Reproductive Health Education in the Developing World

Based on the proceedings of the International Council Meeting of The Johns Hopkins Program for International Education in Gynecology and Obstetrics

March 1-3, 1980

Edited by Ronald T. Burkman, M.D.
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Introduction

The International Council Meeting of the Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHPIEGO), held in Nyeri, Kenya, in early March of 1980, provided a stimulating forum to discuss the role of JHPIEGO in promoting better reproductive health and to examine a number of international perspectives for reproductive health education.

JHPIEGO's current goal is the improvement of reproductive health of women and their children in developing countries. The program strives to meet this goal by upgrading the skills and knowledge of obstetrician-gynecologists and other personnel in reproductive health care. Furthermore, JHPIEGO is dedicated to shortening the delay between the research and development of new, proven, relevant technology and the eventual introduction and field use of that technology in developing countries. Through its educational efforts directed at leading professionals, JHPIEGO wishes to heighten the awareness of policy makers, and others who influence change, in regard to reproductive health needs. Also, JHPIEGO strives to institutionalize in teaching centers its educational approaches to reproductive health, so that the maximum number may benefit. In all its efforts, JHPIEGO has tried to be as pragmatic as possible, so that educational objectives can realistically be achieved. Moreover, rather than stress only education directed solely at therapy and curative medicine, JHPIEGO has emphasized in all its programs the importance of preventive medicine in promoting health and preventing disease.

This booklet will review briefly some of the accomplishments of the JHPIEGO program and then will feature synopses of the papers presented and discussions held at the International Council Meeting. As the JHPIEGO program enters the decade of the 1980s, it is hoped that the material presented at this conference will stimulate further discussion and suggest other educational approaches to improving reproductive health.

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Program of International Council Meeting

Nyeri, Kenya

MARCH 1, 1980

7:00 p.m. Dinner Meeting—Opening Session of International Council Meeting

OPENING REMARKS—Dr. Theodore M. King
Dr. J. K. G. Mati

SPEAKER: Dr. Theodore M. King
The Role of the JHPIEGO International Council

MARCH 2, 1980

10:00 a.m. MORNING SESSION

Goals and Objectives of Meeting—Dr. Theodore M. King

Review of JHPIEGO Programs—Dr. Ronald T. Burkman

DISCUSSION—All Participants

Review of Study Committee Assignments—Dr. Theodore M. King

a. Priorities of Reproductive Health with Particular Reference to Africa
b. Technology in Reproductive Health Training Programs and Review of Results of Equipment Conference and African Regional Consultants' Meeting
c. Strategies for Implementing Change in Health Care Education and Delivery

1:00 p.m. AFTERNOON SESSION—International Perspective for Reproductive Health

Reproductive Health Priorities in Africa: One View—Dr. J. K. G. Mati

The Role of Surgical Training in Reproductive Health—Dr. M. F. Fathalla

Important Factors in Planning Training Programs Targeted for Rural Areas—Dr. Suporn Koetsawang

Service Delivery to Rural Areas—Dr. Virgilio Oblepias

Factors Which Assist Voluntary Agencies in Integrating Training Programs with Government-Sponsored Programs—Dr. Fernando Tamayo

DISCUSSION—All Participants

STUDY COMMITTEE MEETINGS—All Participants

8:30 p.m. STUDY COMMITTEE MEETINGS—All Participants

MARCH 3, 1980

8:30 a.m. Review of JHPIEGO Films and Other Audio-Visual Material

9:30 a.m. MORNING SESSION—International Perspectives for Reproductive Health

Organization of Government-Sponsored Family Planning Programs—Dr. Jorge Martinez-Manautou

The Voluntary Agency as a Factor of Change in Family Planning Attitudes—Dr. Helio Aguinaga

Reproductive Health Priorities in Africa: One View—Dr. O. A. Ladipo

Integration of Physicians and Nurses in Reproductive Health Training Programs—Dr. Tahar Alaoui

The Role of Primary Health Care Practitioners in Reproductive Health—Dr. T. D. Jain

DISCUSSION—All Participants

FORMULATION OF STUDY COMMITTEE RECOMMENDATIONS—All Participants

1:30 p.m. AFTERNOON SESSION

RECOMMENDATIONS OF STUDY COMMITTEES—All Participants

DISCUSSION AND CLOSING—All Participants

A Review of JHPIEGO Programs

Ronald T. Burkman, M.D.
Ronald H. Magarick, Ph.D.

The Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHPIEGO), located adjacent to the Johns Hopkins University School of Medicine and Hospital, in Baltimore, is a program which has been in existence for the past five years and is funded primarily by the Agency for International Development, the United Nations Fund for Population Activities, and private foundation grants. JHPIEGO is about reproductive health—improving the health and well-being of mothers and children—and is meeting this international need through medical education. JHPIEGO's objective is to make available to medical schools in the developing world, well-demonstrated reproductive health technologies as they evolve. This objective is met by offering training programs in reproductive health to physicians and allied health personnel in developing countries. They, in turn, can initiate and improve programs for reproductive health in their own countries.

A second program objective is to develop a number of increasingly independent, educational training centers, strategically located in developing countries, in order to increase the number of both professional and non-professional trainees capable of improving family health in their countries.

JHPIEGO training programs are offered at the Johns Hopkins University and at institutions overseas. The programs offered at Johns Hopkins include:

1. Advances in Reproductive Health,
2. Advances in Reproductive Health for Administrators of Programs of Family Health and Family Planning,
3. Management of the Infertile Couple,

4. Academic Skills for Medical School Faculty in Reproductive Health, and
5. Microsurgery.

The objectives of these programs are:

1. Improvement in the care of pregnant women by emphasizing programs to decrease the occurence of both maternal and fetal mortalities, and to assure the birth of healthy children,
2. Identification and management of the causes of infertility, and
3. The understanding and promotion of the use of effective contraception.

The JHPIEGO courses for physicians are designed to improve reproductive and family health. Major clinical problems which affect reproductive health are reviewed, and current, recommended management is emphasized. In addition, for selected individuals who have attended these two-week courses, demonstrations and instruction in pelvic laparoscopy and other techniques relating to the management of human fertility may be arranged in a JHPIEGO clinical practice center in the physician's home country or at a cooperative training center in another country. More than twenty-five JHPIEGO clinical practice centers are now located in ten countries around the world, including the Philippines, Korea, Nigeria, Tunisia, and Colombia. At all clinical practice institutions, JHPIEGO physicians supervise training and/or serve as consultants. In accepting candidates for a physicians' course, JHPIEGO gives preference to physicians specializing in gynecology and obstetrics who currently have teaching positions in medical schools or teaching hospitals which conduct programs of education and training for medical students and graduate physicians.

Since infertility is a major problem in much of the developing world, JHPIEGO has recently added to its regular offerings a course entitled, "The Management of the Infertile Couple," as well as a course on microsurgery. The course on infertility includes a review of recent research and technology pertaining to the management of the infertile couple. It provides an opportunity to view in the operating room practical demonstrations of methods of diagnosis and medical and surgical management of the infertile couple.

In its clinical training programs, JHPIEGO attaches considerable importance to laparoscopic training. After all, if one were to review the changes in obstetrics and gynecology during the past ten or fifteen years, the introduction of laparoscopy would probably be ranked as one of the most important advances. For this reason,

specialists throughout the world have become trained or have requested training in this particular technique. For physicians from the developing world who wish to remain both literally and figuratively at the cutting edge of their profession, laparoscopy provides a new and revolutionary diagnostic tool for viewing reproductive organs, as well as a therapeutic and surgical instrument for tubal ligations. The laparoscope can be used to diagnose infertility, ovarian masses, ectopic pregnancies, and other gynecologic disorders. The use of such an instrument or technique in an educational program for reproductive health provides a necessary balance between material dealing with fertility management and material dealing with maternal/child health and gynecology. Few medical teaching institutions can ignore the potential of this instrument and its significant role in promoting reproductive health.

JHPIEGO will provide laparoscopic equipment to institutions of successful course graduates. Wherever JHPIEGO distributes medical equipment to institutions, equipment maintenance must be considered. That, too, is part of the JHPIEGO program: training is provided to maintenance technicians from those institutions, and in-country maintenance centers are developed.

The JHPIEGO course for administrators is offered for a period of three weeks. This course is primarily for applicants having a background in obstetrics and gynecology or pediatrics who serve as administrators in either a hospital, public health facility, or a governmental Ministry of Health. Emphasized in this program is the importance of integrating family planning and other reproductive health services into programs for maternal and child health.

Another course to be offered by JHPIEGO in the very near future is entitled, "Academic Skills for Medical School Faculty in Reproductive Health." The proposed course will have three components: refresher seminars in reproductive health and medicine (to insure a common information base among trainees), a section dealing with research skills needed by medical investigators for clinical studies, and lectures in teaching skills for medical school faculty.

The overall goal of the program, then, is to provide young obstetrician-gynecologists with the skills and attitudes necessary to enable them to function effectively in their academic role as investigators and teaching members of a medical school faculty. Course participants will be physicians who have been a member of the faculty for less than five years.

JHPIEGO provides travel, per diem, and tuition costs to those attending its programs. Moreover, the clinicians' and administrators' courses are offered in four languages: Spanish, French, Portuguese, and English.

TABLE 1

JHPIEGO IN-COUNTRY EDUCATIONAL PROGRAMS

Country	Project Title	Institution
AFRICA		
Kenya	Human Reproduction Training Center	University of Nairobi/Kenyatta National Hospital
Morocco	Moroccan National Educational Program in Reproductive Health, Endoscopy, and Laparoscopy	Family Planning Division of Ministry of Health
Nigeria	Endoscopic Training Project	University of Ibadan
Tunisia	Tunisian National Educational Program	El Ariana Research and Training Center
ASIA		
Bangladesh	Bangladesh Endoscopy Training Program	Ministry of Health
Egypt	Human Reproduction Training Center	Dept. of Ob/Gyn. Shatby University Hospital, Alexandria University
Egypt	Reproductive Health Training Center	International Islamic Center for Population Studies and Research/Al Azhar University
India	Indian Endoscopy Training Program	Ministry of Health

Indonesia	Indonesian Paramedic Training Program	University of Indonesia
Malaysia	Malaysian Reproductive Health And Endoscopic Training Program	National Family Planning Board/Government of Malaysia
Pakistan	Pakistan National Endoscopy, Surgical Contraception, and Reproductive Health Educational Program	Ministry of Health
Philippines	Philippines Endoscopy Training Program	Mary Johnston Hospital
Sri Lanka	Sri Lanka National Endoscopy Educational Program	University of Sri Lanka, Colombo Campus
Sudan	Continuing Education in Reproductive Health for Rural Medical Officers	Ministry of Health
Thailand	Thailand National Endoscopic Research Program	Ministry of Public Health
Turkey	Turkish National Reproductive Health Program for Obstetrician Gynecologists	Ministry of Health
LATIN AMERICA		
Brazil	Santa Maria Reproductive Health Training Program	University of Santa Maria Hospital
Brazil	Brazilian Family Planning Training and Development Center Agreement	CPAIMC
Colombia	Colombia National Endoscopy and Pelvic Surgical Techniques	Ministry of Health

Over the last year, JHPIEGO's primary focus has shifted from that of bringing trainees to the United States for courses to increasing the number of independent, in-country training centers at major teaching centers and hospitals around the world. These centers are staffed primarily by JHPIEGO-trained personnel. During the past year, a major educational program was started in Tunisia for the training of physicians from Tunisia and other francophone African countries. Furthermore, centers have been started or proposals developed *(Table 1)* for institutions in Bangladesh, Egypt, India, Kenya, Morocco, Nigeria, Pakistan, the Philippines, Sri Lanka, Sudan, and Turkey, to name but a few.

The program strategy is slightly different in each country where JHPIEGO is asked to work, but it usually encompasses training physicians in endoscopy and development of endoscopic training centers, the development of courses in reproductive health for undergraduate medical students or postgraduates, and instruction in training paramedical personnel to assist physicians in endoscopy.

Other types of assistance provided by JHPIEGO include the provision of:

(1) Authoritative speakers for educational programs,
(2) Consultant services for the development of educational conferences or clinical services, and
(3) Educational materials, including books, pamphlets, and films.

Recently, JHPIEGO has assumed responsibility for the distribution of the *Manual of Human Reproduction*, edited by Dr. Howard Taylor. The *Manual* is distributed as part of JHPIEGO educational packages to professors and medical schools around the world. A revision of the *Manual* is now under consideration. To facilitate the mutual exchange of information and ideas among JHPIEGO graduates and friends, the JHPIEGO *Newsletter* is published quarterly.

Let us review the accomplishments of the program. As of September 30, 1979, more than 1800 physicians had been trained in JHPIEGO courses at U.S. and overseas centers. Additionally, 207 administrators and 137 nurses had been trained in programs. The trainees have come from 90 countries, and represent more than 992 institutions. To provide support for the institutions of its graduates, JHPIEGO has shipped more than 650 laparoscopes and Laprocators.[6] These are now located in approximately 354 institutions in 70 countries.

In conclusion, it is JHPIEGO's objective to make available in

developing countries, well-demonstrated reproductive health technologies as they evolve, in order to help women have the healthy children they desire and complete the reproductive phase of their lives as healthy mothers, able to care for their family. This is what reproductive health and JHPIEGO are all about.

Priorities in Reproductive Health in Africa: One View

Dr. J. K. G. Mati

Today, I would like to discuss with you the factors contributing to the overall status of reproductive health in Africa, with particular reference to Kenya and our experience at Kenyatta National Hospital.

I. *General Education and Socioeconomic Development*

Factors contributing to high maternal and perinatal mortality in Africa are not due wholly to inadequate medical care. The low level of general education and socioeconomic status of the majority of the people can be shown to contribute in a large measure to this mortality.

A. *Education*

The spread of health education is hampered severely by illiteracy and inadequate communication facilities. Illiteracy makes it difficult to use pamphlets to promote health education. Radio broadcasts in the vernacular language can overcome this problem, but not every family has access to a radio. The level of illiteracy in Kenya is estimated at 25%. It will require a concerted educational effort, if illiteracy is to be eradicated in Kenya by the year 1983 (Development Plan 1979-1983).

Health education needs to be directed not only toward the importance of disease prevention, but also toward the full utilization of available health services. The latter aspect is very important. It has been shown in Kenya, for example, that a large number of women with obstetric urinary fistulae resided very close to health facilities, yet did not present

there until their life was threatened (Gunaratne, 1980). These attitudes are linked with traditions and culture, and changing them requires more than a purely medical approach.

B. *Socioeconomic Development*

An analysis of the emergency referrals to Kenyatta National Hospital shows that inadequate communication is an important cause of maternal and perinatal mortality. The problem may be between the patient's home and local health center, the health center and district hospital, or the district hospital and Kenyatta National Hospital. Lack of bus fare, roads impassable during rains, lack of an ambulance or petrol for the ambulance are all factors. Caesarean sections cannot be done because there is no electricity or water, or perhaps the only anesthetist is down with malaria. Inadequate supplies of essential materials hamper prompt management of medical emergencies.

II. *Inadequately Trained Personnel*

It is estimated that only 10% to 15% of Kenyan women are delivered by a modern-trained health worker. With the population trend shown in the recent census, it is unlikely that this proportion will improve during this century. Inequitable distribution of trained personnel makes the problem worse. The city of Nairobi has a doctor-to-population ratio as good as any developed country, but in the rural areas the ratio is approximately 1:50,000, or worse. The same pattern is repeated where nursing staff is concerned.

One way of increasing trained personnel is to increase the enrollment of students in medical schools and schools of nursing. This needs to be done very carefully, if standards are to be maintained. The opening of new universities may be hindered by an inadequate supply of teachers or suitable clinical facilities. It should be mentioned in this connection that our collaboration with JHPIEGO is proving to be an important tool in the realization of that goal, insofar as obstetrics and gynecology are concerned.

The majority of Kenyan mothers are under the care of traditional birth attendants (TBAs). It is interesting to note that several voluntary organizations in Kenya are interested in this category of health worker, and a number of training courses have been already mounted in various parts of the country. That is a good sign, but there is a need to coordinate these activities, including a common curriculum. This may mean the establishment of a workshop involving individuals from those

countries of the world where retraining of TBAs has been attempted.

III. *Special Obstetric Problems*

A. *Cephalopelvic disproportion* is the commonest cause of emergency admission at Kenyatta National Hospital and the leading indication for Caesarean section. The problem is more acute in the Central provinces and parts of the Eastern provinces of Kenya, where contracted pelvis is common. From these same provinces come the majority of cases with vesicovaginal fistula (VVF). It has been shown that the average obstetric conjugate in women with VVF at Kenyatta National Hospital is less than 9 cm (Gebbie, 1974).

Therefore, it must be recognized that facilities for delivery care, including Caesarean section, are a priority in this area. Antenatal care by itself is not enough—perhaps the only case in which the adage "prevention is better than cure" is not fully correct.

B. *High parity* is very common, and because of our booking policy at Kenyatta National Hospital, nearly 50% of the obstetric patients are Para 5 and above. They contribute significantly to cases involving complications like postpartum hemorrhage, malpresentation, ruptured uterus, and severe hypertension. Postpartum tubal ligation is offered to all these patients, and acceptance is of the order of 30%.

Contraceptive use is very low in this group of patients because of either conservatism or inadequate education. This is the group to whom we offer Depo-Provera as an alternative to sterilization.

C. *Anemia* is another important complication of pregnancy. While iron deficiency is encountered frequently, it is not responsible for severe anemia. Hemolytic anemia is a complication of malaria and causes sudden onset of severe anemia, which may lead to death if not corrected promptly (Mati, *et al.*, 1971). In patients with self-limiting hemolytic crisis, a secondary megaloblastic picture results. This type of anemia is encountered in 45% of the cases of anemia seen at Kenyatta National Hospital. Prophylactic anti-malarials and the use of folic acid can prevent this type of anemia.

D. *Prematurity*—Pre-term deliveries account for 25% of the perinatal mortality at Kenyatta National Hospital and overburden the limited facilities for neonatal care. Analysis of the cases admitted with premature labor or delivery has

not pinpointed any particular cause, apart from the lack of antenatal care and premature rupture of membranes.

E. *Hypertensive disease in pregnancy* affects 9% of the patients at Kenyatta National Hospital. There is evidence to suggest that the majority of the cases have a background of renal disease (Mati, 1975). Their young age corresponds to the age groups being treated in the medical wards for renal disease. The disease is fulminating and occurs earlier than straightforward pre-eclampsia. The fetal loss is approximately 100% in cases where proteinuric hypertension starts before 30 weeks of gestation. The role that parasitic disease (e.g., malaria, schistosomiasis) may play in this syndrome is currently being investigated.

IV. *Special Gynecologic Problems*

A. *Abortion*—Termination of pregnancy in Kenya is permitted only on medical grounds where the health of the mother is deemed to be at greater danger if the pregnancy continues than if it is terminated. This is the case in most African countries except Zambia and Tunisia, where abortion has been legalized. As a result of these strict laws, septic abortion assumes great importance and is the leading cause of maternal mortality at Kenyatta National Hospital. Approximately 4,000 abortions are admitted annually in one gynecology ward of that hospital; 16% of them are septic. It is estimated that 25% of all the abortions admitted have been induced. Abortions contribute in a significant way to the overcrowding and overburdening of available operating theater facilities.

B. *Pelvic Inflammatory Disease* is the second most common indication for emergency admission at Kenyatta National Hospital. While post-abortal and puerperal sepsis are responsible for some of the cases, infection with N. Gonorrhoeae is thought to be the most important cause of acute and subacute PID. It was shown, for example, that of the cases admitted with acute PID, positive cultures for N. Gonorrhoeae were obtained in 56% (Carty, *et. al.*, 1972). Tuberculosis is estimated to occur in 2% to 5% of the cases. The role played by organisms like chlamydia has not been investigated in Kenya.

An important sequela of PID encountered is *ectopic pregnancy*. Ectopics are admitted at an average of 5 per week, the majority of them in the acute rupture stage. The slow-leaking ectopic can present diagnostic problems, and the use of laparoscopy is encouraged in these cases.

Although in the last five years there has been no mortality associated with ectopic pregnancy at Kenyatta National Hospital, it is likely that this condition does contribute significantly to maternal mortality in the rural areas, where medical facilities for diagnosis, surgery, and blood transfusion are inadequate or nonexistent.

C. *Infertility*

Two-thirds of the gynecology consultations at Kenyatta National Hospital and, indeed, in most large centers in sub-Saharan Africa, are due to infertility. The most important finding in the female is tubal damage, seen in 60% to 70% of the cases (Mati, *et. al.*, 1973; Walton and Mati, 1976). This makes male factor problems relatively unimportant as a cause of infertility. In a recent study of 390 couples jointly evaluated at Kenyatta National Hospital, the male factor as the sole contributor to infertility was found to exist in 18% of the couples (Matthew and Mati, 1979).

D. *Vesicovaginal and Rectovaginal Fistulae*—Repair of these problems is an important part of gynecological surgery in sub-Saharan Africa. As shown by Gunaratne and Mati in 1980, the majority of these follow obstetric trauma, a sequela of cephalopelvic disproportion. Even though the successful repair rate at Kenyatta National Hospital is about 60%, some of the patients still end up with urinary diversions. It is a pity that so much money, in terms of hospital beds, theater time, and man-hours, is spent on a single, preventable condition. The large pool of untreated cases will remain a surgical problem long after new cases have ceased to occur.

E. *Gynecological Malignancies*—Three of the most important tumors (excluding breast) seen at Kenyatta National Hospital are carcinonoma of the cervix, ovarian tumors, and choriocarcinoma. Cancer of the cervix is by far the most common and presents at late stages, where the mortality is high. Suggestions have been discussed for a multidisciplinary approach in tackling this problem in Africa. Ovarian cancers occur less frequently, but because of the absence of symptoms or indifference on the part of the patients, they are discovered in a stage beyond surgical treatment. The occasional lack of chemotherapeutic drugs means that the majority of these patients are doomed to die within a few years.

Choriocarcinoma, as seen at Kenyatta National Hospi-

tal, has been discussed by Makokha in 1980. The fact that so few cases seem to be preceded by hydatidiform mole suggests either misdiagnosis of moles or a different expression of the disease, as it is seen in East Africa. Establishment of HCG radioimmunoassay at Kenyatta National Hospital will soon remove the difficulties currently experienced in monitoring treatment of these patients. There is obviously a need to study the prevalence of hydatidiform mole in the community.

V. *Family Planning: A drop in acceptance rates*

The 1979 census and the Kenya Fertility Survey (part of the World Fertility Survey) have revealed that the activities of the National MCH/FP Programme have not succeeded since the Programme's inception in 1969 in slowing the rate of population growth. Since that time, our population has increased by 50%. The estimated fertility rate (mean number of children ever born to women in the 15–49 year age group) increased from 6.69 in 1969 to 7.88 in 1978. At the same time, the acceptance rate of family planning dropped. The reasons behind this negative trend, after so much money has been spent on the exercise, are numerous and cannot be attributed to medical people alone. Some possible factors include a general lack of motivation due to underlying tribal or sociological beliefs, inefficient supply systems, and lack of sufficient emphasis on family planning within the maternal and child health network. It can be said, however, that during the last decade there has been created an MCH infrastructure within which an active family planning program can now be based. A most significant factor is that before 1979, there was no political support for family planning activities in Kenya. In any event, there is need to re-examine the social, cultural, educational, and other foundations on which Kenya's family planning activities are based.

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Reproductive Health Priorities in Africa: One View

Dr. O. A. Ladipo

The main theme of this meeting, an international perspective on reproductive health education, stemmed from the belief that the informed and extensive exchange of ideas is a *sine qua non* in the evolution of effective national and international health plans, particularly for developing countries. JHPIEGO can rightfully claim credit for organizing a meeting of leaders who are actively involved in the health industry, to examine the critical issues related to reproductive health.

Reproductive health can be described in simple terms as parents' ability to produce progeny who will develop into physically, mentally, and socially normal individuals who are likely to repeat their parents' experience in the process of further procreation. Optimal genetic background and favorable environment are prerequisites of reproductive health, a concept which has been appreciated since the early days of mankind. In discussing reproductive health in Africa, one should visualize a continuum, with excessively high fertility at one end and low fertility at the other end. In the African culture, childbearing and parenthood provide psychological, emotional, and economic benefit. However, the crippling, morbid conditions that affect reproductive health, such as infections or malignancies, need to be considered, too.

Most of the African countries are not in a crisis posture, but rather in a preventive posture, in terms of population density. We recognize the implication, however, that at some point in time the population of certain countries could reach crisis levels, due to low socioeconomic levels and unchecked population growth. Such crises will inevitably affect the quality of life, with the ultimate result a

perpetually low standard of living. The rapid rate of population growth is recognized increasingly as a factor affecting health, nutrition, food supply, housing, employment, and the entire process of economic and social development. In most African countries, the food available to the population is inadequate, in terms of the quantity and quality required for a healthy and active life. The effect of this subnutritional state can lead to poor mental and physical growth of infants, as well as poor health of children and adults. We are equally aware of the effect of rapid population growth in our urban areas, where congestion is causing problems in transportation, refuse disposal, sanitation, water supply, and housing. The consequence is a deterioration in the standard of health. Ignorance, poor medical services, and poor communication, too, have led to almost insurmountable health problems. Common intercurrent infections, malnutrition, parasitic infestation, and limited maternal and child care services are only a few of the factors which can affect the reproductive potential of the individual. Such sociocultural practices as early marriage, traditional methods of delivery, and polygamy are some of the variables that can enhance or reduce fertility.

At this point, a brief inventory of some of the data available will enable us to appreciate the magnitude of the problems related to reproduction in Africa. Of the total land surface area of the world, Africa represents 22.3%, with a conservative population estimate of 412 million people in mid-1976. This figure represents 10.2% of the total world population. Estimates made by the United Nations indicate that population growth in Africa during the next decade will be the highest of all regions of the world. Although there is a relatively low density of population in Africa, one should take cognizance of the total versus arable land area, as this is a good index of the pressure of population on land. Approximately 29.2% of the population of Africa is in West Africa, but this subregion has only a quarter of the total land area. East Africa, with an area slightly smaller than Central Africa, has almost double its population. Of interest is that Nigeria alone has almost one sixth (15.7%) of Africa's population, and both Nigeria and Egypt form one quarter (25%) of the population, although their combined area covers less than 20% of the continent. The smallest independent country in Africa, in terms of population, is Seychelles (60,000 people). Other independent countries with less than one million inhabitants are Djibouti (110,000), Guinea-Bissau (530,000), and Gabon (500,000). In 1975, the most densely populated subregions were in the East and in the West: Rwanda, with 162 persons per square kilometer (sq. km.), Burundi, 134 persons per sq. km., and Nigeria, 68 persons per sq. km.

Some countries, however, have low populations, i.e., those lo-

cated in desert regions or uninhabitable areas, like Djibouti and Somalia in East Africa, the Central African Empire, Congo, Gabon, and Angola. In some of these regions, the reason for low population is not clear, but current studies are yielding useful information regarding the possible causes of subfertility.

The birth rate in Africa also is of interest. While it is lowest in Gabon (28 births per 1,000 population), it is highest in Niger (51.7 births per 1,000 population). On the average, however, the crude birth rate is about 42–51 births per 1,000 population. West African countries have the highest fertility rate of the subregions. The crude death rate ranges from 13 deaths per 1,000 population in Egypt, Tunisia, and Southern Rhodesia to 25 deaths per 1,000 population in Upper Volta. Infant mortality is high, too, with about 45% of the countries having an infant mortality rate of 150-plus deaths per 1,000 live births. The average life expectancy is generally poor, ranging from 38 years in Ethiopia and 45 years in Nigeria to 54-plus years in Libya and Tunisia. For Africa as a whole, the crude death rate has been estimated by the United Nations at 18 deaths per 1,000 population during 1975–1980, with the implied expectation of life at birth being about 47 years.

The inventory set forth above reveals that while some regions are highly fecund, others are indeed reproducing below the expected standard. Reproductive health education programs should therefore consider providing information and services that would help patients in any of these areas.

Adolescent Fertility

The concept of adolescence as a time of gradual transition from childhood to adulthood is a relatively new one, particularly in developing countries. Changing social behavior and early sexual contacts due to urban life styles result in more problems related to adolescent sexuality. Unwanted pregnancy in this group often results in illegal abortion, in spite of its potential for immediate or long-term risks to the individual's health. Early childbirth, regardless of marital status, is dangerous for adolescents and their infants. It is a recognized fact that pregnancy at either extreme of the reproductive years increases the risk of maternal mortality. The medical complications of adolescent pregnancy include first and/or third trimester bleeding, severe anemia, complications of labor, including prolonged and obstructed labor, and toxemia of pregnancy. Intercourse and pregnancy at very young ages have also been associated with increased risk of cervical cancer, although there may be other factors involved,

such as multiple sexual partners, venereal viral infections, and socioeconomic status. The infants of adolescents tend to have a higher mortality rate, which may be related to higher incidence of prematurity and low birth weight. The latter is also associated, in children of adolescent mothers, with congenital defects and mental and physical handicaps, such as epilepsy, cerebral palsy, and mental retardation. Therefore, postponing the first confinement until age twenty or more would probably reduce maternal and infant mortality and morbidity, especially for developing areas which lack adequate medical facilities for antenatal care.

Demographically, delaying the onset of childbearing beyond age 20 could significantly reduce undesirable population growth by lengthening the period between generations and decreasing cumulative fertility through a shortened reproductive period. Early marriage implies that the individual is likely to be grandmultipara well before she is 25 to 30 years of age; this has profound psychological, medical, obstetrical, and gynecological sequelae. Currently, family planning in developing countries is geared toward older couples. It should be borne in mind, however, that a large proportion of fertile females are in the adolescent age group. Given changing sexual behaviors and the increasing number of unwanted pregnancies that are invariably terminated, there is a need to promote active fertility control services for adolescents, and education aimed at delaying first births and encouraging contraceptive practices. The latter would also enable young girls and women to avoid unwanted, premature pregnancies which might force them to leave school or employment.

In view of the above sequelae of adolescent pregnancy, it is advocated that reproductive health education should be integrated into our educational programs. This will encourage the development of responsible attitudes toward sexual behavior and strengthen motivation toward the use of contraception.

The Adult African Woman

The adult African female has not been deliberately ignored in this presentation. It is pertinent to say, however, that because of the traditional cultural, economic, and emotional conception of a large family, these women are rather resistant to accepting contraception. Efforts should be made to educate the adults, and in particular, the community leaders. In community health care, we know that in Nigeria and most other African countries, children under the age of 15 years and mothers, i.e., women between the age of 15 and 49 years, make up 60% of our population. The problems of mothers

and children are those of the population as a whole, and stem from the environment in which they live. Therefore, priorities in our national health services must be given to these vulnerable groups.

Positive action by individuals, communities, and governmental and voluntary agencies is essential for the attainment of the goal of optimal reproductive health.

IMPROVEMENT OF GENERAL HEALTH

Although it is widely accepted that the health services of developing countries should place particular emphasis on preventive medicine, the health programs of many of the African countries do not reflect this view. This situation arises from conceptual difficulties, inadequate information systems, and organizational, administrative, technical, and scientific problems. To close this gap, some national governments have committed themselves to the integrated development of services and personnel. The basic health services of Nigeria are planned to integrate family health services and primary health care into the general health services. The need to expand childhood immunization programs is currently of interest to most health planners. Ultimately, positive measures designed to improve the quality of health will result in a corresponding improvement in the quality of life and an increased life expectancy.

REPRODUCTIVE HEALTH EDUCATION

Providing the public with adequate information regarding reproductive health education is of great importance. Also of importance is research into the local factors which are known to affect the reproductive potential of a community. Preconceptional promotion of good reproductive health should be another goal, because it would be effective in the primary prevention of reproductive failures. Education emphasizing antenatal, intrapartum, and postpartum care for pregnant mothers should be mandatory. The need for integrating the traditional birth attendants into the present health scheme is urgent, since TBAs are responsible for a considerable number of deliveries in the rural areas. Breastfeeding should be encouraged, not only from the nutritional aspect for the neonate, but also because of the associated lactational amenorrhea, which is effective as traditional contraception. The adolescent should be educated about optimal age for reproduction, rationale for family spacing, and health value of adequate contraception to prevent unwanted

children. Genetic counseling, too, for those with abnormal hemoglobin genotypes, will help to reduce morbidity and mortality in this group of patients.

TRAINING OF HEALTH PERSONNEL

Without the manpower to implement these health reforms, the ultimate goal of optimal reproductive health cannot be achieved. Therefore, each country should not only invest in curative medicine, but also should develop in-country training programs for physicians, nurses, paramedics, and community health workers. Efforts in a long range approach should be focused on training personnel who are adequate in number, type, quality, and experience. Such rapid development of manpower to provide total health care to patients, especially those in rural areas, requires the commitment of a considerable portion of a national budget. This is an expense which most African countries, including Nigeria, cannot fully afford. Nevertheless, if supplemented by generous grants from the developed countries, the resources that are available could be utilized to enhance the process of economic and social change. Such change would not only reduce population growth in the long run, but also solve most of the particular problems associated with the process of reproduction.

Educational goals may be achieved by offering accelerated training programs or periodic, massive crash programs for trained personnel, especially those who will work in the rural areas. Such personnel should be judiciously deployed and sufficiently motivated. To that end, the government should make an effort to provide these persons with an adequate and healthy working environment.

SOCIAL LEGISLATION

Governments and various nongovernmental agencies should provide support for family planning information and services, as well as for the preventive aspects of reproductive failure. Social legislation relating to maternal and child health will undoubtedly promote better reproductive health. If liberalized, laws and legislation on the use of contraception and abortion would lead to a healthier attitude by society toward reproduction. Programs should be developed that would care for high-risk mothers and provide pregnant mothers with the leave and economic benefits they need.

CONCLUSION

Rapid and unplanned population growth is creating an unprecedented challenge to all humanity. This growth has resulted in corresponding demands for more effective population and family planning programs. Recently, some developing countries have pursued increasingly innovative approaches in this regard. Such approaches include the utilization of community leaders and traditional birth attendants to develop and implement low-cost community-based distribution of family planning and maternal and child care services. In light of the ultimate goal of improved reproductive health, these are proving to be effective models for reaching the masses in rural areas.

The Role of Surgical Training in Reproductive Health Programs

Dr. Mahmoud Fathalla

Ladies and gentlemen, it is a pleasure and an honor to be asked to participate in this International Council of JHPIEGO.

It would be too easy in this conference to stress only the technical aspects of training or equipment, and to forget what our work is really all about. Our goal is reproductive health, and equipment and training are only means to an end, not ends in themselves. I would like to put this subject in its proper perspective, so, first, I will review briefly with you the status of reproductive health in our world today.

Let us consider what the world's "table of accounts" for human reproduction shows for the last 24 hours. In the past 24 hours, one million human conceptions occurred. During these same 24 hours, half a million previous conceptions ended unsuccessfully, terminating spontaneously in abortion, miscarriage, or stillbirth. The table of accounts also records that during this day, 150,000 couples ended their undesired conception by induced abortion, while 350,000 conceptions ended today in a live birth. Of these live births, one-half were not wanted or not planned (that is, did not occur at the optimal time). Almost 20% of the live births occurred to women below the age of 20 or over the age of 35.

What is the message of these figures? They indicate that much of human reproduction is wastage. Almost one-half of all conceptions prove unsuccessful. Of the remaining half, one-third are not wanted and are ended by induced abortion, and another third are unwanted but carried to term. Only one-sixth of all the conceptions, therefore, end in a wanted child. Human over-reproduction apparently occurs in order to compensate for this reproductive wastage.

Let us study further the table of accounts and see what is forecast for the 350,000 infants born in the world today. Almost 15% are premature or immature, and have little chance for survival or normal growth. Ten percent or more of the children born today will not see their first birthday. Another 15% will not reach adulthood. About 5% have some major congenital abnormality or defect which may hinder development or require sophisticated care. About 3% are born with some degree of mental retardation which will probably last throughout their lives. Thus would that table account for almost 50% of the births today—all additions to the wastage of human reproduction.

By turning to the next page of the table of accounts, we will see what it says about mothers. Today, at least 500 women were reported killed in the process of reproduction. They were killed before the termination of gestation, during parturition or after. But that is only the tip of the iceberg. No fewer than 75,000 women today have been affected with some serious illness, such as a complication of pregnancy or childbirth, and a large number have started to suffer from some chronic condition—malnutrition, infection, anemia—which may have a long-term, debilitating effect on their lives.

What is the message? Procreating may be fun, but it is not without danger. Of all the human sports, sex is one of the most hazardous, and of the conditions that are sexually transmitted, probably conception is the most dangerous. So, the two lessons that we learn from reading the world's table of accounts for today are first, that much of human reproduction is wastage, and second, that human reproduction is not without serious hazards. What can we members of the medical profession, do about this?

Surely, we cannot do everything, for two main reasons. The first is our ignorance: we simply do not know enough about the processes of human reproduction. Second, much of what is needed is closely related to socioeconomic conditions over which we have no control. Nevertheless, there is a great deal we can do. Improving the quality and availability of medical care will certainly promote good reproductive health. We have learned the lesson, however, that curative medicine, however important it may be, is not the most cost-effective method for improving health. Preventive medicine is more effective, and this applies as much to reproductive health as it does elsewhere. Of the preventive measures that come to mind, fertility regulation is a most effective and efficient means for improving reproductive health. The ability of men and women to determine when and whether they will have children is a most important factor in promoting reproductive health. We all have known this to be true in our practice, and it is now documented in several studies, including a

major study conducted in ten countries of Latin America, Asia, and Africa by the World Health Organization (WHO, 1976).[1] That study deals with the relationship between family formation patterns and family health. The researchers investigated the effect of certain factors, such as the age of mothers, the spacing of children, and birth order, on outcomes such as pregnancy wastage and fetal mortality, maternal morbidity and mortality, and the physical and intellectual development of the child. The study has documented that family formation patterns are a definite factor in family health, and influencing that pattern is the most cost-effective means of improving the reproductive health of our people.

Where does surgery fit into reproductive health? Surgery has become the number one fertility control method in the world today. I do not need to go into the advantages of surgical contraception over other means of fertility control, because that battle has already been won. The people have made their choice, and whether they live in a skyscraper in New York or in a cottage in a remote area of Asia, more people have chosen surgical contraception for fertility control than any other method.

We must try to see the implications of this choice and the magnitude of the task before us. A few decades ago, no one would have imagined that surgery would play such an extensive role in human reproduction, or that surgery would be used on such a large scale in preventive rather than curative medicine. Surgery connotes equipment, but more than that, it connotes training. I believe that training has probably been underemphasized. There is always the glitter of new equipment and new technique, but unless they are accompanied by proper and adequate training, the new equipment and technique will be no better and, in fact, probably worse than the ones with which we are already familiar. When I am asked by my students which instrument or technique is best, my answer is usually, "The best technique is the one you can do best, and the best instrument is the one you can handle best." Last year a very important study was published by the International Fertility Research Program, in which Laufe and McCann investigated the role of training in the delivery of surgical contraception and various other techniques of fertility control.[2] This significant study showed that what we consider to be simple, safe, and efficient techniques can be more risky and less efficient when initially introduced in a program, especially if not accompanied by adequate training. That study showed also that the variable of physician skill may account more for differences in the success of various techniques than differences inherent in the techniques themselves. A significant correlation was found between complication rates and the professional experience of the people per-

forming those procedures. All this serves to emphasize the importance of training, and we were gratified to see such a prestigious institution as Johns Hopkins taking on, through the JHPIEGO program, the tremendous task of organizing training in the new methods of fertility control. The task, however, is not an easy one. A few years ago, estimates were made as to what facilities and personnel would be needed in the developing world in order for sterilization to reach a prevalence level of 25%. The demand for such sterilization is certainly there. In the developing world, excluding China, there would be a need to set up 10,000 full-time clinics performing surgical contraception, and to establish 400 training centers to teach the operative personnel.

This is the real challenge we face, and which JHPIEGO faces, but we have to accept this challenge if we want to make human reproduction not a sorrow but a joy—a joy that is wanted and planned.

References

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Service Delivery to Rural Areas

Dr. Virgilio Oblepias

This morning, in addressing the topic of service delivery to rural areas, I would like to review with you some of the changes that have occurred in the Philippines in an effort to meet the family planning needs of people in rural areas.

As most of you are aware, the Philippines is a country of islands, where the logistics of providing services to outlying regions is compounded by geography. In 1969, the government of the Philippines formed the Population Commission and delegated to it the responsibility for providing family planning services. Initially, service delivery followed traditional patterns, with emphasis being placed on urban-based clinics and hospitals. As a result of the last audit of its program, however, the Population Commission realized that there was a large gap between the quality of service available in urban areas and that of rural areas. Therefore, major changes were insituted in order to meet needs in rural areas.

First, there was a shift from physician-centered approaches to community-based programs. Full-time extension workers and paramedics were recruited and trained to become major participants ir the health delivery team. Second, there was a shift from keeping separate facilities for family planning to integrating family planning into existing health facilities. This integrated approach included conducting social discussions and health education sessions. It provided a variety of health services, not just those pertaining to family planning. Third, the government strengthened its role by funding outreach projects utilizing full-time workers. In such outreach projects, a worker from each small village was trained to work closely with the community-based center. Finally, administrative functions were decentralized, so that rather than being centralized in one or two urban centers, control was shifted to local and rural areas. To

accomplish this change, there has been extensive reorientation of workers and incorporation of new management techniques. Field workers are now being utilized to assist in the provision of sorely needed health services. For example, individuals have been trained to assist in motivating other community members, and to actually work in the health care system by distributing supplies, such as oral contraceptives. Through this reorientation and shift, the clinic is now viewed as a referral center for patients experiencing problems, while the community-based field worker is the person consulted by healthy patients.

Other approaches toward meeting service delivery needs in rural areas have included the utilization of existing community organizations and other health infrastructures, like private organizations, to promote and provide family planning services. Initial evaluation of these changes suggests that health care workers in rural areas are assuming more responsibility, and are able to integrate their activities with the existing and redirected referral mechanisms.

Before closing, I would like to make a few more comments regarding the provision of care to rural areas. There has been some lack of success in utilizing the formal medical system to deal with the majority of rural health problems. Thus, in the Philippines, as well as in Mexico and other countries, a system has evolved for training minimally educated community workers in skills that can be utilized in the small rural communities. Such workers can then be supervised by more formally trained nurses or paramedics. Although a number of countries have compulsory assignment of physicians and nurses to rural areas, such approaches do not function as well as they are intended to, since these persons are often inexperienced, accustomed to working in more sophisticated facilities, and generally not interested in settling in rural communities. Despite the problems just addressed, it is essential that governments bridge the gap between traditional or community-based health care systems and the more formal medical care systems. Such integration is of vital importance, since the needs of patients cannot fully be met by either of these systems alone.

Factors in Planning Training Programs for Rural Areas

Dr. Suporn Koetsawang

In discussing the topic assigned to me, I shall place it within the context of what is happening in Thailand today. Therefore, I will review briefly with you some of the statistics relevant to health care in my country, and then discuss the factors that must be considered in planning training programs designed to meet health care needs in rural areas.

Thailand is a country of about 46 million inhabitants. Its population distribution is somewhat unique, in that 90% of our people are located in rural areas. The Thai language is spoken in most provinces. Currently, the birth rate in Thailand is 29 per 1,000 population, while the death rate is 8 per 1,000 population. Through the efforts of our family planning programs, our overall annual growth rate is 2.1%, a reduction of over 1% during the past five years.

Health care delivery in Thailand is divided among 72 provinces. The smallest unit of health care is the midwifery station or health center, which is staffed by only a nurse, midwife, or sanitarian. These individuals provide very basic primary health care services to the population they serve. At the next level is the medical health center, a facility of about 10 beds and usually one physician. Next is the district health hospital, usually consisting of about 30 beds and staffed by at least two physicians. In general, however, these physicians are recent graduates who do not have a great deal of experience or prior training. Their case load is so varied that they often have to utilize textbooks in order to manage some of their patients. At the next level are the maternity hospitals, which have an average of 150 beds, and provincial hospitals, with 100 to 500 beds. Finally, at the highest level, we have the 600-bed regional hospitals, having a full complement of trained specialists.

In order to provide physicians to staff these various facilities, the seven medical schools in Thailand graduate about 700 new physicians each year. Although there is a government regulation requiring three years of government service following graduation, many graduates find ways to circumvent this requirement. Since new graduates usually dislike working in rural areas, the staffing of facilities in outlying regions is often difficult.

With this very brief background in mind, then, what are the needs and issues we face in providing training destined to assist the delivery of health care in rural areas?

One of the important needs of the health care system is improved clinical training for the young physicians who will become district health officers. Currently, in order to provide more clinical training, there is an attempt to change the curriculum in medical schools. With this revision, medical students would be provided with three years of preclinical and basic science studies, followed by three years of clinical experience. It is hoped this will result in new graduates who have greater background and expertise in dealing effectively with the problems they face in rural areas of Thailand.

A related issue is where to conduct the training of district health officers. Obviously, training at the level of the medical health center or district health center would be advantageous, but there are not enough instructors to go around. At the other extreme is the regional hospital. This would be less than ideal, since service is oriented toward dealing more with specialized problems than with primary care. As a compromise, therefore, it has been decided to conduct training at the provincial hospital level. In order for such training to be effective, however, there is a need to improve the teaching capabilities of physicians stationed at that level, as well as to provide them with the necessary teaching aids and educational materials.

Another issue is how to define both the length and type of special training required for the district health officer. A great deal of flexibility would be ideal here, since local needs vary, and certain diseases require more emphasis if they are endemic to a particular region. It is clear that long-term training is not feasible, since health officers cannot be relieved from duty for prolonged periods of time. Currently, courses are designed for a duration of one to three months. To assist provincial physicians with such training, consultants from medical schools are being employed to upgrade the teaching skills of provincial physicians and also to be exposed to health care at the rural level, so that more relevant material can be included in the medical school curriculum.

Another approach to training is the use of self-instructional materials. However, there is a great shortage of manuals and audiovisual

materials for use in such programs. It might also be mentioned that in regard to educational materials, there is a need for journals that are more pragmatic in nature and which provide details regarding diagnosis and treatment of disorders, rather than only research findings.

In summary, I have outlined some of the approaches now being taken to upgrade the skills of physicians providing care in the rural areas of Thailand. Although the major responsibility rests with the Ministry of Health, this effort represents a collaborative effort of the Ministry, the medical schools, and the Thai medical societies. JHPIEGO, in its support of a reproductive health training program, has already demonstrated that two medical schools can collaborate in an educational program. It is hoped that a similar spirit of cooperation will be realized by the district health officer training program.

The Role of Primary Health Care Practitioners in Reproductive Health

Dr. T. D. Jain

In addressing the role of primary health care practitioners in reproductive health, one soon realizes that the subject has multiple aspects, each of which would take some time to discuss. What I would like to do is describe a program in which our community health department, under the auspices of the Government of India, provides training to the traditional birth attendant (TBA) in rural areas. Although in most countries they are not currently part of the formalized health care system, TBAs certainly do deliver a significant proportion of primary health care in countries where they are located. The program that I will describe represents an attempt to incorporate to some extent the TBA into the formal medical system by utilizing a very pragmatic approach.

Before discussing the training and role of the TBA, it is important to briefly present her profile, so that one may understand the problems encountered in providing education and suggesting changes in practice. Most of the TBAs located in the rural areas of India are middle-aged women who are illiterate, and are from a poor socioeconomic background. For the most part, they practice their midwifery on a part-time basis only. They have usually received their training on a hand-me-down basis from their mother-in-law. The TBA usually works in only one village, has an established, relatively permanent clientele, and always observes caste and community distinctions. Characteristics of the TBA which are beneficial and should be utilized to the maximum include her ability to gain the confidence of her clientele, the recognition by the community that she is one of them—a daughter of the soil, the knowledge that she is readily available to give advice, and that her care will be continuous and

delivered in a sympathetic manner, one that shares the anxiety of the client.

With this background in mind, the training program has incorporated several new strategies. First, it is recognized that to meet the most basic needs of midwifery, the program requires at least one trained TBA for every village of 1,000 population. Second, since it is impossible to expect the TBA to be available for training for any prolonged period of time, an intensive, pragmatic training course of 30 days' duration was designed. Finally, since there was no incentive for the TBA to leave her village for training, the program was set up so that she would be compensated for each day she was away from her village.

The traditional practice of the TBA often entails a lack of antenatal care and of asepsis, and frequent vaginal exams during labor. Therefore, the training stresses aseptic technique, points out the importance of age and parity and their relationship to obstetrical complications, and the consideration of past obstetrical history to identify women and pregnancies at high risk. The duties assigned to the TBA include registration of all pregnant women in her locale, referral of high risk cases to other practitioners, immunization against tetanus of all pregnant mothers, and delivery of care to pregnant women, regardless of caste or community distinction. Successful graduates of the training program are given a certificate of recognition, as well as a kit containing sterile cord ties, iodine, sponges, and a razor blade.

Although it appears that through our initial efforts more and more TBAs are becoming interested in the program, some problems have been encountered. Age appears to be an obstacle to training, since the older TBA does not appear to grasp the new concepts readily. There is some conflict between TBAs and auxiliary nurse-midwives, who are young women receiving formal government training. Some TBAs view the current program as an effort to undermine their influence and clear the way for the auxiliary midwife to take over their practice. Also, it is difficult to overcome caste distinctions. Finally, there is a need to improve other facilities, like the antenatal clinics, so that TBAs will have a source of referral. Despite these problems, however, we are confident that the training program represents a real contribution toward meeting primary health care needs in rural areas.

The Integration of Physicians and Nurses in Reproductive Health Training Programs

Dr. Tahar Alaoui

What I would like to do is review with you briefly the status of reproductive health care in Morocco, and outline the plans we have for dealing with our problems. In particular, I wish to address the integration of physician and nurse training in our educational efforts.

Morocco is a country of approximately 20 million people. Sixty percent of the people reside in cities and urban areas, while 40% reside in rural areas. Morocco's annual growth rate is about 3%. The infant and child mortality rate is about 120 deaths per 1,000 population, but rises to 130 to 150 per 1,000 in the rural areas. The major factors that contribute to these high levels of mortality include diarrheal diseases, infectious diseases, and malnutrition. For example, very poor levels of nutrition have been identified in 4% of our children. Other telling statistics include the facts that only 15% to 20% of women are delivered in hospital facilities and that the average family size has increased from 4.6 several years ago to 5.0 at present.

In view of the problems faced by our children and their mothers, we have targeted in our maternal-child health program especially children less than four years of age and women in the reproductive age group. This results in a targeting of 17% and 22% of our entire population, respectively.

The major objectives of the program are not only to lower infant and child mortality, but also to improve sanitation facilities and introduce improved health education, particularly in rural areas.

In an effort to implement this program and realize our objectives, we have utilized a number of strategies. Improving the training of health care workers is of high priority. In the Faculty of Medicine of

our medical schools, education is being oriented increasingly toward disease prevention and preservation of health, rather than toward just the therapy of pathologic conditions. In addition to providing education through didactic lectures, we have instituted the practice of placing students and faculty in ambulatory medical systems located in rural areas. This has led to the requirement that faculty reorient their teaching toward health care delivery in the rural setting. Non-physician health care personnel involved in maternal-child health, such as nurses and supervisory nurses, are receiving training which emphasizes the prevention of many of the problems faced in our country.

A second strategy in the implementation of the program is improving service delivery. Our major focus is on primary health care that meets the many needs of individuals in rural areas. At our small outpatient dispensaries, the duties of the health care workers include health education, improving sanitation, childhood vaccination, instruction regarding child-spacing, and education dealing with malaria, since this is a particularly prevalent disease. The health centers, which represent the next level of health care, are staffed by physicians. These centers are being upgraded so that they can serve as mini-hospitals, thereby reducing the distance patients must travel in order to receive specialized care. At the highest level are the larger hospitals in each health care region. It is hoped that by redirecting both education and service delivery to meet the needs of rural patients, the objectives of our maternal-child health program will be met more readily.

Organization of Government-Sponsored Family Planning Programs

Dr. Jorge Martínez-Manautou

Introduction and Background

The topic I am going to discuss calls for a brief description of the organization of health services in Mexico and the legislative and demographic situation there.

One of the sectors of the Mexican Public Administration is the Health Sector, which is composed of the Ministry of Health (S.S.A.), the Mexican Institute of Social Security and Services for the State Workers (I.S.S.S.T.E.) and the Family Integrated Development System (D.I.F.). The Health Sector, along with the private sector, is responsible for providing health care, including family planning, to the people of Mexico.

The demographic situation of Mexico in 1976 was the following: the total population, which amounted to 62 million inhabitants, was increasing at an annual rate of 3.2% and was expected to double every 22 years. By the end of this century, in other words, the Mexican population would have reached the figure of 132 million. At that pace, in a lapse of only 100 years, we would amount to 1 billion 500 million inhabitants.

Up to 1973, however, the health code forbade the promotion and sale of contraceptive products, and legislation on population had had a pro-natalistic tendency. So, in 1976, Mexico was faced with a high growth rate, but lacked the legislation which would allow provision of family planning services.

Historical Development of the National Family Planning Program

The Mexican government's experience in the organization of family planning programs has been acquired through a historical process, and has included integrating the following factors: the organization of the Health Sector, the legal and sociodemographic situation of the population, and the country's socioeconomic development needs.

Although family planning activities were initiated in private institutions during the second half of the 1960s, it is only since 1974 that governmental institutions have provided such services.

During the first half of the 1970s, the health code was modified, and the new General Population Law was issued in accordance with Article IV of the Republic's General Constitution, whose text reads:

"Man and woman are equal before the law. The law will protect the family's organization and development."

"Every person has the right to be informed, in order to freely and responsibly decide the number and spacing of children."

That law created the setting for public sector mobilization for family planning in Mexico. In 1976, an analysis was made of the Family Planning and Institutional Programs, and the following problems were identified:

1. Lack of program goals; duplication and lack of uniform goals and objectives for the rendering of services,
2. Deficient systems of information,
3. Deficient evaluation of activity,
4. Lack of educational programs in family planning,
5. Lack of awareness of the resources necessary for the programs,
6. Lack of services in the country's rural and marginal zones, and
7. Lack of participation by non-governmental sectors.

Based on existing demographic complications and the problems identified above, the Mexican government made an important political decision. The government felt that the country's population growth should be in line with its development in other areas, in order to reconcile the population with its territory and resources. Consequently, attempts were made to find the most convenient and feasible trend for the country's population growth. The basic goal was to reduce the annual growth rate from 3.2% in 1976 to 2.5% in 1982, and to create a framework which would allow Mexico to reach a

growth rate of 1% by the year 2000. If this goal were achieved, by the end of the present century Mexico would have 104 million inhabitants instead of 132 million.

To achieve this objective, the National Family Planning Coordinating Council was created. Its purpose was to orchestrate efforts in the public sector and to facilitate the mobilization of the institutions and organizations responsible for the development of the Mexican National Family Planning Program.

Thus, in 1977, after nearly two decades of striving by proponents of family planning, Mexico had an organization responsible for coordinating official activities. The members of that Council considered it necessary to establish and fulfill the following objectives:

1. Select the most qualified personnel to direct the key programs within the Health Sector,
2. Develop fully the National Family Planning Program for the Health Sector,
3. Establish coverage goals for the Health Sector institutions,
4. Establish standards for the application of institutional programs,
5. Promote the coordinated decentralization of programs throughout the country,
6. Identify and channel resources and experienced personnel useful for the technical support of programs,
7. Develop locally appropriate family planning information and educational programs for users and providers of services,
8. Coordinate biomedical and social research activities to support the institutional programs, and
9. Implement information systems in order to improve the evaluation mechanism.

The National Family Planning Program—Current Problems

For the present government, one of the major challenges facing Mexico is the reduction of annual population growth from 3.2% in 1976 to 2.5% in 1982. That was the underlying goal considered in the development of the National Family Planning Program, which was approved by the President of the Republic in October 1977. The difficulties in reaching this goal and other related goals are due, in part, to the population's demographic characteristics.

Married, childbearing women represent a high fertility group. At least 96% of them have had one pregnancy, and 46% have had five pregnancies or more. Furthermore, there is a birth rate of 40 births

per 1,000 population. Each woman of fertile age has an average of 4.3 live-born children. Moreover, marriage or union comes at an early age: 19 years is the average.

Another major problem is that of providing universal medical care. Statistics show that in 1977, 30.3 million Mexicans were not covered by any type of health service.

In view of the program's objectives and considering the above-mentioned difficulties, the Coordinating Council of the National Family Planning Program has tried to make use of various governmental resources. Government institutions providing medical care, the Ministry of Health and other Ministries, and the Social Security System have been incorporated in the National Family Planning Program, in order to cover the 100,000 localities in Mexico having a low density of population. At the present time, these areas have a population of 20 million inhabitants. Thus, with such coverage, two-thirds of the 30 million inhabitants who previously were not covered by the health system are now starting to receive medical care.

The Health Sector's goal with regard to contraception usage from 1977 to 2000 is estimated at 8,645,000 users, while active users for 1982 should number 3,452,000. Although it might seem a simple task to reduce the population growth rate to 2.5% from 3.2% during the present governmental regime, a reduction of just one-tenth of the growth rate requires the introduction of more than 1,200,000 new contraceptive users into the program.

Program evaluation is accomplished by measuring the results of actual development against the projected goals. This information comes from two sources: data provided by each one of the institutions, and the National Prevalence Survey on the Use of Contraceptive Methods.

Achievements of the National Family Planning Program

To appreciate the program's success, consider the following. The number of active users of contraceptives in 1979 rose to 5% over the goal set for that year, whereas the number of active users in 1977 was 12% under that year's goal. This substantial increase has been achieved in spite of the fact that present goals are 69% higher than those established in December 1977.

According to the various sources providing contraceptive methods, the number of users who have been incorporated into the program and who still remain within the Health Sector constitutes 60% of the total goal for contraception. The extra-sector medical services, that is, the private sector as a whole, account for 40%. Drug

stores provide 26% of contraceptives sold, and private services provide 14%. Interestingly, 17% of the population outside the private or governmental sectors use traditional methods of child-spacing. This range of contributions has made possible a substantial coverage regarding contraception for the country's childbearing women. The total coverage went up from 30% utilizing contraception in December 1976 to 48% in December 1979.

Contraceptive coverage has also increased substantially among the young population in Mexico. It is estimated that in 1979, the National Program had 2.3 million users. This improved contraceptive coverage has led to a reduction in the number of admissions for abortion. These statistics, which were released by the I.M.S.S. and I.S.S.S.T.E., confirmed a decrease of 51% from 1973 to 1978 in hospitalization for abortion-related problems. It was during this period of time that the National Family Planning Program was developed. Finally, it is estimated that the population growth rate in Mexico was reduced from 3.2% in 1976 to 2.9% in 1978.

It is of the utmost importance to recognize the challenge represented by the various goals a country hopes to achieve and the limited resources it has to fulfill them. Such a challenge demands a constant evaluation and reevaluation of the actions taken toward the attainment of those goals. In this way, we will know what has already been accomplished, what is being accomplished, and what remains to be accomplished in the future.

Factors which Assist Voluntary Agencies in Integrating Training Programs with Government-Sponsored Programs

Dr. Fernando Tamayo

Let me express my most sincere thanks to the JHPIEGO Board of Trustees and Officers for inviting me to be a member of this International Council. It is a challenging job which, if successful, will provide millions of persons from the cities and villages of the five continents with a comprehensive program of reproductive health that will make life easier for them. To achieve our task, we have to think big, be ready to help change the traditional ways of delivering health services, and give individuals and communities the knowledge and tools they need in order to play an important, appropriate participating role in the health system.

In this presentation I am going to cite my own experience in a private organization which trains professionals and auxiliary personnel in the techniques of delivery of different types of family planning services, from the simplest methods to the modern techniques of laparoscopic sterilization. I shall refer not only to my experience in Colombia, but also to the first-hand knowledge which I have acquired during my extensive travels to developing countries over the last 15 years. Furthermore, there will be an analysis of how to direct training in order to involve members of not only your program, but also other private and governmental organizations. First, however, I would like to make some short, general statements.

It is almost impossible to give specific rules that will cover all countries. Each situation should be analyzed according to the local environment and the stage of development of the local health systems. We must understand that the task of delivering reproductive

health services to an entire nation requires a complete army of well-trained personnel: generals, captains, soldiers, supplies departments, and above all, a great deal of motivation. There is no single group that can do all the training. This task must be shared by the different organizations in the country, such as universities, government training centers, and private institutions. A truly integrated program must be developed, if we are to achieve an efficient system of services. The program should be planned so that it is possible to delegate technical functions to the lowest appropriate ranks. In other words, a general should not be doing the work of a captain, or a sergeant the work of a private. This requires careful design of the training program, so that it has a built-in system of supervision which will help to provide adequate services.

The history of family planning shows that in many countries the official government activities started only after those of the local family planning association. In most cases, when the government makes the political decision to enter the field of providing services in fertility regulation, there are within the official health structure very few people with adequate knowledge to develop the programs. Frequently, the local family planning association is small, and has only a limited staff operating a few demonstration clinics and a small group of people in charge of its own training department. Even with these restrictions, it is of great value to use this resource properly. It is the duty of the leaders of these family planning associations to anticipate this change by having contingency plans to expand their training capacity and provide the governments with the first groups of trainers. To do this, these associations must maintain very good relations with not only the central government, but also state and local authorities. They must have a diversified approach to the delivery of services. This should include all methods: IUDs, oral contraceptives, barrier contraceptives, male and female sterilization, community-based distribution (CBD), and a good amount of information and education. It is important that they have learned from experience what are the main obstacles to the program and how to overcome them, so that they can share their experience with the proper government officials.

The family planning association must not look at the government's program as a rival, but rather as the main objective of its work. At the same time, the government must see the work of the association as complementary and essential to expand the coverage of its own program. A true coordination of the different programs must exist, if we are to avoid the duplication of efforts. The task of providing good reproductive health to the entire population of a country is not an easy one. There is room for participation by the govern-

ment, private institutions, hospitals, labor unions, universities, and religious groups; this must be understood by everyone.

To reinforce the points made above, I would like to mention the case of Mexico. When the government suddenly changed its policy regarding family planning and decided to provide services in fertility regulation to the entire population, there were very few people ready to do the work. The private institutions tried their best, but were able to take only a limited role in the initial training programs. The universities, too, were taken by surprise, and the health system had to start its programs with insufficient human resources. All this undoubtedly caused very serious problems and delayed the initiation of services.

The Mexican lesson is very important, because there are several countries in Africa and Latin America whose governments may want to start providing family planning services to their people. It is important that these countries not be taken by surprise. They should prepare themselves by forming a nucleus of well-trained personnel who can carry out the training competently and efficiently, in order to start delivery of services as soon as possible.

The case of Colombia was not as difficult as Mexico's. In my country, there has been an implicit policy toward reduction of high fertility rates, and the government has come into the field in a progressive way. PROFAMILIA is the largest family planning association of any of the developing countries. Training in different fields of family planning has been an important component of its program. When the government asked us to train more than one hundred doctors and their support staff in laparoscopic techniques, we already had a program to train doctors from other countries. We had nine clinics in different parts of Colombia, each performing more than one thousand sterilizations per year. In 1979, we performed 48,000 sterilizations in more than 170 different communities.

To organize such a large training program based on outpatient techniques requires a great deal of planning and management. We are faced with the challenging task of providing training in techniques of minilaparotomy to several hundred more governmental doctors from small communities. We believe we can do it, provided the trainees have a basic background in surgery.

In summary, in order to enable voluntary agencies to assist government training programs, the main factors that should be operational are:

1. Good relations with the official sector,
2. A well-trained group, with experience in different fields, who can transfer their knowledge to subsequent trainees,

3. An effective and diversified program, with a good reputation in the community, and
4. A system of feedback of information to allow evaluation of the results of training and suggest corrective measures, if necessary.

Allow me to end this presentation with a short digression. There has been much argument and discussion as to how the delivery systems should be organized, how the training should be conducted, and what the best methods are for reaching the community. These discussions ignore what should be obvious from the history of nineteenth-century France and twentieth-century Spain. People can and do practice family planning by themselves, without any institutional intervention, medical or otherwise. The success of community-based programs shows that people much prefer to practice family planning on their own. Wherever programs are needed to initiate such practices, it should be an important program objective to instruct people on how to practice family planning by themselves, as a normal part of their own health care.

I think this is the wave of the future for developing countries. Our aims, too, should be directed toward the deinstitutionalization of family planning.

The Role of the Voluntary Agency in Implementation of Family Planning Services

Dr. Helio Aguinaga

In countries reluctant to adopt an official family planning policy, the voluntary agency is an ideal vehicle for overcoming resistance and implementing appropriate and acceptable programs. The field of action for a voluntary agency is wide, and its activities can be directed toward the federal government in general, political factions, county and state entities, community leaders, benevolent institutions, health services, the medical profession and patients in need of their services, and the people as a whole. This has been the role of the Maternal and Child Health Research Center (CPAIMC) during the past nine years. It has worked slowly but persistently, and with encouraging results. To illustrate the role of a voluntary agency in the implementation of family planning programs, I will present our experience in Brazil.

In 1970, when we proposed to develop an integrated program of maternal-child care and family planning, we knew perfectly well that this subject was very sensitive for the government, whose reactions were immediately made known to us. For years, while endeavoring to obtain governmental approval of our maternal-child program, we almost always received insinuations that if the family planning component were eliminated, we could expect the program to be approved immediately. We persisted in our resolution to reject any integrated maternal-child program which did not include family planning. It was a difficult fight for survival for approximately four years, during which time we received sporadic financial help from Church World Services, which enabled us to continue with our work. The first encouraging sign came in 1974. Our points of view about family planning were very well known, and we were called to

Brasilia by the Ministry of Foreign Affairs. Following lengthy discussions on the subject, it was a surprise to receive an invitation to participate in the Brazilian delegation to the World Population Congress in Bucharest. Our inclusion in this working group demonstrated clearly the intention of the government to change the pronatalistic position which had been maintained at all previous meetings of the World Population Congress. This change actually did occur, and the leader of the Brazilian delegation reaffirmed this position by his statement that "every Brazilian couple should have access to information and to the means for freely planning their family."

The euphoria that possessed all who had been fighting for family planning in Brazil was soon destroyed by the complete failure of the government to implement its statement. No action followed the declaration pronounced in Bucharest and, although weak comments appeared sporadically in official documents, no actions were ever undertaken.

Family planning is still a sensitive subject in government spheres, even though the president considers this activity a priority of his government. There is no doubt that progress has been made, mainly in regard to the voluntary agency's freedom of action. Just recently, at the end of 1979, when our program encountered some difficulties with the Ministry of Health regarding the renewal of our project with the United Nations, we received an official communication from the President, expressing his support and indicating that the program was of great social interest.

When, in the implementation phase of family planning activities, there is reluctance on the part of the government and no subsidy available within the country for this purpose, the voluntary agency has the possibility of raising funds and obtaining the interest of international organizations in their programs.

This may well be one of its most important functions. With the flexibility that a voluntary agency has to raise funds for specific objectives, we were able to call on the Pathfinder Fund for their financial support to organize and conduct in Mexico a family planning seminar for a group of 30 Brazilian participants. They included state governors, senators, members of the House of Representatives, state secretaries, heads of universities, and directors of leading social organizations. One positive result of this seminar was the complete change of attitude on the part of our most prominent senator, who is also a physician. Formerly a fervent opponent of family planning, he is now one of its most ardent supporters.

Today, family planning is a necessity felt primarily by the less privileged groups of the community. They do not have the means to

plan a family, and so struggle between an excessive number of children and the consequences of a clandestine abortion. They know that such an abortion robs health and is the grim killer of countless vigorous lives. The pressure exerted by the masses, for whom family planning represents the solution for the anguish of unwanted pregnancy, is of such force that it is becoming irreversible. With the introduction of democratic action in several Latin American countries, including Brazil, this revindication of the people will have to be heard and heeded by those who seek a seat in Congress.

CPAIMC is not an organization involved exclusively in providing family planning services, but rather an integrated maternal-child health program which includes family planning. This has been a positive factor in our association with several state and county governments, and has led more easily to the acceptance of family planning as just one of the services offered by the maternal-child program. We cannot say that the results have been brilliant, but they certainly have been encouraging.

Above all, it is the action of a voluntary agency that has the greatest effect. We have an agreement with the Health Department to expand a project financed by the FPIA, in which we are trying to implement family planning as part of the immediate postpartum and post-abortion services of several maternity hospitals in the country. This represents an approach for the provision of family planning services which is acceptable throughout Brazil.

We know that family planning is a human right which has been won only recently. Even the countries now opposed to its implementation will have to cede sooner or later to the contingencies of the demand. This is particularly true in Brazil, where we are noticing a radical change in the population policy of the government. During such a transitional period, the role of the voluntary agency becomes predominant in the preparation of human resources. It can help insure that as soon as an active family planning policy is adopted, there will already be at all levels a well-prepared technical infrastructure which is capable of supporting all its components.

Brazil, with its continental dimensions, regions of disproportional development, and irregular population distribution, presents particularly difficult problems in regard to establishing a family planning program. The work of the voluntary agency becomes important for the early creation of conditions that will facilitate the implementation of family planning within a short period, by preparing and training people for this activity. Through Development Associates, we are conducting training courses for professional nurses, auxiliary nurses, and other health service personnel. Because it is a voluntary agency, CPAIMC has been able to develop with AVS a project for

introducing female sterilization. Considered illegal in Brazil and condemned by the Medical Ethics Code, such sterilization is without a doubt the most sensitive area of family planning.

In spite of these adverse conditions, so far we have suffered no restrictions of any kind. This is an implied recognition by the government and the Federal Medical Council of the benefits we are bringing to the population by meeting such an important need.

Now, I would like to discuss the very significant results obtained by our JHPIEGO Reproductive Health Training Project. There exists throughout Brazil a tremendous demand for female sterilization. The medical profession, which had been rather timid regarding family planning, is quite enthusiastic about our laparoscopic training and is now accepting full-range clinical and surgical family planning. We are presently overwhelmed with requests for training and technical assistance to develop family planning projects in key institutions throughout Brazil. We are confident that this project will soon become the largest clinical and surgical family planning program in Latin America.

It is obvious that the voluntary agency brings many benefits to the community in general. It provides the less favored classes with what was formerly and unjustly the privilege of higher income groups: the advantages of family planning services. There are some other important aspects which will not be presented at the moment. I hope this resume of the activities undertaken by CPAIMC, a voluntary agency, will serve as a positive influence on other countries which may be reluctant to accept family planning, in spite of all its advantages.

Summary of Discussions

The discussions held during the course of the Meeting of the International Council of JHPIEGO addressed a number of problems and issues. Presented below is a very brief summary of some of the discussions.

Following the presentation dealing with JHPIEGO's current program and accomplishments, a number of thoughts were expressed regarding other possible roles or programs for JHPIEGO to consider in planning future activities. The team approach to education was strongly endorsed, and it was suggested that this concept should be applied to the subspecialities, so that primary care physicians, internists and surgeons, as well as obstetrician-gynecologists may receive training in reproductive health. Also endorsed was JHPIEGO's effort to provide educational centers with teaching materials, such as books, manuals, and films, in languages other than English. There was endorsement of the broad concept of reproductive health with its preventive orientation, since even such specialized courses as the administrators' course and infertility course present material in this context. It was suggested that JHPIEGO continue to cooperate with various other organizations, so that other needs, like remodeled facilities and supplies, may be met at the same time as JHPIEGO assists in educational efforts.

A number of points were made following the presentations dealing with reproductive health priorities in Africa. It was pointed out that a major obstacle to better health in most developing countries is the underlying lack of education at all levels. Once educational needs are met, not only for the professional but also for the consumer (to whom health education must be offered), health care delivery begins to improve. It was pointed out also that demographic statistics can often be misleading in assessing the health care needs of a region. What is important is quality of life, not quantity. Population density figures may not always reflect the extremely poor living conditions or

lack of arable land. Also, it was suggested that growth rates and birth rates are related to socioeconomic conditions, since, as socioeconomic conditions improve, one usually sees a fall in birth and growth rates. However, it is quite difficult to determine which one actually precedes the other. It would be unadvisable, therefore, for any country or assistance program to provide funds exclusively for the improvement of socioeconomic conditions and not for the concomitant lowering of birth rates, or vice versa.

Both the delivery of care and the provision of training to meet the needs of rural areas were recognized as major problems for developing countries. One problem pointed out by several participants was that the scarcity of trained physicians in rural areas is often more a problem of distribution than one of absolute shortage. Due to lack of facilities, physicians are unwilling to go to rural areas, not only to deliver health care but even to meet the various needs of their own families. Furthermore, it would be unrealistic to expect physicians to consent readily to go to outlying regions, when the general trend of the entire population in most countries is toward urban migration. Therefore, educational and service efforts should be directed toward alternative forms of health care delivery. The use of community health care workers, the training of indigenous midwives, or *dais*, the utilization of paramedics for health care delivery, and the establishment of systems to facilitate referral of difficult cases are all approaches that probably will have a more direct effect on health care in rural areas. In furtherance of these efforts, additional approaches will have to be taken. These include meeting the health needs of the rural poor, stressing the physician's role as leader and supervisor of a health care team, the recognition of traditional birth attendants by supplying simple equipment or awarding diplomas for completion of courses, and the active role of non-governmental groups, such as OB/GYN societies and Lions Clubs. Such approaches are innovative, and it is hoped they will help bridge the gap between traditional health practices and the formalized medical care system.

A number of points were raised regarding the role of the government and the voluntary agencies in providing reproductive health care. It was pointed out that the liberalization of governmental attitudes toward fertility management and reproductive health can often occur rapidly. Therefore, when such changes do occur, it is helpful to have already available a foundation on which to build the requisite means of providing service delivery. To prepare such a foundation, voluntary agencies and educational institutions should train a nucleus of professionals to be thoroughly familiar with and skilled in the application of reproductive health and fertility man-

agement approaches. Thus, when a government agrees to support fertility management, there can readily occur the institutionalization of educational efforts to train professionals to meet expanding service needs. Also, it was stressed that governmental support can be a major factor in overcoming most barriers to the delivery of reproductive health. Voluntary agencies can often be instrumental, therefore, in educating legislators and other lawmakers about the health care needs of their countries. Such education can often promote the changes in attitude and legislation required to lead to improvement in health.

Reports of the Study Committees

Committee Report

"Priorities of Reproductive Health Education With Particular Reference to Africa."

Committee Members:
Dr. J. K. G. Mati, Chairman
Dr. O. A. Ladipo
Dr. Tahar Alaoui
Dr. John F. Kantner
Dr. Janet B. Hardy
Dr. Leo Dunn

The primary objective of professionals providing reproductive health care is to assure all parents the opportunity to produce progeny who will develop into physically, mentally, and socially normal individuals who will have the maximum opportunity for personal health and development, and the opportunity to repeat the process of healthy procreation.

I. Basic Health Education

PROBLEM

There is a need to develop a system by which the public may be educated in matters of basic health. This would include education in nutrition, hygiene, prophylaxis, and reproduction.

METHODS

A series of educational curricula should be developed for all levels of health care providers, from the traditional medical practitioners to the specialist, in order to prepare them as teachers of basic health education. The primary and secondary

school systems should be included too, by providing such preparation to teachers who would incorporate these matters into their instructional programs. Furthermore, the requirement of a physical examination and immunization prior to admission to school would provide the public an entry into the health care system.

RECOMMENDATIONS

JHPIEGO should organize, on a regional basis, a series of meetings of African nations in which JHPIEGO has developed or is now developing an educational program. The meetings would be held in order to determine how to meet the objectives listed above. These general meetings should be followed by a series of more detailed planning sessions within each nation, at which time guidelines can be established and the outlines of the curricula developed.

Those participating in the general planning meetings should be persons who influence national policy on health, education, agriculture, and provision of services. They would include the ministers of health and education, and leaders in Obstetrics and Gynecology from each nation participating.

The national meetings should be organized so that the participants from each nation can develop the program's guidelines and utilize the resources of JHPIEGO and the other non-governmental organizations based in that region to develop curricula and educational packages.

II. Reproductive Health Education

PROBLEM

Maternal mortality exists at an unacceptable rate. In many instances, skills and facilities that would prevent these occurrences are available, but not utilized in a timely manner. This indicates a need for public education. In other instances, the blame may be attributed to public policy or a lack of facilities, skilled personnel, or supplies.

A. Illegally Induced Abortion

SOLUTIONS

1. Public education for the prevention of adolescent and unwanted pregnancies,
2. Create among policymakers an awareness of the impact of illegal abortion upon the health of women,
3. Where abortion is legal, develop training programs and facilities in which procedures can be carried out safely.

RECOMMENDATIONS

1. Educational materials should be prepared to provide instruction in pregnancy prevention for both men and women,

2. The national obstetrical and gynecological societies and non-governmental organizations should organize campaigns to influence public policy on abortion,
3. Training should be provided in the management and complications of abortion.

JHPIEGO could possibly be of assistance by providing educational materials or suggesting resources for Recommendations 1 and 2 above.

B. Obstetrical Complications

There is a need to develop a series of educational programs that would instruct health care providers, from the traditional health care provider to the specialized physician, in the recognition of important risk factors in pregnant women and appropriate management or referral.

RECOMMENDATIONS

A document should be developed that would provide physicians with appropriate instructional information regarding obstetrical care. This should be done on a regional basis, through a series of JHPIEGO-sponsored workshops whose participants would include professional educators, leading obstetricians and gynecologists, and consultants, as needed. Based upon the recommendations of such a document and on their experience as team leaders, the physicians should develop similar instructional materials for the remaining health care providers who are not in attendance.

C. Non-Obstetrical Reproductive Health Problems

There are certain significant health problems that have a major impact on female sterility, excessive parity, and advanced malignancy. These must be addressed in any comprehensive program aimed at improving reproductive health. Specifically, these problems are sexually transmitted diseases, family planning, and cancer detection.

RECOMMENDATIONS

The development of instructional materials carries with it the need to teach the target group about their value and proper use. This may be accomplished by holding instructional workshops that could also provide information on how the target group's activities will be integrated at the next level of health care. JHPIEGO should support a series of instructional workshops in order to implement the use of these instructional materials. Moreover, the Recommendations discussed under "Obstetrical Complications" (Section B., above) could be utilized to address these health problems, too.

Committee Report

"Technology in Reproductive Health Training Programs and Review of Results of Equipment Conference and African Regional Consultants' Meeting"

Committee Members:
Dr. Suporn Koetsawang, Chairman
Dr. J. Richard Gaintner
Dr. Virgilio Obleplas
Dr. Fernando Tamayo
Dr. Ronald T. Burkman

This committee covered a number of problems relative to technology in reproductive health programs. In particular, it focused on two JHPIEGO-sponsored meetings held during the last twelve months. The first, held in September 1980, was a conference on surgical equipment which involved 79 individuals concerned with the provision of surgical equipment in training programs. Also reviewed was a regional consultants' meeting held in January 1980 for African consultants responsible for installing laparoscopes and upgrading centers on that continent. Finally, the committee focused on other aspects of surgical training and technology.

The following are recommendations made by the committee:

I. JHPIEGO Equipment Conference

On the general subject of anesthesia and analgesia for laparoscopy or mini-laparotomy procedures, it was recommended that all centers performing surgery have available to them basic,

minimal resuscitative equipment. Moreover, when procedures are carried out in mobile units, the same equipment should be availab[le] there. Also available should be someone who is rained to give anesthesia.

In the matter of laparoscopic equipment maintenance, it was pointed out that the per center provision of two laparoscopes and trocars along with one console may, in many instances, increase the efficiency of care and be generally more cost-efficient. One of the problems faced by operating room facilities in the developing world is a limitation of operating room time. Thus, additional equipment would reduce turn-around time and thereby increase the total number of procedures performed.

The need for a maintenance technician in any locale will vary considerably according to the type of equipment provided and the overall utilization of equipment. It was stressed that preventive maintenance of equipment is the most important aspect of any maintenance program. For this reason, the new JHPIEGO film dealing with laparoscopic equipment care is an extremely valuable asset to the program.

With regard to new and present equipment, it was pointed out that there is a need to provide to the field as quickly as possible, updated technical information regarding care of equipment and potential problems. Also, JHPIEGO's decision to publish a detailed equipment manual was strongly endorsed. It was suggested that, since in countries like India there are available other types of silastic rings (the so-called non-barium, or Chimco, rings), there be considered a clinical trial comparing the standard ring to the Chimco ring. Regarding the Laprocator,™ it was felt that concern about the length of the instrument is gradually disappearing. The major reason for this is that the newer trainees using the Laprocator™ have not been exposed extensively to the longer-length instrument, and therefore adapt quite readily to the shorter instrument.

In regard to microsurgical training, there was endorsement of the JHPIEGO practice of providing training and simple equipment to countries where sizable numbers of female sterilizations are carried out. The overall need and demand for this type of training are not known. Certainly, however, as there is a decrease in the age and parity of patients presenting for sterilization, one might expect some increased demand. It was pointed out that it is imperative for each program performing voluntary sterilization to provide counseling of a detailed nature, so that patients do not undergo procedures with the expectation that the sterilization will be reversible. Finally, it was suggested that

those receiving microsurgical training be relatively young surgeons.

Regarding other surgical techniques, open laparoscopy was discussed in some detail. It was recommended that there be continued evaluation of this technique, and if training centers express a desire to make this instruction available, the necessary equipment should be provided to such programs.

It was agreed that the use of the Laprocator™ in diagnostic laparoscopy should be emphasized. For example, the utilization of a second-incision approach to permit manipulation with a uterine sound will make the Laprocator™ a very effective diagnostic instrument. It was pointed out that if used in this fashion, the Laprocator™ can be utilized in 90% to 95% of diagnostic cases.

II. African Regional Consultants' Meeting

It was recommended that consultants be provided with a number of simple spare parts, rather than actual repair kits. It was the opinion of the committee that it is not necessary for all consultants to be able to repair equipment, particularly since the laparoscopic equipment being provided now is much simpler than it once was.

Also, the plan of having a team approach to education was strongly endorsed. It was felt that during field visits, consultants should make a great effort to educate nurses so that the latter will be able to take care of equipment and discuss procedures intelligently with patients. It was stressed that there should be a strong emphasis on the need for the trainee to recruit a sufficient number of patients prior to the consultant's visit. Finally, the use of f[illegible] during field visits was strongly endorsed. It was suggested [illegible]O develop a manual and/or checklist for [illegible], in order to highlight important items to be cover[illegible] these visits.

III. Other Surgical Techniques or Training

It was suggested that training in colposcopy would be valuable. However, such training should be provided only to groups or health care delivery systems where there already is in operation a screening or detection program. Furthermore, it was the opinion of the committee that JHPIEGO should not be responsible for colposcopic equipment. Colposcopic training should be provided only to institutions or systems where the appropriate colposcopic equipment is already available.

It was stressed that in its surgical training, JHPIEGO should not neglect the technique of mini-laparotomy. Certainly, the utilization of this technique complements laparoscopy.

It was emphasized that instruction in the insertion of IUDs is a form of surgical training which should be carried out primarily on an in-country basis. Since such training is often concerned with paramedics and less skilled physicians, the course should be intensive. Moreover, the management of complications should be stressed in such training.

Committee Report

"Strategies for Implementing Changes in Health Care Delivery Primarily by Improving and Altering Education with the Development of Continuing Education"

Dr. Harry Woolf, Chairman
Dr. Jorge Martínez-Manautou
Dr. Helio Aguinaga
Dr. M. F. Fathalla
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This committee addressed a number of issues relative to implementing changes in the delivery of health care. Although few specific recommendations resulted from the discussions, the committee did provide some suggestions for different approaches to education.

Changes in health care delivery are required in both urban and rural communities. In Mexico, for example, the current program is providing care in a fashion which is somewhat modified in comparison to the usual practices. There is a training program of 6 months' duration for rural health technicians. The future rural health technician is identified from specific villages, and, after training, works with nurses and physicians. In the cities there is a so-called community office program, staffed by a physician and a nurse. Here, medications are available to patients at cost. This is in contrast with the village program in which the villagers are provided with free medication. Thus, attempts are being made to bridge the

gap between traditional, organized medicine and the care provided by indigenous workers.

It is clear that there is a need for interdisciplinary education of young physicians. The disciplines in which concurrent training should be offered include community health, pediatrics, and obstetrics and gynecology. Similarly, nurse education should provide more extensive training in maternal and child health education and in selected areas of primary health.

To accomplish the changes required in health care delivery, there must be new forms of communication for both health care personnel and patients. Such forms of communication could involve visual systems which provide immediate feedback.

Traditional health providers can be utilized in specific areas of health care, particularly in maternal and child health and in the detection and management of certain forms of mental disease. The advantage of utilizing these individuals stems from their having local esteem in the village or community. They should be provided with small quantities of simple medicines, and, initially, should be supported by the government. Eventually, they could become self-supporting through the sale of their medications.

In regard to the use of pharmacological agents, education of health care personnel should be directed toward limiting the use of non-therapeutic agents and encouraging the use of generic agents. JHPIEGO, in cooperation with FIGO or WHO, might prepare for various areas of the world seminars on the use and abuse of drugs in maternal and child health. WHO has recently released a bulletin on drug use, which should be reviewed.

Efforts must be made to educate those in all governmental institutions in order to influence agencies and policymakers in the various sectors. These sectors include the areas of education, business, social services, urban and rural affairs, and general health.

Conclusion

The proceedings of the International Council Meeting of JHPIEGO, presented with accompanying recommendations and suggestions, indicate that it is not a simple task to meet the needs for reproductive health education in developing countries. Every country has different priorities and problems, so that educational efforts will have to be flexible in order to be effective. JHPIEGO, through its association with a medical institution of international repute, has available, fortunately, many resources and a variety of professionals with great expertise, which other programs lack. Thus, JHPIEGO is uniquely able to address some of the needs and problems raised during the International Council Meeting. Like most organizations, however, JHPIEGO's financial resources are not limitless. JHPIEGO will therefore have to assign priorities for types of programs, levels of support, and periods of support, according to its perception of how the overall goal can be met. However, with the guidance provided by past graduates, as well as the distinguished members of the International Council, JHPIEGO is confident that it will be able to meet most of its objectives and thereby improve reproductive health for women and their children.

JHPIEGO

The Johns Hopkins Program for International Education in Gynecology and Obstetrics is a program which has been in existence since 1974 and is funded primarily by the Agency for International Development. JHPIEGO is about reproductive health—improving the health and well-being of mothers and children—and meeting this international need through medical education. JHPIEGO's objective is to make available to medical schools and other institutions in the developing world, well-demonstrated, reproductive health technologies as they evolve. This objective is met through the offering of training programs in reproductive health for physicians and allied health personnel from developing countries.

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