result in perforation of the uterus and/or infection and may lead to death. Mauritians have used a number of methods whose efficacy is doubtful such as infusions including avocado leaves, flowers of “Ginda” and “vavangue,” eggshell crushed and boiled in water or milk, high doses of quinine, stilboestrol and herbs.

23. Muroki, F. K. T. *The Rhesus Problem after Abortion in Kenyatta National Hospital. Nairobi, Kenya. University of Nairobi; 1987.*

This report is a summary of the results of a study undertaken to determine the volume (term “incidence” used by author) of cases with Rhesus (Rh) negative blood group admitted to KNH with incomplete abortion and the amount of foetal maternal haemorrhage (FMH) seen in patients with incomplete abortion. The results were based on interviews and analysis of blood samples from 998 patients admitted with incomplete abortion to the acute gynaecological ward at KNH for complete curettage (evacuation) between January and April 1985. The study was undertaken during a master of medicine degree course. Analysis of the results indicated that 54,3% of the patients were married, 44% were unmarried and 17% were divorced. The unmarried were all aged under 25 years; only 64,5% of those married were below age 25; 2,6% of the patients were Rh negative. The distribution of married and unmarried patients into the Rh positive and negative groups was the same. The Rh negative population did not differ from the Rh positive group with respect to age, parity or gestational age at abortion. Most abortions among the unmarried (57,4%) and the divorce/widowed (58,8%) patients were performed in the second trimester—between 13 and 26 weeks gestation—as compared to 49,4% among the married patients. Blood group was the most common (50%) for both Rh positive and negative patients. Group A was the least common (4% for both). Marital status and gestational age at abortion was associated with the amount of FMH. The frequency of occurrence of FMH was more common in the second than in the first trimester. The blood volume range was 0,05–1,02 ml in the first trimester and 0,05–13,60 ml in the second. The incidence of FMH also was more common in the unmarried than in the married group of patients. Abortions in the study population occurred predominantly in the second trimester and the later weeks of the first trimester, when the potential for Rh sensitisation was quite high. Those patients who were given the anti-Rh D prophylaxis, after being found to be Rh negative, seemed to have been protected from sensitisation. It is thus necessary that patients admitted with abortion or other events that could lead to Rh sensitisation be screened for their Rh status and anti-Rh D globulin be given if they are Rh negative; this would help to prevent Rh sensitisation which contributes to Rh haemolytic disease of the newborn.

Kenya/Complication.

24. Nyambaka, M. *Case History: Complication and Management of Abortion. Kenya Nursing Journal. 1987 Dec; 15(2): 17–23. PIP 057512.*

A case of septic abortion involving a 27-year old woman treated by surgical intervention is described. The woman presented at a hospital with abdominal pain and vaginal bleeding and was medically treated and discharged. She presented at another hospital 1-week later discharging blood clots and experiencing pain. She was given a dilation and curettage at which time they found traumatised parts of the descending colon and rectum protruding from the cervix. The uterus and right fallopian tube were repaired. She was treated with an intravenous antibiotic, Acromycin, but her condition worsened until a rectal vagina fistula was diagnosed on the 7th postoperative day. During a second operation surgeons found perforations in both the sigmoid colon and the uterus. A double colostomy was performed. Rectal vagina fistula repair was then performed at a specialty hospital. She recovered and her condition was good at a 3 month follow-up.

Kenya/Complication/Costs.

25. Nyamu, J. (Population and Health Services). *MVA as an Office Procedure in Marie Stopes Clinics. Nairobi, Kenya; Feb 1993.*

This is a report on experiences with the introduction of standardised MVA services. A study was conducted to assess the degree of complications, if any, after a MVA procedure and how these complications were managed. Analysis of the results indicated that over half (53,5%) of the patients were aged between 20 and 25 years; only 5,9% of the patients were aged 20 years and below. 58,4% of the patients were nulliparous and most

were unmarried. Almost two thirds (66,3%) of the patients had MVA at 7 weeks pregnancy gestation or less. Seventy-eight percent of the patients left the clinic 15 minutes or less after the procedure was completed while 22% left 20 to 30 minutes after the procedure. Half the patients had no immediate complications. Immediate complications observed included dizziness (31,7%), vomiting (8,9%) and fainting (6,9%). There were no reported major complications during or immediately after the MVA procedure. Six out of ten (60%) patients said the pain they had experienced was mild; 33% said it was moderate and 7% said it was severe. Twenty-one percent of the patients, mainly the young who thought it was not the right time, did not accept any family planning method after their MVA procedure. The majority (41,6%) accepted the pill. Only 28% of the patients had bleeding after the MVA. Bleeding stopped after 1 day in 21,8% of these patients, after 2 days in 14%, after 3 days in 19% and after 4 days in 15%.

Kenya/MVA/Safety/Complication.

26. Ogedengbe, O. K. (Department of Obstetrics and Gynaecology, College of Medicine, University of Lagos, Lagos, Nigeria). *Improving Abortion Care in Nigeria—A Case Study*. 11 pages.

**Note:** Presented at The Medical Women's International Association Congress, 28 November–3 December 1993; Nairobi, Kenya.

The purpose of this presentation was to report on the impact of using the manual vacuum aspiration (MVA) technique for uterine evacuation on the quality of abortion services in Nigeria and other sub-Saharan African countries. Following a background discussion on abortion in Nigeria and MVA equipment, the author discusses the MVA provider training programmes in Nigeria, begun by IPAS in 1987 at four unspecified teaching hospitals (p. 4). A total of 575 health care providers from 12 teaching hospitals and 10 secondary hospitals in 10 states were trained in the procedure (p. 5). There was a total of 366 incomplete abortion patients treated with MVA over a period of 3 to 18 months at these four hospitals (p. 4). Almost half (49%) of these patients were 20–29 years old; 12% were 10–19 years old; over half had more than 7 years education, while 30% had none (p. 4). The procedure was performed with equal safety by all levels of providers, and 90% were performed on an out-patient basis (i.e., no patient was admitted overnight) (p. 4). Pain control measures were minimal (18% were given pain control), but use of antibiotics was liberal (73% of patients) (p. 4). Complication rates were low (0,2% of the over 2000 procedures performed at Lagos University Teaching Hospital) (p. 4). Most (68%) of the patients counselled for post-abortion family planning accepted a method, compared to only 8% of the non-counselled patients (p. 5). The author also discusses IPAS' training programmes and results in Kenya, Zambia and Zimbabwe (p. 6). The author concludes that more widespread use of MVA will lead to a substantial decrease in maternal mortality from abortion complications in Africa (p. 7).

Nigeria/MVA/Age/ProvStatus/OutPt/Pain/PAFP/Counselling.

27. Ogedengbe, O. K.; Giwa-Osagie, O. F.; Hord, C. E. *Improving Abortion Care at the Intermediate Level Through Use of Manual Vacuum Aspiration: Results from Nigeria*. 10 pages.

The purpose of this report was to present several solutions to the high mortality rate in Africa, much of which is caused by unsafe abortion. It focuses on how manual vacuum aspiration (MVA) can improve abortion care at the intermediate level of the health system, since MVA offers minimal need for pain control measures; no electricity requirement; and an option for outpatient treatment—thus reducing hospital stays and resource use (p. 5). Statistics show that maternal mortality is highest in West Africa (760 deaths/100 000 live births) and that between 25–50% of these deaths are caused by illegal abortions, resulting from a lack of family planning (FP) or safe abortion services (p. 3). The authors present several solutions to this problem: 1) liberalise restrictive abortion laws (p. 4); 2) improve the management of incomplete abortion cases, especially by introducing MVA for use in decentralised service delivery settings (thus making treatment more accessible to women in rural settings) (p. 5); and 3) prevent unwanted pregnancies by increasing access to FP services and educating the public about the benefits of child spacing (pp. 1, 7).

Nigeria/MVA/Legal/Decentral/FP.

28. Ojo, O. A.; Phido, F.; Hord, C. E.; Benson, J.; Wingate, I. (Otibhor Okhae Teaching Hospital, Irrua, Edo State, Nigeria//Consultant, Lagos, Nigeria//IPAS, Carrboro, North Carolina, USA//IPAS). An Evaluation of Provider Acceptability and Use of Manual Vacuum Aspiration (MVA) in Nigeria. Submitted to *Tropical Journal of Obstetrics and Gynaecology*. Unpublished 1994.

**Note:** Funding provided by Population Action International, the Public Welfare Foundation and the John Merck Fund.

The purpose of this study was to assess provider acceptability and use of the manual vacuum aspiration (MVA) technique for treatment of incomplete abortion in Nigeria (p. i). MVA training programmes for hospital staff, including on-the-job training and one-week courses with didactic and clinical training components, were conducted by IPAS in Ahmadu Bello University Teaching Hospital (ABUTH) in Zaria and Lagos University Teaching Hospital (LUTH) in Lagos between 1987 and 1990 (p. 2). Prior to expansion of the training programmes in 1991, IPAS conducted an outcome evaluation of the ABUTH and LUTH training programmes (p. 3). Of the 300 individuals who had participated in the MVA training courses, a convenience sample of 50 was chosen, and 41 (82%) of these individuals were found and interviewed (pp. 3–4). Twenty-six had been trained at ABUTH, and 15 had been trained at LUTH; 37 (90%) had attended the 1-week training seminar, while 4 had received only clinical on-the-job training (p. 4). The main outcome measures of this evaluation were: participants who changed their primary technique of uterine evacuation to MVA following training; participants who subsequently trained colleagues and participants who would recommend MVA training to their colleagues (p. i). The results were as follows: more than three fourths reported treating incomplete abortion before and after the course; and, of these, 19% used MVA prior to the course while 74% used MVA afterward; use of sharp curettage decreased from 72% to 12% following the training; all respondents said they would recommend MVA training to their colleagues, primarily because of lower complication rates and reduced resources needed to provide care (p. 4); 41 (56%) respondents trained colleagues when they returned to their institution and 29% trained individuals from other institutions; 95% knew the essential clinical facts about the MVA procedure, as determined by IPAS; participants cited more training (noted by 24 participants), commodities (23), funds (18) and support from the Ministry of Health (15) as strategies for improving existing MVA services (p. 5); 59% thought MVA could be used safely for treatment of incomplete abortion at the primary level of the health care system; and 33 (80%) recommended that both doctors and nurses be trained to provide MVA safely (p. 6). One barrier to the widespread use of MVA that was noted by some providers was a lack of authority after training to perform MVA upon return to their institution (p. 5). The authors conclude that MVA programmes have been successful in terms of both the continuity of MVA use and subsequent training conducted by course participants (p. 5); and, they suggest more widespread use of this technique to increase the quality and accessibility of services (p. 6).

Nigeria/MVA/ProvPers/ProvStatus/Evaluation.

29. Otsea, K. (IPAS, Carrboro, North Carolina, USA). MVA in Tanzania. Report from an Assessment and Evaluation Workshop, 8–10 March 1994, Dar es Salaam, Tanzania. Carrboro, North Carolina: April 1994. 33 pages.

**Note:** Funding provided by The World Bank.

Since mid-1992, IPAS has been training providers in the manual vacuum aspiration (MVA) technique for uterine evacuation at the following sites in Dar es Salaam, Tanzania: Muhimbili Medical Centre and Ilala, Mwananyamala and Temeke District Hospitals (p. 1). In early 1994, training and service delivery were extended to three teaching hospitals outside of Dar es Salaam: Mbeya Consultant Hospital in Mbeya, Bugando Consultant Hospital in Mwanza and Kilimanjaro Christian Medical Centre in Moshi (p. 1). In early 1994, providers at these sites were given a simple self-assessment tool, created by IPAS, to help them assess and improve the quality of abortion services they provide (p. 1). The purpose of the workshop, attended by 20 physicians and nurses from the seven MVA sites, was to discuss the results of these self-assessments, engage in interactive problem-solving discussions and develop site-specific improvement plans (p. 1). First, the full group identified the following problems in quality of care: management and organisation of services; provider training and supervision; quality assurance; infection prevention; postabortion family planning; attitudes of providers; patient-provider interaction; pain control; abortion data; and MVA instruments and related supplies

(p. 2). Next, the full group discussed the following priority problems: 1) monitoring and evaluation of services; 2) inadequate number of trained personnel; 3) inadequate quality and length of training for doctors and nurses; 4) low motivation by nurses to perform MVA; 5) no pain control protocol; 6) poor postabortion family planning services; 7) protocols for procuring and organising MVA supplies; and 8) other site management issues (p. 2). The participants then formed four small working groups to define key strategies for each of the eight problems. Finally, the group divided into teams by hospital to develop site-specific improvement plans (p. 2). Each of the hospitals' improvement plans are provided in the detailed report (pp. 12–16). In addition to the group work, the results of in-depth interviews conducted with a number of abortion patients at the MVA sites was presented (p. 1). Also, a special half-day session on infection control issues was held (p. 1). The author concludes that the results of this workshop will allow providers to address the most pressing concerns at their site (p. 24). A follow-up workshop was scheduled for August 1994 to allow a representative from each hospital to report back to the full group on progress made in implementing their improvement plans, and to allow participants to appraise the assessment and evaluation process (p. 24).

Tanzania/MVA/Evaluation/ProvPers.

30. Orhue, A. A.; Uniqbe, J.A.; Ogbeide, W.E. The Contribution of Previous Induced Abortion to Tubal Ectopic Pregnancy. *West African Journal of Medicine*. 1989 Oct-Dec: 8(4): 247–263. PIP 067324.

Data from a 1-year prospective study of 31 women with a tubal ectopic pregnancy and 93 matched controls are presented. A history of induced abortion was statistically significant more frequently among the subjects than the controls ( $p < 0.001$ ). Non-physicians performed 51,6% and 3,3% of the induced abortions in the study and control groups, respectively. Complications occurred in 51,6% of the study population and 6,5% of the controls. The authors conclude that induced abortion created the increased risk of tubal implantation among the study population and therefore a reduction in the incidence of illegally induced abortion in the community would reduce the incidence of ectopic tubal pregnancy and tubal infertility.

Nigeria/Complication/Induced Abortion.

31. Padayachi, T.; Moodley, J.; Norman, R.J.; Heyns, A. Termination of Pregnancy with Mifepristone after Intra-Uterine Death: Clinical and Hormonal Effects. *South African Medical Journal*. 1989 June 3; 75(11): 540.2. PIP 060351.

Mifepristone was used at a dosage level of 400 mg/d in a study to induce labour in patients with intrauterine foetal death in late pregnancy. Eight of 12 patients who received the drug delivered within 72 hours while only 2 of 12 patients treated with the placebo delivered during a similar period. No adverse biochemical or haematological effects were associated with the use of this drug.

South Africa/RU486.

32. Rogo, K.O. Habitual Abortion. *Medicus*. 1986.

According to the author, 12% to 15% of all pregnancies end in an abortion. Habitual abortion—which is the sequential loss of three or more preventable pregnancies—constitutes 5% of all spontaneous abortions. Recurrent abortion denotes two or more consecutive spontaneous abortions. Habitual and recurrent abortions are caused by germ plasm defects and unfavorable physical and biochemical uterine environments. An unfavorable physical uterine environment may include uterine fibroids, hypoplastic uterus and malposition of the uterus. Submucous uterine fibroids and endometrial polyps may cause repeated abortions though the mechanism through which they do so is not clear. A retroverted uterus has long been blamed as a possible cause of spontaneous abortion. An unfavorable biochemical uterine environment may be due to several extra-uterine factors (e.g., endocrine, metabolic, nutritional, toxic, etc.). Acute and chronic maternal infections (e.g., viral infections, brucellosis, chronic pyelonephritis, diabetes mellitus, etc.) can cause abortion. Severe isoimmunisation is incompatible with carrying a pregnancy to viability. Experiments in animals indicate adverse effects on pregnancy where malnutrition is severe. Regarding a woman's emotional status, it has been

shown that highly emotional women may have habitual abortions. No specific treatment of habitual abortion is possible because the causes are often multiple. A pre-conceptional approach aims at identifying and removing the causative factors. It includes a study of the woman's previous medical/obstetric history. A physical examination of the husband and wife will eliminate systemic illness, gross genital anomalies and endocrinopathies, while laboratory investigations are needed to rule out biochemical factors. The author goes on to discuss moral issues related to induced abortion. He argues that it does not solve the social problems it proposes to solve but introduces new, more serious and complex problems. He concludes by stating that the unborn child has rights and permissive abortion laws can be unjust.

Kenya/Legal/Religion.

33. Rwebangira, M. K. (Researcher, Women's Resource and Documentation Project, University of Dar es Salaam, Dar es Salaam, Tanzania). Patient Satisfaction with MVA Services in Dar es Salaam: A Survey Report. Prepared by Otsea, K. (IPAS, Carrboro, North Carolina, USA). In *MVA in Tanzania: Report from an Assessment and Evaluation Workshop*, 8–10 March 1994; Dar es Salaam, Tanzania. Carrboro, North Carolina: IPAS; 1994 Apr; 19–23. 33 pages.

**Note:** Funding for the workshop at which this paper was presented was provided by The World Bank.

The purpose of this study was to assess the extent to which patients are satisfied with manual vacuum aspiration (MVA) services; assess the quality of information given to MVA patients and learn about women's perspectives in order to adapt services to their needs (p. 19). The study was conducted between December 1993 and February 1994 at the referral hospital in Dar es Salaam, Muhimbili Medical Centre, and at the following three district hospitals outside of Dar es Salaam: Ilala, Temeke and Mwananyamala (p. 19). Patients who had been treated for abortion complications with MVA, and who were about to leave the clinic/hospital, voluntarily responded to a short questionnaire about the quality of care that they had received including: quality of information; postoperative care; hospital environment; pain during treatment; postabortion family planning and cost of services (pp. 20–22). Because there were few patients at the centres on the days of the interviews, and because there were shortages of particular equipment at some centres (which prevented providers from treating women using MVA), the sample size consisted of only 10 patients (pp. 19–20). The patients' perspectives can be summarised as follows (actual percentages not given because of the small sample size): 1) patients were inadequately informed about the treatment they were going to receive; 2) most women felt that the privacy was adequate given the circumstances; 3) some women wished the hospitalisation period (waiting period) was shorter; 4) few patients were given information about post-treatment care; 5) perceptions of pain management were mixed, with two of the 10 women reporting severe pain (p. 21); 6) many were disgruntled by the financial cost, since MVA services are supposed to be free and 7) MVA patients are not being counselled on postabortion family planning or referred for contraceptive methods (p. 23). The author concludes that the providers in attendance at the self-assessment of services meeting (where this paper was presented) should address these issues during their strategy-setting sessions (p. 23).

Tanzania/MVA/PatPers/Patient Ed/Pain/PAFP/Price.

34. Ssenyonga, J. W. *Abortion in Kenya: Case Studies of the Marakwet and Samburu*. Nairobi, Kenya: Institute of African Studies, University of Nairobi; 1988.\*

The author notes that pre-marital sex and/or sex with marriage within the same clan, kinship or age-mate offspring are forbidden in parts of Kenya. If such occurs and the woman conceives, the pregnancy has to be terminated. Pregnancy termination is considered remedial action in all such situations. Of the 58 interviewees for this study, 95,0% were single, 53,4% had no formal education and 19,0% had attained secondary education; 6,9% had terminated a pregnancy when they were 14 years or younger, 73,1% between 15 and 19 years, and 20,0% did so between 20 and 30 years of age. The mean age at the time of termination was 15,9 years. The gestational age at the time of termination ranged from 1 month to 8 months; the peak gestational age was 4 months (24,1%); 48,3% had terminated between 1 and 3 months. Some of the women tried more than one method of inducing before succeeding. These included: herbal drugs (24,6%); abdominal massage by experts using bare hands or hard objects (21,5%); swallowing antimalarial drugs, detergents (soap and powder in strong

concentrations) or caffeine (20,0%) and intrauterine insertion of foreign bodies. Traditional methods constituted 54,0% of all pregnancy termination methods used. The reasons for terminating their pregnancies included: the woman was uncircumcised, fear of dismissal from school, kinship relations, getting married, adultery, lack of resources, male partner unknown and parental rejection. Only 6,8% of the women knew of one or more modern methods of contraception; these all had secondary school education. Among the Samburu peoples of Kenya, pre-marital sex is permitted between uncircumcised females and males provided pregnancy does not occur. Sex and marriage among members of the same clan and with age-mate offspring, however, are strictly forbidden. If a woman conceives as a result of any of these, the pregnancy must be terminated. The methods mentioned by the respondents included intrauterine foetal strangulation (done by experts using digital manipulation to locate the foetus and suffocate it); ingestion of various herbal preparations and domestic animal excreta (urine and droppings); and uterine surgery (through the cervix). The latter method is rarely used. The reasons for termination included: one or both partners being uncircumcised, violation of societal rules (about sex within kinship, clan, age-mate, offspring, etc.); certain categories of widows (those married to dead morans or before they are allocated a new sex partner); sex with criminals, blacksmiths, ritual leaders, Turkana or health reasons. The author notes that the Samburu are very conservative in their way of living and they prefer to use their own ways to regulate fertility. He concludes by recommending further studies to establish the national magnitude of abortion and revision of the legal provisions to take into consideration the multi-ethnicity and diverse religious groupings of the Kenyan societies. He finally states that there is a need for prevention of unwanted pregnancies by increasing utilisation of family planning and celibacy.

Kenya/Traditional/Abortion/Legal.

35. Wanjala, S.; Murugu, N. M.; Mati, J. G. K. Mortality Due to Abortion at Kenyatta National Hospital, 1974–1983 in Porter, R. and O'Connor, M. (eds). *Ciba Foundation Symposium 115: Abortion: Medical Progress and Social Implications*, 27–29 November 1984. London: Pitman Publishing, Ltd.; 1985: 41–53. 285 pages. ISBN: 0-272-79815-0.\*

**Note:** Funding provided by the Ciba Foundation.

The purpose of this study was to document the incidence of maternal morbidity and mortality associated with unsafe abortion. The researchers used a retrospective analysis of the case notes of 95 deaths due to abortion or its complications at Kenyatta National Hospital between 1974 and 1983. Aggarwal and Mati's criteria (see annotation in the "Magnitude of Unsafe Abortion Topical Summary" in this monograph by Aggarwal and Mati, 1980) for labelling an abortion illegal, suspected to be illegal or spontaneous were used with slight modifications (p. 42). The results showed that the average death-to-case rate (referred to as death rate by author) over the 10-year period was high: nearly three deaths per 1000 abortion admissions. The mean hospital stay was 12 days. Of the 95 abortions, 76 (80%) were induced or were likely to have been induced. Septic abortion with its complications accounted for 97,4% of the deaths from induced abortion. Among the deaths from spontaneous abortion, 52,6% were due to haemorrhagic shock and 47,4% were due to sepsis. In this study, 76,9% of the deaths occurred among women who were widowed, divorced or unmarried. Adolescents (age 19 or younger) accounted for 23 (24,2%) of the deaths. In this latter group, there was evidence of interference in 22 (95,7%) cases (abstract, p. 41). The researchers suggest that the suffering among women and high costs to health systems caused by illegal abortions should be addressed by: preventing unwanted pregnancies through sex education and effective contraception; legalising abortion; improving measures for treating women needing an abortion; and providing treatment promptly (p. 48). A roundtable discussion among the symposium participants is then presented which focused on legal aspects of abortion. One participant noted that the demand for abortion is influenced less by legal status than by enforcement (p. 50). Most participants agreed that: 1) practise often influences legal reform; but 2) legal reform may have no impact on the number of abortions performed although the proportion of safely induced abortions is likely to be much greater following legal reform.

Kenya/Incidence/Matmortality/Unsafe/Haemorrhage/Sepsis/Hospital/Adolescents/Legal/Policy.

36. Wilson, A. Prepared remarks for the International Planned Parenthood Federation Conference on Unsafe Abortion and Post Abortion Family Planning in Africa. Mauritius; 1994.

The author notes that unsafe abortion is a major cause of mortality and morbidity. In some developing countries 50–60% of obstetrical/gynaecological budgets are consumed by the cost of hospitalisation, antibiotics, blood transfusions and medication for pain control. In some of the countries, postabortion accounts for as many as 42% of all emergency consultations. Between a quarter and a third of maternal deaths are secondary to abortion complications, such as severe haemorrhage, postabortal sepsis and poisoning (from ingestion of abortifacient). Abortion is considered a common law crime. Records at Queen Elizabeth II Hospital, the main referral hospital in Lesotho, show that abortion is the most common admission diagnosis. In 1992, out of a total of 1185 gynaecological admissions, 640 (54%) were due to abortion. In 1993, total admissions rose to 1384 with 749 (54,1%) diagnosed as of abortion. The United States Agency for International Development (USAID) provides a full range of family planning services and will give emphasis to the importance of postabortion family planning counselling and services in future programs. USAID is exploring avenues for achieving its reproductive health goals and preventing unsafe abortion through increased research on the incidence, causes, consequences and cost (human and financial) of unsafe abortion, appropriate policy dialogue with host country governments, communications, training programmes and service delivery.

USAID/Policy.

37. Yoseph, S. et al (Department of Obstetrics and Gynaecology, Addis Ababa University). A Survey of Illegal Abortion in Addis Ababa, Ethiopia. Addis Ababa, Ethiopia; 1993 Dec. 96 pages.

**Note:** Funding provided by the World Health Organisation Special Program on Research Development and Research Training in Human Reproduction.

The purpose of this cross-sectional study was to assess the extent of the problem of illegal abortion in selected hospitals, and to determine the risks and the costs incurred in treating cases (preface). The specific objectives of the study were to: 1) measure the incidence of spontaneous and induced abortion in Addis Ababa; 2) measure morbidity and mortality resulting from induced abortion in the study hospitals; 3) characterise women with induced abortion; and 4) estimate the medical and economic resources spent treating abortion complications (p. 9). The study was conducted in all five government-run hospitals with gynaecological services in Addis Ababa (p. 10). Trained nurses collected data using a structured questionnaire. The study population comprised all women admitted to the gynaecological wards of the hospitals with diagnosis of abortion or abortion complications between August 20, 1990 and February 20, 1991 (p. 11). Abortion patients were categorised into one of the following groups: certainly induced, probably induced, possibly induced and spontaneous (p. 13). During the study period, there was a total of 2275 abortion cases treated, out of which 2015 (88,6%) were from Addis Ababa; women who were admitted with diagnosis of abortion, with or without complications, and who resided outside of Addis Ababa were included in the study but were not included in estimates of abortion (p. 11). There was a total of 7158 deliveries in the hospitals; thus the ratio (referred to as incidence by the author) of abortions to deliveries was 281,5 per 1000 and the ratio of induced abortion to deliveries was 200 per 1000 (p. 15). Of all of the abortion patients, 1290 (56,7%) admitted to interfering with their pregnancy (p. 16). In 78% and 69,2% of all cases, the current pregnancy was unplanned and unwanted, respectively (p. 23); however, 44,5% of all patients had never used a family planning method, even though 84,1% were aware of their availability (p. 56). Two percent of the induced abortion patients had initiated or completed their secondary education and 27,9% were students (p. 73). In the certainly induced abortion cases, interference was attempted most often at 9–12 weeks gestation (37,4%). The most common method used to induce the abortion was insertion of a foreign object into the uterus. Abortions were most often performed by health assistants (35,3%) or by the woman herself (28,4%); doctors were the abortion providers in only 7,3% of the cases (p. 74). Although 83,6% of all abortion cases stated they “did not want to have a child now” (p.74), only 17,4% stated that they did not want any more children, indicating that these women were using induced abortion as a method of child spacing (p. 63). The induced abortion patients had significantly longer hospital stays (2,96 days) than the spontaneous abortion patients (1,96 days) ( $p=0,000$ ) (p. 75). The authors conclude that illegal abortion significantly contributes to maternal morbidity and mortality in Addis Ababa and must be adequately addressed as part of any reproductive health plan. Detailed policy recommendations include: provision of Family Life Education; accessibility of contraception to all women, especially adolescents; provision of pre- and post-abortion counselling; implementation of public education about the impact of societal changes on the sexual behaviour of adolescents; legalisation of abortion; and improvement in the health care delivery system (pp. 77–78).



## COST ISSUES

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### PUBLISHED LITERATURE

1. Figà-Talamanca, I.; et al. (Task Force on the Sequelae of Abortion, Special Programme of Research, Development and Research Training in Human Reproduction, World Health Organisation, Geneva, Switzerland). Illegal Abortion: An Attempt to Assess its Cost to the Health Services and its Incidence in the Community. *International Journal of Health Services*. 1986; 16(3): 375–389.

The major objectives of this study were to test a research technique for evaluating the impact of illegal abortion at individual hospitals, and to test the feasibility of community-based field interviews for estimating the incidence of induced abortion (p. 387). Researchers carried out the study in ten hospitals—three in Ankara, Turkey, three in Ibadan, Nigeria, one in Caracas and one in Valencia, Venezuela, and two in Kuala Lumpur, Malaysia—for varying lengths of time during the 2-year period from 1976 to 1978 (p. 377). They used a two-phased research design. The first phase involved the collection of data on all women admitted to the hospitals with a diagnosis of abortion (2157 in Malaysia, 1724 in Nigeria, 649 in Turkey and 899 in Venezuela). Data were to be collected for 200 induced abortion cases at each site, but this goal was not met at many of the sites (p. 377). Each subject was classified as having had a certain, possible, probable or spontaneous abortion according to a medical classification scheme (p. 379). Further classification of the cases was made during data analysis on the basis of socio-demographic characteristic using discriminant function analysis (p. 378). The second phase constituted a follow-up of hospitalised abortion cases 6 months after discharge and a home interview with a random sample of non-hospitalised women of reproductive age from the same community (pp. 377-381). The results were as follows: 1110 (51,5%) induced and 1047 (48,5%) spontaneous in Malaysia; 214 (12,4%) induced and 1510 (87,6%) spontaneous in Nigeria; and 264 (40,7%) induced and 385 (59,3%) spontaneous in Turkey (data for Venezuela not available) (p. 384). The authors conclude that: the proportion of induced abortions classified as certain, probable and possible varies widely from setting to setting, reflecting differences in the epidemiology and the social acceptability of abortion in various countries (p. 380); and the social and demographic characteristics of the women classified as cases of induced abortion differed from setting to setting (p. 383); for example, in Nigeria, marital status was the most discriminating factor (married women were more likely to have had a spontaneous abortion than an induced abortion) (p. 383). Hospital resources were utilised much more by the induced group than by the spontaneous group; for example, in Nigeria, the mean number of days was 10,5 and 7,5, respectively (p. 385). The follow-up interviews met with varying success; in Nigeria, for example, only six women agreed to a follow-up interview and, of the ones who refused a home interview, all had been classified as having “certain induced” abortions (p. 385). Among the women followed-up for an interview in Nigeria, 66,7% (n=4) denied having had the abortion (pp. 386–387). These findings illustrate that the classification scheme can be used on a large-scale basis without difficulties or great expense (though it should only be used as an epidemiological tool) and that the discriminant function analysis technique provides a fairly good profile of induced abortion patients (albeit one that is culture-specific) (p. 388). The researchers suggest that it may be useful to undertake similar validation studies before undertaking any large field survey (p. 388).

Nigeria/Induced/Spontaneous/Incidence/Social/Costs/Bias.

2. Johnson, B.R.; Benson, J.; Bradley, J.; Rábago Ordoñez, A. (IPAS, Carrboro, North Carolina, USA//IPAS//IPAS//Jefatura de Salud Reproductiva y Planificación Familiar del Instituto Mexicano del Seguro Social, Deleg. Cuauhtemoc, Mexico). Costs and Resource Utilisation for the Treatment of Incomplete Abortion in Kenya and Mexico. *Social Science and Medicine*. 1993 Jun; 36(11): 1443–1453; ISSN: 0277-9536.

**Note:** Funding provided by The World Bank, Division of Population, Health and Nutrition.<sup>1</sup>

This study identifies and, where possible, explains factors that contribute to cost differences between manual vacuum aspiration (MVA) and sharp curettage (SC)—often called dilation and curettage (D&C)—for treatment of incomplete abortion (abstract, p. 1443). The study was conducted between January and June 1991 at four hospitals in Kenya and five hospitals in Mexico (p. 1444). At two hospitals in Kenya, pre- and post-procedure data were collected, while post-procedure data only were collected at the other sites (when the study was initiated, MVA training and services had already begun at these sites) (p. 1444). Researchers used rapid assessment techniques to identify factors that contribute to cost and then used the following methodologies to determine differences in those costs between the two clinical techniques: interviews with hospital administrators, clinicians and patients; review of hospital records; and preliminary observations of patient flow to obtain detailed information about admission and discharge procedures, caseload and case management (p. 1446). Data were collected over a 7-day period to accurately capture variations in staffing patterns and daily caseloads, and the sample sizes were as follows: 22 treated with SC and 77 treated with MVA in Kenya, 66 treated with SC and 8 treated with MVA in Mexico (p. 1445). The results showed that patient stay for MVA patients was far shorter than that for SC patients. In the two hospitals where comparative data were collected in Kenya, the average total patient stay decreased 49% and 76% respectively, after MVA was introduced. For all sites in Kenya, the *longest* average stay for patients treated with MVA (23,9 hours) was 42% shorter than the *shortest* average SC patient stay (40,9 hours) (p. 1447). In the one hospital where comparative data were collected in Mexico, the average total patient stay decreased 45% with the use of MVA (p. 1448). Costs of treating patients also decreased with the use of MVA—23% and 66% at the two comparative Kenyan hospitals, and approximately 55% at the one comparative Mexican hospital (pp. 1448–1449). The authors conclude that the policy decision to adopt MVA, supported by procurement of instruments and introduction of training in its use, is the basic prerequisite to achieving reduced levels of resource use in the treatment of incomplete abortion (abstract, p. 1443).

Zimbabwe/MVA/D&C/Policy/CostEff/Price/HospTm.

3. Konje, J. C.; Obisesan, K. A.; Ladipo, O. A. (Department of Obstetrics and Gynaecology, University College Hospital, Ibadan, Nigeria). Health and Economic Consequences of Septic Induced Abortion. *International Journal of Gynaecology and Obstetrics*. 1992 Mar; 37(3): 193–197; ISSN: 0020-7292.

This article reviews the economic and health consequences of induced abortions (complicated by sepsis) at the University College Hospital (UCH), Ibadan. The aim of the 7-year study was to encourage the provision of limited abortion services in countries where restrictive abortion laws exist (p. 193). Researchers reviewed the case records of all patients presenting with symptoms and signs of sepsis following induced abortion (and treated) at the UCH between January 1981 and December 1987 (n=1129); 256 (26,67%) of these were verified to be complicated by sepsis, 230 following an illegally induced abortion (p. 194). The number of hospitalised septic abortion cases was 25,4 per year during the period from 1981 to 1985, which doubled to 51,0 cases per year from 1986 to 1987. The mean age of all patients was 21,9 years. Septic induced abortion was most common in single girls aged 16–25 years (p. 194). Most (73,4%) of the induced abortion procedures had been performed in private hospitals or clinics (p. 194). Abdominal pain (81,3%), fever (40,4%), foul smelling vaginal discharge (31,3%) and vaginal bleeding (35,2%) were the most common symptoms (pp. 194–195). Most (53%) patients were treated with suction evacuation, and there was a standard microbial regimen used.

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<sup>1</sup>The information in this article was also published under the following citation: Bradley, J et al. A Comparison of the Costs of Manual Vacuum Aspiration (MVA) and Evacuation and Curettage (E&C) in the Treatment of Early Incomplete Abortions in Kenya. *Journal of Obstetrics and Gynaecology for East and Central Africa*. 1993; 11:12–19.

The mean hospital stay was 26,4 days (range 1–300). The average cost of treating patients with sepsis following induced abortion was US\$223.11 (range US\$15.00–\$1624.00). This compares to a *minimum* monthly wage in Nigeria in 1987 of US\$15 and an *average* monthly salary of US\$45 (p. 195). The mortality rate among these abortion patients was 8,3%, with septicaemia being the most common cause of death (p. 196). The researchers conclude that: 1) these results demonstrate an increased rate of hospitalisation following an induced abortion over time (p. 196); 2) the cost of treating septic abortion is extremely high and falls on the patient's family, often leading to delay in seeking treatment; and 3) induced abortion represents a larger percentage of total gynaecological admissions than in other studies (76,7% in this study compared to 40% found in Aggarwal and Mati's 1982 Kenyan study) (p. 196). The authors recommend legalising abortion which would reduce the incidence of sepsis after termination, and they suggest improving and making family planning programmes readily accessible which would reduce the number of unwanted pregnancies in the first place (p. 197).

Nigeria/Induced/Sepsis/Legal/Matmortality/Costs/FP/Morbidity/Complication.

## GREY LITERATURE

### 1. Bonnie, J. K.; Katzenellenbogen, J.; Karim, A. S. The Cost of Incomplete Induced Abortion to the Public Hospital Sector in South Africa.

**Note:** Presented at the First Reproductive Health Priorities Conference. South Africa: 1994 Jun 21.

This paper describes the first attempt to document and describe the nationwide economic consequences of illegal abortion for public hospitals in South Africa. The objectives of the analysis were: to develop a model of what resources are used by several categories of patients receiving hospital care for an incomplete abortion; to estimate the proportion of incomplete abortion patients who have had an induced (and illegal) abortion; to estimate the monetary value of resources consumed in treatment of cases; and to estimate the total value of resources consumed annually by the public (hospital) sector treating women with incomplete induced abortions. The analysis involved the use of a Delphi survey of clinicians practicing obstetrics/gynaecology in urban and rural public hospitals in different regions of the country to develop a model of resource consumption. A second survey was conducted with nursing managers of acute gynaecology wards to estimate the amount of resources consumed in treating patients with different degrees of severity of symptoms. Survey participants worked in tertiary regional and district hospitals in various regions of the country. The results of the Delphi survey were presented including the range of ways patients are treated for symptoms. Preliminary data presented on resource use as a function of patient type showed that even patients with minimal symptoms receive high cost treatment. The authors thus conclude that prevention of unwanted pregnancy could tremendously reduce the cost of treating incomplete abortion patients in public hospitals.

South Africa/Abortion/Induced/Costs.

### 2. Pattinson, R. C.; de Jonge, E. T. M.; Makin, J. D.; Venter, C. Is Ward Evacuation for Uncomplicated Incomplete Abortion under Systematic Analgesia Safe and Effective? A Randomized Controlled Study.

**Note:** Presented at the First Reproductive Health Priorities Conference. South Africa; 1994 Jun 21.

A prospective, randomised controlled study was undertaken to test the hypothesis that ward evacuation under systemic analgesia is safe and effective for patients with incomplete abortion. Patients admitted to Kalafong Hospital (who met the inclusion criteria) were randomised, after written informed consent was obtained, to a study group (ward evacuation under fentanyl and midazolam) or a control group (theatre evacuation under general anaesthesia). Both groups were evaluated in terms of anaesthetic and procedure-related complications, overall blood loss and acceptability. Both groups (n=142 patients), were comparable in terms of haemoglobin level on admission and discharge. Results showed that the interval between the admission time and the time of evacuation was 9 hours 52 minutes for the ward group and 16 hours 28 minutes for the theatre group. The difference represents the delay waiting for the first available place on the emergency theatre list. There was a higher blood consumption in the theatre group (65 units for 24 patients) compared to the ward group (37 units for 13 patients). The investigators conclude that ward evacuation for uncomplicated incomplete abortion under systemic analgesia is a safe, effective and acceptable alternative to the standard procedure, (i.e., evacuation in theatre under general anaesthesia).

Evacuation under systemic analgesia on an outpatient basis could have substantial logistic advantages as well as important financial implications for gynaecological departments with a high turnover of patients.

South Africa/Safety/Pain/Costs/Effectiveness.

## CONTRACEPTION AND ABORTION

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### PUBLISHED LITERATURE

1. Agyei, W. K. A.; Epema, E. J. (Institute of Statistics and Applied Economics, Makerere University, Kampala, Uganda//United Nations Population Branch, New York, USA). Sexual Behaviour and Contraceptive Use Among 15–24-Year-Olds in Uganda. *International Family Planning Perspectives*. 1992 Mar; 18(1): 13–17; ISSN: 0162-2749.

**Note:** Funding provided by the United Nation's Population Fund and the Pathfinder Fund.

The purpose of this study was to measure sexual behaviour and contraceptive use among adolescents in Uganda. Using the same sampling methods as the Ugandan Adolescent Fertility Survey (AFS), a household survey of 1500 adolescents and young adults from Kampala, 1500 adolescents from the district of Jinja (750 urban and 750 rural) and 1000 adolescents from each of three districts—Masaka, Kabale and Hoima (500 urban and 500 rural)—was conducted (p. 13). The final sample that was analysed for the article included 4510 interviewees (75% of the preliminary sample). The focus of the study was on late adolescence (15–19 years old), but data were also collected on a comparison group of young adults (20–24 years old). The study was conducted between August and October 1988 in Kampala, Jinja and Masaka, and between August and September 1989 in Hoima and Kabale (p. 13). The results showed that the mean age at first coitus was approximately 15 years old among both males and females. Approximately 50% of the female respondents reported having been pregnant, and 11% were pregnant at the time of the survey. Overall, 14% of those who had ever been pregnant reported that they had had an abortion (the findings ranged from 10% in rural areas to 23% in Kampala). Among respondents 15–18 years old, 17% had had an abortion, while among 22–24-year-olds, the rate was 53% (p. 14). Forty-four percent of the abortions had been performed in a health institution (pp. 14–15). Levels of contraceptive awareness were high (86% among males and 83% among females) but, among the sexually active respondents, only 24% of the males and 23% of the females were using a method at the time of the survey. The reasons most frequently cited for non-use were lack of access, fears about the safety of contraceptives and lack of knowledge (p. 15). The authors suggest that contraceptives be made available to unmarried adolescents (p. 17).

Uganda/Adolescents/ContrPrev/KAP/Policy.

2. Barker, G. K.; Rich, S. (International Center on Abortion Fertility, Center for Population Options, Washington, District of Columbia, USA//Special Projects Fund, Population Crisis Committee, Washington, District of Columbia, USA). Influences on Adolescent Sexuality in Nigeria and Kenya: Findings from Recent Focus-Group Discussions. *Studies in Family Planning*. 1992 May; 23(3): 199–210; ISSN: 0039-3665.

This study examines adolescent sexuality and fertility in Kenya and Nigeria. To study peer interaction and societal factors, and their impact on adolescent attitudes toward sexuality and contraception, the authors conducted a series of focus-group discussions with in-school and out-of-school youth. The study was conducted in urban and rural areas of the two countries throughout 1990. In Coast Province, in Kenya, they held three focus-group discussions (FGDs) consisting of 12–15 adolescents per group. A fourth FGD was held in a more urban area (Mombasa) consisting of three peer group counsellors. In Nigeria, near Zaria, two FGDs were conducted consisting of 12 and 15 participants, respectively; two FGDs were held in Zaria, each with 8 to 10 participants; and four FGDs were conducted in Ibadan, consisting of 12 to 15 participants each (p. 202). All FGD participants ranged in age from 10 to 25 years (p. 209). These FGDs yielded results in several areas that were used by the authors to develop concrete suggestions for future family planning projects. Their findings and conclusions include the following: 1) the majority of those interviewed in both countries had not received a formal sex education course; 2) school “leavers” are most likely to receive information on sexuality from peers and the media, while school “attenders” receive some information from school; 3) it is important for young people to perceive that early childbearing is a problem, if education and service programmes are to be

successful; 4) additional education and promotion of male responsibility and family planning are necessary; 5) the majority of the adolescents know about methods of family planning, although they are unclear about the side effects of them; 6) interviewees are aware of a variety of STDs but are uninformed about modes of transmission; 7) the majority of respondents know where and how to contact “sugar daddies/mommies” and how much they cost; and 8) knowledge of abortion is mixed, yet the adolescents seem to have better and more accurate information about—and more positive attitudes towards—induced abortion than they do about family planning (pp. 202–207). The most important result of the study is that young people strongly rely on peers as the chief source of information regarding sexuality. Thus, successful planning should use peer counselling in reaching youth regarding these issues.

Kenya/Nigeria/Adolescents/Access/Unwanted/KAP/ContrPrev/Counselling/Educ/PatPers.

3. Ezimokhai, M.; Ajobor, L. N.; Jackson, M.; Izilien, M. I. (The Family Planning Centre, Department of Obstetrics and Gynaecology, University of Benin Teaching Hospital, Benin City, Nigeria). Response of Unmarried Adolescents to Contraceptive Advice and Service in Nigeria. *International Journal of Gynaecology and Obstetrics*. 1981 Dec; 19(6): 481–485; ISSN: 0020-7292.

This prospective study assesses how unmarried, adolescent, sexually active Nigerian women respond to contraceptive advice and services. Two groups of subjects (91 total) were studied between June 1978 and December 1980 at the Family Planning Centre of the University of Benin Teaching Hospital, Benin City, Nigeria (p. 481). The first group (Group A) consisted of 52 patients who were admitted into the gynaecologic ward with complications of illegally induced abortions. Following treatment, they were interviewed about their personal characteristics, contraceptive practises and method of pregnancy termination. The second group (Group B) consisted of 39 unmarried teenagers who had come to the Family Planning Centre for contraceptive services (p. 482). This group also was administered an interview following examination. Twelve (13,1%) of the patients, eight in Group A and four in Group B, did not return for their first appointment and were eliminated from the rest of the study; thus, the final sample sizes were 44 in Group A and 35 in Group B (total N=79). Only 7 (8,9%) women out of both groups were not practising contraception before the study period. However, many of the methods used by the 91,1% of the women who were practising contraception were unreliable or ineffective, including ingestion of “vitamin” tablets after sexual intercourse (29%), rhythm (10%) or coitus interruptus (10%) (p. 482). The mean age of the subjects was 16,8 years and the majority (73,6%) were secondary school students (p. 482). The contraceptive choices made by the patients following counselling were as follows: 30,4% chose the IUD, 40,5% chose oral contraceptives and 29,1% chose norethisterone enanthate injections (p. 483). The method discontinuation rate was very high (43%) and was most noticeable among users of oral contraceptives. At the end of the 30-month study, 29,2% of IUD users, 62,5% of oral contraceptive users and 30% of injectable users had stopped using contraception (p. 483). In this study, the IUD and injectables (norethisterone enanthate) appeared to be more acceptable to the subjects than oral contraceptives (p. 481). The authors recommend that, although the response of the group to contraceptive services was low, the IUD should be made more suitable and accessible to teenagers to improve contraceptive use.

Nigeria/Adolescents/Contraception/IUD/Pill/Injectables/Traditional/PA/ContrPrev/PAFP.

4. Frank, O. (The Population Council, New York, New York, USA). The Demand for Fertility Control in sub-Saharan Africa. *Studies in Family Planning*. 1987 Jul; 18(4): 181–201; ISSN: 0039-3665.

The aim of this paper was to determine if any evidence of the demand for fertility control and family planning exists in sub-Saharan Africa (p. 181). Data collection involved a retrospective review of nine World Fertility Surveys conducted in sub-Saharan Africa in the late 1970s and early 1980s. The first topic covered was childbearing desires of African women and their use of modern methods of contraception. The author concludes that a majority of women say that they want more children (p. 181) but that overall, low levels of contraceptive practise predominate. The author supplements these conclusions by examining more recent data gathered from national Contraceptive Prevalence Surveys in 1984. Through a comparison, the author notes that the number of women who want fewer children increased from the 1977–1978 levels; their use of contraception increased only slightly, however, with most of this increase coming from greater use of traditional methods

(p.185). The second topic reviewed was the principal elements of the traditional system of fertility regulation (p. 181) including avoidance of pregnancy, contraception (including sterilisation), infanticide, child abandonment, child fostering and induced abortion. According to the author, after conception has occurred, the major means of controlling fertility is termination of pregnancy through induced abortion (p. 190). The author suggests that induced abortions occur most often among young, unmarried women in urban areas, particularly among the educated (p. 194). The author concludes that: abortion signals a demand for controlling entry into childbearing or for changing the starting pattern of fertility; and that available abortion data signal a serious medical and public health problem; they have little relevance, however, as an indicator of demand for fertility limitation (p. 194). The last topical focus of the article was on constraints to adopting modern contraception to regulate fertility. In the final section, the author offers prospects and policy implications for the future. The author concludes that there is a correlation between contraceptive use and the demand for children; that contraception is practised primarily for spacing purposes; that non-use is a result of lack of motivation rather than a lack of availability and that use of contraception for family limitation is dependent upon the social customs of each country (pp. 188, 197). Policy suggestions offered by the author include: to broaden knowledge, availability and contraceptive use in urban areas; and to increase legal access to abortion.

Ghana/Mali/Nigeria/Sierra Leone/Uganda/Zaire/Zambia/ContrPrev/Age/Educ/Induced/KAP/Social/Urban.

5. Justesen, A.; Kapiga, S. H.; van Asten, H. A. G. A. (Department of Obstetrics and Gynaecology, Muhimbili Medical Centre, University of Dar es Salaam, Dar es Salaam, Tanzania//Department of Community Health, Muhimbili Medical Centre, University of Dar es Salaam, Dar es Salaam, Tanzania//Coordinator of the Tanzania Global Project for AIDS, World Health Organisation). Abortions in a Hospital Setting: Hidden Realities in Dar es Salaam, Tanzania. *Studies in Family Planning*. 1992 Sep; 23(5): 325–329; ISSN: 0039-3665.

This study investigates the extent of unwanted pregnancy, the use of illegally induced abortion and attitudes toward (and practise of) contraception among women admitted to the Muhimbili Medical Center (MMC) in Dar es Salaam, Tanzania. A random sample of 300 women who had been admitted to the MMC with the diagnosis of abortion, irrespective of the cause, were interviewed between September and November 1987, using a structured questionnaire (p. 325). The questionnaire included information on the desirability of and the response to the pregnancy, reproductive and contraceptive knowledge and the practise of contraception (p. 326). Of the 300 respondents, 155 (52%) said that their pregnancy had been unwanted: 94 of them (31% of the total sample) presented with an illegally induced abortion and 61 (20%) with a spontaneous abortion (p. 325). The rate of induced abortion among women who had had an unwanted pregnancy was less among those in a stable union with a partner and with increasing age (p. 326). Researchers noted that: 1) the proportion of unwanted pregnancies and, to an even greater extent, the proportion of induced abortions, decreased with increasing maternal age (p. 326); 2) contraceptive knowledge was obtained by patients from medically trained people or from friends; and 3) actual contraceptive use was limited. Researchers conclude from this study that: 1) illegal abortion is widespread and is a major cause of maternal mortality; 2) women believe that family planning should be available to married women only, preferably those with one or more children; and 3) inaccessibility of family planning mainly affects teenagers.

Tanzania/Induced/Access/Contraception/PAFP.

6. Lema, V. M. (Department of Obstetrics and Gynaecology, University of Nairobi, Kenyatta National Hospital, Nairobi, Kenya). Sexual Behaviour, Contraceptive Practice and Knowledge of Reproductive Biology Among Adolescent Secondary School Girls in Nairobi, Kenya. *East African Medical Journal*. 1990 Feb; 67(2): 86–94; ISSN: 0012-835x.

**Note:** Funding provided by The International Research Development Centre.

This study measured prevailing knowledge of reproductive biology, sexual behaviour and contraceptive practise among adolescents in Nairobi, Kenya (p. 87). The study involved a self-administered questionnaire given to 1751 adolescent girls between 12 and 19 years of age in late 1986 at 20 randomly selected secondary schools

(pp. 87–88). The results revealed that the majority of the girls were misinformed regarding their reproductive biology and contraception. Their mothers played a very minor role in imparting this knowledge, with their sources of information being fairly unreliable. Only 29,3% of the girls knew which part of their menstrual cycles was safe (p. 89) although 416 (23,8%) of all the girls had been or were sexually active at the time of the study. Of the sexually active girls, 94,5% (393) had not or were not using any method of contraception while the rest (5,5%) were mainly using unreliable or risky methods of contraception (abstract, p. 86). Of the sexually active girls, 1,7% admitted to having been pregnant at some time and having sought an abortion. While 77,8% were against school girls having sexual relationships, 90,7% of them felt that all females should be given contraceptives to protect themselves from unwanted pregnancies (abstract, p. 86). The author concludes with the following policy recommendations: 1) re-evaluate policies and thinking regarding adolescent sexuality and Family Life Education (FLE); 2) provide FLE; 3) advise and handle adolescent pregnancy, abortion and STD treatment with sensitivity; 4) discourage early sexual activity; and 5) encourage the family to play a role in educating the adolescent regarding sexuality.

Kenya/KAP/Adolescents/Contraception.

7. Mashalaba, N. N. (Private Family Practitioner, Gaborone, Botswana). Commentary on the Causes and Consequences of Unwanted Pregnancy from an African Perspective. *International Journal of Gynaecology and Obstetrics*. 1989; Supplement 3: 15–19; ISSN: 0020-7292.

This commentary gives an overview of the causes and consequences of unwanted pregnancy from an African perspective. The author examines abortion and family planning data from sub-Saharan Africa for the years 1970 to the present. The author argues that a combination of reasons contributes to a high rate of unwanted pregnancies in sub-Saharan Africa: 1) the rate of adolescent fertility is high due to misinformation; 2) married adolescents are expected to immediately commence and continue reproduction; 3) husbands often control their wives' fertility and want many children; 4) access to information and education on ways to regulate fertility is poor; and 5) where information is adequate, access to contraceptive facilities and services may be poor due to long distance, paucity of supplies or costs (p. 15). The author finds that, in Botswana, the percentage of teenage girls who are mothers is increasing: in 1984, 22,6% of girls aged 15–19 years were mothers compared to 20,3% in 1981 and 15,4% in 1971 (p. 15). In some sub-Saharan African countries, contraceptive knowledge is high yet usage is low due to pro-natalist traditional attitudes, poor access to clinics, misinformation and poor counselling services (p. 16). The author concludes that illegal and unsafe abortion is often the only solution for women with unwanted pregnancies; the rate of illegal abortion is high and the number among adolescents, particularly those who are unmarried, is not only high but rising (p. 17). The author proposes several solutions to these problems: 1) provide adolescent Family Life Education (FLE) in the primary and secondary schools; 2) provide and improve adolescent family planning programmes; 3) promote change in traditional attitudes and family planning policies; 4) improve service delivery and quality of care; and 5) provide abortion services in conjunction with effective contraceptive delivery services (pp. 17–18).

Botswana/Cameroon/Kenya/Senegal/Sierra Leone/Unwanted/Adolescents/FP/Induced/KAP.

8. Nichols, D.; Ladipo, O. A.; Paxman, J. M.; Otolorin, E. O. (Maternal and Child Health and Family Planning, Family Health International, Research Triangle Park, North Carolina, USA//Department of Obstetrics and Gynaecology, University College Hospital, Ibadan, Nigeria//Division of Population Policy, The Pathfinder Fund, Chestnut Hill, Massachusetts, USA//Department of Obstetrics and Gynaecology, University College Hospital, Ibadan, Nigeria). Sexual Behavior, Contraceptive Practice, and Reproductive Health Among Nigerian Adolescents. *Studies in Family Planning*. 1986 Mar; 17(2): 100–106; ISSN: 0039-3665.

**Note:** Funding provided by the Office of Population, United States Agency for International Development and the Pathfinder Fund.

The purpose of this study was to learn about adolescents' perceptions and practises relating to reproductive health (abstract, p. 100). The study was conducted between January and March 1982 in Ibadan, Nigeria (p.

101). Data were collected, using a sample survey, on 1800 never-married individuals between the ages of 14 and 25, on the following topics: socioeconomic characteristics, sexual behaviour, knowledge and practise of contraception, pregnancy and pregnancy outcome and needs related to reproductive health education (p. 101). The sample consisted of 279 secondary school males (16%), 406 university males (23%), 274 non-student males (15%), 346 secondary school females (19%), 413 university females (23%) and 82 non-student females (5%) (p. 101). Key results were as follows: 31% of secondary school males, 39% of university males and 15% of non-student males knew the correct information about a woman's monthly fertile period, compared to 22% of secondary school females, 54% of university females and 48% of non-student females (p. 102); written material and information presented as part of the interviewees' school curriculum were strongly associated with the highest rates of correct responses; approval of premarital sex under any condition was given by 33-54% of the male students and 19-23% of the female students, while four fifths and two thirds of the male and female students, respectively, approved of premarital sex among engaged couples (pp. 102–103); the proportion who were sexually active ranged from 28% of female secondary school students to 76% of the males not enrolled in school (p. 103); for the male students and females in all categories, between 51% and 63% of those who said they had had sexual relations during the past month reported using a contraceptive method, but for the non-student males this proportion was only 13% (p. 103); males were more likely to report condom use while females were more likely to report oral contraceptive use (pp. 103–104); lack of family planning information or knowledge was given as the primary reason for non-use of contraceptives among all groups except for non-student females, who reported partner objections as the primary reason (p. 105); among those who had had sexual relations, over two thirds of those not currently enrolled in school, and slightly less than half of the student populations, reported having been previously pregnant (p. 104); among those who had been pregnant, almost all university students and 80% of secondary students had opted for termination of pregnancy through illegal induced abortion (pp. 104–105); and, among sexually active students, women who had terminated a pregnancy had lower rates of current contraceptive use than those who had never been pregnant (p. 105). The authors conclude that: a significant proportion of the young unmarried population in Ibadan is sexually active; a substantial minority of sexually active adolescents are not using contraceptive protection; a large proportion of adolescent women became pregnant and nearly all such individuals terminate their pregnancy through induced abortion; and prior abortion does not seem to result in increased future contraceptive use (p. 104). They suggest an outreach family planning programme for adolescents that focuses on safety concerns, opposition of one's partner and correct information about sexual biology and contraception (p. 105).

Nigeria/Adolescents/FP/Induced/PAFP/KAP/Urban.

9. Ogedengbe, O. K.; Giwa-Osagie, O. F.; Nwadiani, K.; Usifoh, C. (Unit of Reproductive Endocrinology and Fertility Regulation, Department of Obstetrics and Gynaecology, College of Medicine, University of Lagos, Lagos, Nigeria). Failed Contraception in Nigerian Women: Outcome of Pregnancy and Subsequent Contraceptive Choice. *Contraception*. 1991 Jul; 44(1): 83–88; ISSN: 0010-7824.

This study was conducted at the Family Planning Clinic of the Department of Obstetrics and Gynaecology, College of Medicine, University of Lagos, Nigeria to determine the outcome of pregnancy in women who had experienced contraceptive failure. After August 1980, patients attending the family planning clinic were told that if their preferred method of contraception failed, they had the option of carrying the pregnancy to term or having an abortion. The case records of the 5431 new acceptors who attended the clinic between the period January 1, 1981 and December 31, 1989 were reviewed for the study. The results showed that 3117 (57,4%) chose the IUD, 526 (9,7%) oral contraceptives (OC), 675 (12,4%) the injectable, 189 (3,5%) voluntary sterilisation (VS), 637 (11,7%) barrier methods and 143 (2,6%) Norplant implants (p. 85). The mean age of the study participants was 32,2 years and the mean parity was 4,4. There were 56 contraceptive failures during this period, 40 among these using the IUD, 6 among OC users, 4 among injectable acceptors, 3 among those using VS and 3 among barrier method users (p. 85). Pregnancy outcomes were as follows: 17 (30,1%) live births, 3 (5,2%) spontaneous abortions, 34 (58,6%) pregnancy terminations and 2 (3,0%) patients lost to follow-up (p. 85). The results show an overall low contraceptive failure rate of about 1% (pp. 84–85). Of those who chose to terminate their pregnancy, the mean age was 33 years and the mean parity was 5. There was neither any statistically significant difference in the outcome of pregnancy between patients with five or more children and less than five children (p 0,05), nor between patients less than 31 years of age and those older (abstract, p. 83). Fifty percent (20 patients) who had used the IUD prior to the pregnancy chose to continue with the IUD postabortion. None of the patients using injectables or barrier methods continued with the method;

however, 7 patients requested VS (abstract, p. 83). The fact that over half of the women with contraceptive failure chose to terminate their pregnancy emphasises the need for such services by trained providers, particularly because of the high morbidity rate associated with illegally induced abortion (p. 87).

Nigeria/FP/Effectiveness/Evaluation/Induced/PAFP.

10. Olukoya, A. A. (Institute of Child Health & Primary Care, College of Medicine, University of Lagos, Lagos, Nigeria). Pregnancy Termination: Results of a Community-Based Study in Lagos, Nigeria. *International Journal of Gynaecology and Obstetrics*. 1987 Feb; 25(1): 41–46; ISSN: 0020-7292.

This study supplements available statistics on abortion in Nigeria by providing a community-based report on the incidence of induced abortion (p. 42). The study was conducted in 1982 in the target area of a Primary Health Care project in Shomolu, a low-income, peri-urban area of Lagos. Field workers with experience in community surveys administered a questionnaire about fertility (which included questions about experience with miscarriage, abortion and contraception) to 369 randomly selected women of reproductive age who had at least one child (p. 42). Almost 99% of the women interviewed were married, and the largest proportion (45,6%) had 3–4 children (p. 43). While 21,7% of the women reported that they had experienced miscarriage, only 5,6% (n=20) reported that they had had an abortion (p. 43). The author suggests that this finding is unreliable—most likely because abortion is illegal, and because the study only included those who survived their experience (p. 44). Of the women who had had an abortion, 75% had seen a private doctor for the procedure (p. 43), and 55% had been treated by dilation and curettage (p. 43). All of the women who had had an abortion were married, 20% were less than 30 years old, 90% had three or more children, and 50% reported that they sought abortion because they were not ready for a baby (p. 43). Although 95,2% of all the women surveyed knew about modern contraceptive methods, and 85,4% were aware that family planning services were available in their area, 75% of the women who had had an abortion relied on abstinence or relatively ineffective contraceptive methods (p. 44). In this study, the abortion group had a higher rate of past use of contraception than the sample as a whole (40% versus 14,4% pill use, respectively) (p. 45). Some of the women did not use contraception because they feared complications (p. 44). The author advocates increased education to dispel rumours about dangers associated with modern contraceptive methods (p. 45). In addition, the author recommends that policymakers further investigate the potential benefits of making abortion legal in Nigeria (p. 45).

Nigeria/Induced/ProvStatus/ContrPrev/KAP/Social.

11. Oronsaye, A. U.; Odiase, G. I. (Department of Obstetrics and Gynaecology and Mental Health, University of Benin, Benin City, Nigeria). Attitudes Toward Abortion and Contraception Among Nigerian Secondary School Girls. *International Journal of Gynaecology and Obstetrics*. 1983 Oct; 21(5): 423–426; ISSN: 0020-7292.

This study examines knowledge, attitude and practise of induced abortion and contraception among Nigerian teenage girls in secondary school (p. 423). The study was conducted in three all-female secondary schools in Benin City, Nigeria. Two hundred questionnaires were sent to the pupils at each school, and 530 (88,3%) out of the 600 pupils responded to the questionnaire. Of the total, 468 (88,2%) were teenagers aged 19 or below; 30,2% (160) responded positively to having had an illegally induced abortion. Among this subgroup, 81,2% were single teenagers aged 15–19; the most common reason they gave for terminating their pregnancy was that they were still in school (p. 424). Opinions of the teenagers aged 15-19 years who had never terminated a pregnancy (n=245) were compared to those of teenagers who had aborted (n=135). The findings show that: although a significant proportion (30,2%) of school girls had terminated a pregnancy through abortion, legalised abortion was favoured only by approximately 30% of the total; 15% of those who favored legalised abortion had never aborted themselves and 5% of those who had had an abortion considered abortion wrong under any circumstances ( $p < 0,01$ ); the two groups were similar in their opinions about justifying abortion on medical grounds (58% of those who had never aborted and 55% of those who had had an abortion agreed that abortion was justified for medical reasons); although the data indicated a high level of sexual activity, 44% of the entire study population had never used a contraceptive method; and a majority of both groups (60% of those who had never aborted and 86% of those who had aborted) were against the use of contraceptive methods on

the grounds that they are harmful to one's health (pp. 424–425). The authors suggest that sex education classes be provided in the schools (p. 426).

Nigeria/Adolescents/Induced/ContrPrev/KAP/PatPers.

12. Oronsaye, A. U.; Ogbeide, O.; Unuigbo, E. (Department of Obstetrics and Gynaecology, University of Benin, Benin City, Nigeria//Community Health, University of Benin, Benin City, Nigeria//Community Health, University of Benin, Benin City, Nigeria). Pregnancy among School Girls in Nigeria. *International Journal of Gynaecology and Obstetrics*. 1982 Oct; 20(5): 409–412; ISSN: 0020-7292.

The purpose of this study was to identify factors that increase the risk of unwanted pregnancies among Nigerian school girls. The study was conducted between July 1980 and May 1981 in Benin City, Nigeria. All school girls admitted to the gynaecologic and maternity wards of three major hospitals—University of Benin Teaching Hospital, Specialist Hospital and St. Philomena's Catholic Maternity Hospital—during this period with any pregnancy-related problems were included in the study (n=127); the study methodology consisted of private interviews (p. 410). The results showed that only 12 (9,5%) of the subjects intended to carry their pregnancies to term; the remaining 115 (90,5%) had been admitted for treatment of complications of induced abortion (p. 410). The majority of the subjects (90, or 70,8%) were in secondary school; 55,0% were aged 15–19 years (p. 410). Of the subjects interviewed, 36 (28,3%) had experienced a previous pregnancy, and 82 (64,6%) had no knowledge of family planning methods (pp. 410–411). Only 26,7% of the school girls interviewed lived with both parents; the majority (73,3%) lived with guardians, one parent or grandparents (p. 411). Often, the school girls' sexual partners were older men; 10 (7,8%) of the school girls' partners were over 40 years old; however, the majority (91, or 71,7%) said their partners were aged 20–29 (p. 411). More than one fourth of these men denied responsibility for the pregnancy (p. 411). Many (51,8%) of the school girls were forced to leave school because of the pregnancy, others (19,6%) were too ashamed to return to school (p. 411). The authors conclude that lack of support from the family, increased independence after beginning secondary school, relaxed societal pressure against premarital sex, pressure from older men, lack of Family Life Education and ignorance of contraceptive methods are the primary factors that lead to unwanted pregnancies among school girls in Nigeria (pp. 411–412). They advocate that families become a more stable force in young girls' lives, that schools offer sex education and that the medical profession begin a strong educational campaign about contraception (p. 412). They also suggest that contraception be more readily available to adolescents than it is at present (p. 412).

Nigeria/Adolescents/Induced/Contraception/KAP.

13. Oshodin, O. G. (Department of Health and Physical Education, Faculty of Education, University of Benin, Benin City, Nigeria). Attitude Towards Abortion among Teenagers in Bendel State of Nigeria. *Journal of the Royal Society of Health*. 1985 Feb; 105(1): 22–24. ISSN: 0264-0325.

This study assesses the attitudes of Nigerian teenagers toward abortion and contraceptive use. The researcher distributed questionnaires to a total of 1805 secondary school students—95 students from each of 19 coeducational schools in the local government area of Bendel State, Nigeria (p. 22). The research was designed to study the relationship between personal characteristics (age, sex, religion) and attitudes toward abortion and contraceptive use (p. 22). Results showed that 65% of the subjects thought abortion should be allowed for medical reasons, and 40% thought it also should be permitted for social reasons (p. 23). The majority of the subjects (63%) advocated the use of contraceptives to prevent unwanted pregnancy (p. 23). More females than males thought abortion was acceptable, while more males than females advocated contraceptive use to prevent abortion (p. 23). A greater percentage of young teenagers (10–13 year-olds) than older teenagers had strong negative attitudes toward abortion (p. 23). Religious beliefs strongly influenced attitudes toward abortion and contraceptive use; a breakdown by religion showed that Catholics, Cherubin, Seraphim, Celestians and animists were more likely than Anglicans, Baptists, Presbyterians or Methodists to consider abortion unacceptable and contraceptives undesirable (p. 23). The author suggests that negative attitudes toward abortion are influenced by the tradition of polygamy and the societal belief that women should have many children. The author argues that strict anti-abortion attitudes and laws are outdated and harmful, and recommends a three-part plan of reform: 1) provide sex education in schools; 2) increase attention toward contraceptive use and options and 3) legalise abortion, with consideration to both the medical and social needs of women (p. 24).

14. Shapiro, D.; Tamnashe B. O. (Population Research Institute, The Pennsylvania State University, University Park, Pennsylvania, USA//Department of Demography, University of Kinshasa, Kinshasa, Zaire). The Impact of Women's Employment and Education on Contraceptive Use and Abortion in Kinshasa, Zaire. *Studies in Family Planning*. 1994 Mar; 25(2): 96–110; ISSN: 0039-3665.

**Note:** Funding and other support provided by The Rockefeller Foundation, the Fulbright Scholar Program, the Hewlett Foundation and by the National Institute of Child Health and Human Development.

This study examines the relationship between contraceptive behaviour/abortion and women's employment/education among women residing in Kinshasa, Zaire. The data for this research were drawn from a 1990 household survey of 2399 women aged 13–49 (p. 99). The survey questionnaire included sections on employment, marital status and history, parity and pregnancy history, contraceptive knowledge and use, and socioeconomic characteristics (p. 100). For the sub-group analysis on contraceptive use, all ever-sexually-active women who were not currently pregnant were included; for induced abortion, the analysis included all ever-pregnant women (p. 100). Multivariate analyses focused on identifying both the effects of employment and education on contraceptive behaviour and the effects of other factors on the likelihood of contraceptive use (p. 96). Female employment was divided into three sectors of the economy: 1) the informal sector (self-employed), 2) the formal sector (employed by someone else), and 3) the home (not involved in work for pay or profit). The study women also were divided according to socioeconomic levels—high, medium and low. Data showed that just under one half of the ever-sexually-active women who were not pregnant at the time of the study were using contraception, and modern methods were used by fewer than 15% of those practising contraception (p. 101). Increased contraceptive use was associated with higher education levels, higher economic status, higher parity, employment (in the formal or informal sector) and marriage in the first union (p. 104). Increased use of modern methods was associated with higher education levels (especially attending university), married status, higher parity, long-time residence in Kinshasa, Protestant beliefs, non-Zairean citizenship and membership in “other tribes” (other than Bakongo, Kwilu-Kwango, Tetela, Nkundo, Mongo, Luba or Ubangi) (p. 105). Overall, 15% of the ever-pregnant women in the sample reported having had an induced abortion. Higher abortion rates were associated with increased schooling and employment in the formal sector (p. 102). The likelihood that a woman would report having had an abortion was higher among those with the following characteristics: higher education (from primary to secondary school), self-employed, formal sector employment (significantly higher), higher gravidity, higher socioeconomic status, higher number of previous marriages, Kinshasa residency and non-Catholic and non-Protestant beliefs (pp. 105–106). The authors conclude that modern contraceptives and induced abortion are used as complementary fertility-control strategies (abstract, p. 96). The authors hypothesise that as women's desire to space and limit births increases, abortion will become more common as a means of birth spacing/limiting until they can effectively practise contraception (p. 107). The authors suggest that: 1) special efforts be made to make contraception easily accessible to school-age and unmarried women; 2) contraception be federally subsidised because of the relationship between economic status and contraceptive use and 3) information, education and communication programmes be developed to encourage widespread use of contraception (p. 107).

Zaire/Contraception/Induced/SES/Occup/Educ/Urban.

15. Ujah, I. A. O. (Department of Obstetrics and Gynaecology, University of Jos, Jos, Plateau State, Nigeria). Sexual Activity and Attitudes Toward Contraception among Women Seeking Termination of Pregnancy in Zaria, Northern Nigeria. *International Journal of Gynaecology and Obstetrics*. 1991 May; 35(1): 73–77; ISSN: 0020-7292.

This study examines the rising incidence of induced abortion in northern Nigeria, where Muslims constitute 99% of the Zaria community (p. 74). Patients seeking treatment for incomplete abortion at a private clinic in Zaria during the 3-month period from October to December 1985 (n=108) were interviewed about their personal characteristics, history of and attitudes towards abortion and knowledge, attitudes and practise of contraception (p. 74). Their mean age was 21,8 years (range 15–38); 35,6% were below the age of 20 years; 57% were students; 81% were single and the majority (76%) were nulliparous. The Yoruba ethnic group

accounted for 30% of the total; 74% were Christian and 26% of the study women were Muslim. Fifty-six (52,3%) had previously had an induced abortion, 33 (59%) of whom had had two or more pregnancy terminations. Most (63%) had had their first sexual experience by the age of 18 years (p. 74). The major reasons for seeking a termination of pregnancy were “still in school” and “not married.” Although 95 (88,8%) had some knowledge of contraception, less than half (46%) had ever used any family planning method. The majority (41%) of those who had practised contraception had used the pill. Sixty-eight (58,3%) had attempted to induce the abortion themselves. Of the 60 patients who provided information on their views about legalising abortion, 21 (35%) were against legalisation of abortion for various reasons; and 19 (32%) were in favour (p. 75). The author concludes that: 1) adolescents make up a large number of those seeking abortion; 2) despite taboos, Muslims seek illegal, induced abortion; and 3) abortion laws need to be liberalised in Nigeria (p. 76). The author recommends implementing Family Life Education in schools and contraceptive counselling among adolescents (abstract, p. 73).

Nigeria/Induced/Incomplete/FP/KAP/Adolescents/Educ/Legal.

## GREY LITERATURE

1. Alihonou, E.; Goufodji, S.; Capo-Chichi, V. Morbidity and Mortality Relating to Induced Abortions. Benin: 1993.

Three hundred eighty abortion patients were recruited at various stages for the study, 28% with certain induced abortion, 19,5% with probable induced, 16% with possible induced, 26% with spontaneously induced and 9% with threatened abortion. Some of those recruited and interviewed were hospitalised because of haemorrhage, lumbar and pelvic pains. Most were aged between 20 and 34 years and most were married. The patients who had induced the abortion said they did so because they had no desire for the pregnancy. Non-use of contraceptives was attributed to ignorance. The case fatality rate (author used the term death rate) was high at 21 per 1000. In Benin, abortion is illegal except when performed to save the mothers's life. In the case of an unwanted or unexpected pregnancy, women resort to clandestine pregnancy termination, most often performed by either incompetent providers or competent providers under questionable conditions. This results in high mortality and morbidity and serious after-effects, the cost of which weighs heavily on the already insufficient hospital resources.

Nigeria/Abortion/Induced/Pain/Matmort.

2. Ekwempu, F.; Adidu, V.; Ekwempu, C. C. Report of PATH's Meeting on African Women's Reproductive Health Needs. Nigeria Research Component, Zaria Site.

The purpose of this study was to: 1) determine the extent of peri-abortion family planning counselling and the circumstances under which it occurs, 2) assess the desire for and/or satisfaction with family planning counselling among at-risk women (or those who have had an abortion), and 3) determine what constraints there are and what needs there are, if any, to improving the provision of peri-abortion family planning counselling services (p. 1). The study was carried out in Zaria, Nigeria and the methodology included multiple smaller studies: 1) situation analyses of two groups of facilities (manual vacuum aspiration [MVA] sites, and non-MVA or dilation and curettage [D&C] sites) where abortions and treatment of complications occur; the MVA sites included a training site, a public hospital and a private hospital or clinic, while the non-MVA sites included a public hospital and a private hospital or clinic; a case study and a behavioural observation of five abortion patient-provider interactions was carried out at each facility; 2) 16 focus group discussions (10 participants in each) with married women of reproductive age, single and married young adults, and adolescents in both urban and rural settings; 3) five focus group discussions (10 participants in each; one rural, four urban groups) with partners of women represented in group two above; 4) in-depth interviews with two doctors and two nurses at each facility, representing 20 (of the 28) service providers; and 5) in-depth interviews with 25 of the women who had undergone abortion, treatment of abortion complications or menstrual regulation. The situation analysis revealed that providers are very cautious about discussing the services they provide (p. 2). It also revealed that there were no family planning facilities offering abortion services because of lack of available trained personnel, and only the MVA training site and a few of the private hospitals had staff dedicated to

providing family planning counselling (p. 3). Most of the other facilities did not offer family planning counselling because of a lack of trained staff and/or a lack of time to deliver counselling (p. 3). The focus groups discussed conception, contraception and abortion; the overall views were that: issues and decisions surrounding conception are the male's responsibility; contraception is generally unacceptable on cultural and religious grounds (although the difficult economic situation and the spread of sexually transmitted diseases and AIDS may justify their use); and abortion should remain illegal (although a woman should be allowed an abortion if she is too young or if her life is endangered by the pregnancy) (p. 3). The interviews with the service providers found that providers do not want to be associated with abortion services and that they are angered by repeat abortions but will perform the abortion if the woman's life is in danger; they recommend that family planning counselling be administered immediately following the abortion; that more commodities be made available to them; and that training in MVA service provision and family planning counselling be provided to make them more effective in their jobs (p. 4). The interviews with abortion clients revealed that abortion takes place among both the old and young, the married and unmarried, and that their reasons for aborting vary according to their life circumstances; all patients were happy with the care they had received; and very few facilities offered them follow-up care or family planning services (p. 4). The authors conclude that abortion, while frowned upon, is on the rise, family planning counselling services have not kept pace with this growth and some providers have not identified the need for postabortion family planning counselling (p. 5). They recommend family planning outreach programmes for men (since they often are the contraception decision-makers) Family Life Education in schools and family planning counselling training programmes for providers (p. 5).

Nigeria/Country Report/Contraception/PAFP/Counselling/KAP/MVA/D&C/Policy.

### 3. FPAM. Incidence of Abortion in Mauritius. Mauritius; 1994.

It generally is agreed that abortion is on the increase in Mauritius although no scientific study has been undertaken to document trends. That abortions are increasing is substantiated by increases in the number of cases of complications of abortions reported in government hospitals when the victims go there seeking treatment (from 2285 in 1974 to 2869 in 1978). The press estimates that there are about 25 000 women who obtain an illegal abortion annually. A gynaecologist with 20 years practise in the country estimates the figure at between 20 000 and 30 000 annually. A female nurse with the Mauritius Family Planning Association says that for every 10 women who have pregnancy tests, two whose results are positive ask about abortion services. An abortion provider estimates seeing an average of four women a week and a midwife in a hospital reports that three to four women come to the hospital each week for treatment of complications resulting from an abortion (many of these women deny having had an induced abortion which makes it difficult to document the number of cases of induced abortion).

Mauritius/Incidence/Abortion.

### 4. Johnson, B. R.; Benson, J.; Mutambirwa, J. (IPAS, Carborro, North Carolina, USA). Unwanted Pregnancy, Abortion and Post-Abortion Family Planning in Zimbabwe: Community, Patient, and Provider Perspectives Introduction. 9 pages.

**Note:** Funding for the study was provided by the World Bank. Paper presented at the 121st Annual Meeting of the American Public Health Association, 24–28 October 1993; San Francisco, California.

This paper reports on the preliminary results of a research study carried out in Zimbabwe. The research focused on cultural and socioeconomic factors that contribute to unwanted pregnancy, service-delivery obstacles to family planning, women's needs for postabortion counselling and contraception, and local suggestions for improving the problem of unsafe abortion (p. 1). The methodology involved a community study, hospital-based interviews with women treated for incomplete abortion and interviews with providers in a single province; this paper reports on the first two components (p. 1). The community study involved interviews with 25 women who had experienced spontaneous abortion and 17 focus groups with men and women (n=155; 8 focus groups with women, 8 focus groups with men and 1 mixed group) in a peri-urban area on the outskirts of Harare. The hospital-based study was conducted at two sites in Harare and two in Bulawayo; a structured interview was

conducted with 600 women and an open-ended questionnaire was given to an additional 59 women (p. 1). Fifteen province-based, semi-structured provider interviews were conducted as well (p. 2). The hospital-based findings showed the following: average age was 26 years, with 11% adolescents and 21% single women; knowledge of contraceptive methods was almost universal (98% for condoms, 95% for oral contraceptives) and 71% had previously used a modern contraceptive method (p. 7); 37% of the women had, at some time, become pregnant while using a contraceptive method (p. 7); 92% and 86% said women should be given contraceptive information and methods, respectively, before leaving the hospital (p. 7); 84% of the Shona women wanted written information to take home with them (p. 7); and follow-up is necessary, since many women had questions about side effects of contraceptive methods (p. 2). The major themes that emerged from the focus groups were the need to: improve access to and use of contraception to lower the incidence of unsafe abortion; train village community workers to provide contraceptive information and methods and/or link people to community-based distributors; provide family planning counselling to men and women together in a private, comfortable setting like the home; and provide contraception free of charge (p. 8). Some participants believed that abortion is a sin (although half of the Shona women said it should be legal under some circumstances), legalisation of abortion would lead to more abortion and a concurrent decline in moral values, and a woman should only be sterilised if her husband is too (p. 8). Finally, men generally were uninformed about and opposed to family planning, indicating that family planning is a woman's responsibility (p. 8). The researchers recommend the following: train community health workers in family planning; incorporate men into the family planning process; expand hospital postabortion contraceptive counselling and services; and conduct operations research to assess cost, sustainability and effectiveness of services (p. 9).

Zimbabwe/Unwanted/Incomplete/PAFP/KAP/Effectiveness/PatPers/Patient Ed/MalePers.

5. Kabugua, M. Observation on Abortion and Sex Education in Kenya. *The Sunday Nation*. August 1, 1971: 7–8.\*

The reporter cites previous studies on abortion conducted in Nairobi. For example, a study showed that about 50% of sexually active teenage daughters of upper class families are on the pill. The 50% who are not on the pill are at risk of getting pregnant. He quotes that sexual practises and abortion among school girls are increasing due to exposure to Western movies and no access to information on sex or contraceptives. He stated further that the Family Planning Association of Kenya is a voluntary organisation active in sponsoring family planning and sex education to school girls and teachers. Lack of sex education has been blamed on the parents and seems to be the greatest problem in teenage sex. The author concludes by saying that contraceptives as well as safe abortion techniques should be made freely available to any woman of reproductive age.

Kenya.

6. Khasiani, S. A. (Consultant, Wamama African Research and Documentation Institute, Nairobi, Kenya). *Reproductive Health in Kenya*. Nairobi, Kenya; 1989 May. 42 pages.

**Note:** Funding provided by the Swedish International Development Agency.

The purpose of this study, commissioned by SIDA, was to determine: the extent to which the reproductive health of women is being addressed by programme activities, and the extent to which the reproductive health of women is documented (p. ii). To accomplish this, Wamama African Research and Documentation Institute (WARDI) conducted interviews with representatives of 15 agencies throughout Kenya and reviewed existing literature about these health issues (p. ii). The author first discusses the four major factors that affect women's health: 1) childbearing, including first and third trimester bleeding, anaemia, pregnancy-induced hypertension, long and difficult labour, acquired fistulae, spontaneous abortion, surgical delivery, and perinatal and maternal morbidity and mortality; 2) diseases of women's reproductive organs, including sexually transmitted diseases; 3) family planning, including induced abortion; and 4) research to adequately identify reproductive health needs (pp. 1–2). The author then discusses the reproductive health problems most associated with the under-20, 20–34 and 35+ age groups in Kenya. The risk factors for the under-20 group include: severe anaemia, pregnancy-induced hypertension, prolonged and difficult labour, cephalopelvic disproportion, pre-eclampsia and eclampsia, acquired fistulae, surgical delivery, perinatal and maternal mortality and morbidity, and

complications of induced abortion (pp. 3–8). Pregnancy-induced hypertension, first and third trimester bleeding and anaemia were the risk factors for the 20–34 year old group (p. 11). For those in the 35+ age group, pregnancy-induced hypertension, first and third trimester bleeding, and anaemia were cited as risk factors (pp. 11–14). The findings of this review show that the Ministry of Health supports reproductive health programmes, but that they do not address the maternal aspect of maternal and child health enough (pp. 29–30). Most research that is being conducted is done by the Department of Obstetrics and Gynaecology at the University of Nairobi, so most of it is epidemiological, clinic-based and limited to Nairobi (p. 31). Identified programme constraints include: inaccessibility of clinic/RH services due to a lack of rural clinics and the disproportionate distribution of clinics according to the target population (p. 32); underdevelopment of clinic services and poor coordination of outreach services (pp. 32–33); poor planning of resource use, such as underutilisation of services (some clinics are only open part-time; men, unmarried women and adolescents are not encouraged to use their services) (p. 34); and poor management of resources (services do not address comprehensive family planning or abortion) (p. 35). The author recommends: involvement of the target population in planning and establishing services; development of outreach services for antenatal, natal and postnatal treatment; identification of community members, such as retired medical personnel, for reproductive health outreach services; encouragement of women's groups to use these issues as grassroots educational campaign themes; mobilisation of community members to help build and maintain facilities, equipment and supplies; development of dialogue about abortion and contraceptive use by adolescents; and conducting research at district hospitals and community clinics to determine the true magnitude and epidemiology of sexually transmitted diseases, abortion, contraceptive use (especially as it relates to abortion) and maternity problems throughout Kenya (pp. 36–40).

Kenya/Incidence/Induced/FP/Age/Access/Barrier/Decentral/Evaluation/Country Report.

7. Khasiani, S.; Baker, J. *The Link Between Abortion and Contraceptive Use in Kenya*. Nairobi, Kenya; 1990. 4 pages.

The purpose of this study was to determine how personal, family and community factors link abortion to contraceptive use in Kenya (p. 1). The study was conducted in Nairobi in health facilities and within communities (p. 1). The researchers used key informants to identify women who had had one or more abortions. The study design compared women who had had one abortion with those who had had two or more abortions, broken down by whether or not the women were using contraception (p. 1). The study consisted of in-depth individual interviews with a sample of 40 women, 10 of whom had had one abortion and were current users, 10 of whom had had one abortion and were not current users, 5 of whom had more than one abortion and were current users, 10 of whom had more than one abortion and were not current users and 5 of whom were unspecified (p. 2). The study found that most of the study respondents were young, single women with one child, who had only achieved some primary or secondary education, and who were engaged in marginal occupations (p. 3). Many of the respondents had used contraception before; those who had stopped using it had done so because of fear of side effects (p. 3). The study found that women who have had one abortion will often have a second (and subsequent) one within 6 months (p. 1). The majority of those who had had more than one abortion were not using contraception (p. 3). The following personal factors were found to be important in determining the link between contraceptive use and abortion: education, income, number of living children, marital status, knowledge of contraception, attitude towards contraception and past contraceptive experience (p. 3). Important family-level factors included attitude of family members towards contraceptive use and family members' contraceptive experiences (p. 3). Community-level factors determined to be important included source of contraceptive knowledge, sources of contraceptive services and awareness of population pressure (p. 4). The authors suggest: information, education and communication programmes to provide contraceptive information and to correct misinformation about contraceptives; outreach programmes to poor women; and better access to quality services (p. 4). They also suggest conducting this study in different geographic settings in Kenya and among different groups of women, since this study was biased towards young, unmarried women (p. 4).

Kenya/Induced/Prevab/Contraception/KAP/Social/Access.

8. Mati, J. K. G. (Reproductive Health Research Unit, Kenya Medical Research Institute and Consultant, Population Sciences, Rockefeller Foundation, Nairobi, Kenya). *Research Findings on Post-Abortion Counselling and Family Planning: Lessons Learnt from the South-to-South Multicentre Study*. 20 pages.

**Note:** Prepared for the Technical Working Group Meeting on Post-Abortion Family Planning, Bellagio Study and Conference Center, 1–5 February 1993; Bellagio, Italy. Nairobi, Kenya; 1993.

This study was designed to: establish the effect of counselling on the incidence of repeat pregnancy and abortion; establish the effect of contraceptive acceptance and use on the incidence of repeat pregnancy and abortion among women admitted with abortion; study the effect of counselling on contraceptive acceptance and use among women admitted with abortion; study the socio-demographic characteristics, reproductive history and knowledge and use of contraceptive methods among women admitted for abortion services; and study the immediate complications of abortion among women admitted for abortion services (in large hospitals in developing countries) (p. 6). A total of 3385 women were included in the study, which was conducted between late 1987 and August 1990 in six cities in five countries: Nairobi, Kenya (17,7% of the women); Harare, Zimbabwe (32,9%); Lusaka, Zambia (13,8%); Mexico City, Mexico (9,9%); Lagos, Nigeria (18,4%) and Jos, Nigeria (7,3%) (p. 7). All women who presented with abortion complications, whether spontaneous or induced, were randomly assigned to either a non-counselled control group or a postabortion counselled study group, using computer-generated random numbers (p. 7). Counselling was a one-time event, and the counselling protocol was not standardised from one centre to the next (p. 7). Both groups of women were given three follow-up appointments over a period of 1 year (p. 2); of the women at the six centres, 60% were followed up (p. 3). The results showed the following: 17% of the women were adolescents (teenagers); 36% were single and most were literate (pp. 2–3). Most women (78%) had been pregnant at least once prior to the index abortion, while 35% had experienced one or more abortions (p. 3). The index pregnancy was unwanted in two thirds of the cases; up to 41% admitted that the index abortion had been induced (p. 3). Twenty-five percent of all women and 13% of the teenagers were using contraception prior to the index abortion, and use was shown to be dependent upon the level of contraceptive knowledge (p. 3). During follow-up, 63% of all women and 59% of the teenagers were found to have accepted and used a method, and 57% used the method for at least 6 months (p. 3). Increased acceptance was associated with age (older women) and education (well-educated) (p. 3). Counselling was not shown to increase the overall acceptance of family planning (p. 3). Within the one-year follow-up, 333 pregnancies (16,5% pregnancy rate) and 66 abortions (20,9%) were recorded (p. 4). Counselling was associated with a significant overall reduction in the risk of repeat pregnancy (11,7% among the counselled women, 21,5% among the non-counselled group); however, among those women who got pregnant, counselling did not exert any direct effect against repeat abortion (p. 4); it was associated with a significantly longer median interval between abortion and repeat pregnancy (9,4 months for counselled women versus 6,8 months for the non-counselled) (p. 14). The author concludes that: improved abortion care facilities are needed; improved family planning knowledge and services are needed; counselling may not influence family planning acceptance in locations where overall acceptance rates are already high; contraceptive practise is associated with significant reduction of repeat pregnancies; and counselling does not directly reduce the incidence of repeat abortion, but it indirectly lowers the need by reducing the number of unwanted repeat pregnancies (the author attributes this apparent paradox to the strong motivation for abortion among those women with unwanted pregnancy) (pp. 15–17). Based upon these results, the author suggests the following: provision of postabortion family planning services; further research to standardise and test appropriate counselling packages; studies to document the effect of more intensive (more than one meeting) counselling; and provision of follow-up services for those women who are identified as being at high-risk for repeat pregnancy and/or abortion (pp. 4–5).

Kenya/Nigeria/Zambia/Zimbabwe/Counselling/PAFP/Unwanted.

9. Mpangile, G. S. (Family Planning Association of Tanzania [UMATI]). *Knowledge, Attitudes and Practice of Family Planning at Mgeta Morogoro Rural—A Baseline Survey Done Prior to the Introduction of the Integrated Family Planning, Nutrition and Parasite Control Project*. 12 pages.

**Note:** Funding provided by International Planned Parenthood Federation (IPPF).

The purpose of this study was to provide baseline data on knowledge, attitudes and practise of family planning in Mgeta village, Tanzania prior to the introduction of the Integrated Family Planning, Nutrition and Parasite Control (IP) project (p. 1). The baseline survey was conducted in January 1990 in five of the six villages that compose Langali Ward in Mgeta village (p. 1). A randomly selected population of 310 villagers, identified by household lists obtained from the village government, was interviewed using a structured questionnaire (pp. 3–4). The respondents were predominantly female (197, or 63,5%), married (60%), Roman Catholic (95%), between 20–45 years old (68,7%) and employed in agriculture (90,3%) (pp. 4–5). Only 104 (33,5%) were aware of any contraceptive methods (usually the pill), and only 43 (13,8%) were ever users of contraception (29, or 67%, used the pill) (p. 1). Only 21 (6,7%) were current users of contraception, yet 51 (16,4%) admitted attempting an induced abortion at some time in the past (p. 1). The author concludes: there is a poor correlation between contraceptive awareness and user rates, with rates of 33,5% and 6,7%, respectively; and more women had histories of induced abortion (16,4%) than were ever users of contraception (13,8%) (pp. 9–10). The author suggests incorporating or integrating motivational family planning services that focus on creating and maintaining demand (rather than increasing awareness) to prevent unwanted pregnancies (p. 11).

Tanzania/FP/KAP/Induced/Rural.

10. Mpangile, G. S.; Leshabari, M.T; Kihwele, D. J. Factors Associated with Induced Abortion in Public Hospitals in Dar Es Salaam, Tanzania. 1992 Oct.

**Note:** Funding provided by The World Health Organisation's Special Programme of Research, Development and Research Training in Human Reproduction.

The study investigators sought: to describe the socioeconomic and demographic factors of women admitted in public hospitals in Dar es Salaam for treatment of complications of induced abortions and the fertility regulating methods known and/or used by the patients; to explore the circumstances surrounding the act of inducing an abortion; and to estimate costs incurred by the women and the health system. Results were based on the responses from respondents, interviews conducted privately among women admitted to gynaecological wards with a diagnosis of abortion complications in four public hospitals in Dar es Salaam. Nine hundred sixty-five women were screened by specially trained nurses and physicians. Four hundred fifty-five of these admitted or were shown through medical examination to have had an induced abortion. Eighty-two who did not admit and who the attending physicians could not certify as having had an induced abortion were excluded from the analysis. Those who consented, though not through writing, to taking part in the study were counselled before interviews commenced. The study instrument used in the interview was pretested in one of the hospitals after which necessary corrections were made. Findings indicated that about a third (32,9%) of the victims of unsafe abortion were teenagers, with 41,3% of them being 17 years or younger. One out of every five were students in primary or secondary schools. Less than 17% of the victims were 30 years and above. Two thirds (66,2%) of the victims were single while 22,7% and 9,7% were married and separated, divorced and widowed respectively. Young people showed a lack of knowledge about contraceptives: 88,5% of those aged 17 and below, though sexually active, did not know any method of contraception. Only one teenage girl knew six or more methods of family planning. Knowledge of contraceptives increased with age and education level. Singles knew less about contraceptives than those married. Though 47,3% Moslems, 39,2% Catholics and 33,6% other Christians did not know any contraceptive method, participation in various religious activities was not related significantly to contraceptive knowledge/use. The pill, condom and calendar (natural) were the contraceptive methods widely known. Though known, the methods were not highly used. In spite of the calendar being highly recommended by some religious organisations opposed to modern family planning, it had the highest failure rate of 61% compared to 4% for the pill. Six percent of the respondents, with 60% of them being teenagers, claimed they were made pregnant by strangers. Of the girls aged 17 and below, 30,6% said their male partners were 45 years or older; 30% of the respondents (more pronounced in the singles) said they were made pregnant by either strangers or casual partners. Twelve percent of the married women admitted having been made pregnant by men who were not their husband, 75% of them being casual partners and strangers. The results indicate that most of these pregnancies were unwanted. Of the respondents, 47,7% made an outright decision to abort while only 7,7% made the decision to carry their pregnancy to term soon after learning they were pregnant. No student thought of carrying the pregnancy to term. Decision to abort increased with age. As the education level and age increased, the victims had a greater tendency to inform the man involved. Adolescents confided more in their female relatives. This tendency to confide in female relatives decreased from 42,6% for those aged 17 and below to 10,5% for those aged 30 and above. Men responsible for the pregnancies did not

share the burden of looking for a solution (e.g., abortion services) to the problem to the same extent as did other social support networks of the female victims, but the men responsible ended up paying the bills. The study indicates the highest amount paid by a woman to get an abortion was US\$100 (with a mean of US\$22,1). The minimum government monthly wage was US\$12,5. The study noted that to keep one case of induced abortion in the hospital cost US\$7,5 per day. This contrasts with the (then) Health ministry budget of one US dollar per capita per annum.

Tanzania/Age/Contraception/ContrPrev/Costs/Incidence/Induced/Policy.

11. Mutungi, A. Contraceptive Acceptance and Continuation in Women Managed for Incomplete Abortion in Kenyatta National Hospital. Nairobi, Kenya: University of Nairobi; 1990.\*

This is part of a Master of Medicine thesis that reports on findings of a study on contraceptive acceptance and continuation in women managed for incomplete abortion at Kenyatta National Hospital. The investigator sought to establish the relationship between the high abortion rate seen at KHN and use of contraceptives. The study also set out to find out why patients wishing to prevent birth and who were aware of contraception failed to use contraceptives. The results were based on the responses of 680 out of 1121 patients admitted to the acute gynaecological ward at KNH from August 28, 1988 to November 21, 1988. The 680 patients were those who had an incomplete abortion. They were interviewed, and the information recorded in an open-ended questionnaire, between the time of evacuation and discharge. The study population was counselled about contraceptives. Those willing to use contraceptives were issued them and a follow-up made after 6 months. The study ended on May 31, 1989. Analysis indicated that 71,3% of the patients were aged 20–29 years with only 1,5% being 40 years and above. Over half (51,8%) of the patients were married and 42,8% were single. Only 5,3 had no formal education. There were more Christian patients (97,2%) than Muslims (2,4%). While 92,9% had previous contraceptive knowledge awareness, only 42,1% had used contraceptives previously. Awareness and use increased with age and level of education. The contraceptive pill was the most known and used method while Norplant implants was the least known and used. Of the patients, 57,6% had never previously used contraceptives for different reasons: 43,4% because they did not have enough knowledge to use them comfortably, 38,1% because they thought they were for one reason or another not ready and 12,9% because they were advised not to do so by their husbands, boyfriends or relatives. Sixty percent of the patients did not want the pregnancy. Out of those, 67,9% were aged between 10 and 19. With the exception of married women, most women of all the other marital statuses said the pregnancies were unwanted or accidental. Those aged 10 to 19 years (30,4%) and single (81,7%) had the highest percentage of induced abortions. Only 8,4% were using a method of contraception to prevent pregnancy at the time of conception. The majority of those using contraception were on pills (38,6%), were teenagers (40%), were in college/university (44,4%) and were Catholics (22,4%). After counselling, those using contraceptives increased from 42,1% to 70%. The use of contraceptives after counselling increased in all age groups except those aged 40 and above where there was a decline from 30% to 10%.

Kenya/PatPers/Counselling.

12. Pasquet, C. Contraception and Induced Abortion. [La contraception et l'interruption volontaire de grossesse.] In *Etude generale sur la fecondite et les unions a la Reunion*. Compiled by Conseil General, Direction des Actions Sanitaires et Sociales Departementales. Saint-Denis, 1987 Dec. 90 pages. PIP 055244.

The 1986 study of fertility and nuptiality in Reunion indicated that 77% of women 20 years of age and over and 98% of those 20–49 years old knew about at least one contraceptive method. The newer methods including the pill, Depo Provera, condom and tubal ligation were the best known. Older women, those with 1–3 children, and the more educated had the highest levels of knowledge of contraceptive methods; 34,5% of women aged 15–19 and 88,5% aged 20–49 reported ever having used a contraceptive method. Sixty-four percent of women aged 20–49 and 25,7% aged 15–19 were using a method at the time of the survey. Around 74% of women aged 30–34 and 70% aged 25–29 and 35–39 currently used a method. Twenty-eight percent used pills, 14% used IUCDs, 3% used Depo Provera, 5% used natural methods, 3% used barrier methods and 8% were sterilised. Education and occupation influenced the choice of method and contraceptive usage, but marital status and region had little influence on contraceptive use (except that rural women had lower rates of use). Women who

had used contraception previously but discontinued did so primarily because of menopause (in the case of older women) and because of desire for pregnancy or absence of the partner in case of younger women. One half of nonusers of contraception over 20 years old cited lack of knowledge as their reason, while only 7% under 20 years old did so. Seventy percent of nonusers under 30 years old stated their intention of using contraception in the future and their likely choice of pills. Three quarters of women aged 20–70 years stated they approved of contraception.

Reunion/Age/Parity/Contraception/FP/KAP.

13. Wachuku-King, S. (Marie Stopes Society, Freetown, Sierra Leone). *Quality of Care and Women's Perspective and Needs for Postabortion Family Planning Services: A Sierra Leone Experience*. 13 pages.

**Note:** Prepared for the conference entitled "Meeting Women's Needs for Postabortion Family Planning," 1–5 February 1993; Bellagio Conference and Study Centre, Bellagio, Italy.

This report is an overview of the work of the Marie Stopes Society in Sierra Leone. The aim of the Society is to provide low-cost reproductive health care for low-income families to reduce maternal illnesses and deaths that result from unwanted pregnancies and sexually transmitted diseases (STDs) (p. 1). Abortion is illegal in Sierra Leone, but it is widely practised nonetheless. Data were collected on menstrual regulation (MR) patients (n=286) at the Marie Stopes Society clinic(s) over a 3-month period (March-May 1992). The results were as follows: 1) the majority of the patients were 15–25 (73%) and educated (82%); 2) 58% of the patients had been pregnant at least once previously; 3) 31% of the patients had undergone at least one previous MR procedure; and 4) 56% of the patients accepted family planning (FP) after the MR procedure (p. 4). In addition, the report includes the responses to a simple questionnaire given to abortion clients (age range 16–30) and a few of their male partners. The author concludes that the answers to this questionnaire show where counselling services need to be strengthened (p. 13).

Sierra Leone/MR/Induced/PAFP/Evaluation/PatPers.

## MALE PERSPECTIVES

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### PUBLISHED

1. Adebayo, A.; Nassif, F. (Department of Sociology, Tougaloo College, Tougaloo, Mississippi// Department of Sociology, Kansas State University, Manhattan, Kansas). Opinions Regarding Abortion Among Male Nigerian Undergraduate Students in the United States. *Social Biology*. 1985 Spring-Summer; 32(1–2): 132-135. ISSN: 0037-766x.

**Note:** Funding provided by the Graduate School, Kansas State University.

This brief report summarises the abortion-related results of a larger research study which investigated the fertility attitudes of Nigerian males who had been exposed to Western education. The study investigators hypothesised, based upon acculturation theory, that Nigerian students attending American colleges at the undergraduate level would be more accepting of abortion based upon their experiences with Western education. One hundred and seventeen undergraduate students at state tax-supported universities in Kansas were surveyed using a one-time questionnaire (pp. 132–133). In response to the question, “In general, do you favour or oppose abortion?”, 64,1% of the students opposed abortion, 18,8% favoured abortion and 17,1% were uncertain (p. 133). Abortion attitudes were found to be statistically significantly related to the number and sex of children (fewer children—against abortion, no male children—against abortion) and marital status (unmarried—for abortion) (p. 133). The authors conclude that initially acquired values and opinions are often preserved, despite exposure to Western culture. The authors also suggest that the results of this study highlight a discrepancy between opinion and actual behaviour concerning abortion in Nigeria (p. 134).

Nigeria/MalePers.

### GREY LITERATURE

1. Gatei, D. Symposium on Adolescent Fertility. Nairobi, Kenya: University of Nairobi; 1986.

**Note:** Funding by the Catholic Church in Kenya.

This report is a summary of presentations during a symposium in 1986 on adolescent fertility in Kenya. Father Dr. R. Wanjohi, presenting the views of the Catholic church, said that while it is right and just that the young should and must be taught proper and correct fertility awareness, such teaching should not condone or justify fornication or adultery. To the Catholic church, indiscriminate distribution of contraceptives to the youth is tantamount to promoting promiscuity. A research study carried out by Fr. Wanjohi in three schools in central Kenya confirmed the church's stand that lack of proper, correct and post-puberty sex education makes boys view penile erection and nocturnal emission as male diseases, necessarily cured by premarital coitus. The findings showed that of the 135 boys in the study population, only 11,9% (16 boys) had been taught by their fathers about the physical changes which had taken place in their bodies during puberty. Eighty-two percent of the boys said they would have had better morals and life would have been different for them if they had received sex education earlier. Only 0,9% of the boys advocated giving contraceptives to youths as compared to 91,7% who advocated for proper sex education; 1,8% advocated for both. The Kenya Catholic Secretariat has a Family Life Education program which disseminates information and knowledge to increase awareness, respect, responsibility and dignity to counteract the fear and misinformation that prevail. The Protestant Churches Medical Association (PCMA) has a Youth Information and Education Towards Responsible Adulthood department that deals with the problems of adolescent fertility. It produces educational materials to teach the youth how to solve problems associated with their sexual behaviour. The youths are informed of the consequences of uncontrolled rapid population growth in view of the available resources with the hope that this will result in responsible sexual behaviours as youths and later as adults. Even with this kind of programme, however, PCMA is aware, through research, that 16,2% of all deliveries in PCMA hospitals are

of school girls under 19 years and that 50% of adolescents have boy/girl friends and wish to marry between 13 and 21 years. Bahai and Muslim representatives at the conference said that the creator (God) designed that wedlock is the frame and boundary for sexual intercourse. To the Muslim, the practise of self control, deliberate abstinence from marriage or indulgence in sexual activity until the age of 24 is the surest way to check and control adolescent fertility. In his presentation, Syed Abdul A'ala Maududi said the need for birth control and its propagation would be minimised if movement of females was restricted, if females wore decent dresses to cover their bodies and if the free mixing of males and females was prohibited. Maududi said birth control is not necessary for a normal man. It has resulted in aging of nations, a large impetus for illicit relations leading to an increase in venereal diseases and a weakening of the bonds of matrimonial relationships. Children, youths and adolescents should be taught the purpose of our animal or biological desires and how to control them. They should be absorbed and devoted in pursuit of their professions to stop them from engaging in irresponsible sexual behaviour.

Kenya/Adolescents/Educ/Religion.

2. Magadi, M. A.; Kuyor, M. A. Abortion: Attitude of Medical Personnel in Nairobi, Kenya. 1991 May; PIP 067909.

Researchers randomly distributed self-administered questionnaires to 105 physicians, 29 clinical officers and 137 nurses in Nairobi, Kenya to examine their attitudes toward abortion. Medical personnel, especially clinical officers and nurses, knew little about abortion, indicating poor information dissemination or lack of interest. The leading clinical induced abortion procedures cited by the respondents included dilation and curettage, vacuum suction and use of prostaglandin. The major nonclinical methods in order were: traditional herbs, sharp instruments and malarquin/chloroquine overdose. Respondents agreed that non-clinical methods posed the greatest risk to a woman's life. Fifty-six percent reported that a close friend or relative had asked them to perform an abortion. Only 1% said they, in fact, terminated the pregnancy of a close friend or relative. Most of the respondents felt that an abortion should be performed only when the pregnancy poses a danger to the mother's life, when the foetus is deformed or in cases of rape. Moreover, they believed that abortion should continue being illegal, except in cases where the mother's life is in jeopardy. Physicians had a more positive attitude towards abortion than clinical officers and nurses. Furthermore, single/divorced/separated, non-Catholic, younger respondents with fewer than three children tended to have a positive attitude toward abortions whereas older, married, Catholic respondents with more than three children had a negative attitude. In addition, respondents working in the private sector had a more positive attitude than those in the public sector. Obstetricians/gynaecologists and surgeons tended to be more negative in their opinions about abortion than pediatricians and other physicians. Nevertheless, essentially all physicians believed postabortal counselling is important, especially if the sessions emphasised abortion risks and effective contraceptive use.

Kenya/Induced/KAP/ProvStatus/ProvPers/Religion.

## ABORTION LAWS

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### PUBLISHED LITERATURE

1. Armstrong, A. K. (Department of Law, University of Zimbabwe, Harare, Zimbabwe). Access to Health Care and Family Planning in Swaziland: Law and Practice. *Studies in Family Planning*. 1987 Nov; 18(6/Part 1): 371-382; ISSN: 0039-3665.

This article investigates legal aspects of women's access to health care, contraceptives, abortion and sterilisation in contemporary (1987) Swaziland (p. 371). The focus is on the emergent duality between customary and common laws regarding these issues. The author argues that the law concerning women's access to health care and family planning is ambiguous because of the issue of husband authorisation for medical treatment (p. 380). Health care workers often restrict women's access to medical care by requiring proof of the husband's authorisation—even though it is not legally necessary (p. 380)—in order to protect themselves against the vagueness of the law. The law is even vaguer on the issues of abortion and sterilisation. The author concludes that the law must be clarified and that women's access to medical treatment, particularly regulation of fertility, must be strengthened (p. 381).

Swaziland/Legal/Access/FP/MalePers/ProvPers.

2. Castle, M.A.; Likwa, R.; Whittaker, M. (Department of Anthropology, Lehman College, City University of New York, USA//Family Health Unit, Ministry of Health, Zambia//The Population Council, New York, USA). Observations of Abortion in Zambia. *Studies in Family Planning*. 1990 Jul; 21(4): 231–235; ISSN: 0039-3665.

This study describes the conditions suffered by Third World women as a result of health policies that deny them safe, medical abortions (p. 231). It reports on one day of observation (September 5, 1988) at the gynaecological emergency ward, University Teaching Hospital (UTH), in Lusaka, Zambia (p. 231). In addition, two case histories of abortion patients at the same hospital are presented. The study was qualitative in nature and involved observation and interviews with the nurse-in-charge and other ward staff. Abortions have been legal in Zambia since 1972 under the following conditions: to save the life of the woman; to avoid the risk of injury to the physical or mental health of the existing children of the woman; or in cases of foetal physical or mental abnormalities (p. 235). The study showed that, contrary to popular belief, women who are seeking abortions in Zambia are not a homogeneous group; the reasons for a woman's decision to terminate pregnancy are complex and varied; pathways to securing a termination are diverse and dangerous, including herbal preparations; women may lack knowledge or the ability to seek and secure legal abortions; women are unwilling to admit to an illegal abortion until they are gravely ill; and hospital care is being provided in a crisis atmosphere, with no long-term strategy for more effective management (p. 235). The data underscore the intensity of the abortion experience for Zambian women and suggest that a study should be planned at UTH to determine how to improve abortion care (abstract, p. 231).

Zambia/Policy/WaitTm/Emmenagogue.

3. Cook, R. J. (Legal Adviser on Commonwealth Law). Modern Medical Technologies in Commonwealth Law and Beyond. Kleinman, R.L. (ed.) *IPPF Medical Bulletin*. 1983 Aug; 17(4): 1–2; ISSN: 0019-0357.

This paper discusses emerging medical technologies—intrauterine devices, oral contraceptives, prostaglandins, vacuum aspiration—that may be used as post-coital contraception, as pre-implantation procedures or as methods used before a pregnancy can be established, and how they are affected by contemporary (1983)

abortion law in Commonwealth African countries (p. 1). Under English Common Law, both a person performing a termination procedure and a woman inducing abortion on herself can be punished for illegal abortion, but only if “quickening” (usually at about 12 to 14 weeks after the last menstrual period) can be proven to have occurred beyond a reasonable doubt; modern technologies used before quickening are legal in Sierra Leone, Lesotho and Swaziland (p. 1). Countries that follow laws similar to the Indian Penal Code, such as Malta and Mauritius, require that a woman be proven to be “with child” as a pre-condition to abortion liability; thus, in these countries, post-coital contraception, self-administered suppositories and menstrual therapies are not covered under the existing abortion law (p. 1). The author therefore concludes that the amount of time in which pre-pregnancy fertility control (considered contraception as opposed to abortion) can be exercised is longer than previously thought (p. 2). This distinction could allow practitioners to legally introduce modern medical technologies for menstrual regulation and pregnancy termination in Commonwealth African countries, thus increasing women's control over their fertility (p. 2).

Lesotho/Mauritius/Sierra Leone/Swaziland/Legal/Contraception/Prost/MR/Policy.

4. Cook, R. J.; Dickens, B. M. (Georgetown University Law Center, Washington, D.C., USA//Faculty of Law, University of Toronto, Canada). Abortion Laws in African Commonwealth Countries. Allott, A. N.; Morris, H. F.; Roberts, S. A. (eds.) *Journal of African Law*. 1981; 25(2): 60–79; ISSN: 0021-8553.

This paper provides an overview of the range of current (1981) abortion laws in the African Commonwealth countries, traces the laws' origins to their colonial antecedents and discusses legal reform that would allow for legal termination of pregnancy (p. 60). The authors claim that the range of these laws demonstrates an evolution from Customary/Common Law (Lesotho, Swaziland), to Basic Law (Botswana, The Gambia, Malawi, Mauritius, Nigeria—Northern States, Seychelles), to Developed Law (Ghana, Kenya, Nigeria—Southern States, Sierra Leone, Uganda) and finally, to Advanced Law (Zambia, Zimbabwe) (p. 62). The authors call for treating abortion as a health and welfare issue as opposed to one of crime and punishment (p. 66). Since most of the Basic Law *de jure* is treated and administered as Developed Law *de facto*, the authors suggest decriminalising abortion and suggest ways in which to reform the laws: clarifying existing laws; liberalising existing laws to allow abortion under certain conditions; limiting/removing women's criminal liability for seeking an abortion; allowing post-coital contraception; publishing recommended fees for services to protect poor women; protecting providers who treat women with incomplete abortion; and punishing providers who fail to provide care to women in need, with the exception of those seeking protection under a conscience clause (pp. 66–72). The authors also suggest clarifying the means by which health services involving pregnancy termination may be delivered including: clarification of the qualifications of practitioners who may treat women; specification of the facilities in which women may be treated, perhaps broken down by gestational age of the pregnancy; specifying gestational limits during which the procedure can be performed; clarifying approval procedures and consents; and allowing for providers' conscientious objections to performing pregnancy termination procedures (pp. 73–77).

Botswana/Gambia/Ghana/Kenya/Lesotho/Malawi/Mauritius/Nigeria/Seychelles/Sierra Leone/Swaziland/Uganda/Zambia/Zimbabwe/Legal/Policy.

5. Cope, J. *Abortion Law Reform in Apartheid South Africa*. Pietermaritzburg, South Africa: Hadeda Books; 1993. 180 pages. ISBN: 0-86980-887-7.

This account documents the role and struggles of the Abortion Reform Action Group (ARAG) in trying to pressure the South African government to pass legislation allowing abortion to be legal during the first trimester. The author presents the argument that the government, led by the National Party, kept abortion from becoming legal for political reasons, thus effectively incorporating the abortion issue into their overall apartheid policies (p. 172). Following two chapters of background material that discusses abortion law and reform efforts in South Africa and other countries (especially Britain), the book covers the abortion rights struggle in apartheid South Africa from 1972 until the present. The major actors covered are: June Cope, founder of ARAG-Natal; Dolly Maister, founder of the Cape Town-based South African Abortion Reform League, which later became part of ARAG-National; Helen Suzman, the Minister of Parliament who voiced the concerns of ARAG and fought for abortion law reform; and numerous governmental officers. The law that was finally

passed, the Abortion and Sterilisation Act of 1975, was very restrictive, making abortion legal only under the following circumstances: the life of the woman is in danger; the woman will suffer permanent mental damage, which must be assessed by a state-employed psychiatrist; proven (e.g., via amniocentesis) foetal abnormalities; and rape or incest (pp. 60–61). Even if these conditions are met, the woman must still obtain certificates from two doctors before receiving treatment from a third, unrelated doctor. Cope claims that the 1975 law, which was based upon apartheid policies, needs to be reformed.

South Africa/Legal/Policy/Race-Ethnic/Country Report.

6. Davey, D. A. (Medical School, University of Cape Town, Cape Town, Republic of South Africa). The Right to Be Born. *Medicine and Law*. 1989; 7(5): 475–482; ISSN: 0723-1393.

This article is an editorial on the rights of the mother versus those of the unborn child and/or society as a whole (p. 476). It is a contemporary (1989) look at the abortion issue in South Africa, written by a South African obstetrician and gynaecologist. He argues that the right to be born encompasses several different rights: the right to be conceived, the right to be implanted in the uterus and the right to live (or not to be aborted) (p. 475). The author argues: that the right to conceive and reproduce must be coupled with the acceptance of the responsibility for raising a child (p. 479); that the fertilised ovum may not have the right to be implanted, but it does have the right to the respect accorded to a human being (p. 480); and that the right to life, and thus the right to abortion, must be regarded as dependent upon the stage of development of the foetus, the degree of protection of which must be decided by each community or society (p. 482). Davey discusses the views of different movements related to the issue of abortion and stresses the need for responsible decision-making in family planning.

South Africa/Legal/Unwanted/Induced/FP/ProvPers.

7. Dommissie, J. (National Council, South African Society of Obstetricians and Gynaecologists, Cape Town, Republic of South Africa). The South African Gynaecologists' Attitude to the Present Abortion Law. *South African Medical Journal*. 1980 Jun 21; 57(25): 1044–1045; ISSN: 0038-2469.

This study documents attitudes of members of the South African Society of Obstetricians and Gynaecologists (SASOG) toward South Africa's present Abortion Law and how it is applied. A questionnaire was administered in July 1979 to members of SASOG at the request of the SASOG Council. Two hundred and thirty full members received the questionnaire and 162 (70%) responded representing various geographic areas. Twenty-nine members expressed their satisfaction with the current Abortion Law, whereas 82% supported major or minor changes. The responses from Bellville and Pretoria were much more conservative than were those from other geographical regions. Only 32% of all the physicians supported abortion on demand before the twelfth week of pregnancy (p.1044). Specific questions were included which focused on changes in the law for certain indications: over 90% supported changing the words “permanent damage” to “lasting interference with mental function;” 78% agreed to termination on request for girls under 16 years of age; 70% agreed to termination for women over 40 years of age; 60% agreed to termination for the sixth and successive pregnancies; and 76% and 66% supported change to allow for termination following failed sterilisation and failed contraception, respectively (p. 1045).

South Africa/Legal/ProvPers/Induced.

8. Knoppers, B. M.; Brault, I.; Sloss, E. (Department of Law, University of Montréal//Quebec Bar//Law Firm of Ruby & Edwardh). Abortion Law in Francophone Countries. *The American Journal of Comparative Law*. 1990 Sep; XXXVIII(4): 889–922.

This paper reports on a study of Francophone abortion laws (p. 892). The study was undertaken in 1986–88 to determine whether there was evidence of juridical “patrimony” stemming back to early French legislation, and to see whether any trend toward liberalisation is evident in these countries (p. 892). The paper reports on all aspects of the study except for issues of sanctions for illegal abortion and reform proposals; however, the

authors note there have been very few reform proposals for these countries and none of them have been successful (p. 893). The authors commence with a brief historical overview of French legislation, beginning in 1556. The most relevant pieces of legislation include Article 317 of the 1810 Napoleonic Penal Codes which punishes any medical personnel involved in providing an abortion and any woman who tries to self-induce or who has given her consent for the procedure, and Article 87 of the law reform of 1939 which stipulates that the woman does not even have to be pregnant for the parties involved in planning for a pregnancy termination to be punished (p. 894). Finally, in 1975 the French government passed a law which permits voluntary termination within the first 10 weeks of pregnancy (or 12 weeks since the last menstrual period) (p. 895). Sub-Saharan African countries that have adopted the 1810 law or a variant thereof include: Congo (embraced the 1810 law); Togo (recently repealed); the Ivory Coast, Guinea and Rwanda (all embraced a variant). Those which have adopted the 1939 version or a variant include: Burkina Faso, Chad, Gabon, Madagascar, Niger and Senegal (all embraced the 1939 law); Burundi, Comoros, Cameroon, Mali, Mauritania and Zaire (all embraced a variant) (p. 897). Most of these countries stipulate that pregnancy, if not proven, be presumed (with the exception of Guinea), and that procuring abortion by any means or combination of means is illegal (with the exception of Cameroon) (pp. 899–901). The authors proceed to categorise the abortion laws as follows: liberal, which allow abortion for juridical (rape or incest), socioeconomic or foetal reasons or for a certain open period of time; intermediate, which permit abortion in cases of grave peril to the woman's life, physical health or sometimes mental health; and restrictive, which only allow abortion to save the woman's life (pp. 901–902). Countries that allow abortion for liberal reasons are Cameroon (rape or incest), Zaire (socioeconomic or foetal deformity), and Burundi (socioeconomic) (pp. 902–905). The intermediate position is taken by Comoros, Guinea and Zaire, all of which allow termination for medical reasons (p. 906); all of the other countries allow abortion only out of necessity (i.e., to save the life of the woman) (pp. 908–909). The authors then discuss the procedural conditions delineated in each country's law (i.e., place of abortion, medical qualifications of the attendant), and requirements that some countries have decided to adopt such as: obtaining the woman's consent (required in Burundi); obtaining the husband's consent (none in sub-Saharan Africa); consulting with other health professionals (required by Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Gabon, Guinea, Ivory Coast, Madagascar, Mauritania, Niger, Rwanda and Senegal); committee approval (required in the Congo); time to reflect (none in sub-Saharan Africa); and special documentation (required by Benin, Ivory Coast and Rwanda) (pp. 909–915). The authors conclude with a discussion of the conscience clause, which does not allow doctors to perform an abortion unless the woman's life is in danger (allowed in Benin, the Ivory Coast and Senegal), and the "state of peril" clause, under which a person can be punished for failing to help another who is in peril (none in sub-Saharan Africa) (pp. 918–919). The authors conclude that there has been a general liberalisation of pregnancy termination laws, but that these steps have not been enough to guarantee women the choice of abortion, which they consider a human right protected under international law (pp. 920–922).

Benin/Burkina Faso/Burundi/Cameroon/Central African Republic/Chad/Comoros/Congo/Gabon/Guinea/ Ivory Coast/Madagascar/Mali/Mauritania/Niger/Rwanda/Senegal/Togo/Zaire/Legal.

9. Ladipo, O. A. *Illegal Abortion and Effect on Medical Practice and Public Health—Nigeria*. In Landy, U.; Ratnam, S. S. (eds.) *Prevention and Treatment of Contraceptive Failure*. New York: Plenum Press; 1986: 53–59. ISBN: 0-306-42477-0.

This author stresses the need for the Nigerian government to amend restrictive abortion laws which he contends have resulted in a significant increase in maternal mortality and morbidity in the past three decades. Despite these laws and a strong pro-natalist national sentiment, the author notes that illegal abortion is performed daily in Nigeria by skilled and unskilled persons who employ aseptic techniques and unorthodox methods (p. 53). The author next examines the legal aspects of induced abortion, particularly the 1981 Termination of Pregnancy Bill which was never passed. The author argues from a health perspective that restrictive laws only serve to promote clandestine abortions improperly performed. The author advocates liberalising abortion laws and promoting contraceptive services to reduce repeat abortions (p. 54). The author bases his view on findings of previous studies which suggest that adolescent sexuality is increasing and that adolescents represent a high percentage of documented induced abortion cases (p. 55). For example, the 1983 study by Oronsaye and Odiase documented that among secondary school girls in Benin City, Nigeria (n=530), 30.2% admitted to having had an illegally induced abortion (p. 56). Sepsis is the most common life-threatening complication of abortion and the most common cause of death from induced abortion (p. 57). The author suggests the idea that abortion and contraception are complementary, not competitive (p. 58); and that physicians should use their interaction with

a woman during a termination procedure as an opportunity for contraceptive education and counselling (p. 58). The Nigerian government is urged to recognise the adverse complications associated with illegal abortion and to formulate rational policies that would accelerate reproductive health education and encourage the use of modern contraceptives (p. 59).

Nigeria/Induced/Legal/KAP/Complication.

10. Leyshon, D. J. (Lecturer in Law, Rhodes University, Grahamstown, South Africa). Abortion: In Search of a Constitutional Doctrine (Parts 1 & 2). *Medicine and Law*. 1991; 10(1): 155–183 (Part One) and 10(2): 219–234 (Part Two); ISSN: 0-86849–117-9.

This article addresses the abortion debate in South Africa from a constitutional viewpoint. The author argues that placing abortion in a human rights context is difficult because of the varying debates surrounding the issue. The bulk of Part One outlines the pro-choice versus pro-life debate in America. Specifically, the author examines the arguments of other writers concerning the rights of the woman versus the rights of the foetus. Under the South African legal system, abortion is governed by the Abortion and Sterilisation Act of 1975, which allows a woman to have an abortion only when her life or the life of the foetus is at stake. Part Two addresses the limitations of both arguments in their “all or nothing” approach. The author feels that neither extreme is correct. The author examines the following issues surrounding abortion in South Africa: rape, incest, physical deformity, abortion on demand and the rights of a pregnant and mentally ill mother. In each of these instances, the author considers the rights of the mother against the rights of the foetus. He concludes that the courts must decide these issues within the framework of the Bill of Rights. The author also poses his own interpretation of what actions are constitutionally permissible as spelled out in Article 1 of the Bill of Rights; according to his interpretation, abortion is permissible on the grounds that: the woman's life is endangered by continuing the pregnancy; the woman's physical or mental health is endangered by continuing the pregnancy; or there is risk of foetal deformity (p. 232). The author rejects any attempt to determine permissibility based upon gestational limits due to historical difficulties with this issue in America. The author concludes by urging both sides to compromise and adhere to the principles of the Bill of Rights.

South Africa/Legal/Access.

11. Mogwe, A. Botswana: Abortion 'Debate' Dynamics. *Agenda: A Journal about Women and Gender*. 1992; (12): 41–43.

This article describes the history of and barriers to abortion law reform attempts in Botswana. In November 1990, the Minister of Presidential Affairs tabled a bill before Parliament, entitled the Penal Code (Amendment) Bill (p. 42). The bill was aimed at liberalising the existing law on abortion (which only allows for abortion to save the life of the woman); the demand for clarification and liberalisation came from the medical profession, not from women's groups or human rights organisations (p. 42). The bill was finally passed by Parliament in September 1991 and signed into law by the President on October 11, 1991, but only after a struggle with the opposition party, pro-life groups and religious leaders (p. 43). The author concludes that policymakers must adequately and carefully prepare the society for legal reform when it deals with culturally ingrained moral issues (p. 43). In addition, the government's action is in response to a demand from a minority group (the medical community), without receiving any input from the women for whom the reform was allegedly intended. The author suggests that, without the support from the group affected by the change, this type of reform effort is destined to fail (p. 43).

Botswana/Legal/Policy.

12. Muvman Liberasyon Fam. Abortion. In *The Women's Liberation Movement in Mauritius*. Port Louis, Mauritius: Ledikasyon pu Travayer; 1988 Dec: 21–39. 111 pages.

This book is a descriptive account of the history and goals of the Muvman Liberasyon Fam (MLF), which is a Marxist-socialist/feminist movement in Mauritius that fights for the equality of both men and women without

classification by community, race, religion, tribe or caste (p. 20). This chapter of the book addresses their struggle to legalise abortion (pp. 21–39); MLF states in their manifesto: “Each woman must have the right to control her own body; she must have access to contraception, and to a safe abortion free-of-charge; a woman has the right to marry and not to marry, to bear children and not to bear children.” (p. 17). Despite the fact that abortion is illegal and a clandestine topic in Mauritius, the MLF argues that abortion is prevalent; the MLF reports that, statistically, all women over 30 years have undergone at least one abortion in their lifetime (p. 21), and that almost every woman in Mauritius knows at least one woman who has died from an illegal abortion (p. 23). Thus, they conclude that abortion must be legalised to alleviate the country's high maternal mortality rate caused by unsafe abortions, particularly amongst the poor. Every year in Mauritius over 3000 women are admitted to hospitals for the treatment of incomplete abortion. The MLF has compiled data that show that 475 women have died because of unsafe abortion since 1968 (an average of almost 24 deaths per year) (p. 23). They particularly attack the Catholic church for its negative stance against abortion, sterilisation and family planning. The aims of the MLF regarding women's reproductive health are: 1) legalisation of abortion on demand up to 12 weeks gestation; 2) provision of abortion free-of-charge to all women; 3) legalisation of sterilisation on demand; and 4) availability of birth control to all women (p. 38).

Mauritius/Legal/Induced/Unsafe/Contraception/SES.

13. Nash, E. S.; Brink, J. H.; Potocnik, F. C. V.; Dirks, B. L. (Department of Psychiatry, Groote Schuur Hospital, Cape Town, Republic of South Africa). South African Psychiatrists' Attitudes to the Present Implementation of the Abortion and Sterilisation Act of 1975. *South African Medical Journal*. 1992 Dec; 82(6): 434–436; ISSN: 0038-2469.

**Note:** Funding provided by the Society of Psychiatrists of South Africa.

In 1980 and 1990, reports were published in the *South African Medical Journal* on attitudes of South African gynaecologists to the Abortion and Sterilisation Act of 1975 (abstract, p. 434). The proportion of respondents favouring abortion on demand in the first trimester rose from 32% to 40% over this period, while that of respondents requesting a review of the Act increased from 71% to 85% (abstract, p. 434; see annotations of the articles by Dommissie). A similar study of the SPSA members was conducted to determine their opinions on termination of pregnancy (TOP), including questions on current psychiatric practise (abstract, p. 434). Questionnaires were sent by mail to 264 psychiatrist members of the SPSA, followed by a second mailing 3 months later; 133 (50,38%) members responded (p. 435). The results were as follows: 78% were personally involved in implementing the Act; 89% believed that the current Act needed to be reviewed; at least 70% supported TOP for the following conditions—girl under age 14 (88%), girl under age 16 (78%) or failed sterilisation (71%); 51% supported TOP on request before 12 weeks of pregnancy, but only 28% supported TOP after the 12-week period; over 60% supported TOP for women over 40 years of age or for those women who had had six or more pregnancies; members relied heavily on documented evidence of a personality disorder when making a recommendation to terminate (rather than relying on distress of the woman) and 50% felt that their role in TOP should be significantly reduced. The members' answers were similar to those of the gynaecologists who responded to the previous questionnaire, with the exception of the level of support for TOP on request (50,8% of psychiatrists supported TOP at 12 weeks or less and 28,2% support TOP at 12 weeks or more versus 40,5% of gynaecologists who supported TOP at 12 weeks or less and 6,9% at 12 weeks or more) (p. 436). The authors conclude that the Act regarding medical TOP should be reviewed, in accordance with the sentiments of most psychiatrists and gynaecologists who implement the law.

South Africa/Legal/ProvPers/Psychol.

14. Nash, E. S.; Navias, M. (Department of Psychiatry, University of Cape Town and Groote Schuur Hospital, Cape Town, Republic of South Africa). Therapeutic Abortion on Psychiatric Grounds: Part III. Implementing the Abortion and Sterilisation Act (1975–1981). *South African Medical Journal*. 1983 Apr 23; 63(17): 639–644; ISSN: 0038-2469.

This article reviews the experience of the Pregnancy Advisory Service (PAS) of the Department of Psychiatry of Groote Schuur Hospital in Cape Town, South Africa since the passage of the 1975 Abortion and Sterilisation

Act. The objectives were to: document trends in local referrals and termination decisions over the period 1976–1981; describe the psychosocial characteristics of women who presented for psychiatric assessment over the same period; and examine specific aspects of the referrals for 1979 (e.g., the relationship with the reputed father, the use of contraception, the pregnancy gestation, and the psychiatric disorders identified) (p. 639). Demographic and personal data characterising the 1251 women who were referred were reviewed, and the women were contacted for a follow-up telephone or personal interview (n=203, 64 of whom had been recommended for TOP, 139 of whom had been refused a TOP). The average percentage of patients granted termination on psychiatric grounds over the 6-year period was 31,8%, ranging from a high of 43,5% in 1976 to a low of 20,78% in 1980 (p. 639). The number of single women granted termination varied widely over the 6-year period, while the percentage of married women was more constant; however, termination in each marital status group fell over the years (p. 640). Only ten blacks were referred to the PAS during the 6 years (p. 640). Of the 220 women seen in 1979, 98 were found to have some psychiatric disorder; only for 66 of these women was this considered severe enough to warrant termination (p. 641). In addition, only 41% of those who were refused TOP on psychiatric grounds in 1979 had carried their pregnancy to term; 82 had aborted their pregnancy (p. 641). Almost one in three of the patients referred to PAS was an adolescent under the age of 19, and few of these patients had a history of or showed signs of a psychiatric disorder (p. 642). The authors conclude that liberalising the South African abortion law had changed the perception of abortion from a disreputable activity to an accepted medical responsibility. The authors voiced concern, however, over the small number of women being channelled to counselling and the large number of women still suspected of seeking clandestine abortion services (p. 643).

South Africa/Legal/Induced/Psychol/Age/Race-Ethnic.

15. Okagbue, I. (Nigerian Institute of Advanced Legal Studies, University of Lagos Campus, Akoka, Lagos, Nigeria). Pregnancy Termination and the Law in Nigeria. *Nigerian Medical Practitioner*. 1988; 16(4): 135–143.

The purposes of this article were to: examine the general historical background of abortion laws; review the abortion legislation, various available statistics on the practise of abortion and court cases on the subject; and propose changes in the abortion law (p. 135). The author reviews abortion laws back to the time of Aristotle, but her discussion focuses on the Nigerian abortion law dating back to 1861; her discussion of the practise of abortion covers information primarily from the 1970s and 1980s. The Criminal Code, which applies to the Southern States, and the Penal Code, which applies to the Northern States, regard any interference with pregnancy as criminal, no matter how early it takes place, unless it is performed for therapeutic reasons (pp. 135–136). The author reports the results of various incidence and attitude studies that have been conducted in Nigeria, and provides a review of the legal precedents on this issue (eight court cases, none involving a prosecution of the woman seeking the abortion services) (pp. 137–138). The author concludes that: the data demonstrate a huge problem of illegal, induced abortion in Nigeria; the problem is probably much larger than the data show, given the illegal nature of abortion in the country; and both public prosecutors and the courts have traditionally been reluctant to prosecute and convict medical practitioners for performing abortions (p. 138). The author suggests both revising the current law to allow for abortion on broader grounds than currently allowed at present (not, however, allowing for abortion on demand) and conducting a strong family planning campaign, concentrating on Family Life Education and the availability of contraceptive methods (p. 141).

Nigeria/Legal.

16. Okagbue, I. (Nigerian Institute of Advanced Legal Studies, University of Lagos Campus, Lagos, Nigeria). Pregnancy Termination and the Law in Nigeria. *Studies in Family Planning*. 1990 Jul; 21(4): 197–208; ISSN: 0039-3665.

**Note:** Funding provided by the UNFPA.

This paper reviews the history of abortion legislation in Nigeria, examines court decisions on the subject, and proposes revisions to the current abortion laws. The recommendations are based both on the need for abortion services—as demonstrated by the results of a survey (conducted by the author) of abortion prevalence in

Nigeria—as well as on the population policy announced by the Nigerian government in 1988 (abstract, p. 197). According to existing Nigerian law, abortion is legal only when the physical health of the woman is threatened by continuing the pregnancy. Otherwise, abortion is punishable under the Criminal Code (in the South) or the Penal Code (in the North) by 14 years imprisonment (p. 197). Very few cases are brought to trial, however, and when they are, it is often in the case of death of the pregnant woman (p. 199). Only eight court decisions involving abortion have been recorded (p. 198). The author discusses the unsuccessful 1981 Termination of Pregnancy Bill which attempted to liberalise the law, but which was defeated by strong lobbying by religious and conservative women's groups (p. 200). In 1984, in order to determine the frequency of abortion in Nigeria, the researcher surveyed hospitals in the capital cities of eight Nigerian states. According to the author, abortion often is underreported or disguised in hospital charts (p. 200). The author documented a range of 40–150 abortions per month in the hospitals surveyed in each of the states (p. 201). The data indicated that 55% of abortion patients were less than 20 years old, and that 85% were single women (p. 201). The author reviewed indications for abortion that are used by other countries including: number of previous pregnancies, short interval since last delivery, contraceptive failure, difficult financial situation, ill health of a household member, number of living children, inadequate housing, single status, age and jeopardy to the social position of the woman or her family (p. 203). He suggests that any revised abortion law address gestational limits and policies that limit access to services (p. 204). In addition, to reduce the number of unsafe abortions performed by untrained providers in unsanitary conditions, the author recommends relaxing the legal restrictions on abortion to include consideration of the mental health of the woman.

Nigeria/Legal/Policy/Unsafe/Access.

17. Sarkin-Hughes, J.; Sarkin-Hughes, N. (Senior Lecturer, University of the Western Cape, Cape Town, Republic of South Africa/Educational Consultant, Cape Town, Republic of South Africa). Choice and Informed Request: The Answer to Abortion: A Proposal for South African Abortion Reform. *Stellenbosch Law Review Regstydskrif*. 1990; 1(3): 372–387; ISSN: 1016–4359.

This article advocates liberalisation of the existing South African abortion legislation. Specifically, it calls for the availability of abortion on demand to all South African women up to the twentieth week of pregnancy. The authors use legal “precedents” from 1980 to the present to support their arguments. A summary and analysis of a 1973 Abortion and Sterilisation Act and its later modifications are presented. The authors argue that these changes severely limited accessibility to abortion services for all South African women. In particular, they argue that the availability of abortion services is unequal in terms of race and socioeconomic status (i.e., legal abortion is least accessible and affordable to indigenous Africans who are often from lower socioeconomic classes). For example, in the period from November 1984 to October 1985, there were 712 legal abortions in South Africa; of these, 78,7% of the women were white, 11,1% were coloured, 4,9% were Asian and 5,3% were black (p. 376). Furthermore, even in cases where a woman is entitled to a legal abortion, she often faces a nearly insurmountable bureaucratic process. As a result, nearly 250 000 South African women resort to clandestine abortions annually. Thus, the authors conclude that the scope of abortion legislation needs to be broadened. The authors recommend abortion on demand up to 20 weeks gestation, based upon the following arguments: the “brain birth” theory, which argues that cells in the neocortex of the brain where thought, emotion and consciousness occur, do not develop until after 24 weeks gestation; and the “viability” theory, which argues that the necessary lung development which enables a foetus to survive on its own does not occur until the 22nd week of gestation (pp. 378–381). To allow for imprecise estimates of gestational age, the authors suggest allowing safe, legal abortion up to 20 weeks gestation (p. 382).

South Africa/Legal/Induced/Unsafe/Access/SES/Race-Ethnic.

18. Speak Out Taurai Khulumani. *Backstreet Abortions: The Reality*. Speak Out Taurai Khulumani. 1990 Jan; 10: 2–4.

This editorial piece emphasises the importance of liberalising the abortion law in Zimbabwe. The author's arguments are supported by data from published studies from the mid-1980s conducted in Harare hospitals (references not included). The author discusses factors associated with illegally induced abortion including: HIV infection, contraception failure, teenage pregnancy, socioeconomic circumstances, incest and rape. The

author argues that although abortion is illegal (except in cases of rape, incest or risk of life to the mother) clandestine abortions are common and most often affect women of low socioeconomic status. The author's suggestion to address the problem is to liberalise abortion laws and remove the moral stigma associated with abortion.

Zimbabwe/Legal/Induced/Unwanted/Unsafe/Traditional/Contraception.

## GREY LITERATURE

1. Bejaoui, F. Abortion and Penal Law. [Avortement et droit penal.]. In *Medicine, Sante des Femmes*, Labidi, L (ed.) Tunis, Tunisia: Hopital d'Enfants, Unite de Pediatrie Preventive et Sociale, Premieres Journees Aziza Othmana; 1988: 169–175. PIP 062022.

Induced abortion is a serious problem in Tunisia. The methods used often have been extremely dangerous, with risk of death, haemorrhage or infection which can lead to permanent sterility. The first Tunisian Penal Code enacted in 1913 (as well as decrees in 1920 and 1940) prohibited abortion. Changes in the legal status of abortion began in 1965 with abrogation of the 1940 code. Abortion was decriminalised under two conditions: that it be performed in the first 3 months of pregnancy and that the couple have at least five living children. The family size requirement for abortion was dropped in 1973. A further reform in 1975 liberalised access to abortion in the interest of fertility control. This step complemented other measures taken in the country since 1956 to raise the status of women and modernise Tunisia society (including discouragement of polygamy, increasing the age of marriage, providing schooling for both sexes, limiting the number of children entitled to family allowances and affirming the right of women to practise contraception). Any abortion performed for social reasons has to be performed in the first 3 months of pregnancy by a qualified physician in a public or private hospital (or authorised clinic). Therapeutic abortion is legal if continuation of the pregnancy would pose a threat to the mother's health or if there is a strong probability of serious congenital anomaly. Illegal abortions (i.e., those not meeting these conditions) continue to be practised, however, especially in the case of extramarital pregnancies and in rural areas. They are mostly identified following complications such as haemorrhage or death. Abortion among unmarried women continues to be a taboo subject. The coexistence of tribal-based traditions and a trend toward cultural modernisation is a paradox which hampers political discourse on the emancipation of women. Illegal abortion thus continues to be a threat to women's health.

Tunisia/Abortion/Induced/Complication/Legal.

2. Chirambo, M.; Lovel, H. (Department of International Child Health, Institute of Child Health, University of London, England). Perceptions and Experiences of Pregnancy Loss in Zambia. 14 pages.

**Note:** Presented at The Sixth International Women and Health Meeting, Manila, Philippines, 3–9 November 1990.

The purpose of this paper was to present the perspectives of Zambian women who have undergone pregnancy loss. It is based on a qualitative study of 143 women carried out in Livingstone, Zambia (p. 3). The authors discuss women's actions at the time of pregnancy loss (e.g., the cleansing procedure), women's feelings at the time of pregnancy loss (e.g., concealed bitterness and anger), women's views on the cause of the loss (e.g., maternal illness, vaginal warts, promiscuity or ingestion of drugs or herbs) and women's efforts in preventing a loss (e.g., antenatal clinic visits, oral herbal preparations or ornamentation of their bodies) (pp. 5–13). The authors primarily deal with spontaneous abortion in this study (p. 9).

Zambia/PatPers/Spontaneous/Psychol/FP.

3. Coeytaux, F.M. Induced Abortion in Sub-Sahara Africa: What We Do and Do Not Know. *Studies in Family Planning*. 1988 May-Jun: 19(3): 186. CPFH 23531 CR 988: IND 8008789.

This paper reviews the literature on abortion in sub-Sahara Africa, identifies gaps in existing knowledge and makes recommendations for future research and action. According to the author, African policymakers and

health authorities are concerned about the number of clandestine abortions occurring in their countries and the resulting morbidity. Abortion-related deaths are a major cause of maternal mortality in Africa, and the treatment of incomplete and septic abortions is severely taxing the scarce health resources of governments throughout the region. Yet the existing literature only hints at the magnitude and urgency of the problem and provides very little information on its nature or social epidemiology. Throughout sub-Saharan Africa, abortion is highly restricted. Only seven countries permit abortion for reasons other than those directly threatening a woman's life, and in only one country, Zambia, is it legal on social or socioeconomic grounds. Even where the laws are relatively liberal, the availability of services is so poor and the requirement for an elective procedure so great that most abortions continue to be clandestine. For example, at the University Teaching Hospital in Zambia, for every one abortion that is performed legally, nine incomplete abortions are treated. The author concludes that three categories of research are required: 1) epidemiological and community-based studies estimating the prevalence of abortion and identifying which groups of women choose to abort; 2) in-depth surveys and qualitative research to elucidate the social and cultural context of induced abortion; and 3) operations research to improve access to safe abortion and contraceptive services.

SSA/Abortion/OR/Policy.

4. Cook, R. J.; Dickens, B. M. Options for Reform of the Tanzania Abortion Law [Report]. Prepared for E.G. Luhanga of the Attorney General's Chambers. Dar es Salaam, Tanzania.

The purpose of this report was to present the current Tanzanian law on abortion and to examine its interpretation (p. 1). Topics relating to abortion law reform are discussed including: legal history and problems; the constitution; resulting social problems; medical technologies; options for reform; and involvement of the judicial, executive and legislative branches of government in reform (pp. 3–9). To clarify some of the ambiguities in the current law, the authors suggest a repeal of existing abortion legislation or a re-enactment of the provisions of a previous code that would liberalise abortion policies (p. 8). The authors conclude with a proposed draft of their own reform legislation (pp. 11–12), which allows for legal abortion if foetal, juridical, child spacing, social, family responsibility or contraceptive indications exist (p. 11).

Tanzania/Legal/Induced/MR/Social/Psychol/Policy.

5. Deganus-Amorin, S. (Department of Obstetrics & Gynaecology, Komfo Anokye Teaching Hospital, Kumasi, Ghana). Unsafe Abortion and the Safe Motherhood Initiative in Sub-Saharan Africa. 12 pages.

**Note:** Presented at The Medical Women's International Association Congress, November 28–December 3, 1993; Nairobi, Kenya.

The purpose of the article was to encourage Safe Motherhood programmes to tackle the problem of unsafe abortion and to examine what is currently being done to combat the problem (p. 3). The author argues that, with the exception of the implementation of manual vacuum aspiration (MVA) programmes, there are no direct activities dealing with the problem of unsafe abortion in any of the regional Safe Motherhood programmes (p. 3). The author's investigation documented that the only Safe Motherhood activities that have been carried out related to abortion are research activities aimed at determining the true maternal health situation in countries, strategies to strengthen obstetric health care and family planning service delivery and health education activities on safe childbearing (p. 3). The author suggests that safe motherhood programmes addressing abortion should be preventive and focus on primary strategies such as health education (p. 4), secondary strategies that promote safe and accessible abortion services (p. 4), and tertiary strategies to ensure that when complications of induced abortion develop, they are quickly recognised as life-threatening and managed appropriately to reduce morbidity (p. 5).

Benin/BurkinaFaso/Burundi/Cameroon/Ethiopia/Gabon/Ghana/Guinea/IvoryCoast/Kenya/Mali/Niger/Nigeria/Senegal/Tanzania/Togo/Uganda/Zimbabwe/Unsafe/Induced/Matmortality/Morbidity/FP/MVA/Access.

6. Gakuru, S. F. Law and Morals in Kenya. Dissertation for B.A. Faculty of Law, University of Nairobi, Kenya; 1980.\*

The article discusses the law on morality, prosecutions for abortion offenses and possible amendments in Kenya. The author points out that the Penal Code of Kenya (Cap 63) defines offenses that are related to morality. This code is traceable to the colonial era and therefore does not accurately reflect the current moral standing of the Kenyan people. He goes on to say that the morality which is purported to be protected by the Penal Code has been overtaken by events even in England, where it originated. As regards to abortion, the author notes that prosecutions of offenses are non-existent despite the continuation of the practise. This is due both to the role of witnesses as accomplices and the reluctance of the courts to jail women who have obtained an abortion. The author concludes by pointing out that the law on abortion should be liberalised, bearing in mind public opinion, the views of the Church and any potential side effects of contraceptives.

Kenya/Abortion/Legal.

7. Hartley, B.(IPAS, Carrboro, North Carolina, USA). Summary of Proceedings. Workshop on the Management of Incomplete Abortion in Kenya, 19 July 1991; Duduville, Kasarani, Kenya. 15 pages.

**Note:** Funding provided by Kenyatta National Hospital and IPAS.

The purpose of this workshop, which was convened on July 19, 1991 in Duduville, Kasarani, Kenya, was to: discuss current views and research on incomplete abortion and post-abortion family planning in Kenya; present the results of the manual vacuum aspiration (MVA) training project (located at Kenyatta National Hospital [KNH] and district hospitals) and discuss the future of MVA and abortion care in Kenya. The meeting brought together representatives of the Kenyan Ministry of Health (MOH), district hospital gynaecologists, members of the Department of Obstetrics and Gynaecology faculty at KNH, donor agencies and IPAS (p. 1). The meeting was convened at the request of the Director of Medical Services, who invited the gynaecologists to develop recommendations and guidelines for the MOH on indications for legally induced abortion (p. 1). Prior to the introduction of MVA at KNH in 1987, women waited days to undergo treatment for incomplete abortion, bed occupancy of the acute gynaecology casualty ward was over 300% and the staff was overworked (p. 1). Following the introduction of MVA, KNH staff conducted studies to document its safety and effectiveness (p. 1). The gynaecologists/researchers at the workshop presented results from these studies, demonstrating that: abortion is a country-wide problem; women of all types seek abortion despite the availability of free family planning services; often women do not seek advice or methods; the risk of women developing sepsis waiting to be treated for abortion complications is high; MVA is efficient and safe (no complications were reported in over 2400 patients treated at KNH); abortion accounted for 22–24% of all maternal deaths in Kenya, with a case fatality rate of 4.8 per 1000 incomplete abortions at KNH; abortion-related deaths occur in women of all parities; and the use of MVA as opposed to dilation and curettage (D&C) for treatment of incomplete abortion led to total cost reductions of 22–66% (pp. 7–9). The representatives from the 15 district hospitals in which MVA had been introduced then reported on the use of MVA at their sites. Consistent themes included the following needs: additional training, especially for nurses; more space so that the procedure does not have to be performed in the theatre; more supplies, especially sterilising agents (e.g., Cidex) and drugs; and more staff to enable them to provide MVA at night and on the weekend (p. 11). The participants then made the following recommendations to the MOH: MVA should be adopted as the method of choice for uterine evacuation; MVA should be extended to all hospitals in Kenya; the MOH should create a task force consisting of representatives from the MOH Division of Family Health, the University of Nairobi Department of Obstetrics and Gynaecology and IPAS to address the means by which the MOH will assume responsibility of the MVA programme by the 1992/93 fiscal year; the MOH should provide support for training (of physicians, nurses, undergraduates and postgraduates in medical school) and supervision (by the University of Nairobi and district specialists); the MOH should ensure the continuity of MVA services by purchasing MVA equipment and supplies; and the MOH should support postabortion family planning by encouraging counselling of women, including youths, by appropriately trained staff before discharge from the hospital and the provision of methods on the ward (pp. 12–13).

Kenya/MVA/PAFP/ProvPers/Decentral/Policy.

8. Holt, R. (Staff Attorney, The Development Law & Policy Program, Columbia University Center for Population and Family Health, New York, New York, USA). *Abortion: Law, Practice, and Project Possibilities in Kenya, Sierra Leone, Brazil, Mexico, and Indonesia*. New York, New York: Columbia University Center for Population and Family Health; 1989 Sep 25. 9 pages.

This report documents the abortion laws in Kenya, based on a literature review and personal interviews. The author reviews the legal statutes, which date back to 1861, and gives a cursory overview of the literature on abortion in Kenya, mostly from the 1980s; emphasis is given to the current legal status (1989). Although Kenya's law is said to allow abortion for broad health reasons (to save the life or the mental or physical health of the woman), the statute is strictly interpreted in practice, resulting in few legal indications for abortion (p. 2). The punishment for those who willfully involve themselves in inducing abortion, 14 years of imprisonment for providers and 7 years of imprisonment for the woman, is also strict (pp. 1–2); in spite of strict laws, however, illegal abortion is carried out routinely (p. 2). Since nobody interviewed for the report could recall a prosecution within the last 10 years, the author concludes that either the government is unaware of the illegal abortions, or is aware and acquiesces (p. 2). Illegal abortion includes such methods as self-induction, induction by village herbalists or insertion of a urinary catheter into the cervix to induce bleeding (in urban areas). The author states that there is little interest in reforming the abortion laws, but quite a lot of interest in conducting research on abortion and its consequences from a social and cultural perspective, as opposed to the hospital-based mortality perspective of most of the previous research (p. 4).

Kenya/Legal/Induced/Unsafe/Country Report.

9. Huggard, R. (Commonwealth Medical Association). *Commonwealth Medical Association Reproductive Health & Safe Motherhood. Report of a Training Workshop for the West Africa Region, 7–10 December 1993*; Accra, Ghana. 42 pages.

**Note:** Funding provided by the John D. and Catherine T. MacArthur Foundation.

The workshop on which this report is based was held as a follow-up to the 1992 Commonwealth Medical Association's (CMA) International Symposium and Training Workshop on Reproductive Health and Safe Motherhood, held in Jamaica. The purpose of the workshop held in Ghana was to determine the priorities for the West African region on Safe Motherhood issues (p. 1), and to discuss the role of participating national medical and nurses associations in meeting the goals of the Safe Motherhood initiative. Fourteen doctors and nurses/educators, representing eight associations in Cameroon, Gambia, Ghana, Nigeria and Sierra Leone, participated (p. 35). Following the introductory speeches, participants discussed the regional priorities (one of which was provision for termination of pregnancy) and the capacity of the medical and nursing associations' to conduct future activities (pp. 10–13). The workshop participants recommended the following: governments should form advisory bodies on reproductive health, including representatives from the national medical and nursing associations; the medical and nurses' associations should become more involved in regional and international meetings and should develop their own priorities on these issues; legislators should submit bills requesting legal termination of pregnancy and prohibiting marriage before the age of 18; and governments should help finance hospitals' emergency obstetric wards (p. 14). The participants cited the following obstacles to safe termination of pregnancy: legislation which criminalises induced abortion; unwillingness of governments to introduce legislation for safe abortion; moral or ethical objections of medical practitioners; stigmatisation of abortion seekers and medical practitioners who terminate pregnancies; refusal of partners, parents and/or guardians to accept termination; opposition of religious groups; lack of facilities and/or cost of the procedure; bias by the media; and ignorance about the availability and safety of the procedure (p. 22). In collaboration with the mass media, women's organisations, policymakers, religious organisations and community leaders, the participating associations intend to: campaign for reform legislation; inform the public about the advantages of safe abortion; train medical and health personnel in performing safe procedures; make facilities available, accessible and affordable; and emphasise that termination is not an alternative to family planning (p. 22). Each association then prepared a draft plan for future action, reported in Annex C (pp. 37–40). Annex D presents a project proposal guide to help these associations in seeking funding for their proposed activities (pp. 41–42).

Cameroon/Gambia/Ghana/Nigeria/Sierra Leone/ProvPers/Induced/Adolescents/FP/STD/MalePers.

10. Ilumoka, A. (Women's Health Research Network in Nigeria). *Legal Issues in Maternal Mortality*. 11 pages.

**Note:** Paper presented at The International Conference on Safe Motherhood; 1990.

This paper examined the extent to which existing law in Nigeria has facilitated or obstructed improvements in maternal health (p. 2). The author considers: 1) the dependent legal status of Nigerian women; 2) laws and policies concerning maternal health; and 3) laws concerning unwanted pregnancy. The author concludes that the abortion law, which makes it a criminal offence to terminate a pregnancy except to save the life of the woman, forces women to seek inexpensive, accessible, often dangerous abortion services (p. 8). The author suggests decriminalising abortion, implementing family planning programmes and raising the status of women in general through legal reforms and education to combat maternal mortality (p. 9).

Nigeria/Matmort/Morbidity/Legal/Policy.

11. Ilumoka, A. (Faculty of Law, University of Jos, Jos, Nigeria). *Reproductive Rights: A Critical Appraisal of the Law Relating to Unwanted Pregnancies and Abortion in Nigeria*. 19 pages.

**Note:** Paper presented at The Society of Gynaecology and Obstetrics Conference, 5–9 September 1989; Calabar, Nigeria.

This paper focuses on abortion as an option for unwanted pregnancy and legal repercussions of abortion. The existing law in contemporary (1989) Nigeria is examined including the rationale behind it and problems raised by it. The author makes a case for law reform in Nigeria in the 1990s (p. 2). The author conducted a qualitative survey in 15 hospitals and clinics in Jos, Nigeria, including interviews with 20 doctors. These interviews provided a basis upon which the author speculated on the incidence of induced abortion in the country. The author discusses the unsuccessful 1981 Termination of Pregnancy Bill, which sought to broaden the circumstances under which abortion would be legal in Nigeria to include: maintaining the physical or mental health of the woman, her children or family; and foetal deformity (p. 9). The author next presents the three main reasons advanced by those opposing abortion for maintaining the legal status quo: 1) abortion constitutes a danger to women's health; 2) legalising abortion implicitly condones promiscuity; and 3) abortion amounts to the killing of a human being (p. 14). The author then argues against each of the latter, indicating that abortion should be legal and aimed primarily at protecting the health and safety of women (p. 17). The author suggests that medical and nursing associations give input into shaping a policy that delineates gestational limitations and acceptable methods for abortion in Nigeria (p. 18).

Nigeria/Legal/Induced.

12. Jenkins, T. L. *Pragmatism Trumps Purism: Future Abortion Laws in South Africa: A Practical and Sociological Approach to Address the Urgent Need for Abortion Law Reform*. Final Year LLB (University not specified); 1990. 70 pages.

This thesis proposes a framework for abortion law reform in South Africa that would: provide relief to women in desperate situations; reduce the number of illegal abortions; provide for effective family planning; and eliminate unnecessary pain and suffering, thus increasing the standard of living and quality of life for South Africans (p. 59). The author first reviews the restrictive Abortion and Sterilisation Act of 1975, which only allows for abortion when continuing the pregnancy will result in one of the following: a serious threat to the life or physical health of the woman (to be confirmed by two doctors, with the abortion being performed by a third); a serious threat to the mental health of the mother (to be confirmed by a state psychiatrist); or a deformed child (to be confirmed by foetoscopy, ultrasound, x-rays or amniocentesis) (p. 13). The 1975 law also allows for abortion in cases of rape or incest. The author then discusses the sociological reasons for allowing abortion, including: the poverty and malnutrition levels of the majority of black South Africans; the lack of parental guidance to unwanted children; separation of families because of migrant labour; the problem of

illegitimate children among families that cannot support the additional children; the lack of availability of contraceptives to black South Africans; and the possibility of contraceptive failure (pp. 21–43). The author suggests revising the abortion law to allow for the following: abortion on demand during the first trimester following abortion counselling with a doctor (the same doctor can perform the procedure to encourage decentralisation to the primary health care level and ensure access to poor and rural women); and therapeutic abortion during the second trimester where the continued pregnancy constitutes a risk to the life or physical health of the woman or in cases of foetal deformity (pp. 59–64).

South Africa/Legal/Policy/Access/Unwanted.

13. Johnson, B. R. (IPAS, Carrboro, North Carolina, USA). An Application of Research to Policy/Programs: A Zimbabwe Case Study. 6 pages.

**Note:** Funding for the research study was provided by The World Bank. Presented at the Twenty-Second Annual Psychosocial Workshop, 3–4 May 1994; Miami, Florida.

The purpose of this paper was to present the results of a research project which were used to influence policy reform, and to report on a framework for applying research to policy and national programmes, developed as a result of this research. The author presents the study findings in the form of case study first; the research project, carried out by IPAS and the University of Zimbabwe focused on unsafe abortion (p. 1). The research project comprised three components, including: 1) a community-based study carried out in a high-density area on the outskirts of Harare; 2) hospital-based interviews with women in the four major public tertiary-care facilities; and 3) interviews with health care providers in a remote eastern province (p. 1). The author then describes how the results of this research were used to influence policy reform, and to develop a national postabortion family planning programme proposal in Zimbabwe (pp. 1–3). The following framework for applying research to policy was developed as a result of this research project: 1) conduct comprehensive research involving a wide range of informants and a wide variety of data collection techniques; 2) disseminate findings locally involving a diverse group of community members and selected national leaders and policymakers; 3) disseminate nationally, including diverse group of biomedical, health policy and health advocacy representatives; 4) initiate formal steps toward policy and legal change, including clarifying, amending and disseminating revised versions of policies and laws; 5) design and implement pilot interventions with support from national and local policymakers and a working committee of researchers, clinicians and advocates created out of the dissemination process; 6) institute policy and legal change; and 7) implement national programmes based upon results of the pilot intervention (p. 6). The research project accomplished steps one through three. The Zimbabwe health policymakers have initiated step four, and the author encourages them to address steps five through seven (p. 6).

Zimbabwe/Policy/Country Report.

14. Joseph, F.G. Effects of Inappropriate Laws in Developing Countries—An Illustrative Case. *Public Health* 1979; 93(5): 317–322.\*

This article covers laws on abortion and fertility regulation and cultural practises of indigenous people. Laws in developing countries are frequently out of date, particularly those laws governing abortion, sterilisation and suicides. The traditional practises of indigenous peoples are frequently out of step with changes in society as a result of industrialisation and urbanisation. In most developing countries, one has to have money to obtain a safe abortion by a qualified practitioner, especially in countries where the laws are not liberalised. The author describes the case of a pregnant (approximately) 19 year old unmarried girl from Kenya who had a primary level education, no definite religion, was unemployed and lived with her father, a watchman. Unable to pay for a safe abortion or treatment from a local practitioner she carried the pregnancy to term, giving birth to triplets. During subsequent health visits she was not given any effective or suitable family planning advice. He concludes by saying that high parity in a young woman results in a high health risk. Contributing factors are nutritional deficits, poverty, inadequate health care and the short interval between births. He emphasises the need for liberal abortion laws, social and health workers trained in counselling and contraception, coordination of various agencies plus more experienced legal personnel.

Kenya/Abortion/Tradition/Legal.

15. Kane-Berman, J. Ethics of Abortion [letter]. *South African Medical Journal*. 1990 May 5; 77(9): 484. PIP 062875.

This letter addresses the importance of traditional ethical and moral values and the need to reexamine abortion legislation in South Africa. The author notes that in earlier times, the tribe, the family and the belief in preserving life and maintaining health, hygiene and adequate nutrition laid down the foundation for Judeo-Christian ethics. In the 1980s, the human life span increased greatly as did mankind's ability to overcome many diseases and disabilities. In the 20th century, the survival of the human race was replaced as a problem by issues such as overpopulation, child abuse and the growing number of dependent mentally and physically disabled people. As a consequence, philosophers, jurists, religious leaders, ethicists and economists must formulate new norms, values and ethical and legal principles that will satisfy the needs of societies that do not have a supportive extended family makeup. A wide debate on abortion among other issues must take place and legislation must be changed to benefit society, women and children based on modern thinking and prevailing circumstances.

South Africa/Legal/Policy.

16. Kuria, G. K. Legal and Ethical Implications of Family Planning in Africa with Particular Reference to English-Speaking Africa.\*

**Note:** Presented at the Women and Development Seminar in Maseru, Lesotho, April 1986.

According to the author, laws on family planning in East, Central and Southern Africa countries are similar to those inherited from Britain. Regarding abortion, the author states that indigenous people find abortion unethical because they feel that abortion interferes with God's work of creation. It also may result in maternal morbidity. The author feels that the rule should not be absolute in light of different situations, such as when the woman has been raped, when the pregnancy results from incestuous relations, the woman is very young, the foetus has abnormalities or the mother's life is in danger. Where the life of the mother is in danger or the foetus has abnormalities, both the woman and her husband should decide whether or not the woman should have an abortion. He noted that the law in Kenya supports abortion in cases where the mother's life is in danger or would be endangered by continuing the pregnancy. The author concludes by recommending that abortion be looked at in the context of the foetus's right to live and mother's right to decide to have an abortion or not.

Kenya/Legal/KAP.

17. Likwa, R.N.; Wittaker, M. Induced Abortion at UTH, Lusaka, Zambia. Zambia: Family Health Unit, Ministry of Health; 1985.

The presentation was based on the results of a prospective study of women presenting with a request for pregnancy termination or with diagnosis of complications of induced abortion at the University Teaching Hospital, Lusaka. The study was carried out between August 1985 and May 1986. Two hundred sixty-four patients were recruited and interviewed using a standard list of questions. The medical records of the patients also were reviewed. Of the 264 patients, 199 (75%) had requested a Termination of Pregnancy (TOP)—a service which has been available since 1972—while the rest were diagnosed with abortion complications. Analysis of the results indicated that about two thirds (66%) of the patients were aged between 15 and 19 years. Six hundred five of those requesting TOP and 55% with illegal termination had at least secondary school education. Sixty percent of the patients, 53% in the legal group and 80% in the illegal group, were single women. Patients sought legal termination because the pregnancy was not planned (50%), they were a student (20%), they were lactating (14,5%) and for medical reasons in (4,5%). Eighty-one percent of those who illegally induced abortion did so because they were students. Other reasons were: fear, religion, social unacceptability, uncertainty about the father, lactation or being divorced/separated or widowed. In the legal

group, 73% had never used a modern contraceptive method. Twenty percent of those who had ever-used became pregnant after discontinuing their FP method. In the illegal group, 88% had not used a modern method of contraception before. Over half (52%) of these had obtained an abortion through a traditional healer or midwife. The most popular (31%) method used was insertion of fresh casaba root into the cervix. Other methods were ingestion of herbs, medicines and washing powders. Twenty-six percent said a private medical practitioner had induced their abortion. Complications occurred in both groups—but were more serious in the illegal abortion group where four out of 65 (6,2%) developed septicaemic complications and died, two (3%) required hysterectomies and seven (10,77%) required extensive abdominal or pelvic surgery. In the legal abortion group, one developed pelvic inflammatory disease, two returned with post-procedural dysfunctional uterine bleeding and sepsis but none died. Recommendations given by the authors include the need to: improve the accessibility and acceptability of family planning services; incorporate Family Life Education Programmes into the school curriculum; and review the need for three doctors to consent to each abortion and the requirement for a letter of consent from the spouse before a woman can receive a contraceptive method.

Zambia/Induced/Complication/Sepsis/Contraception.

18. Maforah, N. F. Attitudes of the Community Towards Therapeutic Abortion.

**Note:** Presented at the 1st Reproductive Health Priorities Conference. South Africa; Jun 21, 1994.

The purpose of this study was to document the attitudes of the community in South Africa regarding legal abortion. A survey was carried out on a representative sample from three areas in Bophuthatswana—urban, periurban and rural. The sample of 562 households was selected using a stratified random sampling scheme, and the adult male and female from each household were interviewed using a semi-structured questionnaire. The findings revealed that the respondents, regardless of their educational level or religious affiliation, were conservative and not psychologically prepared to accept medically indicated abortions. The author recommends that NGO service providers and researchers involved in women's issues increase community awareness of this health service.

South Africa/Abortion/Policy.

19. McLaurin, K. E. A Proactive Approach: Meeting Women's Needs for Abortion Care in Restrictive Environments. PIP 069885.

**Note:** Presented at the 119th Annual Meeting of the American Public Health Association [APHA], Atlanta, Georgia, November 11–14, 1991.

The article argues that many countries provide little or no formal medical care for women who experience complications of septic, illegal abortion. In some restrictive environments, the health system does not really acknowledge that abortion exists, confronting the issue only when it must respond quickly to treat abortion complications. The author presents the case of Nigeria which she explains is shifting from denial to a proactive approach to abortion care. For example, before 1987, physicians at a hospital in Zaria treated more than 700 women/year using dilation and curettage (D&C). Beginning in 1987, faculty at some national teaching hospitals trained medical residents in the manual vacuum aspiration (MVA) procedure. Physicians now use MVA on an outpatient basis for 98% of abortion complication cases which has reduced patient waiting time from 48–72 hours to 10–15 minutes. Hospital staff also now provide family planning services and counselling post-procedure.

SSA/Legal/Policy.

20. McLaurin, K.E.; Hord, C.E.; Wolf, M. Health Systems' Role in Abortion Care: the Need for a Pro-Active Approach. *Issues in Abortion Care*. 1991: 1(5). PIP 067912.

Abortion is illegal in many countries yet health systems in every country provide emergency treatment for abortion complications. Nearly every country allows abortion in cases of rape, incest and/or risk to the mother's life. Health systems in countries where abortion is illegal, however, are apparently not organised effectively to deal with legally indicated services. Thus, nearly 200 000 women die annually from complications of unsafe abortion and many more experience serious morbidity (99% percent of which occurs in developing countries). A proactive approach by health system workers, even within the present legal framework, would improve the quality and effectiveness of abortion care. First, health officials/workers must acknowledge the problem of unsafe abortion, then they need to integrate abortion care into comprehensive reproductive health care services. Most importantly, they must decentralise services. Nigeria has been able to provide needed abortion care, despite the restricted legal environment. Nigeria now trains medical students in how to treat incomplete and septic abortion patients using manual vacuum aspiration (MVA). Nigeria also supports offering family planning counselling and services to women undergoing MVA.

Nigeria/Zambia/Legal/MVA/Contraception.

21. Migot-Adholla, S. E. *The Art of Condemning the Victims: Some Reflections of Adolescent Fertility in Kenya. Adolescent Fertility: Proceedings of a Workshop held at Kwale, Coast Province, Kenya.* Rogo, K.O. (ed.) Kwale, Kenya; 1986.\*

This is a summary of a presentation on adolescent fertility in Kenya. The presentation was based on the author's critical observations as a practising sociologist. The author argues that teenage sexuality and its consequences (such as unwanted pregnancies, sometimes ending up in abortion, and associated health and psychosocial sequelae) have a social rather than clinical or medical basis. Adolescents make up 20% of Kenya's population and form the fastest growing segment of the population; they are often victims of social change and dislocation. The author notes that, although Kenya has experienced rapid economic and technological change in the last three decades, hardly any adjustments have taken place in Kenyans' attitudes towards adolescents and their role in the changing society. Many adults embrace a double morality in sexual matters, and thus fail to serve as models for the youth in terms of appropriate sexual behaviours. This is occurring at a time when traditional social institutions affecting the regulation of sexual behaviour are becoming irrelevant. Under the circumstances, the author argues that a well conceived sexual education programme incorporating moral, psycho-social and biological aspects of human sexuality, including socially acceptable and effective clinical and contraceptive services for sexually active adolescents, is urgently required. According to the author, the most natural "institution" for initiating sex education is the conjugal family because parents are in a position to engage in honest, factual and informative discussions with their children on sexual matters. The author states that to assign primary responsibility for education in all matters related to sex to social institutions like schools and health institutions encourages parental irresponsibility in this area. The author continues that it is not enough to merely provide accurate information on sex; fertility-related services should also be provided to sexually active adolescents. If adolescent fertility is to be controlled, it is essential that contraceptive services be provided. The author notes that the risk of clandestine abortion is likely to be aggravated by Kenya's restrictive law on abortion. Consequently, there is need to reform and liberalise the law on abortion to assuage the doubts of doctors and other health personnel who may have to treat minors.

Kenya/Legal/Adolescents/Policy.

22. Murila, L. *Legal Aspects of the Medical Profession.* B.A. Dissertation, Faculty of Law, University of Nairobi; 1988.\*

The author stresses the importance of doctors being well-informed about laws that relate to their profession. The author considers the provisions of the Penal Code of Kenya regarding abortion and concludes that lawful abortion should be carried out to save the life of the mother; where there has been rape or incest; the child is likely to be abnormal; the pregnancy will adversely affect the family; or in cases of contraceptive failure. A doctor should, however, have sufficient evidence to support her/his action as required by section 240 of the Penal code. A doctor is likely to face criminal prosecution, as well as be struck off the medical board register, if s/he performs an illegal abortion. It is a doctor's duty, however, to keep the patient's name and nature of her condition confidential; such information should be released only if ordered by a court of law. The author points

out that a number of abortion cases go unreported even when the woman dies, which is why there have been few criminal prosecutions relating to abortion in Kenya.

Kenya/Legal/Abortion.

23. Mwangi, J. I. *Abortion: The Kenyan Experience*. B.A. Dissertation, Faculty of Law, University of Nairobi; 1989.\*

The author explains Kenyan abortion law, like other Kenyan laws, is based on the British system. While some of the countries in the Commonwealth have liberalised their laws on abortion as a result of social and technological changes that have taken place, Kenya has retained the prohibitive laws inherited from the colonial era. Despite the prohibitive laws, however, abortion is on the increase; thus, an urgent reexamination of the laws is needed. The author concludes that the basic issue revolving around abortion is not the fact that abortion occurs, but rather the value of women in society. The question is whether women should be the ones to decide their family size, how to live their lives and their careers. He recommends that legislation recognise a woman's right to pregnancy termination under lawful and medically safe circumstances. There should be certain clinics or hospitals which are given legal authority to carry out abortions. The law should state at what period of pregnancy an abortion should be permitted and that the decision to abort should be made by the woman and her physician. Finally, the author feels that parental consent for minors and unmarried women should be sought but should not be mandatory.

Kenya/Legal.

24. Naik, R.T. *Conference on Unsafe Abortion and Post Abortion Family Planning in Africa*. Mauritius; 1994.

This was the welcoming speech of a conference, held in Mauritius, on unsafe abortion and postabortion family planning in Africa. The conference was organised by the International Planned Parenthood Federation (IPPF) Africa Region in collaboration with the IPPF International office and the Mauritius Family Planning Association. The speech author, who was the chairman of the conference, indicated that abortion remains a controversial issue in reproductive health because it is poorly understood. The controversy emanates more from an ideological perspective rather than a logical and practical one which recognises women's diverse circumstances. There is need to look at the problem from the perspective of the real needs of the people. Since family planning was introduced in Mauritius in 1987, there has been a reduction in the population growth rate and unemployment and an increase in economic growth. Conditions for women have improved. As more women get educated, new opportunities will arise; they will choose to marry later and postpone childbearing. There is therefore a need for alternative or back-up support services when contraception fails or there is an unwanted/unplanned pregnancy. Despite existing technologies and service delivery systems, many sexually active women still are faced with serious dilemmas in attempts to control their fertility. In Mauritius, with a population of one million, 2500 women are treated for postabortion complications. Though contraception remains the fertility regulation method of choice, no fertility regulation method is perfect. And not all women have the self-confidence, self-esteem, skills and knowledge to use a method throughout their reproductive years with care, efficiency, consistency and accuracy. To coerce these women into motherhood would be to go against women's reproductive rights.

Mauritius/Contraception.

25. Njai, D. *The Abortion Issue*. *Medicus*. October 1983.

The author of the article argues that justification for permissive abortion laws in Kenya is based on unfounded premises. In the author's opinion, all abortions have certain inherent immediate and long-term complications which occur with the same frequency, irrespective of whether the abortion is done in a hospital, an office or anywhere else and whether the abortion is legal or illegal. For example, following legal abortion, depression has been reported to occur at a rate as high as 92% in women and 83% in men. The author argues that

permissive abortion laws do not necessarily reduce the number of illegal abortions but rather increase the number of both legal and illegal abortions. It is irrational, he continues, to advocate that a law be changed because of injury to the law-breaker. An ideology advocating the killing of an unborn child with a physical or mental handicap, the author feels, prepares the way for euthanasia which could endanger the lives of the disabled, chronically ill, socially unproductive and the aged, among others. The author expresses the opinion that abortion of the handicapped will logically result in justification for killing the handicapped after birth. The author concludes by saying abortion, which is not a cure for any organic or mental illness, is more harmful to the physical and mental welfare of the mother than carrying the pregnancy to term. He feels abortion has many complications, it can never be therapeutic and it is irrational to offer abortion to school girls and unwed mothers. Finally he states that the lack of or non-use of contraceptives by unmarried youth is closely associated with teenage pregnancy, but the mere availability of the contraceptives to adolescents does not prevent pregnancy.

Kenya/Adolescents/Contraceptives/Abortion.

26. Njiru, R. M. Abortion. B.A. Dissertation, Faculty of Law, University of Nairobi; 1980.\*

The author states that the abortion law in Kenya is similar to the English Offences Against the Persons Act of 1861, found in the Penal Code (Cap. 63). Section 240 of the Penal Code, however, brings in the exception of a surgical operation performed in good faith. This section of the Penal Code, however, is generally concerned with preservation of life and not just abortion. The author concludes by recommending that a detailed study on abortion be carried out in local hospitals and that social aspects of abortion be examined. Before enacting or amending the law on abortion, the author suggests that a special commission should be set up to evaluate all related factors. The suggested legislation should be aimed at reducing the number of clandestine abortions and should establish strict rules for medical practitioners performing illegal abortions. Proper education on the various aspects of abortion should be introduced in secondary schools in Kenya.

Kenya/Abortion/Legal.

27. Nyapadi, T. J. (Faculty of Law, University of Zimbabwe, Harare, Zimbabwe). 5 pages.

**Note:** Presented at Doctor's Seminar, Harare Central Hospital, Harare, Zimbabwe; 15 October 1990.

The purpose of this article was to present the current (1990) legal status of abortion in Zimbabwe. According to the Termination of Pregnancy Act No. 29 of 1977, Section 4, abortion is allowed only in order to save the life or physical health of the woman or in cases of foetal deformity, rape or incest (p. 1); two registered medical practitioners must certify that one of these conditions exists unless the woman's case represents a medical emergency, in which case one practitioner may, in good faith, perform the procedure (p. 1). A conscience clause, which allows medical personnel to refuse to assist in performing an abortion, is also included (p. 4). The author reviews the legal precedents in Zimbabwe, South Africa and England which confirm the legality of the conscience clause and deny the husband or partner the legal right to decide whether the woman seeks an abortion (pp. 2-4). Finally, the author discusses the debate about when life begins biologically, presenting practitioners' views and those of the Vatican (pp. 4-5).

Zimbabwe/Legal/Abortion/Consent/The Law.

28. Okoth-Ogendo, H. W. O. The Law in Family Planning.\*

**Note:** Paper presented at the Kenya Medical Association Meeting of Resource Persons, Nairobi, September 1987.

The author says that the goals of family planning are to develop norms for optimal family size and to improve the health and status of families, especially mothers. The author notes that abortion is generally illegal in Kenya as provided for in the Penal Code, Sections 158 to 160. The Pharmacy and Poisons Act (Cap 244) also bars the

publication of any advertisement for drugs or appliances which may be used to miscarry. For one to be charged with an offense, proof of a pregnancy is not necessary except when the woman attempts to perform the abortion herself. The provisions of the law on abortion seek to regulate a variety of abortion techniques including menstrual regulation and inducing agents. The law only recognises abortion as legal if it is for the preservation of the mother's life.

Kenya/Abortion/Legal/FP.

29. Ombaka, O. O. *The Laws Governing Fertility in Kenya: Their Origin and Relevance Today. Adolescent Fertility: Proceedings of a Workshop Held at Kwale, Coast Province, Rogo, K.O. (ed.) Nairobi; 1986.\**

This is a report of a presentation made during a symposium on adolescent fertility in 1986. The author classifies laws relating to fertility into three categories: those directly interfering with procreation, abortion and sterilisation; those regulating social relations related to procreation, marriage, divorce, guardianship, custody and succession; and those related to economics, taxation, social security, employment and housing. There is no direct statutory provision on contraception, but powers vested in the Health Minister can be used to restrict or liberalise access to contraception information and services. Abortion, except to preserve the mother's life, is criminal according to the Penal Code. Although the policy is that all surgical sterilisations must be voluntary (after clients are informed about the procedure) and that the patient must provide written consent in a language they understand, the Penal Code states that the consent of a victim cannot be used to defend the commissioner of an unlawful act. The age at which an adolescent is assumed to have the ability/capacity to handle her/his affairs is 18 years. There is no law related to fertility regulation specifically for adolescents. But sections 52, 53 and 181 of the Penal Code support the prohibition of any publication on the grounds of protecting the public's health and morals. The government's policy on population control is at variance with the laws. There is thus a need to reform the fertility laws to further the declared population policy. Liberalisation of the law will help the government achieve its goal of fertility control.

Kenya/Legal/Policy.

30. Osodo, M. O. A. *A Case for the Liberalisation of the Abortion Law in Kenya. B.A. Dissertation, Faculty of Law, University of Nairobi; 1989.\**

The author notes that abortion has become a delicate and controversial issue with various arguments on whether the foetus is a human being or not. He reviews the medical and legal definitions of abortion, the time when life is said to begin, as well as abortion as related to women's rights. He discusses the psychological effects of abortion and expresses the opinion that abortion dehumanises the woman, causing her anguish, remorse and strain. With regard to the Kenyan laws on abortion, the author notes that the Penal Code's basic principles of criminal law and punishment came from England. On the nature of the Kenyan abortion laws, he points out that there is no statutory classification of abortion into therapeutic, induced or other categories and there is no provision for consent or minimum age. There is also no statutory requirement that the pregnancy be of a particular gestational age. When an abortion is carried out to save the mother's life, there are no statutory procedures to be followed, though in practise, opinions of two doctors (i.e., an obstetrician and a psychiatrist) are sought. The author concludes by saying that he feels the restrictive abortion laws have had deleterious effects on the lives of women and he therefore recommends liberalisation of abortion in Kenya.

Kenya/Legal.

31. Oyugi, J. M. *Abortion Should be Allowed (letter to the editor). The Daily Nation. April 5, 1986: 7.\**

The author points out that the people who are in favor of abortion argue that unwanted pregnancies do not always arise from irresponsible sexual behaviour. It may arise from rape, incest or in mentally or socially disturbed women. There are also cases of suspicion that the child is deformed due to the mother's illness. Statistics indicate that about 36 000 women have illegal abortions every year in Nairobi. Of these, the majority

are unmarried women. The writer recommends that these women should be provided with contraceptives and that abortion should be allowed if the pregnancy is less than 80 days.

Kenya/Contraception/Legal.

32. Rees, H. The Abortion Debate in South Africa. *Women's Global Network for Reproductive Rights Newsletter*. 1991 Jul; (36): 32–35. PIP 069324.

Before 1975, abortion was illegal in South Africa unless the life of the mother was at risk. The abortion and Sterilisation Act (ASA) of 1975 broadened the scope of legal abortion to allow abortion in cases of severe foetal deformity, in cases of rape or incest, or if the woman is mentally incompetent. The procedure to obtain an abortion includes finding a doctor to recommend the procedure, then finding two other doctors to claim, in good faith, that the abortion is indicated. At least one of these doctors must have been practicing for at least 4 years and neither can participate in the procedure. The operation must take place in a state-controlled institution or an institution specifically designed for abortions. According to the author, this law currently is not serving the needs of the women of South Africa, even among the women who are legally entitled to have an abortion. Annually only 40% of those that apply for abortion are approved and over 70% of the approved procedures are performed on psychological grounds. It is estimated that there are 200 000–300 000 illegal abortions every year. At Baragwanath Hospital there are 15 000 patients admitted because of infection related to abortion every year. The ASA has failed to stop illegal abortion and failed to meet the needs of society. The author feels that the abortion law should be liberalised for a variety of reasons. Women do not have adequate access to contraceptives in South Africa which results in the birth of many unwanted children, which are more likely to be abused and abandoned. Even if contraceptives were universally available, they all have associated failure rates. Because it is assumed that a woman using contraceptives does not want to become pregnant, abortion needs to be available as a backup to contraceptives. Since South Africa is a patriarchal society, women must be given control over their reproduction if they are to achieve equal status. The author concludes that the abortion law needs to be liberalised to prevent unwanted and abused children, as a backup to contraceptives and to help emancipate women.

South Africa/Incidence/Induced/Legal.

33. Rogo, K. O. Abortion or Fertility Control. *Medicus*. 1983; 2(5): 7.\*

According to the author, the rise in school girl pregnancy is due to lack of family life education and contraception. The author feels that one of the ways of preventing unwanted pregnancy is abortion which serves as a major form of birth control in many societies. He cites studies which have shown that, when performed under appropriate conditions, abortion is very safe and that it may play a role in an optimal birth control regimen. He goes on to argue that use of the contraceptive method the diaphragm, and medically inducing abortion in any resulting pregnancy, is the safest contraceptive method for sexually active fertile females. Legalising abortion, he claims, will reduce the morbidity and mortality associated with abortion. He concludes by saying that Kenya has an undeniable population problem, and therefore, all practical options to reduce the population growth rate should be considered.

Kenya/Adolescent/Educ/Contraception/Legal.

34. Sovleymane, M; Albatoure, B. High Risk Abortions and Their Prevention in Niger. Niger; 1994.

Unprecedented economic conditions accompanied by social and moral problems have resulted in a rise in abortions, infanticide and abandonment of children as a consequence of unwanted pregnancies in Niger. Although there are sanctions and threats from the political establishment, the problem of abortion in this predominantly Muslim country is on the increase. In 1984, the Government put in place the National Family Planning Programme. At that time, the Government authorised prescription of contraceptives but abortion remained forbidden. Although consultations under the orders of the late President Kountche for legalising voluntary termination were made, little has been achieved. Clandestine abortions continue in spite of

contraceptive methods being available in 80% of health centres, with adolescents being the most endangered; heavy penalties are inflicted on those who perform abortions. The law authorising family planning provides access to contraception to adults and minors with permission from their parents/guardians (although Islam does not allow parents to authorise their children to use contraceptives). Despite calls in 1991 to liberalise the use of contraceptives by adolescents, and the fact that the family planning department submitted amendments to become law, the authorities preferred to maintain the status quo.

Niger/Policy/Legal.

35. South African Nurses Association (SANA). Abortion—SANA position paper. [Vrugafdrywing - SAVV-standpuntmemorandum]. *Nursing RSA*. 1987 Nov-Dec; 2(11-12): 30. PIP 056219.

South Africa's 1975 Abortion and Sterilisation Act authorises abortion in 3 cases: 1) a prenatal diagnosis is made of a serious congenital defect; 2) the pregnancy resulted from rape or incest, or the mother is mentally retarded; and 3) the mother's life or the quality of her life would be seriously threatened by the pregnancy. Abortion on request, or in cases where a contraceptive method has failed, is not legal. The South African Nursing Association Supports the legalisation of abortion as a therapeutic measure, as set forth in the 1975 laws, but insists that all such interventions should be carried out before foetal viability is achieved (i.e., before the 24th week of pregnancy). Abortion on request is regarded as completely unacceptable to the Association and antithetical to the ethical code of the nursing profession. The Association further supports the current legal position that the professional nurse is not obligated to participate in an abortion if she has conscientious objections to this procedure. Even in such cases, however, the professional nurse has an obligation to provide care for the patient once the abortion has been performed.

South Africa/Legal/Abortion.

36. Turkson, R.B. A Brief Overview of the Legal Situation Regarding Abortion in Sub-Sahara Africa. Abortion Conference, Mauritius; 1994.

In this presentation, the author classifies abortion laws into three categories—basic, developed and advanced. Basic law prohibits abortion under any circumstances. Article 235 of the Penal code of Mauritius makes it an offense punishable by penal servitude not exceeding 10 years to whoever performs the abortion and to the woman who obtains an abortion or consents to one. In Madagascar, a 1929 amendment to the law allows abortion for therapeutic reasons provided that two state doctors and a doctor selected by the woman agree to perform an abortion and that the procedure is performed in a hospital. Development law, common in English-speaking countries, prohibits abortion but specifies certain circumstances under which it may be lawful. Abortion can be lawful under these indications: risk to mother's life or health; physical or mental impairment of the child; pregnancy through incest and/or rape; and ill effects of childbirth on the health and welfare of the woman and her existing children. In Zambia, for a pregnancy to be terminated, opinions must be given, in good faith, by three registered medical practitioners, one of whom must be a specialist in obstetrics and gynaecology. In Ghana, abortion is lawful only if carried out in good faith "for the purposes of medical or surgical treatment of a pregnant woman"—although the law does not address itself to such issues as the nature of the medical or surgical indications, whether consent is necessary and when a termination can be done. The Law Reform Commission recommended, and the Ghanaian Government endorses, that abortions be carried out in hospitals by medical practitioners when the woman's mental and physical health is in danger, when pregnancy is due to rape, and in cases where there is substantial risk the child will develop serious physical abnormality or disease. In all cases, consent is necessary. Advanced law provides that abortion is lawful when sought by the woman and when specified indications are satisfied. No country in sub-Sahara Africa has this level of abortion law. According to the author, reform will have to be gradual until the exceptions become the general rule. To condemn abortion on purely moralistic terms, the author argues, is to fail to identify, confront and address the real issues at stake.

ECSA/SSA/Legal.

37. Uche, U. U. Law and Population Growth in Kenya. Law and Demography, Monograph Series No. 22, 1974.\*

The author discusses population growth in Kenya and possible contributing factors. The author notes a conflict between the abortion law in Kenya, public attitudes towards abortion and the government's aim of controlling population growth. By making abortion illegal, the law forces affected women to seek abortion under unfavorable, clandestine conditions. Before an abortion can be performed in a hospital, there must be at least two medical opinions obtained, one from a general practitioner and the other from a psychiatrist. The author also reports the findings of a survey carried out in 1971 on public attitudes towards abortion. The findings indicated that 58% of the males and 32% of the females in the study group approved of abortion in situations where the mother's health is in danger; 14% of males and 8% of females approved of abortion if the woman was not married; 19% of males and 16% of females approved of abortion if the woman was raped; 39% of the males and 32% of the females said abortion was acceptable if the foetus was likely to be deformed. In cases of contraceptive failure, 7% of males and 9% of females approved of abortion. The author concludes by stating that abortion is accepted but on a limited basis and mainly when the health of the mother is in danger.

Kenya/Legal/KAP/ContrPrev.

38. Were, M. K.; Mati, J. K. G. Legalisation of Abortion—the Patient's Attitude. p.3.\*

**Note:** Paper presented at the IPPF Conference on the Medical and Social Aspects of Abortion in Africa, Accra, Ghana, December 1973.

The authors report the results of a case control study between induced abortion patients (cases) and spontaneous abortion patients (controls). The results showed that there was widespread awareness of the existence of induced abortion among the participating women. A majority of the women disapproved of abortion. Only one of the cases said she would terminate her own pregnancy. Of all the women, 30% said they would like to see abortion laws liberalised. Most of them recognised the need for more sex education and greater provision of contraceptives. There was no significant difference between the responses of the cases and the controls.

Kenya/Induced/ Abortion/Contraceptives/Legal.

## Annex 7

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Royston, E and Armstrong, S (eds.). Deaths from Abortion. *Preventing Maternal Deaths*, Chapter 6: 1-30. Geneva: World Health Organisation, 1989.

Starrs, A. Preventing the Tragedy of Maternal Deaths. *International Safe Motherhood Conference, Nairobi, February 1987*.

Tietze, C and Henshaw, SK. *Induced Abortion: A World Review, 1986*. New York: The Alan Guttmacher Institute, 1986.

Wolf, M. Consequences and Prevention of Unsafe Abortion. *Issues in Abortion Care 3*. Carrboro, North Carolina: IPAS, 1994.

Wolf, M and Benson, J. Meeting Women's Needs for Postabortion Family Planning: Report of a Bellagio Technical Working Group, Bellagio, Italy, February 1-5, 1993. *International Journal of Gynecology & Obstetrics*. Supplement: S1-S34, 1994.

*Clinical Management of Abortion Complications: A Practical Guide*. Geneva: Maternal Health and Safe Motherhood Programme, Division of Family Health, World Health Organisation, 1994.

*Technical and Managerial Guidelines on Abortion Care*. Geneva: World Health Organisation, in press.

## Annex 8

### Keywords

#### Country Names

Angola	Madagascar
Benin	Malawi
Botswana	Mali
Burkina Faso	Mauritania
Burundi	Mauritius
Cameroon	Mozambique
Cape Verde	Namibia
Central African Republic	Niger
Chad	Nigeria
Comoros	Rwanda
Congo	Senegal
Djibouti	Seychelles
Equatorial Guinea	Sierra Leone
Ethiopia	Somalia
Gabon	South Africa
Gambia	Sudan
Ghana	Swaziland
Guinea	Tanzania
Guinea-Bissau	Togo
Ivory Coast	Uganda
Kenya	Zaire
Lesotho	Zambia
Liberia	Zanzibar
	Zimbabwe

#### General Abortion Statistics

Abortion rate  
Abortion ratio  
Incidence  
Maternal mortality  
Morbidity  
Total abortion rate

## **Complications**

Bleeding  
Death  
Haemorrhage  
Local infection  
Perforation  
Cervical trauma  
Laceration  
Sepsis

## **Contraception**

Contraceptives  
    Barrier  
    Condom  
    Injectables  
    Intrauterine device  
    Periodic abstinence  
    Pill  
    Norplant implants  
    Spermicide  
    Sterilisation  
    Traditional  
Contraceptive prevalence  
Family planning  
Ovulation  
Postabortion family planning  
Uterine Size

## **Gestational age**

First trimester  
Second trimester

## **Time**

Hospital time  
Operation time  
Operating room time  
Person time  
Time  
Waiting time

## **Costs**

Cost benefits  
Cost efficacy  
Costs  
Price

## **Perspectives**

Male perspectives  
Patient perspectives  
Provider perspectives

## **Other Descriptors**

Access  
Adolescents  
Age  
Anaesthesia  
Antibiotic  
Aspiration  
Bias  
Bibliography  
Counselling  
Country Report  
Curettage  
Dilation and curettage  
Decentralisation  
Education  
Efficacy  
Effectiveness  
Emmenagogue  
Evaluation  
HIV-AIDS  
Hospital beds  
Incomplete abortion  
Induced  
Knowledge  
Attitude  
Practises  
Karman cannula  
Karman syringe  
Legal  
Menstrual extraction  
Menstrual regulation  
Marital status

Manual vacuum aspiration  
Occupation  
Operations research  
Outpatient  
Pain  
Parity  
Patient education  
Primary health care  
Policy  
Postabortion bleeding  
Previous abortion  
Prostaglandin  
Provider status  
Psychological  
Race-Ethnic  
Referral  
Relative risk  
RU486  
Rural  
Safety  
Socioeconomic status  
Social factors  
Spontaneous abortion  
Sexually transmitted disease  
Traditional birth attendant  
Unwanted children  
Unsafe abortion  
Urban

## Annex 9

### Standard Protocol for Annotations

#### Computer Concerns

- ProCite (version 2.1.1 or higher)
- American National Standards Institute (ANSI) punctuation style

#### Annotation Elements: Quantitative Research Studies

- Purpose of the study (**what**)
- Time/length of the study (**when**)
- Location/site of the study (**where**)
- Methodology of the study (including **who** was included; "n" of study, what research techniques used—**how**) (examples of quantitative methodologies include retrospective e.g. case-control studies; prospective, e.g., cohort studies; and cross-sectional, including time-series studies)
- Salient results from study
- Importance of results

#### Annotation Elements: Qualitative Research Studies

- Purpose of the study (**what**)
- Time/length of the study (**when**)
- Location/site of the study (**where**)
- Methodology of the study (including **who** was included; what research techniques used—**how**) (examples of qualitative methodologies include focus groups, case studies, ethnographic studies)
- Salient results from the study
- Importance of the results

#### Annotation: Meeting Proceedings

- Purpose of the meeting (**what**)
- Date(s) of the meeting (**when**)
- Location/site of the meeting (**where**)
- Design of the meeting (including **who** was included; types of attendees; design—**how** the meeting was conducted, e.g., one large meeting on narrow topic, a broad range of topics with subsections for presentations, working group, roundtable)
- Recommendations of meeting participants
- Importance of results

**Annex 10**

**DOCUMENTING THE PROBLEM OF UNSAFE ABORTION  
Questionnaire for**

\_\_\_\_\_  
**(Country)**

Please complete the following for each hospital visited:

Name of Hospital: \_\_\_\_\_

Location of Hospital: \_\_\_\_\_

Type of Hospital (tertiary, provincial, district, other): \_\_\_\_\_

Dates of Data Collection: From \_\_\_\_\_ to \_\_\_\_\_  
(day/mth/year) (day/mth/year)

Name(s) of Data Collector(s):  
\_\_\_\_\_

This questionnaire consists of five packets of information, each of which contains the background information, instructions, data collection sheets (if any), and questionnaires on one aspect of the problem of unsafe abortion. The issues that are represented in these packets are:

- Packet 1 Magnitude of the Problem
- Packet 2 Costs of Treatment of Abortion Complications
- Packet 3 Provider Perspectives
- Packet 4 Patient Perspectives
- Packet 5 Menstrual Regulation (MR)/Induced Abortion Data

Most hospitals offer services which treat women who present with incomplete and other complications of abortion. Uterine evacuation is almost always required for these patients. Additional medical and/or surgical treatment for infection/septicaemia, haemorrhage, uterine perforation and/or cervical injury is needed for some women as well. The terms "abortion patient" or "incomplete abortion patient" mean those patients admitted for complications of induced or spontaneous abortion. These terms will be used throughout all of the questionnaires in packets one through four. The term "menstrual regulation (MR)/induced abortion patient" will be used in packet five. In those countries where MR/induced abortion services are illegal, use only packets one through four. In settings where MR/induced abortion services are offered or could be offered in public hospitals under that country's law (e.g., Zambia), use all five packets and follow the instructions on each.

Throughout these questionnaires we have followed a standard format. Areas in which you should not write are shaded. The quantitative data you collect will be entered into the computer program EpiInfo. To make the data entry easier, you should record the answers to questions into a field that looks like this: \\_/. Only one digit should be entered into each space, e.g. \3/. Thus, if you have a double-digit space available and the answer to a particular question is "9," it should be recorded/written as follows: \0^9/.

Before arriving at the hospital, you should make multiple copies of data collection sheets and questionnaires so that you will be able to work without having to stop and make copies. Complete the hospital name and location on each page where requested.

## SUGGESTIONS FOR HOSPITAL VISITS

1. After obtaining the appropriate authorisation, it is advisable to meet with any key officials, such as the hospital administrator, upon your arrival at the hospital. This will allow you to introduce yourself, explain the purpose of the data collection and ensure your access to hospital logbooks, wards, staff and patients.

Before beginning data collection, introduce yourself to the staff. Tell them why you are visiting the hospital, in particular, that you are not there to evaluate them, but that the information obtained will be used to document the problem of unsafe abortion in their country. Information will be collected from three or more hospitals in your country and summarised in a report presented at a meeting of health ministers for eastern and southern Africa. Explain that you do not wish to hinder their work but that you will be interviewing staff and patients, visiting the wards and reviewing records. No individuals' names will be used; information collected from individuals is anonymous and confidential. You may wish to consult the staff on where private interviews could be conducted and about information on the flow of patients through the hospital.

2. The researcher should follow a patient from admission to discharge (in hospitals with large caseloads) to determine how services are organised. S/he also should find all logbooks and learn in which wards abortion patients are located. Before beginning data collection, the researcher also may wish to schedule interviews with hospital administrative officials, chiefs of obs-gynae departments or wards, and with other individuals whose schedules make them difficult to speak with. If interviews are scheduled early in the researcher's visit and the official is forced to cancel, there will be time later on in the stay to conduct the interview.
3. The researcher should conduct a pre-test at the first hospital s/he visits to identify and correct problems in wording and flow of questions and in other areas. The researcher teams should work closely to ensure that the *meaning* of questions is *not altered* and remains *consistent* from the beginning to the end of the country data collection process.

It is understood that many languages may be utilised in interviewing patients in the course of the data collection. It is important that each researcher be clear on the interpretation of the question so there is no confusion in the translation. If necessary the patient questionnaire should be translated (in writing) into the local language prior to conducting these interviews. The meaning of the questions should not be changed from the English original, however.

4. The researcher should use a pencil to note respondents' answers. Calculations (e.g., sums and averages) should be carried out at the end of the day. This will save time and allow the researcher to focus exclusively on the calculations to reduce the chance of error.
5. For some questions, respondents may give more than one answer. For each question with multiple responses, instructions will be given to the researcher. In some cases, the researcher will read a list of possible responses and record the respondents' answer(s). In other cases, the researcher will ask the question without reading the possible responses. The researcher should record the respondent's answer in the appropriate spaces. If the response is not

included in the list, the researcher should mark "Other" and detail the response given on the lines presented for writing down responses to the "Other" category.

6. The researcher should be careful to write down *everything* that a respondent says in response to an open-ended question. Noting details of what the interviewee says is important because this information will be useful in painting a picture of unsafe abortion in each country.
7. Upon completion of each interview or review of written records, the researcher should review all questions or blanks to be sure that none have accidentally been overlooked.
8. The researcher should be prepared to collect data from alternative sources of information if necessary. For example, you may be unable to obtain information on number of abortion-related deaths or number of cases with complications in a given hospital. Some hospitals produce an annual report which may provide specific types of pertinent data. Small studies or student theses on abortion also may be useful. The researcher should indicate any alternative sources on which s/he relied.

## Annex 11

### PACKET 1: MAGNITUDE OF THE PROBLEM

Purpose/Contents of Packet 1: This packet includes instructions and forms for collecting information on the magnitude of the problem of unsafe abortion through the review of hospital logbooks, observation of hospital wards and an interview with the head of the Maternal Mortality Review Committee (MMRC).

#### 1.1 MAGNITUDE OF THE PROBLEM: Review of Hospital Logbook(s)

**Purpose:** To document and describe the abortion patient caseload

**Information Source:** Review of Hospital Logbook(s)

**Background:** Information about incomplete abortion patients is most often found in a logbook(s). These logbooks usually include data such as patient identification number, age and parity of patient, date of evacuation procedure, name of provider/clinician, uterine size in weeks and reason for procedure. Some logbooks also contain method of evacuation used, presenting complications, procedural complications, deaths and other information.

In some hospitals, there is only one logbook, often located in the gynaecology ward, where information on all incomplete abortion patients is recorded. Other hospitals may have multiple logbooks, located in the gynae ward, gynae casualty ward, operating theatre, general casualty area and/or other areas. In order to obtain information on the abortion caseload at each hospital, the researcher should identify the location of *all* logbooks which record information on incomplete abortion patients.

**Instructions:** The researcher should review the logbook(s) and transfer the information from the hospital logbook to the attached “Logbook Data Collection Sheet.” Information should be collected only on the following specific categories: 1) procedure or treatment (the terms “incomplete abortion,” “evacuation,” “evac,” or “manual vacuum aspiration [MVA]” may be written under the procedure/treatment category); 2) age of patient; 3) parity of patient; 4) uterine size (in weeks as determined by exam); 5) method of evacuation (the terms “MVA” or “dilation and curettage [D&C]” may be used); 6) complications; and 7) deaths (among abortion patients) occurring in the hospital. Place one of each of these category names in each of the seven column title cells. Make a note on the data collection sheet if certain categories are not available.

To simplify the transfer of information, the column titles on the data collection sheet have been left blank, so that the researcher can list the categories in the order in which they appear in the hospital logbook. Information should be collected for a recent 1-year period (e.g., June 1, 1993 through May 31, 1994) or for approximately 300 patients, whichever is lower. Thus, in those hospitals with very large caseloads, information on 300 patients may require using only 2 or 3 months of logbook data. If information is being collected on 300 patients instead of on a full year's worth of logbook data,

collect information for full-month time periods. For example, if you have completed collecting information on 300 patients by the middle of a particular month, finish collecting data for the rest of that month even though you will have a sample size of more than 300.

**Begin a new “Logbook Data Collection Sheet” for each month for which data is collected.**

After transferring the logbook information to the “Logbook Data Collection Sheet”(s), sum each of the columns and place the result in the appropriate cell in the “Totals” row. A sample “Logbook Data Collection Sheet” has been completed to demonstrate how the logbook information should be recorded.

Add the number of incomplete abortion patients on each month's “Logbook Data Collection Sheet” and transfer this information to the “Logbook Computation Sheet” (if a month's worth of data fills more than one “Logbook Data Collection Sheet,” sum the number of incomplete abortion patients from all of the sheets for that month and transfer this total to the “Logbook Computation Sheet”).

Use the results from the “Totals” row of the “Logbook Data Collection Sheet”(s) to complete questions 1.1.1–1.1.16 on the “Logbook Computation Sheet.”

1.1

**SAMPLE**  
**Logbook Data Collection Sheet**

Center Hospital      Capital, Uganda      July 1993      Gynae Ward      Incomplete  
 Name of Hospital      City, Country      Month/Year      Location of Logbook      Type of Patient

Patient	Procedure	Age of Patient	Parity of Patient	Uterine Size (in weeks)	Method of Evacuation	Complications	Deaths
2351	Evacuation	19	1	18	D&C	N/A	N/A
4253	Evacuation	26	4	13	D&C	0	0
6794	Evacuation	32	10	15	D&C	0	0
7112	MVA	20	0	11	MVA	0	0
<b>Totals</b>	4 procedures	97 years	15	57	3 D&Cs 1 MVA	N/A	N/A

N/A-Not Available





PACKET 1: City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

### 1.1 Logbook Computation Sheet (cont.)

Perform the calculations required and record answers to the following questions:

1.1.5 Number of incomplete abortion cases 12 or fewer weeks= \\_\\_\\_\\_\\_\\_ /

1.1.6 Number of incomplete abortion cases 13 or more weeks= \\_\\_\\_\\_\\_\\_ /

1.1.7 Average number of incomplete abortion cases per month= \\_\\_\\_\\_\\_\\_ / (total number of incomplete abortion cases from 1.1.1/number of months for which data were collected)

1.1.8 Average age of incomplete abortion patients= \\_\\_\\_\\_\\_\\_ / (sum of ages of incomplete abortion cases from 1.1.2/total number of incomplete abortion cases from 1.1.1)

1.1.9 Average parity of incomplete abortion patients= \\_\\_\\_\\_\\_\\_ / (sum of parities of incomplete abortion cases from 1.1.3/total number of incomplete abortion cases from 1.1.1)

1.1.10 Average uterine size in weeks of incomplete abortion patients= \\_\\_\\_\\_\\_\\_ / (sum of uterine sizes of incomplete abortion cases from 1.1.4/total number of incomplete abortion cases from 1.1.1)

If data on the method of evacuation and the uterine size were found in the logbook, complete questions 1.1.11 and 1.1.12 now; if these data were not available, skip to question 1.1.13. If you skip these questions, *do not* code anything in the spaces available.

1.1.11 Number of incomplete abortion cases (12 weeks or less) treated with sharp curettage= \\_\\_\\_\\_\\_\\_ /

1.1.12 Number of incomplete abortion cases (12 weeks or less) treated with manual or electric vacuum aspiration= \\_\\_\\_\\_\\_\\_ / [NOTE: Manual vacuum aspiration (MVA) is used for evacuations of 12 weeks or less uterine size]

If data on complications were found in the logbook, complete questions 1.1.13 and 1.1.14 now; if these data were not available, skip to question 1.1.15. If you skip these questions, *do not* code anything in the spaces available.

1.1.13 Number of incomplete abortion cases with complications= \\_\\_\\_\\_\\_\\_ /

**PACKET 1:** City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

1.1.14 Percentage of incomplete abortion cases that had complications=  $\frac{\text{number of incomplete cases with complications from 1.1.13}}{\text{total incomplete abortion cases from 1.1.1}}$

If data on abortion-related deaths were found in the logbook, complete questions 1.1.15 and 1.1.16 now; if these data were not available, skip to question 1.1.17 now. If you skip these questions, *do not* code anything in the spaces available.

1.1.15 Number of abortion-related deaths=  $\frac{\text{number of abortion-related deaths}}{\text{total incomplete abortion cases from 1.1.1}}$

1.1.16 Percentage of abortion cases resulting in death=  $\frac{\text{number of abortion-related deaths from 1.1.15}}{\text{total incomplete abortion cases from 1.1.1}}$

Record your impressions of the quality of the information recorded in the logbook:

1.1.17 All categories completed for all patients?  $\frac{\text{number of patients}}{\text{total patients}}$  (1=yes; 2=no; 9=don't know/no answer)

1.1.18 Complications noted?  $\frac{\text{number of patients}}{\text{total patients}}$  (1=yes; 2=no; 9=don't know/no answer)

1.1.19 Comments noted?  $\frac{\text{number of patients}}{\text{total patients}}$  (1=yes; 2=no; 9=don't know/no answer)

1.1.20 Logbooks current?  $\frac{\text{number of patients}}{\text{total patients}}$  (1=yes; 2=no; 9=don't know/no answer)

1.1.21 Other, describe:

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Data Collector for Section 1.1 (please print your name)

## 1.2 MAGNITUDE OF THE PROBLEM: Observation of Hospital Ward(s)

**Purpose:** To document the hospital ward occupancy by incomplete abortion patients

**Information Source:** Observation of Hospital Ward(s)

**Background:** Abortion patients may be found in different areas of a hospital. In some hospitals, especially those with large gynaecology caseloads, all incomplete abortion patients will be admitted to beds in the gynae or gynae casualty ward. In some older or smaller hospitals, abortion patients may be admitted to a “female ward,” that is, a ward that includes women with any kind of illness or injury. Furthermore, a few hospitals also isolate septic abortion patients in a “septic ward,” which includes women with systemic and/or localised infections from any cause, e.g., postabortion, postpartum, cancer, etc.

The researcher should identify where abortion patients are located, keeping in mind that these patients may be found in more than one ward. It is advisable to ask more than one knowledgeable person about where abortion patients are located. For example, you might talk to the hospital administrator, chief obstetrician-gynaecologist, chief physician and/or nursing-sister-in-charge. Be sure to ask about all potential locations for abortion patients.

The researcher should talk to the nursing-sister-in-charge and chief physician to learn the hours during which the wards are most likely to be occupied by abortion patients. In some hospitals, for example, abortion patients admitted in the evening and night receive their evacuation procedure the next morning and are discharged from the hospital by noon. If the researcher observes the ward at 1 p.m., few abortion patients may still remain in the hospital. The nursing sister(s)-in-charge on the ward(s) should be able to assist the researcher in discreetly identifying where abortion patients are located.

The **bed occupancy rate** is a percentage which is defined as follows: the number of **abortion patients** divided by the sum of all beds *available* for abortion patients. The number of beds available will usually be either the total number of beds in the gynae ward or the total number of beds in the female ward, depending on where abortion patients recuperate after treatment. The **abortion patient rate** is a percentage which is defined as follows: the number of **abortion patients** divided by the sum of all gyne patients in each ward.

**Instructions:** Once the data collector has identified the location(s) of abortion patients, s/he should visit each location *each day* of her/his hospital stay. If the researcher remains in a hospital for a 5-day visit, for example, s/he should plan to observe each ward where abortion patients are located once a day for all 5 days. The researchers should record the number of abortion patients each day on the appropriate “Ward Occupancy Data Collection Sheet.” One sheet should be completed for each ward on which abortion patients are found.

The total number of beds that are *available* for use by abortion patients on a given day, however, will generally not change from day to day. The total number of beds available will either be all of the gynae beds or all of the female ward beds or both, depending on what beds the abortion patients might occupy while recuperating. The number of beds available for each day should be recorded on the “Ward Occupancy Data Collection Sheet.”

**1.2**

**Ward Occupancy Data Collection Sheet**

Location of Abortion Patients: \_\_\_\_\_

(Beds can be located on the gynae ward, the gynae casualty ward, the female ward, the septic ward or another ward—specify)

\_\_\_\_\_  
Hospital

\_\_\_\_\_  
City, Country

Day	1	2	3	4	5	6	7	Totals
a. Number abortion patients in the ward								
b. Number of total gynae patients								
c. Number of beds available for abortion patients on this ward								
Daily Bed Occupancy Rate (%) (total for “a” divided by total for “c”)								
Abortion Patient Rate (%) (total for “a” divided by total for “b”)								

PACKET 1: City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

## 1.2 Ward Occupancy Computation Sheet

After completing the “Ward Occupancy Data Collection Sheet”(s) and performing the necessary calculations, the researcher should record answers to the following questions:

In what area(s) of the hospital do abortion patients recuperate? [NOTE: If patients recuperate in more than one area, mark a “1” for each area in which the patients might recuperate. Mark a “2” in all of the spaces for those hospital areas where abortion patients do *not* recuperate. Mark a “9” in all of the spaces for those hospital areas which do not exist]:

1.2.1 Gynae ward  (1=yes; 2=no; 9=NA)

1.2.2 Gynae casualty ward  (1=yes; 2=no; 9=NA)

1.2.3 Female ward  (1=yes; 2=no; 9=NA)

1.2.4 Septic ward  (1=yes; 2=no; 9=NA)

1.2.5 Other ward  (1=yes; 2=no; 9=NA)

1.2.6 If answer to “Other ward” is “yes” (question 1.2.5 is coded “1”), please specify area of the hospital mentioned:  
\_\_\_\_\_

What was the average daily number of abortion patients on each of the following wards? [NOTE: Leave the space blank if there are no abortion patients on that ward or if that ward does not exist. For each ward, take the total number of patients in row “a” from the appropriate “Ward Occupancy Data Collection Sheet” divided by the number of days for which data was collected on that particular ward from the appropriate “Ward Occupancy Data Collection Sheet.”]:

1.2.7 Gynae ward

1.2.8 Gynae casualty ward

1.2.9 Female ward

1.2.10 Septic ward

1.2.11 Other ward



**PACKET 1:** City, Country \_\_\_\_\_  
Hospital \_\_\_\_\_

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Data Collector for Section 1.2 (please print your name)

### **1.3 MAGNITUDE OF THE PROBLEM: Interview with Head of the Maternal Mortality Review Committee (MMRC)**

**Purpose:** To document abortion-related deaths, estimated abortion caseloads and estimated duration of abortion patient stay

**Information Source:** Interview with Head of the MMRC (e.g., Chief Obstetrician-Gynaecologist)

**Background:** Some hospitals have committees made up of obstetricians-gynaecologists and/or other physicians who meet regularly to review cases of maternal deaths. Deaths resulting from abortion complications are included in this review in some hospitals; in others, they are not. In some hospitals, no maternal mortality review committees exist.

To document the extent of abortion-related deaths in a hospital, the researcher should talk with the head of the MMRC or other knowledgeable source. Often this will be the chief obstetrician-gynaecologist or chief physician. Explain to the physician that information about abortion-related deaths will be used, along with other information collected, to gain an understanding of the problem of unsafe abortion in the country. This information will not be used to “point fingers” at specific physicians or hospitals.

In addition, the chief of obs-gynae should be able to provide information on estimated average duration of stay for abortion patients.

**Instructions:** Schedule an interview with the head of the MMRC and complete the “Interview with the Head of the Maternal Mortality Review Committee” questionnaire.

In settings where menstrual regulation (MR)/induced abortion services are offered, administer the questionnaire in Section 5.2 of Packet 5 in lieu of this questionnaire.

**PACKET 1:** City, Country \_\_\_\_\_  
Hospital \_\_\_\_\_

### 1.3 Interview with the Head of the Maternal Mortality Review Committee

Begin the interview with the head of the MMRC with the following introduction:

“My name is \_\_\_\_\_ and I am from \_\_\_\_\_. We are doing a study on abortion, family planning and other areas of concern to women and providers. I would like to talk with you if you are willing. Your responses will help us improve the quality of services for other women who seek family planning or treatment of abortion complications. All of your responses will be kept in the strictest confidence.”

Please ask the interviewee to answer the following questions. The researcher should record responses below.

1.3.1 Could you estimate the number of incomplete abortion cases seen in this hospital each year?  
\_\_\_\_\_

1.3.2 Of these abortion cases, what is your estimate of the percentage that present with major complications? (See questions 1.3.11 - 1.3.16 for criteria) \_\_\_\_\_%

1.3.3 Does this hospital have a committee which regularly meets to review maternal deaths? \_\_\_\_\_  
(1=yes; 2=no; 9=don't know/no answer) [NOTE: If the answer is “no,” skip to question 1.3.6.]

1.3.4 Does the committee review deaths that result from complications of abortion? \_\_\_\_\_ (1=yes; 2=no; 9=don't know/no answer) [NOTE: If the answer is “no,” skip to question 1.3.6.]

1.3.5 Does the committee follow written procedures for reviewing maternal deaths? \_\_\_\_\_ (1=yes; 2=no; 9=don't know/no answer)

1.3.6 What action is taken when an abortion-related death occurs?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1.3.7 In this hospital, how many deaths from complications of abortion occur each year? \_\_\_\_\_

**PACKET 1:** City, Country \_\_\_\_\_  
Hospital \_\_\_\_\_

Could you briefly describe the following characteristics of the “typical” abortion patient whose complications lead to death?:

- 1.3.8 Age \\_\^\_\\_/ [NOTE: Leave blank if don't know/no answer]
- 1.3.9 Marital status \\_\\_/ (1=married; 2=single; 3=cohabitating; 4=divorced; 5=widowed; 9=don't know/no answer)
- 1.3.10 Person who terminated her pregnancy \\_\\_/ (1=doctor; 2=nurse/midwife; 3=paramedic; 4=traditional midwife; 5=traditional healer; 6=other; 9=don't know/no answer)

Types of complications seen? [NOTE: Do not read list. Respondent can name more than one. If the head of the MMRC names a particular complication, mark a “1” (for yes) in that space; mark a “2” in all of the spaces of those complications that were *not* mentioned]:

- 1.3.11 Localised infection \\_\\_/ (mentioned? 1=yes; 2=no)
- 1.3.12 Septicaemia \\_\\_/ (mentioned? 1=yes; 2=no)
- 1.3.13 Haemorrhage \\_\\_/ (mentioned? 1=yes; 2=no)
- 1.3.14 Uterine perforation \\_\\_/ (mentioned? 1=yes; 2=no)
- 1.3.15 Cervical injury \\_\\_/ (mentioned? 1=yes; 2=no)
- 1.3.16 Other \\_\\_/ (mentioned? 1=yes; 2=no)

1.3.17 If answer to “Other” is “yes” (question 1.3.16 is coded “1”), specify complication mentioned:  
\_\_\_\_\_

1.3.18 Could you briefly describe how you think these deaths could be prevented? [NOTE: Allow physician to offer opinions. To encourage responses, ask, “Do you have any other opinions or suggestions?” Do not offer suggestions of your own.]  
\_\_\_\_\_  
\_\_\_\_\_

**PACKET 1:** City, Country \_\_\_\_\_  
Hospital \_\_\_\_\_

1.3.19 In your opinion, how could treatment of abortion complications be improved in this hospital?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

1.3.20 On the average, how many total hours do incomplete abortion patients remain in this hospital? \\_ \\_ /

NOTE: Thank the respondent for his/her time.

\_\_\_\_\_  
Data Collector for Section 1.3  
(please print name)

## Annex 12

### PACKET 2: COSTS OF TREATMENT OF ABORTION COMPLICATIONS

Purpose/Contents of Packet 2: This packet includes instructions and forms for collecting information on the costs of treating patients with abortion complications through the documentation of patient admissions/discharges and interviews with the hospital administrator, the financial director and/or the personnel director.

#### 2.1 COSTS OF TREATMENT OF ABORTION COMPLICATIONS: Documentation of Patient Admissions/Discharges

**Purpose:** To document the average duration of hospital stay of patients with abortion complications

**Information Source:** Documentation of Patient Admissions/Discharges

**Background:** Patients with abortion complications often wait for an evacuation with sharp curettage to be performed in a busy operating theatre which serves the entire hospital; heavy doses of anaesthesia are used and recuperation occurs in a hospital ward. The result is that hospital stays for non-septic, incomplete abortion patients can last up to 24 or more hours. In those facilities where manual vacuum aspiration (MVA) is used and evacuation procedures are performed in a procedure room or outpatient area with lower levels of pain control, hospital stays are usually shorter. For those patients who present with septicaemia or other major complications, stays can be quite long.

Duration of hospital stay is an important predictor of the cost to the hospital for treatment of abortion complications. The longer the duration of patient stay, the higher the cost: patients who must wait many hours to be treated, for instance, require more staff attention, more medications and more time in a hospital bed. The woman's medical condition also can deteriorate if she is forced to wait for treatment.

**Instructions:** In hospitals with caseloads of one or more abortion cases each day, the researcher should document the duration of patient stay for all incomplete abortion cases during the period the researcher is in the hospital. The attached "Patient Stay Data Collection Sheet" should be completed by the researcher. In some hospitals, it may be feasible to ask a clerk or other hospital staff member to simply note the admission/discharge time and date information for all patients with abortion complications. If this is done, the researcher should carefully explain what is needed and periodically check back with the hospital worker to ensure that the notations are done correctly on *all* patients with abortion complications.

In some cases, the logbook for abortion cases will provide date and time information. Transfer this information from the logbook to the "Patient Stay Data Collection Sheet." It is advisable to have patient stay information on as many cases as possible, but the researcher should try to obtain information on at least the last ten patients.

In those hospitals with few abortion patients (e.g., one or two per month) and where the logbook does not provide the necessary information, estimates of patient stay will need to be made. Specific

questions about patient stay are included in each of the questionnaires contained in each of the packets.



\* If the length of stay is 12½ hours, record 12.5 in this column. 15 minutes=.25 hours, 30 minutes=.5 hours, 45 minutes=.75 hours, etc.

## **2.2 COSTS OF TREATMENT OF ABORTION COMPLICATIONS: Interview(s) with Hospital Administrator/Financial Director/Personnel Director**

**Purpose:** To document estimated costs to hospital for treatment of abortion complications

**Information Source:** Interview(s) with Hospital Administrator/Financial Director/Personnel Director

**Background:** Precise cost figures for treatment of complications of unsafe abortion are difficult to obtain. Cost estimates may be obtained, however, by interviews with knowledgeable individuals. The purpose of these rough estimates is to better understand the cost to an individual hospital of treatment of abortion complications. Estimates of specific components which make up total cost also may be helpful. Personnel costs (i.e., salaries for physicians, nurses and others involved in treating patients with abortion complications) are often the single largest component of overall cost.

**Instructions:** The researcher should interview the hospital administrator, financial director and/or personnel director to obtain cost estimates. If possible, interviews with more than one of these officials is recommended. Make additional copies of the “Cost Information Interview Sheet” if you plan to conduct more than one interview, and complete a new interview sheet for each interview conducted. Transfer information from the “Cost Information Interview Sheet” to the “Cost Computation Sheet.”

**All cost figures should be obtained in local currency and then converted to US dollars for entry into EpiInfo for a standardised analysis.**

**PACKET 2:** City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

## 2.2 Cost Information Interview Sheet

Begin the interview with the following introduction:

“My name is \_\_\_\_\_ and I am from \_\_\_\_\_. We are doing a study on abortion, family planning and other areas of concern to women and providers. I would like to talk with you if you are willing. Your responses will help us improve the quality of services for other women who seek family planning or treatment of abortion complications. All of your responses will be kept in the strictest confidence.”

Please ask the respondent to answer the following questions. The researcher should record responses below:

2.2.1 What is the number of gynaecological cases admitted to this hospital every year?  
\_\_\_\_\_/\_\_\_\_\_/

2.2.2 How many cases of incomplete abortion are treated in this hospital every year?  
\_\_\_\_\_/\_\_\_\_\_/

2.2.3 What is the annual budget in this hospital in local currency?  
\_\_\_\_\_

What is the annual budget in this hospital in **US dollars**? (Multiply local currency figure from above with exchange rate.)

\_\_\_\_\_ X Exchange rate \_\_\_\_\_ (decimal) =

Annual budget in **US dollars**      \_\_\_\_/\_\_\_\_/\_\_\_\_/

[NOTE: Record in the appropriate spaces. Enough spaces have been given for a number in the millions. If the number is not in the millions, do not start coding in the first space; start coding in the space which will allow the last digit of the budget to be in the farthest-right space. For example \$634,000 would be entered as: \0\0\0/,6\3\4/,0\0\0/]:

2.2.4 What is the annual budget in this hospital for gynaecological services in local currency?  
\_\_\_\_\_

**PACKET 2:** City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

What is the annual budget for gynaecological services in this hospital in **US dollars**? (Multiply local currency figure from above with exchange rate.)

\_\_\_\_\_ X Exchange rate \_\_\_\_\_ (decimal) =

Gynaecological budget in **US dollars**      \\_\\_\\_\\_\\_\/, \\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\/, \\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\/

[NOTE: Use the guidelines above in 2.2.3 for recording this figure in the spaces provided]

2.2.5 What amount of this gynaecological budget is dedicated to treating patients with abortion complications in local currency?

\_\_\_\_\_

What amount of this gynaecological budget is dedicated to treating patients with abortion complications in **US dollars**? (Multiply local currency figure from above with exchange rate.)

\_\_\_\_\_ X Exchange rate \_\_\_\_\_ (decimal) =

Abortion budget in **US dollars**      \\_\\_\\_\\_\\_\/, \\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\/, \\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\/

[NOTE: Use the guidelines above in 2.2.3 for recording this figure in the spaces provided]

2.2.6 Some hospitals have calculated an average cost of a daily stay for a patient. This includes all costs associated with caring for any kind of patient. Costs include personnel, medications, food, overhead and other costs. What is the average cost of a daily stay in your hospital in local currency?

\_\_\_\_\_

What is the average cost of a daily stay for a patient in **US dollars**? (Multiply local currency figure from above with exchange rate.)

\_\_\_\_\_ X Exchange rate \_\_\_\_\_ (decimal) =

Average cost of daily stay in **US dollars**      \\_\\_\\_\\_\\_\/, \\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\/

[NOTE: Use the guidelines above in 2.2.3 for recording this figure in the spaces provided]

**PACKET 2:** City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

2.2.7 How many providers (include all types) treat patients with abortion complications in this hospital? \\_ \\_ \\_ \\_ \\_ /

2.2.8 What is the average annual salary for a provider who treats patients with abortion complications in local currency?

\_\_\_\_\_

What is the average annual salary for a provider who treats patients with abortion complications in **US dollars**? (Multiply local currency figure from above with exchange rate.)

\_\_\_\_\_ X Exchange rate \_\_\_\_\_ (decimal)=

Average annual salary for a provider who treats patients with abortion complications in **US dollars** \\_ \\_ \\_ \\_ \\_ /, \\_ \\_ \\_ \\_ \\_ /

[NOTE: Use the guidelines above in 2.2.3 for recording this figure in the spaces provided]

2.2.9 In your opinion, is the treatment of abortion complications a major cost for your hospital? \\_ / (1=yes; 2=no; 9=don't know/no opinion)

2.2.10 Why is/is not this treatment a major cost for your hospital? [NOTE: Allow administrator to offer opinions. To encourage responses, ask, "Do you have any other opinions or suggestions?" Do not offer opinions of your own.]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.2.11 In your opinion, how could the cost of treatment of abortion complications be reduced in your hospital?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOTE: Thank the respondent for his/her time.

PACKET 2: City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

2.2 Cost Computation Sheet	
2.2.12	Percentage of gynae cases that are abortion cases (cases of incomplete abortion from 2.2.2/gynae cases from 2.2.1): \_\^_\_/%
2.2.13	Percentage of gynae budget in <b>US dollars</b> used for treatment of patients with abortion complications (amount of gynae budget used to treat patients with abortion complications from 2.2.5/annual gynae budget from 2.2.4): \_\^_\_/%
Average Daily Cost of Hospital Stay (in <b>US dollars</b> ) (from 2.2.6) _____	
Average Length of Stay (in decimal-days) (from 2.1.2) _____	
Annual Abortion Caseload (from 2.2.2) _____	
Estimated Annual Cost (to Hospital) for treating patients with abortion complications in <b>US dollars</b> : (average daily cost in <b>US dollars</b> from above X average length of stay from above X annual abortion caseload from above).	
[NOTE: Use the guidelines in 2.2.3 for recording this figure in the spaces provided below.]:	
2.2.14	\_\^_\_/,\_\^_\_/,\_\^_\_/
Number of Providers who treat patients with abortion complications (from 2.2.7) _____	
Average Annual Salary of a Provider who treats patients with abortion complications in <b>US dollars</b> (from 2.2.8) _____	
Estimated Annual Salary Cost (to the Hospital) for the Providers who treat patients with abortion complications: (number of providers from above X average annual salary in <b>US dollars</b> for providers from above).	
[NOTE: Use the guidelines in 2.2.3 for recording this figure in the spaces provided below.]:	
2.2.15	\_\^_\_/,\_\^_\_/,\_\^_\_/

\_\_\_\_\_  
Data Collector for Section 2.2  
(please print your name)

## Annex 13

### PACKET 3: PROVIDER PERSPECTIVES

Purpose/Contents of Packet 3: This packet includes instructions and forms for collecting information on provider perspectives about the treatment of women with incomplete abortion through interviews with hospital providers.

#### **3.1: PROVIDER PERSPECTIVES: Providers Who Treat Patients with Abortion Complications**

**Purpose:** To document doctors', nurses' and other providers' attitudes and perspectives on abortion treatment services and abortion patients

**Information Source:** Providers Who Treat Patients with Abortion Complications

**Background:** This questionnaire should be administered to providers in each hospital. The researcher should attempt to interview as many providers in each hospital as possible. Providers are those hospital staff involved in any type of care for abortion patients, including medical/clinical attention, counseling and other services. Providers include: chief obstetrician-gynaecologist, other obs-gynae consultants, registrars, residents, medical officers, interns, clinical officers, nurses, social workers and other hospital personnel.

**Instructions:** The researcher should interview each provider individually, in a private area. The interview should last about 15 minutes. It may be difficult to schedule these interviews because hospital staff are so busy. Persistence usually pays off, however, if you are flexible about when you are available for these interviews. If time in a hospital is limited, it is advisable to interview a range of types of providers rather than conducting interviews with several of the same types of providers.

**Make multiple copies of this questionnaire before beginning interviews. Use a different questionnaire for each provider interview conducted.**

**PACKET 3:** City, Country \_\_\_\_\_  
Hospital \_\_\_\_\_

### 3.1 Interview with Providers

Begin the interview with providers with the following introduction:

“My name is \_\_\_\_\_ and I am from \_\_\_\_\_. We are doing a study on abortion, family planning and other areas of concern to women and providers. I would like to talk with you if you are willing. Your responses will help us improve the quality of services for other women who seek family planning or treatment of abortion complications. All of your responses will be kept in the strictest confidence.”

Please ask the provider to answer the following questions. The researcher should record responses below:

#### GENERAL

- 3.1.1 Provider Status: \\_ / (1=chief obs-gynae; 2=consultant; 3=registrar; 4=resident; 5=medical officer/intern; 6=clinical officer; 7=nurse; 8=social worker/counselor; 9=other)
- 3.1.2 Who is the primary abortion care provider in this facility? (1=chief obs-gynae; 2=consultant; 3=registrar; 4=resident; 5=medical officer/intern; 6=clinical officer; 7=nurse; 8=social worker/counselor; 9=other)
- 3.1.3 Salary of provider being interviewed in local currency?

\_\_\_\_\_

Salary in **US dollars**? (Multiply local currency figure from above with exchange rate.)

\_\_\_\_\_ X Exchange rate \_\_\_\_\_ (decimal) =

Salary in **US dollars** \\_ /, \\_ \\_ \\_ \\_ \\_ /, \\_ \\_ \\_ \\_ \\_ /

[NOTE: Record in the appropriate spaces. Enough spaces have been given for a number in the millions. If the number is not in the millions, do not start coding in the first space; start coding in the space which will allow the last digit of the budget to be in the farthest-right space. For example, a \$2.5 million salary would be coded as follows: \2/, \5^0^0/, \0^0^0/]:

**PACKET 3:** City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

3.1.4 Gender: \\_/\_/ (1=male; 2=female)

3.1.5 Age: \\_^\\_/\_/

3.1.6 Marital Status \\_/\_/ (1=married; 2=single; 3=cohabitating; 4=divorced; 5=widowed; 9=other)

### **PATIENT CARE**

3.1.7 On the average, how many cases of incomplete abortion do you yourself treat in this hospital each month? \\_^\\_^\\_/\_/

What is your role in caring for these patients? [NOTE: **Do not read list.** Respondent can name more than one. If the provider names a particular role, mark a “1” (for yes) in that space; mark a “2” in all spaces that were *not* mentioned]:

3.1.8 Medical/clinical treatment \\_/\_/ (mentioned? 1=yes; 2=no)

3.1.9 Counselling about treatment \\_/\_/ (mentioned? 1=yes; 2=no)

3.1.10 Family planning counselling \\_/\_/ (mentioned? 1=yes; 2=no)

3.1.11 Other \\_/\_/ (mentioned? 1=yes; 2=no)

3.1.12 If answer to “Other” is “yes” (question 3.1.11 is coded “1”), please specify the role mentioned:

\_\_\_\_\_

3.1.13 On the average, how many hours per day do you spend caring for **ALL** patients, including actual treatment, talking with patients, writing on charts, etc.? \\_^\\_/\_/

3.1.14 Of these hours spent caring for patients, about how many are spent caring for incomplete abortion patients? \\_^\\_/\_/

Among the incomplete abortion cases that you care for, what type of abortion complication do you see most often? [NOTE: **Do not read list.** Respondent can name more than one. If the provider names a particular complication, mark a “1” (for yes) in that space; mark a “2” (for no) in all spaces that were *not* mentioned]:

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3.1.15 Localised infection \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.16 Septicaemia \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.17 Haemorrhage \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.18 Uterine perforation \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.19 Cervical injury \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.20 Other \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.21 If answer to “Other” is “yes” (question 3.1.20 is coded “1”), please specify the complication mentioned:

---

3.1.22 On the average, how many total hours do incomplete abortion patients remain in the hospital? \\_\\_^\\_\\_/

3.1.23 On the average, how many hours do incomplete abortion patients wait from their time of arrival until their evacuation? \\_\\_^\\_\\_/

Could you describe the “typical” woman who seeks treatment for incomplete abortion in this hospital based upon the following characteristics?:

3.1.24 Age \\_\\_^\\_\\_/ [NOTE: Leave blank if don't know/no answer]

3.1.25 Marital status \\_\\_/ (1=married; 2=single; 3=cohabitating; 4=divorced; 5=widowed; 9=don't know/no answer)

3.1.26 Who terminated their pregnancy \\_\\_/ (1=doctor; 2=nurse/nurse midwife; 3=paramedic; 4=traditional midwife; 5=traditional healer; 6=other; 9=don't know/no answer)

3.1.27 Any other characteristics?:

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### FAMILY PLANNING HISTORY

3.1.28 For those women treated for incomplete abortion, were the majority using a family planning method at the time they got pregnant? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion) [NOTE: If answer is “yes,” skip to question 3.1.39.]

What are the main reasons you think these women were not using a method?

[NOTE: Do not read list. Respondent can name more than one. If the provider names a particular complication, mark a “1” (for yes) in that space; mark a “2” (for no) in all spaces that were *not* mentioned]:

3.1.29 Health concerns of woman \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.30 Partner/spouse disapproved \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.31 Cost too much \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.32 Method hard to obtain/access a problem \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.33 Inconvenient to use \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.34 Infrequent sex \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.35 Lack of information \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.36 Other \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.37 Don't know/no opinion \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.38 If answer to question 3.1.36 is “1” (“yes”), please specify the reason mentioned:

---

[NOTE: Skip to question 3.1.40 to continue interview.]

3.1.39 What is the main reason you think these women became pregnant even though they were using a family planning method? \\_\\_/ (1=didn't use method correctly; 2=method failure; 9=don't know/no opinion)

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### POSTABORTION FAMILY PLANNING

3.1.40 Do you think women treated for incomplete abortion should be given family planning information while still in the hospital? \\_/ (1=yes; 2=no; 3=depends on situation; 9=don't know/no opinion)

3.1.41 Do you think incomplete abortion patients are interested in getting information about family planning while still in the hospital? \\_/ (1=yes; 2=no; 3=depends on situation; 9=don't know/no opinion)

3.1.42 During their stay in this hospital, are incomplete abortion patients routinely given family planning information? \\_/ (1=yes; 2=no; 9=don't know/no opinion)

3.1.43 Do you think incomplete abortion patients should have family planning methods made available to them while still in the hospital? \\_/ (1=yes; 2=no; 3=depends on situation; 9=don't know/no opinion). If you entered "2" ("no") to 3.1.43 explain:

---

3.1.44 During their stay in the hospital, are family planning methods routinely offered to incomplete abortion patients? \\_/ (1=yes; 2=no; 9=don't know/no answer) [NOTE: If answer is "no," skip to question 3.1.55.]

Which methods are routinely made available to these women? [NOTE: Do not read list. Respondent can name more than one. If the provider names a particular method, mark a "1" (for yes) in that space; mark a "2" (for no) in all spaces that were *not* mentioned]:

3.1.45 Oral contraceptives \\_/ (mentioned? 1=yes; 2=no)

3.1.46 Condoms \\_/ (mentioned? 1=yes; 2=no)

3.1.47 IUD \\_/ (mentioned? 1=yes; 2=no)

3.1.48 Spermicides \\_/ (mentioned? 1=yes; 2=no)

3.1.49 Injectables \\_/ (mentioned? 1=yes; 2=no)

3.1.50 Norplant implants \\_/ (mentioned? 1=yes; 2=no)

3.1.51 Female sterilisation \\_/ (mentioned? 1=yes; 2=no)

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3.1.52 Male sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.53 Other \\_\\_/ (mentioned? 1=yes; 2=no)

3.1.54 If answer to “Other” is “yes” (question 3.1.53 is coded “1”), specify the method mentioned:

\_\_\_\_\_  
\_\_\_\_\_

3.1.55 During their stay in the hospital, are incomplete abortion patients routinely provided with referrals or information about where to get family planning methods in their communities?  
\\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)

3.1.56 How could family planning services for incomplete abortion patients be improved in this hospital?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PATIENT/PROVIDER INTERACTIONS**

3.1.57 How would you rate the quality of interactions between hospital staff and abortion patients?  
Would you say they are excellent, very good, good, mediocre, or poor? \\_\\_/ (1=excellent;  
2=very good; 3=good; 4=mediocre; 5=poor; 9=don't know/no opinion)

3.1.58 How would you suggest improving staff interactions with incomplete abortion patients?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**LEGAL STATUS OF ABORTION**

What are the legal provisions for induced abortion in \_\_\_\_\_?  
(country)

[NOTE: Do not read list. Respondent can name more than one. If the provider names a particular provision, mark a “1” (for yes) in that space; mark a “2” (for no) in all spaces that were *not* mentioned]:

- 3.1.59 Cases of rape \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.60 Cases of incest \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.61 Foetal deformity \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.62 To save the life of the woman \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.63 Mental health of the woman \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.64 Social reasons \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.65 On demand/choice of the woman \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.66 Don't know/no answer \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.67 Other \\_\\_/ (mentioned? 1=yes; 2=no)
- 3.1.68 If answer to “Other” is “yes” (question 3.1.67 is coded “1”), please specify the legal provision mentioned:  
  
\_\_\_\_\_

- 3.1.69 Do you think the current law is too restrictive, too liberal or appropriate for our country? \\_\\_/ (1=too restrictive; 2=too liberal; 3=appropriate for our country; 9=don't know/no opinion)
- 3.1.70 Do you think most women will have abortions regardless of the law? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)
- 3.1.71 Do you think most women consider the legal status of abortion when deciding whether or not to have an abortion? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)

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3.1.72 Do you think individuals who perform abortions will perform them regardless of the law?  
\_\_\_/ (1=yes; 2=no; 9=don't know/no opinion)

### ACCESS TO SERVICES

Why do women whom you treat here for incomplete abortion usually seek an abortion? [NOTE: **Do not read list.** Respondent can name more than one. If the provider names a particular reason, mark a “1” (for yes) in that space; mark a “2” (for no) in all spaces that were *not* mentioned]:

3.1.73 Too many children \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.74 Children too close together \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.75 Economic reasons \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.76 Timing not good \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.77 Unmarried \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.78 Rape/incest \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.79 Foetal deformity \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.80 Physical health of woman \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.81 Mental health of woman \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.82 Don't know/no opinion \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.83 Other \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

3.1.84 If answer to “Other” is “yes” (question 3.1.83 is coded “1”), please specify the reason mentioned:

---

3.1.85 How easy or difficult is it for incomplete abortion patients who come to this hospital to obtain an induced abortion in their communities? Is it very easy, somewhat easy, somewhat difficult, or very difficult? \_\_\_/ (1=very easy; 2=somewhat easy; 3=somewhat difficult; 4=very difficult; 9=don't know/no opinion)

3.1.86 Explain: \_\_\_\_\_

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3.1.87 How easy or difficult is it for women in the area covered by this hospital to obtain medical treatment for complications of abortion? Is it very easy, somewhat easy, somewhat difficult, or very difficult? \\_\\_/ (1=very easy; 2=somewhat easy; 3=somewhat difficult; 4=very difficult; 9=don't know/no opinion)

3.1.88 Explain: \_\_\_\_\_

3.1.89 How easy or difficult is it for women in the area covered by this hospital to get a family planning method? Is it very easy, somewhat easy, somewhat difficult, or very difficult? \\_\\_/ (1=very easy; 2=somewhat easy; 3=somewhat difficult; 4=very difficult; 9=don't know/no opinion)

3.1.90 Explain: \_\_\_\_\_

---

3.1.91 Do you think that deaths from complications of abortion are a major problem in the community? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)

3.1.92 Do you think that most women suffering from abortion complications in the area covered by this hospital come here for treatment? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)

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**CONCLUSION**

3.1.93 How could overall abortion treatment services be improved in this hospital?

-----  
\_\_\_\_\_  
  
\_\_\_\_\_  
  
\_\_\_\_\_  
  
\_\_\_\_\_

NOTE: Thank the respondent for his/her time.





## Annex 14

### PACKET 4: PATIENT PERSPECTIVES

Purpose/Contents of Packet 4: This packet includes instructions and forms for collecting information on patient perspectives about the quality and accessibility of care they receive during treatment for incomplete abortion through interviews with the women themselves.

#### **4.1: PATIENT PERSPECTIVES: Women Treated for Incomplete Abortion**

**Purpose:** To provide information on women's opinions about their care in the hospital, their opinions on access to treatment services, and their needs for postabortion family planning and other services

**Information Source:** Women Treated for Incomplete Abortion

**Background:** This questionnaire should be administered to incomplete abortion patients in each hospital. The researcher should attempt to interview as many patients in each hospital as possible. The researcher should determine, perhaps after conversation with the nursing-sister-in-charge or other knowledgeable person, the most appropriate time to conduct the interview. Prior to their evacuation procedure or other treatment, some women will be in too much pain to respond to questions. Other women may be groggy or sleepy from pain control medications during some or all of their recovery period. In many situations, the best time for the interview will be after the woman has recovered and prior to her discharge from the hospital.

**Instructions:** The researcher should ask each patient if she feels well enough to answer some questions about the services she received in the hospital and other issues; the interview should last about 15 minutes. The researcher should interview each woman individually, in a private area. Patients to be interviewed are those who are admitted to the hospital for treatment of incomplete abortion and/or other abortion-related complications.

**Make multiple copies of this questionnaire before beginning interviews. Use a different questionnaire for each patient interview conducted.**

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#### **4.1 Interview with Incomplete Abortion Patients**

Begin the interview with patients with the following introduction:

“My name is \_\_\_\_\_ and I am from \_\_\_\_\_. We are doing a study on abortion, family planning and other areas of concern to women and providers. I would like to talk with you if you are willing. Your responses will help us improve the quality of services for other women who seek family planning or treatment of abortion complications. All of your responses will be kept in the strictest confidence.”

##### **HOSPITAL FILE** (Check file if possible)

4.1.1 Age: \\_^\\_/\_

4.1.2 Marital Status: \\_/\_ (1=married; 2=single; 3=cohabitating; 4=divorced; 5=widowed; 9=other)

4.1.3 Number of living children: \\_^\\_/\_

4.1.4 Uterine Size: \\_^\\_/\_

Please ask the patient to answer the following questions. The researcher should record responses below:

##### **GENERAL**

4.1.5 Age: \\_^\\_/\_

4.1.6 Marital Status: \\_/\_ (1=married; 2=single; 3=cohabitating; 4=divorced; 5=widowed; 9=other)

4.1.7 Number of living children: \\_^\\_/\_ [NOTE: Record number of living children or mark “00” if none]

4.1.8 How many living male children do you have? \\_^\\_/\_ [NOTE: Record number of living male children or mark “00” if none]

4.1.9 How many living female children do you have? \\_^\\_/\_ [NOTE: Record number of living female children or mark “00” if none]

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### **PATIENT CARE**

For what medical problem did you come to this hospital? [NOTE: Do not read list. Respondent can name more than one. If a particular medical problem is mentioned, mark “1” (for yes) in that space; mark “2” for all medical problems that are *not* mentioned):

4.1.10 Vaginal bleeding \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

4.1.11 Fever \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

4.1.12 Pain \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

4.1.13 Other \_\_\_\_\_/ (mentioned? 1=yes; 2=no)

4.1.14 If answer to “Other” is “yes” (question 4.1.13 is coded “1”), please specify the other medical problem mentioned:

\_\_\_\_\_

4.1.15 How many days passed from the time you first noticed this medical problem until you came to the hospital? \_\_\_\_\_/ (1=less than one day; 2=one day; 3=two days; 4=three or more days; 9=don't know/no answer)

4.1.16 From the time you first noticed your medical problem, were you able to carry on with your normal activities? \_\_\_\_\_/ (1=yes; 2=no; 3=somewhat able; 9=don't know/no opinion)

4.1.17 Please describe your feelings about your experience at the hospital until now [NOTE: You may need to give one or two examples to elicit a response, such as, who examined the patient, how the staff has treated the patient, how long the patient has waited, what information the doctor gave the patient]:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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- 4.1.18 How many hours did you wait from the time you arrived at the hospital until you were first seen by the doctor? \\_\\_/ (1=0–2 hrs; 2=2–4 hrs; 3=4–6 hrs; 4=6–8 hrs; 5=8–10 hrs; 6=>10 hrs; 9=don't know/no opinion)
- 4.1.19 Do you think your waiting time from when you arrived at the hospital until you were first examined by a doctor was too long, somewhat long or acceptable? \\_\\_/ (1=too long; 2=somewhat long; 3=acceptable; 9=don't know/no opinion)
- 4.1.20 During your visit, did someone from the hospital staff describe the medical treatment you were going to receive? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 4.1.21 During your visit, did someone from the hospital staff ask you for your permission to treat your medical problem? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 4.1.22 Did you give written consent for treatment of your medical problem? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 4.1.23 Did you have any pain while you were being treated? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer) **[NOTE: If answer is “no,” skip to question 4.1.26.]**
- 4.1.24 Would you describe the pain you had during the treatment as light pain, moderate pain or severe pain? \\_\\_/ (1=light pain; 2=moderate pain; 3=severe pain; 9=don't know/no opinion)
- 4.1.25 Were you given an injection, pill or IV in order to make the treatment less painful? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 4.1.26 Did the doctor or nurse give you any information about how to take care of yourself once you got home? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)

#### **POSTABORTION FAMILY PLANNING**

- 4.1.27 While you were in the hospital, did someone talk with you about family planning? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 4.1.28 While you were in the hospital, did anyone make family planning methods available to you or your partner/spouse? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer) **[NOTE: If answer is “no,” skip to question 4.1.33.]**
- 4.1.29 Did you or your partner/spouse accept a method? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer) **[NOTE: If answer is “no,” skip to question 4.1.34.]**

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4.1.30 Which method did you accept? \\_\\_/ (1=oral contraceptives; 2=condoms; 3=IUD; 4=spermicides; 5=injectables; 6=Norplant implants; 7=female sterilisation; 8=other; 9=don't know/no answer)

4.1.31 Have you or will you receive the method during this visit? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)

4.1.32 Were you instructed on how to use the method? (1=yes; 2=no; 9=don't know/no answer)  
**[NOTE: Skip to question 4.1.35 to continue the interview.]**

4.1.33 Would you have liked someone to make family planning methods available to you? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)

4.1.34 Did anyone give you a referral to another location in order to get a family planning method? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)

4.1.35 Did anyone tell you where you could get family planning methods or follow-up in your community? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)

4.1.36 Do you think most women treated for your same medical problem would like to receive family planning information while in the hospital? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)

4.1.37 Do you think most women treated for your same medical problem would like to have family planning methods made available to them while in the hospital? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion)

### **FAMILY PLANNING HISTORY**

4.1.38 Before this pregnancy, have you or your partner/spouse ever used a family planning method? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion) **[NOTE: If answer is “no,” skip to question 4.1.60.]**

Which methods have you used? **[NOTE: Do not read list.** Respondent may give more than one answer. If a particular method is mentioned, mark “1” (for yes) in that space; mark “2” for all methods that are *not* mentioned]:

4.1.39 Oral contraceptives \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.40 Condoms \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.41 IUD \\_\\_/ (mentioned? 1=yes; 2=no)

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4.1.42 Spermicides \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.43 Injectables \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.44 Norplant implants \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.45 Female sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.46 Male sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.47 Other \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.48 If answer to “Other” is “yes” (question 4.1.47 is coded “1”), please specify the method mentioned:

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4.1.49 Before this pregnancy, have you ever become pregnant while using a family planning method? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion) [NOTE: If answer is “no,” skip to question 4.1.60.]

Which method were you using when you became pregnant? [NOTE: **Do not read list.** Respondent may give more than one answer. If a particular method is mentioned, mark “1” (for yes) in that space; mark “2” for all methods that are *not* mentioned]:

4.1.50 Oral contraceptives \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.51 Condoms \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.52 IUD \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.53 Spermicides \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.54 Injectables \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.55 Norplant implants \\_\\_/ (mentioned? 1=yes; 2=no)

4.1.56 Female sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

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4.1.57 Male sterilisation  (mentioned? 1=yes; 2=no)

4.1.58 Other  (mentioned? 1=yes; 2=no)

4.1.59 If answer to “Other” is “yes” (question 4.1.58 is coded “1”), please specify the method mentioned:

\_\_\_\_\_

4.1.60 Were you using a contraceptive method at the time you became pregnant with this pregnancy?  (1=yes; 2=no; 9=don't know/no opinion) [NOTE: If answer is “no,” skip to question 4.1.72.]

Which method were you using? [NOTE: **Do not read list.** Respondent may give more than one answer. If a particular method is mentioned, mark “1” (for yes) in that space; mark “2” for all methods that are *not* mentioned]:

4.1.61 Oral contraceptives  (mentioned? 1=yes; 2=no)

4.1.62 Condoms  (mentioned? 1=yes; 2=no)

4.1.63 IUD  (mentioned? 1=yes; 2=no)

4.1.64 Spermicides  (mentioned? 1=yes; 2=no)

4.1.65 Injectables  (mentioned? 1=yes; 2=no)

4.1.66 Norplant implants  (mentioned? 1=yes; 2=no)

4.1.67 Female sterilisation  (mentioned? 1=yes; 2=no)

4.1.68 Male sterilisation  (mentioned? 1=yes; 2=no)

4.1.69 Other  (mentioned? 1=yes; 2=no)

4.1.70 If answer to “Other” is “yes” (question 4.1.69 is coded “1”), please specify the method mentioned:

\_\_\_\_\_

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4.1.71 Why do you think you became pregnant, even though you were using a contraceptive method?

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[NOTE: Skip to question 4.1.81 to continue the interview.]

Why were you not using a family planning method at the time you became pregnant? [NOTE: **Do not read list.** Respondent can name more than one. If the patient names a particular reason, mark a “1” (for yes) in that space; mark a “2” (for no) in all spaces that were *not* mentioned]:

4.1.72 Health concerns  (mentioned? 1=yes; 2=no)

4.1.73 Partner/spouse disapproved  (mentioned? 1=yes; 2=no)

4.1.74 Cost too much  (mentioned? 1=yes; 2=no)

4.1.75 Method hard to obtain/access a problem  (mentioned? 1=yes; 2=no)

4.1.76 Inconvenient to use  (mentioned? 1=yes; 2=no)

4.1.77 Infrequent sex  (mentioned? 1=yes; 2=no)

4.1.78 Lack of information  (mentioned? 1=yes; 2=no)

4.1.79 Other  (mentioned? 1=yes; 2=no)

4.1.80 If answer to “Other” is “yes” (question 4.1.79 is coded “1”), please specify the reason mentioned: \_\_\_\_\_

### ACCESS TO SERVICES

4.1.81 Why did you decide to come to this hospital for treatment?

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4.1.87 Do you think this amount is too much or about right for a woman like you? \\_\\_/ (1=too much; 2=about right; 9=don't know/no opinion)

4.1.88 What do you think about how the staff cared for you during your visit? Were they very considerate, somewhat considerate, somewhat inconsiderate or inconsiderate? \\_\\_/ (1=very considerate; 2=somewhat considerate; 3=somewhat inconsiderate; 4=inconsiderate; 9=don't know/no opinion)

4.1.89 Overall, how do you feel about the treatment you received in the hospital? Were you very satisfied, somewhat satisfied, somewhat dissatisfied or dissatisfied? \\_\\_/ (1=very satisfied; 2=somewhat satisfied; 3=somewhat dissatisfied; 4=dissatisfied; 9=don't know/no opinion)

4.1.90 If a friend or relative had your same medical problem, would you encourage her to come to this hospital or go somewhere else? \\_\\_/ (1=come to this hospital; 2=go somewhere else; 9=don't know/no opinion)

4.1.91 Explain:

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4.1.92 Do you know any friend or relative who has become seriously ill or who has died from the same medical problem you have? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)

4.1.93 This study is to help improve services to better meet the needs of women. What would you like the doctor and nurses to know about how to make the services better?

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Data Collector for Section 4.1

**PACKET 4:** City, Country \_\_\_\_\_  
Hospital \_\_\_\_\_

(please print your name)

## Annex 15

### PACKET 5: MENSTRUAL REGULATION/INDUCED ABORTION

Purpose/Contents of Packet 5: This packet contains instructions and forms for documenting the number of menstrual regulation(MR)/induced abortion procedures performed and services offered. This information can be obtained from review of hospital logbooks. Questionnaires for interviews with MR/induced abortion clients and with the head of the Maternal Mortality Review Committee (MMRC)/chief of obs/gynae also are included.

#### 5.1 MR/INDUCED ABORTION: Documentation of Caseload

**Purpose:** To document the MR/induced abortion caseload

**Information Source:** Review of Hospital Logbook(s)

**Background:** In some hospitals, menstrual regulation/induced abortion is performed. (Menstrual regulation is usually considered to be an early abortion; a pregnancy test is frequently not performed prior to the MR procedure). These MR/induced abortion procedures can be performed in hospitals under the indications allowed by that country's laws.

Information on MR/induced abortion clients is often recorded in the hospital logbook(s) used for incomplete abortion patients. The researcher should pay special attention to the “procedure or treatment” category in the logbooks. The term “MR” or “induced abortion” may be recorded under this category, to distinguish MR patients from incomplete abortion patients. In contrast, incomplete abortion treatment procedures will be referred to as “incomplete abortion,” “evacuation,” “evac,” or “manual vacuum aspiration [MVA].” The researcher should be sure to identify the location of *all* logbooks which record information on MR/induced abortion patients.

**Instructions:** This packet should be used only in those hospitals where the country's laws allow MR/induced abortion services to be offered, such as in Zambia. If MR/induced abortion services cannot be offered in hospitals under the country's law, this packet should not be used at all. The researcher should review the logbook(s) and transfer the information from the hospital logbook to the attached “Logbook Data Collection Sheet.” Information should be collected only on the following specific categories: 1) procedure or treatment (the terms “MR” or “induced abortion” may be written under the procedure/treatment category); 2) age of patient; 3) parity of patient; 4) uterine size in weeks (as determined by exam); 5) method of evacuation (the terms “manual vacuum aspiration [MVA]” or “dilation and curettage [D&C]” may be used); 6) complications; and 7) deaths (among MR/induced abortion patients) occurring in the hospital. Place one of each of these category names in each of the seven column title cells. Make a note on the data collection sheet if certain categories are not available. Note the type of patient on which data are being collected, “MR/induced abortion,” at the top of the “Logbook Data Collection Sheet.”

To simplify the transfer of information, the column titles on the data collection sheet have been left blank, so that the researcher can list the categories in the order in which they appear in the hospital logbook. Information should be collected for a recent 1-year period (e.g., June 1, 1993 through May 31, 1994) or for approximately 300 patients, whichever is lower. Thus, in those hospitals with very large caseloads, information on 300 patients may require using only 2 or 3 months of logbook data. If information is being collected on 300 patients instead of on a full year's worth of logbook data, collect information on 300 patients by the middle of a particular month, finish collecting data for the rest of that month even though you will have a sample size of more than 300.

**Begin a new "Logbook Data Collection Sheet" for each month for which data are collected.**

After transferring the logbook information to the "Logbook Data Collection Sheet"(s), sum each of the columns and place the result in the appropriate cells in the "Totals" row. Add the number of MR/induced abortion patients on each month's "Logbook Data Collection Sheet" and transfer this information to the "Logbook Computation Sheet" (if a month's worth of data fills more than one "Logbook Data Collection Sheet," sum the number of MR/induced abortion patients from all of the sheets for that month and transfer this total to the "Logbook Computation Sheet"). Note the type of patient (MR/induced abortion) information you collected on the "Logbook Computation Sheet."

Use the results from the "Totals" row of the "Logbook Data Collection Sheet"(s) to complete questions 5.1.1–5.1.16 on the "Logbook Computation Sheet."

**To reduce the risk of error, it is advisable to complete separate "Logbook Data Collection Sheets" and "Logbook Computation Sheets" for incomplete abortion patients and MR/induced abortion patients.**

## 5.1

**SAMPLE**  
**Logbook Data Collection Sheet**

Center Hospital  
Name of Hospital

Capital, Uganda  
City, Country

July 1993  
Month/Year

Gynae Ward  
Location of Logbook

MR/Induced Abortion  
Type of Patient

Patient	Procedure	Age of Patient	Parity of Patient	Uterine Size (in weeks)	Method of Evacuation	Complications	Deaths
2356	MR/Induced Abortion	21	4	6	MVA	N/A	N/A
4259	MR/Induced Abortion	28	7	7	D&C	0	0
<b>Totals</b>	2 procedures	49 years	11	13	1 D&C 1 MVA	N/A	N/A

N/A-Not Available





PACKET 5: City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

### 5.1 Logbook Computation Sheet (cont.)

Perform the calculations required and record answers to the following questions:

5.1.5 Number of MR/induced abortion cases 12 or fewer weeks= \\_\\_\\_\\_\\_\\_

5.1.6 Number of MR/induced abortion cases 13 or more weeks= \\_\\_\\_\\_\\_\\_

5.1.7 Average number of MR/induced abortion cases per month= \\_\\_\\_\\_\\_\\_ / (total number of MR/induced abortion cases from 5.1.1/number of months for which data were collected)

5.1.8 Average age of MR/induced abortion patients= \\_\\_\\_\\_\\_\\_ / (sum of ages of MR/induced abortion cases from 5.1.2/total number of MR/induced abortion cases from 5.1.1)

5.1.9 Average parity of MR/induced abortion patients= \\_\\_\\_\\_\\_\\_ / (sum of parities of MR/induced abortion cases from 5.1.3/total number of MR/induced abortion cases from 5.1.1)

5.1.10 Average uterine size in weeks of MR/induced abortion patients= \\_\\_\\_\\_\\_\\_ / (sum of uterine sizes of MR/induced abortion cases from 5.1.4/total number of MR/induced abortion cases from 5.1.1)

If data on the method of evacuation and the uterine size were found in the logbook, complete questions 5.1.11 and 5.1.12 now; if these data were not available, skip to question 5.1.13. If you skip these questions, *do not* code anything in the spaces available.

5.1.11 Number of MR/induced abortion cases (12 weeks or less) treated with sharp curettage= \\_\\_\\_\\_\\_\\_

5.1.12 Number of MR/induced abortion cases (12 weeks or less) treated with manual or electric vacuum aspiration= \\_\\_\\_\\_\\_\\_ [NOTE: Manual vacuum aspiration (MVA) is used for evacuations of 12 weeks or less uterine size]

If data on complications were found in the logbook, complete questions 5.1.13 and 5.1.14 now; if these data were not available, skip to question 5.1.15. If you skip these questions, *do not* code anything in the spaces available.

5.1.13 Number of MR/induced abortion cases with complications= \\_\\_\\_\\_\\_\\_

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5.1.14 Percentage of MR/induced abortion cases that had complications=  $\frac{\text{number of MR/induced cases with complications from 5.1.13}}{\text{total MR/induced abortion cases from 5.1.1}}$

If data on MR/induced abortion-related deaths were found in the logbook, complete questions 5.1.15 and 5.1.16 now; if these data were not available, skip to question 5.1.17 now. If you skip these questions, *do not* code anything in the spaces available.

5.1.15 Number of MR/induced abortion-related deaths= \_\_\_\_\_

5.1.16 Percentage of MR/induced abortion cases resulting in death=  $\frac{\text{number of MR/induced abortion-related deaths from 5.1.15}}{\text{total MR/induced abortion cases from 5.1.1}}$

Record your impressions of the quality of the information recorded in the logbook:

5.1.17 All categories completed for all patients?  (1=yes; 2=no; 9=don't know/no answer)

5.1.18 Complications noted?  (1=yes; 2=no; 9=don't know/no answer)

5.1.19 Comments noted?  (1=yes; 2=no; 9=don't know/no answer)

5.1.20 Logbooks current?  (1=yes; 2=no; 9=don't know/no answer)

5.1.21 Other, describe:

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\_\_\_\_\_  
Data Collector for Section 5.1  
(please print your name)

PACKET 5: City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

## 5.2 MR/INDUCED ABORTION: Interview with the Head of the Maternal Mortality Review Committee (MMRC)

**Purpose:** To document incomplete abortion-related deaths, estimated abortion caseloads and estimated duration of incomplete abortion patient stay, and to describe MR/induced abortion services or better understand why they are not available

**Information Source:** Interview with the Head of the MMRC

**Background:** Some hospitals have committees made up of obstetricians-gynaecologists and/or other physicians who meet regularly to review cases of maternal deaths. Deaths resulting from abortion complications are included in this review in some hospitals; in others, they are not. In some hospitals, no maternal mortality review committees exist.

To document the extent of abortion-related deaths in a hospital, the researcher should talk with the head of the MMRC or other knowledgeable source. Often this will be the chief obstetrician-gynaecologist or chief physician. Explain to the physician that information about abortion-related deaths will be used, along with other information collected, to gain an understanding of the problem of unsafe abortion in the country. This information will not be used to “point fingers” at specific physicians or hospitals.

In addition, the chief of obs-gynae should be able to provide information on estimated average duration of stay for incomplete abortion patients and MR/induced abortion clients.

In some hospitals, not all MR/induced abortion cases are recorded in a logbook(s). This under-recording is due to the fact that some physicians perform MR/induced abortion procedures in the hospital without officially entering information in the logbook. Furthermore, in other hospitals where MR/induced abortion services *could* be offered under that country's legal statutes, services may not be provided.

These issues are likely to be sensitive to the hospital staff. The researcher and country coordinator should discuss how to appropriately approach this issue, including maintaining confidentiality. Dr. Kinoti is available for consultation on this issue, if necessary.

**Instructions:** In those hospitals where MR/induced abortion services are offered or could be offered, the researcher should administer the attached questionnaire to the MMRC head/chief of obs-gynae. In these settings, this questionnaire should be administered in lieu of the questionnaire in Section 1.3 of Packet 1.

PACKET 5: City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

## 5.2 Interview with the Head of the Maternal Mortality Review Committee

Begin the interview with the head of the MMRC with the following introduction:

“My name is \_\_\_\_\_ and I am from \_\_\_\_\_. We are doing a study on abortion, family planning and other areas of concern to women and providers. I would like to talk with you if you are willing. Your responses will help us improve the quality of services for other women who seek family planning or treatment of abortion complications. All of your responses will be kept in the strictest confidence.”

Please ask the interviewee to answer the following questions. The researcher should record responses below:

5.2.1 Does your hospital offer MR/induced abortion services? \\_/\_/ (1=yes; 2=no) [NOTE: If answer is “no,” skip to question 5.2.3.]

5.2.2 On the average, how many MR procedures are performed in this hospital each year? \\_/\_/\\_/\\_/\\_/\_/ [NOTE: Skip to question 5.2.4 to continue interview.]

5.2.3 Could you explain why MR procedures are not performed here?

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[NOTE: Skip to question 5.2.10 to continue interview.]

5.2.4 In some hospitals, some MR procedures are not recorded in the official hospital logbook. Does this happen in this hospital? \\_/\_/ (1=yes; 2=no; 9=don't know) [NOTE: If answer is “no,” skip to question 5.2.7].

5.2.5 Could you estimate the number of “off-logbook” MRs performed each year? \\_/\\_/\\_/\\_/\_/

5.2.6 Could you explain why all MR procedures are not recorded in the logbook?

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5.2.7 Could you estimate how many MR cases develop complications from the procedure in a year? \\_/\\_/\\_/\\_/\_/

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Hospital \_\_\_\_\_

5.2.8 Could you estimate how many MR cases result in deaths in a year? \\_^\\_/

5.2.9 In your opinion, how could MR/induced abortion services be improved in this hospital?

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5.2.10 Would you like to offer any additional comments about abortion or family planning?

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NOTE: Thank the respondent for his/her time.

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Data Collector for Section 5.2  
(please print your name)

**PACKET 5:** City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

### 5.3 Interview with MR/Induced Abortion Clients

Begin the interview with clients with the following introduction:

“My name is \_\_\_\_\_ and I am from \_\_\_\_\_. We are doing a study on abortion, family planning and other areas of concern to women and providers. I would like to talk with you if you are willing. Your responses will help us improve the quality of services for other women who seek family planning or MR services. All of your responses will be kept in the strictest confidence.”

Please ask the client to answer the following questions. The researcher should record responses below:

#### GENERAL

5.3.1 Age: \\_^\\_/\_

5.3.2 Marital Status: \\_/\_ (1=married; 2=single; 3=cohabitating; 4=divorced; 5=widowed; 9=other)

5.3.3 Number of living children: \\_^\\_/\_ [NOTE: Record number of living children or mark “00” if none]

5.3.4 How many living male children do you have? \\_^\\_/\_ [NOTE: Record number of living male children or mark “00” if none]

5.3.5 How many living female children do you have? \\_^\\_/\_ (NOTE: Record number of living female children or mark “00” if none]

#### CLIENT CARE

5.3.6 Could you explain the reason you came to the hospital? \\_/\_ (1=MR/induced abortion procedure; 2=other; 9=don't know/no answer)

5.3.7 If answer is “other” (question 5.3.6 coded “2”), please specify reason mentioned:

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[NOTE: If client answers “other” (answer to question 5.3.6 coded “2”), skip to question 5.3.94]

**PACKET 5:** City, Country \_\_\_\_\_

Hospital \_\_\_\_\_

- 5.3.8 How many hours did you wait from the time you arrived at the hospital until you had your MR? \\_\\_/ (1=0–2 hrs; 2=2–4 hrs; 3=4–6 hrs; 4=6–8 hrs; 5=8–10 hrs; 6=>10 hrs; 9=don't know/no answer)
- 5.3.9 Do you think your waiting time from when you arrived at the hospital until you had your MR was too long, somewhat long or acceptable? \\_\\_/ (1=too long; 2=somewhat long; 3=acceptable; 9=don't know/no opinion)
- 5.3.10 During your visit, did someone from the hospital staff describe the MR procedure you were going to receive? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 5.3.11 During your visit, did someone from the hospital staff ask you for your permission to perform the MR? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 5.3.12 Did you give written consent for the procedure? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 5.3.13 Did you have any pain while you were being treated? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer) **[NOTE: If answer is “no,” skip to question 5.3.16.]**
- 5.3.14 Would you describe the pain you had during the treatment as light pain, moderate pain or severe pain? \\_\\_/ (1=light pain; 2=moderate pain; 3=severe pain; 9=don't know/no opinion)
- 5.3.15 Were you given an injection, pill or IV in order to make the treatment less painful? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 5.3.16 Did the doctor or nurse give you any information about how to take care of yourself once you got home? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)

#### **POSTABORTION FAMILY PLANNING**

- 5.3.17 While you were in the hospital, did someone talk with you about family planning? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer)
- 5.3.18 While you were in the hospital, did anyone make family planning methods available to you or your partner/spouse? \\_\\_/ (1=yes; 2=no; 9=don't know/no answer) **[NOTE: If answer is “no,” skip to question 5.3.23.]**

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Hospital \_\_\_\_\_

5.3.19 Did you or your partner accept a method?  (1=yes; 2=no; 9=don't know/no answer)  
[NOTE: If answer is “no,” skip to question 5.3.24.]

5.3.20 Which method did you accept?  (1=oral contraceptives; 2=condoms; 3=IUD; 4=spermicides; 5=injectables; 6=Norplant implants; 7=female sterilisation; 8=other; 9=don't know/no answer)

5.3.21 Have you or will you receive the method during this visit?  (1=yes; 2=no; 9=don't know/no answer)

5.3.22 Were you instructed on how to use the method?  (1=yes; 2=no; 9=don't know/no answer)  
[NOTE: Skip to question 5.3.25 to continue the interview.]

5.3.23 Would you have liked someone to make family planning methods available to you?  (1=yes; 2=no; 9=don't know/no opinion)

5.3.24 Did anyone give you a referral to another location in order to get a family planning method?  (1=yes; 2=no; 9=don't know/no opinion)

5.3.25 Did anyone tell you where you could get family planning methods or follow-up in your community?  (1=yes; 2=no; 9=don't know/no answer)

5.3.26 Do you think most women who come here for an MR would like to receive family planning information while in the hospital?  (1=yes; 2=no; 9=don't know/no opinion)

5.3.27 Do you think most women who come here for an MR would like to have family planning methods made available to them while in the hospital?  (1=yes; 2=no; 9=don't know/no opinion)

### FAMILY PLANNING HISTORY

5.3.28 Before this pregnancy, have you or your partner/spouse ever used a family planning method?  (1=yes; 2=no; 9=don't know/no opinion) [NOTE: If answer is “no,” skip to question 5.3.50.]

Which methods have you used? [NOTE: Do not read list. Respondent may give more than one answer. If a particular method is mentioned, mark “1” (for yes) in that space; mark “2” for all methods that are *not* mentioned]:

5.3.29 Oral contraceptives  (mentioned? 1=yes; 2=no)

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5.3.30 Condoms \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.31 IUD \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.32 Spermicides \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.33 Injectables \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.34 Norplant implants \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.35 Female sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.36 Male sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.37 Other \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.38 If answer to “Other” is “yes” (question 5.3.37 is coded “1”), please specify the method mentioned:

\_\_\_\_\_

5.3.39 Before this pregnancy, have you ever become pregnant while using a family planning method? \\_\\_/ (1=yes; 2=no; 9= don't know/no opinion) [NOTE: If answer is “no,” skip to question 5.3.50.]

Which method were you using when you became pregnant? [NOTE: Do not read list. Respondent may give more than one answer. If a particular method is mentioned, mark “1” (for yes) in that space; mark “2” for all methods that are not mentioned]:

5.3.40 Oral contraceptives \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.41 Condoms \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.42 IUD \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.43 Spermicides \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.44 Injectables \\_\\_/ (mentioned? 1=yes; 2=no)

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5.3.45 Norplant implants \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.46 Female sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.47 Male sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.48 Other \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.49 If answer to “Other” is “yes” (question 5.3.48 is coded “1”), please specify the method mentioned:

\_\_\_\_\_

5.3.50 Were you using a contraceptive method at the time you became pregnant with this pregnancy? \\_\\_/ (1=yes; 2=no; 9=don't know/no opinion) [NOTE: If answer is “no,” skip to question 5.3.62.]

Which method were you using? [NOTE: Do not read list. Respondent may give more than one answer. If a particular method is mentioned, mark “1” (for yes) in that space; mark “2” for all methods that are *not* mentioned]:

5.3.51 Oral contraceptives \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.52 Condoms \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.53 IUD \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.54 Spermicides \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.55 Injectables \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.56 Norplant implants \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.57 Female sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.58 Male sterilisation \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.59 Other \\_\\_/ (mentioned? 1=yes; 2=no)

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Hospital \_\_\_\_\_

5.3.60 If answer to “Other” is “yes” (question 5.3.59 is coded “1”), please specify the method mentioned:

\_\_\_\_\_

5.3.61 Why do you think you became pregnant, even though you were using a contraceptive method?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**[NOTE: Skip to question 5.3.71 to continue the interview.]**

Why were you not using a family planning method at the time you became pregnant? [NOTE: Do not read list. Respondent can name more than one. If the client names a particular reason, mark a “1” (for yes) in that space; mark a “2” (for no) in all spaces that were *not* mentioned]:

5.3.62 Health concerns / (mentioned? 1=yes; 2=no)

5.3.63 Partner/spouse disapproved / (mentioned? 1=yes; 2=no)

5.3.64 Cost too much / (mentioned? 1=yes; 2=no)

5.3.65 Method hard to obtain/access a problem / (mentioned? 1=yes; 2=no)

5.3.66 Inconvenient to use / (mentioned? 1=yes; 2=no)

5.3.67 Infrequent sex / (mentioned? 1=yes; 2=no)

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5.3.68 Lack of information \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.69 Other \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.70 If answer to “Other” is “yes” (question 5.3.69 is coded “1”), please specify the reason mentioned:

\_\_\_\_\_

### **ACCESS TO SERVICES**

Could you explain your reasons for deciding to have an MR? [NOTE: Do not read list. Respondent can name more than one. If the client names a particular reason, mark a “1” (for yes) in that space; mark a “2” (for no) in all spaces that were *not* mentioned]:

5.3.71 Too many children \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.72 Children too close together \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.73 Economic reasons \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.74 Timing not good \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.75 Unmarried \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.76 Rape/incest \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.77 Foetal deformity \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.78 Physical health of woman \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.79 Mental health of woman \\_\\_/ (mentioned? 1=yes; 2=no)

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5.3.80 Don't know/no opinion \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.81 Other \\_\\_/ (mentioned? 1=yes; 2=no)

5.3.82 If answer to “Other” is “yes” (question 5.3.81 is coded “1”), please specify the reason mentioned:

\_\_\_\_\_

5.3.83 Why did you decide to come to this particular hospital for your MR?

\_\_\_\_\_

\_\_\_\_\_

5.3.84 How did you get to the hospital? \\_\\_/ (1=walked; 2=public transport, e.g., bus; 3=private transport, e.g., car, taxi; 4=bicycle; 5=other; 9=don't know/no answer)

5.3.85 How easy or hard was it to get to the hospital? Was it very hard, somewhat hard, somewhat easy or very easy? \\_\\_/ (1=very hard; 2=somewhat hard; 3=somewhat easy; 4=very easy; 9=don't know/no opinion)

If client answered “1” or “2” (“very hard” or “somewhat hard”) ask to explain: \_\_\_\_\_

\_\_\_\_\_

5.3.86 How many hours did it take you to get to the hospital from your home? \\_\\_/ (1=0–2 hrs; 2=2–4 hrs; 3=4–6 hrs; 4=6–8 hrs; 5=8–10 hrs; 6=>10 hrs; 9=don't know/no answer)

### **QUALITY OF SERVICES**

5.3.87 Who paid for the services you received at this hospital? \\_\\_/ (1=you; 2=spouse/partner; 3=relative; 4=friend; 5=employer; 6=government cost-share; 7=private insurance cost-share; 8=other; 9=don't know/no answer)



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Hospital \_\_\_\_\_

5.3.94 Do you know any friend or relative who has become seriously ill or who has died from an unsafe abortion? \\_ / (1=yes; 2=no; 9=don't know/no answer)

5.3.95 This study is to help improve services to better meet the needs of women. What would you like the doctor and nurses to know about how to make the MR services better?

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Data Collector for Section 5.3  
(please print your name)

## Abortion Policies in Selected ECSA Countries

Country	Grounds on Which Abortion is Permitted							Abortion Rate <sup>1</sup>		Married Women Using Contraception <sup>2</sup>		Total Fertility Rate (births/woman) <sup>4</sup>	Maternal Mortality Rate (per 100,000 births) <sup>5</sup>	
	To save the woman's life	To preserve physical health	To preserve mental health	Rape or incest	Foetal impairment	Economic or social reasons	On request	Year	Rate	Year	Any/modern <sup>3</sup> (%)	1990-1995	Year	Rate
Botswana	X	X	X	X	X	-	-	..	..	1988	33/32	5.1	1980	250
Kenya	X	-	-	-	-	-	-	..	..	1993	33/28	6.3	1977	168
Lesotho	X	-	-	-	-	-	-	..	..	1991/92	23/19 <sup>6</sup>	4.7	1973	1600
Malawi	X	X	-	-	-	-	-	..	..	1992	13/7	7.6	1987	167
Mauritius <sup>7</sup>	-	-	-	-	-	-	-	..	..	1991	75/46 <sup>8</sup>	2.0	1987	99
Namibia	X	X	X	X	X	-	-	..	..	1992	29/26	6.0	..	..
Seychelles	X	X	X	X	X	-	-	1985	13.4	..	..	..	..	..
South Africa	X	X	X	X	X	-	-	..	..	1987/89	50/48 <sup>9</sup>	4.1	1980-82	84
Swaziland	X	X	X	-	-	-	-	..	..	1988	20/17	4.9	1982	120
Tanzania	X	-	-	-	-	-	-	..	..	1991/92	10/7	6.8	1986	342
Uganda	X	X	X	-	-	-	-	..	..	1988/89	5/3	7.3	1984	300
Zambia	X	X	X	-	X	X	-	..	..	1992	15/9	6.3	1983	151
Zimbabwe	X	X	-	X	X	-	-	..	..	1988/89	43/36	5.3	1981	77

Source: World Abortion Policies 1994. United Nations, Department for Economic and Social Information and Policy Analysis, Population Division. March 1994

An X indicates that abortion is permitted.

A hyphen (-) indicates that abortion is not permitted.

Two dots (..) indicate that information or data are not readily available.

<sup>1</sup>Abortions per 1,000 women aged 15-44, unless otherwise indicated

<sup>2</sup>Women aged 15-49, unless otherwise indicated, includes consensual unions

<sup>3</sup>Any method/modern method; modern methods include male and female sterilisation, intrauterine device, the pill, injectables, hormonal contraceptives, condoms and female barrier methods

<sup>4</sup>The total fertility rate (TFR) is the average number of children that would be born alive to a woman during her lifetime if she were to pass through all her childbearing years conforming to the age-specific fertility rates of a given year.

<sup>5</sup>The maternal mortality rate is the number of women who die as a result of childbearing in a given year per 100,000 births in that year. Maternal deaths are those caused by complications of pregnancy and childbirth.

<sup>6</sup>All women aged 15-49

<sup>7</sup>Legal interpretation generally permits abortion to save the life of the mother.

<sup>8</sup>Women aged 15-44

<sup>9</sup>Women under age 50