ANNOTATED BIBLIOGRAPHY

Guatemala

Family Health International

Summary of Activities

(1976-1998)

December 1998

Family Health International
P.O. Box 13590 • Durham, North Carolina 27709 • USA
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<td>VCF</td>
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OVERVIEW

The Republic of Guatemala is situated in Central America with a total area of 108,900 square kilometers. Guatemala has a total population of 10.6 million with a 3.1 percent annual rate of increase. Among the population older than 15 years of age, illiteracy is estimated to be 49.2 percent. Fifty-three percent of the population is indigenous, and 74 percent of the population is under the age of 30. The life expectancy at birth is 63 years for males and 68 years for females.

Guatemala has the highest growth and fertility rates in the western hemisphere. The total fertility rate (TFR) is 5.1 children per woman and the infant mortality rate is 51 infant deaths per 1,000 live births. Contraceptive prevalence has reached 31 percent with modern methods accounting for 27 percent, however, the unmet need for family planning remains high: 50 percent of the women age 25 to 29 years and 20 percent of women age 15 to 19 years do not wish to have more children. Female sterilization remains the most commonly used modern method (16%), followed by oral contraceptives (OCs) and injectables. Reproductive choice for Guatemalan women is limited and for rural women, who comprise nearly 70 percent of the female population, it is almost nonexistent. Restrictions to reproductive choice include lack of reproductive health services, poverty, religious taboos, machismo and political opposition. Abortion is illegal in Guatemala.

Although officially the government views the birth rate to be too high, little government support has been given to encourage family planning. Any support for family planning services by the government has been an indirect result of the Ministry of Health’s (MOH) program aimed at decreasing maternal and infant mortality.

The first Acquired Immune Deficiency Syndrome (AIDS) case in Guatemala was reported in 1984. By September 1996, 711 AIDS cases and 960 asymptomatic Human Immunodeficiency Virus (HIV) cases had been reported to the MOH. It is estimated that these figures represent approximately an 80 percent underreporting of cases. At present, more men are infected than women, however HIV prevalence among women is now increasing more rapidly than in men. Ninety-five percent of the reported cases are attributed to sexual contact.

Family Health International (FHI) has conducted a variety of research projects in Guatemala since 1976, including studies of IUDs, OCs, male and female sterilization, and pregnancy termination. More recent activities in Guatemala have focused on information dissemination and institutional strengthening to improve reproductive health and family planning services throughout the country.

This Annotated Bibliography describes the activities conducted by FHI in Guatemala over the past 22 years. The first section is a narrative of projects divided by subtopic. The second part of the document consists of three appendices. Appendix One is a matrix of FHI population activities that lists the collaborating agencies, funding sources, project objectives and other relevant information. Appendix Two presents the same type of information for AIDS control and prevention activities, also in matrix format. Appendix Three is a list of publications stemming from FHI’s work in Guatemala.
POPULATION ACTIVITIES

Evaluation, Acceptability, and Introduction of Contraceptive Methods

- INTRAUTERINE DEVICES (IUDs)


This study was conducted to evaluate the possible role of the IUD string in the development of clinically apparent pelvic inflammatory disease (PID). Three hundred women were randomly assigned a TCu 200B IUD either with or without strings at the Asociación Pro-Bienestar de la Familia (APROFAM) clinic in Guatemala City from September 1980 through February 1981. All IUD insertions were performed in healthy, sexually active women who had not previously used IUDs, and had not terminated a pregnancy within 42 days of the insertion.

Clinical follow-up was scheduled at one, three, six and twelve months after insertion and at any time when complications or complaints occurred. At each follow-up visit women underwent pelvic examinations. Women were terminated from the study when the IUD was expelled, removed for any reason or when pregnancy occurred.

PID was reported for five women during follow-up. Three cases occurred in women who received the TCu without strings; these PID cases were diagnosed at one, nine and 13 months after IUD insertion. Two cases of PID were reported in women who received IUDs with strings. These cases were diagnosed at one and 13 months after insertion.

There were no significant differences between women receiving IUDs with strings and those receiving IUDs without strings with respect to dysmenorrhea or intermenstrual bleeding, spotting and pain. IUDs with and without strings were similar with respect to all event rates except removal for bleeding and pain. Twelve-month bleeding and pain removal rates were significantly higher for women who received IUDs with strings (6.7) than women in the no strings group (3.6). This difference in removals was probably due to the relative ease of removal of the devices with strings, compared with those without strings. Continuation rates at one year were 84.8 for women who received IUDs with strings and 87.0 for women who received IUDs without strings. Follow-up was approximately 88 percent at 12 months post-insertion for both groups.

The advantages of IUD strings are that 1) they enable clinic personnel and the patient to easily ensure that the IUD has not expelled, and 2) they make the removal of the IUD by clinic personnel much easier. This study did not provide evidence of increased risk of PID associated with the presence of IUD strings.
A report of this study was published in *Advances in Contraceptive Delivery Systems*, 1985;107. This study was also conducted in Chile, Dominican Republic, France and Yugoslavia. A consolidated report of data from all five countries participating in the study was published in *Advances in Contraception*, 1991;7(2-3):231-40 and in *Infectious and Medical Disease Letters for Obstetrics and Gynecology*, 1990;12(1):3.

**A Comparison of the Lippes Loop D, the Lippes Loop D with Copper and the Photoreduced Lippes Loop IUDs (1977-1980)**

From April 1977 to February 1979, 427 insertions were performed in this comparative study of the standard Lippes Loop D (LLD), the Lippes Loop D with copper (LLD/Cu) and the photoreduced Lippes Loop (LL) IUDs at the APROFAM clinic in Guatemala City. The three devices were randomly assigned to women in the interval period. The LLD was inserted in 142 women, the LLD/Cu was inserted in 135 women, and the photoreduced LL was inserted in 150 women. Sociodemographic characteristics for women in all three groups were similar.

One cervical laceration was reported in the LLD/Cu group at insertion and one photoreduced LL patient reported vomiting. Pelvic pain rates at insertion were similar among the three groups (almost 90% of the women reported some degree of pain). Post-insertion inflammation/infection rates were similar for the three groups – 49 percent for both the LLD and photoreduced LL users, and 50 percent for the LLD/Cu users. A comparison of all menstrual-related problems showed lower rates for the LLD/Cu group. Of these women, 46 percent experienced dysmenorrhea while 60 percent of both the LLD and the photoreduced LL users reported dysmenorrhea. Intermenstrual bleeding and spotting were highest with the LLD group, though the photoreduced LL users reported the highest incidence of intermenstrual pelvic pain.

The pregnancy rate at 12 months was lowest for the LLD/Cu, which had a rate of 1.7. The LLD and the photoreduced LL had rates of 6.3 and 6.6, respectively. Removal for expulsion/displacement was highest for the photoreduced LL, with a rate of 16.3 at 12 months; the LLD/Cu had a rate of 4.8 and the LLD was 3.4. The LLD/Cu had a slightly higher bleeding/pain removal rate (23.0) as compared to 19.0 for the LLD and 18.3 for the photoreduced LL.

The 12-month continuation rates were 68.5 for the LLD, 63.6 for the LLD/Cu and 53.0 for the photoreduced LL. The follow-up rates at 12 months were 36.5 for the LLD, 32.7 for the LLD/Cu, and 43.1 for the photoreduced LL.

**Evaluation of the Lippes Loop D and Ypsilon IUDs (1976-1980)**

This study was conducted from May through September 1976 at the APROFAM clinic in Guatemala City to compare the Lippes Loop D and Ypsilon intrauterine devices. Fifty-six LLD and 49 Ypsilon IUDs were randomly allocated to women who had not recently been pregnant. Sociodemographic characteristics for women in both groups were similar.
Difficulty at insertion was reported for four patients in the Ypsilon group; the device was expelled immediately. For the LLD group, difficulties at insertion were reported for one patient due to cervical stenosis and for unspecified reasons in two other cases.

At follow-up, PID was reported for one LLD recipient and for three Ypsilon recipients. Dysmenorrhea, the most common menstrual-related problem, was reported in 29 percent of the LLD group and 47 percent of the Ypsilon group. Among LLD recipients, nine percent reported intermenstrual spotting or bleeding and 16 percent reported pelvic pain. Spotting or bleeding was experienced by 18 percent of the Ypsilon recipients and 22 percent reported pelvic pain.

Although the follow-up period for this study (six months) was too brief to calculate meaningful life-table rates, overall terminations were 7.1 percent and 20.4 percent for the LLD and Ypsilon, respectively. One expulsion/displacement and three removals for bleeding/pain were reported in the LLD group. The Ypsilon group reported six expulsions/displacements and two removals for bleeding/pain. Only one patient (from the Ypsilon group) became pregnant during the study.

• **ORAL CONTRACEPTIVES**


A non-comparative study of a progestogen-only oral contraceptive was conducted at the APROFAM clinic in Guatemala City. This study was part of a multi-center clinical trial designed to evaluate the overall acceptability and contraceptive efficacy of the progestogen-only oral contraceptive Ovrette in breast-feeding women. The OC administered in this study contained 0.075 mg of the progestin, norgestrel.

A total of 200 women were admitted to the study from November 1984 to August 1985. One patient was excluded from analysis as she never began taking the pills. Follow-up visits were scheduled at two, six and twelve months after admission to the study. Of the 199 women included in the analysis, 150 (75%) were interval patients (more than 42 days since last pregnancy termination but less than 26 weeks postpartum) and 49 (25%) were less than 42 days postpartum. All women were breast-feeding at admission. None of the women reported a pre-existing medical condition at admission.

Regularity of pill use data were collected at two, six and twelve months after the start of OC use and indicated that seven women (4%) reported missing at least one pill during the study period. None of the women reported any serious complications during the study period. The most frequently reported complaints were vaginal discharge (55%), headaches (51%), and nausea (28%).

The continuation rate at twelve months was 69.4 with a corresponding lost-to-follow-up rate of 6.5. The twelve-month discontinuation rate (including those lost-to-follow-up) was 28.1. Three pregnancies occurred during the study period; of the three, two were attributed to
method failure as the women had taken Ovrette regularly. The investigator stated bad absorption as a possible reason for the failures. The third pregnancy was attributed to user failure as the woman had missed eight pills.

A Comparative Study of Norinyl 1/35 versus Lo-Ovral (1982-1986)

A comparative study of two combined low-dose oral contraceptives was conducted at APROFAM in Guatemala City, Guatemala. This study was designed to determine differences in the continuation rates between Norinyl 1/35 (Syntex) and Lo-Ovral (Wyeth) as well as the frequency of selected symptoms including breakthrough bleeding, nausea and headache, which might contribute to method discontinuation. The studied OCs were selected such that a comparison could be made between pills with a similar estrogen content but different progestogen contents. Norinyl 1/35 has a composition of 1.0mg norethindrone and 35mcg ethinyl estradiol. Lo-Ovral has a composition of 0.30mg norgestrel and 30mcg ethinyl estradiol.

A total of 300 women were admitted to the study from October 1982 through October 1983 and were randomly assigned one of the OCs. A total of 149 women were given Lo-Ovral and 151 were given Norinyl 1/35. One woman in the Lo-Ovral group was excluded from the lifetable analyses because she was pregnant at the time of admission. Follow-up visits were scheduled at one, four, eight and twelve months after admission to the study. All of the 300 women included in the analysis were interval patients and none were breastfeeding at admission. No woman in either group reported a pre-existing medical condition at admission.

Intermenstrual bleeding was reported by more women in the Norinyl 1/35 group (32%) than in the Lo-Ovral group (13%). Vaginal discharge was reported by more women in the Lo-Ovral group (69%) than in the Norinyl 1/35 group (56%). Slightly more of the Lo-Ovral users (87%) reported at least one side effect throughout the study period than the Norinyl 1/35 users (81%), however this did not represent a statistical difference (p>0.05).

A significantly higher number of women reported an increase in the occurrence of intermenstrual bleeding in the Norinyl 1/35 group (30%) than in the Lo-Ovral group (12%). Other complications and complaints were also reported by 25 percent of the women in the Norinyl 1/35 group and 14 percent of the women in the Lo-Ovral group. Nervousness/irritability was the most frequently reported problem in both groups, and was reported by 12 percent of the women in the Norinyl 1/35 group and six percent of the women in the Lo-Ovral group.

Serious complications were reported by nine percent of the women in the Norinyl 1/35 group and four percent of the women in the Lo-Ovral group, however this did not represent a statistically significant difference. Twelve-month continuation rates were 48.4 for the Norinyl 1/35 group and 56.6 for the Lo-Ovral group. The corresponding lost-to-follow-up rates for the two groups were not significantly different (29.8 and 22.8, respectively). A total of 62 women in the Norinyl 1/35 group and 57 in the Lo-Ovral group discontinued by the 12-month follow-up visit. The reason provided most frequently in both groups for discontinuation was "other personal reasons", such as pills no longer needed. One accidental pregnancy was reported during the study in the Norinyl 1/35 group and was attributed to method failure. Three accidental pregnancies were reported by women in the Lo-Ovral
group: one was attributed to method failure, one may be attributed to user failure, and one woman was pregnant at study admission.

• **BARRIER METHODS**


Vaginal Contraceptive Film (VCF) is a barrier method commercially available in the United States that contains the spermicide nonoxynol-9 (N-9). Conceptrol is a foaming tablet also containing N-9 that was supplied by the United States Agency for International Development (USAID) to developing countries at the time of this study. This randomized clinical trial compared the contraceptive effectiveness, safety and acceptability of these two spermicide products. Participants were recruited at eight centers in Mexico, Ecuador, Guatemala, Ghana and the United States and followed-up for six months.

In Guatemala, 91 participants were recruited at the APROFAM clinic in Guatemala City from October 1995 through October 1996. Of the total 91 participants, 44 women were enrolled in the VCF group and 47 women were placed in the Conceptrol group. Sociodemographic characteristics for women in both groups were similar. Ninety-one percent of all women in the study had never used a spermicide prior to this study.

Fourteen participants were lost to follow-up: eight (18%) from the VCF group, and six (13%) from the Conceptrol group. Twenty-seven participants discontinued early due to reasons other than pregnancy: 15 (34%) from the VCF group and 12 (26%) from the Conceptrol group. There were 19 pregnancies during the study period. Seven pregnancies occurred in the VCF group (16%) and 12 occurred in the Conceptrol group (26%).

Results from the safety and acceptability analyses were not yet available at the time of this report.

• **FEMALE STERILIZATION**


The Filshie Clip is a small device that was developed by Dr. Marcus Filshie. It is similar in concept to the Wolf (Hulka) Clip and is widely used in a number of countries outside the United States. It can be applied to the fallopian tube by surgeons doing laparoscopic surgery or mini-laparotomies, and has the potential advantage of being more easily reversible than other surgical methods. FHI conducted Phase III clinical trials in 21 countries, including Guatemala, in order to obtain United States Food and Drug Agency (USFDA) approval of the Filshie Clip.

A total of 311 women were randomly enrolled at the APROFAM clinic in Guatemala City from May 1985 to March 1988; 156 received the Filshie Clip and 155 received the Wolf Clip.
The median age of participants was 31 years for the Filshie Clip group and 30 years for the Wolf Clip group. The median level of education was six years for both groups and the median number of previous live births was four in both groups. During the one-year follow-up period, two pregnancies were observed, both in the Wolf Clip group.

Results from this study and other Filshie Clip clinical trials led to the recommendation for approval by the USFDA panel in 1996.

- **MALE STERILIZATION**


FHI conducted a comparative trial of the no-scalpel vasectomy versus the standard incision vasectomy from 1986 to 1992 in Indonesia, Brazil, Guatemala, Thailand and Sri Lanka. The basis for the study was a method of vasectomy developed by the Chinese that avoids the use of a scalpel through the use of a special vas-fixing clamp and a curved hemostat with sharpened points. The stated advantages of this method are that it produces less bleeding and fewer hematomas, and men may be less fearful of the procedure since it does not involve a scalpel. The objectives of the study were to evaluate the safety and efficacy of two different techniques for performing vasectomy (the no-scalpel puncture technique and the standard incision technique), and to introduce the no-scalpel technique into programs in the participating countries.

A total of 295 men were enrolled at the APROFAM clinic in Guatemala City. Among these men, 152 underwent vasectomy using the standard incision method and 142 underwent vasectomy using the no-scalpel method. Of the 129 men in the standard incision group and 125 men in the no-scalpel group who were evaluated during the early follow-up period, one man in each group was reported to experience a hematoma resulting from the procedure. During the early follow-up period, scrotal pain was reported for 107 (83.0%) of the men evaluated in the standard incision group and 83 (66.4%) of the men evaluated in the no-scalpel group.

A total of 143 men in the standard incision group and 127 men in the no-scalpel group ever provided a post-vasectomy semen sample. Among these men, all but two men in each group were declared sterile as of their last follow-up visit.

Overall data from all five countries (a total of 1,428 study participants) showed the efficacy of each of the two vasectomy methods to be virtually identical. There were ten failures in each group for an overall failure rate of 1.6 percent. Operations using the no-scalpel method were significantly shorter (six minutes or less) than the standard incision group (seven minutes or more). Side effects were also fewer among the no-scalpel group. There were also significantly fewer cases of incision infection among the no-scalpel group (one case versus eight cases).
**Male Sterilization Using the KLI Vas Ring (1977-1978)**

From January 1977 through August 1978, male sterilization procedures were performed on 111 patients using the KLI vas ring at the APROFAM clinic in Guatemala City. This study was conducted to evaluate the effectiveness, complications and technical ease associated with the use of the vas ring for male sterilization.

In all cases but one, the procedure was performed as planned. In this procedure, the ring was successfully applied to one vas, but the other vas had to be ligated due to varicocele. The overall rate of surgical difficulties was 22 percent. A thin vas on one or both sides (14%) and adipose scrotum (10%) were the most frequently reported difficulties. The overall rate of surgical complications was 26 percent. Scrotal bleeding was reported for 13 percent of the patients and cord hematoma was reported for five percent. Hematoma occurred under the ring in two percent of the patients. Injury to the testicular artery and/or pampiniform plexus was reported for three percent of the patients.

Early follow-up complications were reported for nine percent of the patients. Sperm granuloma was the most frequently reported early follow-up complication. Early follow-up complaints of scrotal pain were reported for 12 percent of the patients. No complications were reported for patients returning for semen tests. Of the 71 men who returned for semen tests, 13 percent had high post-operative semen counts and thus were declared method failures.

**Information Dissemination**

**Continuing Medical Education (CME) Seminars (1998-1999)**

A series of Continuing Medical Education (CME) seminars will be conducted in collaboration with the Association of Gynecologists and Obstetricians of Guatemala (AGOG) to disseminate up-to-date reproductive health and family planning information to service providers throughout Guatemala. At the time of this report, planning for four seminars to be conducted during the latter part of 1998 and into the first half of 1999 had taken place. Additional objectives of the seminars are to strengthen the infrastructure and institutional capacity of AGOG and to provide materials in Spanish that can be distributed at the CME seminars.

CME seminar topics will include IUDs, oral contraceptives, injectables, emergency contraception, barrier methods and/or other topics appropriate for the specific audience. Seminars will be conducted in three to four different regions of Guatemala by the Guatemalan expert presenters who attended the Training of Expert Presenters workshop (see project description below). In addition, one international expert may be included as a presenter during the seminars. It is expected that between 20 to 50 service providers – local physicians, nurses and other health care providers – will attend each seminar.

A five-day Training of Expert Presenters was conducted at FHI Headquarters in North Carolina in August 1998 for 15 Guatemalan physicians and two Mexican physicians. The purpose of this workshop was to prepare selected physicians to be expert presenters and disseminate current information on contraceptive technology via a series of Continuing Medical Education seminars (see project description above).

Workshop participants were trained using adult education methodology and participatory techniques of communication and presentation. The modules of FHI's Contraceptive Technology Update (CTU) Series in Spanish were used in order to convey current knowledge about oral contraceptives, injectables, implants, natural family planning, barrier methods, the lactational amenorrhea method, postpartum contraception, IUDs, female and male sterilization and emergency contraception, with a special emphasis on mechanisms of action, health benefits, contraindications and efficacy.

Several presentations were given on topics related to the delivery of reproductive health services, including quality of care, voluntary and informed consent, counseling, method eligibility, the needs of young adults and prevention of sexually transmitted diseases (STDs) and the human immunodeficiency virus (HIV).

Each participant developed and delivered a presentation on one of the contraceptive methods, using the CTU modules and other materials. Working groups were formed for the presentation on quality of care and for developing recommendations for contraceptive technology education and information in Guatemala. In addition, workshop participants developed a workplan for the CME seminars to be conducted in various regions of Guatemala.


FHI conducted a four-hour symposium on “Recent Advances in Contraceptive Technology” at the Association of Gynecologists and Obstetricians of Guatemala (AGOG) National Congress held in Guatemala City in August 1998. In addition to organizing the symposium, FHI sponsored the participation of two international experts and three Guatemalan physicians who had previously been trained as expert presenters under another FHI project (see project description above). Approximately 270 Guatemalan providers attended the symposium which covered the following topics: family planning service delivery in Guatemala; results from the Social Security Hospital (IGSS) program for reproductive health; current international recommendations for the use of contraceptives; IUDs; OCs (combined and progestin-only); injectables; and emergency contraception.

In addition, more than 1,000 informational items in Spanish were distributed at the FHI exhibition booth including Network en español, fact sheets, one CTU module set and additional educational materials.
Randomized Clinical Trial Methods for Contraceptive Research (1989)

FHI provided technical and financial support to APROFAM to organize and execute a workshop on “Randomized Clinical Trial Methods for Contraceptive Research”. The week-long program trained ten researchers from Guatemala and five researchers from other Central American countries in the methods and techniques of research in clinical trials. The objective of the project was to strengthen the institutional research capacity of APROFAM, as well as the other institutions that sent participants to the workshop, so that they could become collaborators in future FHI research projects.

Other Population Projects

A Prospective Study of Spontaneous and Illegally Induced Abortions Treated at Selected Guatemalan Hospitals (1979-1980)

For a prospective study of spontaneous and illegally induced abortions in Guatemala, APROFAM collected medical and sociodemographic data for 2,447 cases treated in four hospitals from January 1979 to September 1979. Illegal abortion in this study was defined as an abortion that was definitely or probably induced outside the hospital according to patient interview or physician determination following physical examination and treatment. Of the 2,447 cases, 425 (17.4%) were reported as illegally induced, 1,978 (80.8%) were reported as spontaneous and 44 (1.8%) were reported unknown.

Over half of the patients in this study (55%) were 20 to 29 years of age, 14 percent were under the age of 18, 25 percent were 30 to 39 and six percent were 40 years or over. Sixty-one percent of the women had delivered two or fewer live births and only 11 percent reported their marital status as single. Patient characteristics for women treated for illegally induced abortions were somewhat different from patient characteristics for women treated for abortions recorded as spontaneous. A greater percentage of women treated for illegally induced abortions were reported as being single, teenagers and nulliparous. A high percentage also reported one or more previous abortions (51%), while only 36 percent of those who were treated for spontaneous abortions reported one or more previous abortions. The vast majority of women in this study (89%) reported no contraceptive use prior to the abortion.

For patients whose abortions were classified as illegally induced, the incidences of sepsis, fever and excessive blood loss at admission were all significantly higher than for patients presenting with spontaneous abortions. There were three deaths in the study. One patient admitted with an incomplete spontaneous abortion died after curettage. Another patient admitted with an illegally induced septic abortion died of septic shock before any procedure. The third patient was admitted with an illegally induced abortion and died from septic shock after curettage was performed.

At the time of discharge from the centers, contraception was prescribed for or accepted by less than one percent (0.5%) of the women. Thus, a smaller percentage of women were contracepting at discharge than prior to admission. This study concluded there was a great
need for these hospitals to offer contraceptives and family planning information to women at the time of admission for incomplete abortions.

**Spontaneous and Illegally Induced Abortions Treated in Guatemalan Hospitals (1976-1978)**

A retrospective analysis by APROFAM of spontaneous and illegally induced abortions in Guatemala collected medical and sociodemographic data for 2,862 cases treated in seven hospitals from January 1976 to June 1977. Of the 2,862 cases, 245 (8.6%) were reported illegally induced, 2,435 (85.1%) were reported as spontaneously induced and 182 (6.4%) were reported unknown.

Half of the patients in the study were 20 to 29 years old, 15 percent were under the age of 20, 27 percent were 30 to 39 years and eight percent were 40 years or older. The age distribution was similar at each hospital. More than half the women (60%) had delivered two or fewer live births and 35 percent reported one or more previous abortions. Only 14 percent of the patients reported their marital status as single. Patient characteristics for women treated for illegally induced abortions were similar to patient characteristics for women treated for abortions recorded as spontaneous.

For patients whose abortions were classified as illegally induced, the incidences of fever, uterine perforation, cervical laceration and excessive blood loss at admission were all significantly higher than for patients reported with spontaneous abortions. One death was recorded in this study. The patient was admitted with an illegally induced incomplete abortion and presented with high fever, excessive blood loss and severe hypotension. She died from septic shock and disseminated intravascular coagulation before curettage or hysterectomy could be performed.

Only 0.6 percent of the women in this study accepted a contraceptive method before leaving the hospital.
AIDS CONTROL AND PREVENTION ACTIVITIES

Sexually Transmitted Diseases

Strengthening STD Services in Guatemala (1990-1992)

As of 1989 Guatemala's seroprevalence rate among selected high-risk groups was 0.74 percent and 56 cases of HIV had been identified in the general population. More alarming was the relatively high incidence of STDs. One study found evidence of Chlamydia trachomatis infection in ten percent of pregnant women at term. Laboratory screening of women in antenatal clinics using the Venereal Diseases Research Laboratory (VDRL) screening test showed a syphilis prevalence of three to five percent. With funding from the AIDSTECH PVO/NGO Small Grants Program, APROFAM carried out a Knowledge, Attitudes and Practices (KAP) survey of a randomized sample from four Guatemala City clinics and tested the respondents for STDs and HIV for one year beginning September 1991.

The objectives of the survey were to strengthen APROFAM’s STD and HIV diagnostic capacity by training clinical and laboratory staff in STD and HIV diagnostics and standardizing laboratory procedures; to adapt, develop and produce STD and HIV educational brochures appropriate to APROFAM’s various patient populations attending the family planning, antenatal, STD and adolescent clinics; and to set up a continuing education program for APROFAM clinical staff on prevention education, diagnosis, treatment and counseling for STDs and HIV infection.

The KAP survey was administered to 1,279 family planning and antenatal patients, STD patients, and adolescents. Results from the survey showed patients in each clinic were more aware of HIV than other STDs and STD clinic patients reported more sexual activity and greater HIV knowledge than patients at the other three clinics.

The HIV and STD prevalence in 303 family planning clients, 301 antenatal clients and 175 adolescents was also determined. Of these 779 patients, 43 percent had either genital lesions, ulcers, or candidiasis, however none of these patients tested positive for HIV. An additional 300 STD patients were also tested for HIV and 1.3 percent tested positive.

Technical assistance in the preparation of a laboratory procedures manual for the Centro de Orientación Diagnostico Tratamiento de ETS (CODETS) STD clinic was provided based on a workshop conducted by AIDSTECH in Guatemala in June 1991. By 1992 four manuals were completed: Lab Procedures, Bio-safety, STD Management and HIV Counseling. Throughout the life of the project 1,627 condoms and 8,448 condom usage brochures were distributed as part of the education outreach program. In addition, 23 clinic staff were trained in STD management, counseling and prevention education, and nine lab technicians were trained in HIV and STD testing methods.
Other AIDS-Related Projects


Under this project, the AIDS Control and Prevention Project (AIDSCAP) of FHI supported the PANOS Institute in the publishing of a 60-page handbook that examines the causes and consequences of HIV/AIDS for women entitled “El Peligro Oculto”. Two thousand copies of the handbook were printed and used as a discussion tool for politicians, policymakers and community leaders. It also served as an introductory guide to women and AIDS for groups involved with women’s issues yet unfamiliar with the topic of HIV/AIDS.


In March 1995, a study was completed which examined the socioeconomic impact that the AIDS epidemic would have on Guatemala. The study was the result of a joint effort between the Guatemala MOH, Guatemalan NGOs, USAID, AIDSCAP and the Pan American Health Organization (PAHO).

Two components were included in this study: an epidemiological component and an economic one. The epidemiological component considered AIDS cases reported to PAHO in Guatemala. These data showed that the mode of transmission in Guatemala was primarily sexual, responsible for 95 percent of the reported cases. Isolated HIV prevalence studies were also utilized to represent two conservative epidemiological scenarios within which the actual HIV prevalence among the general population can be found. One prevalence study was among pregnant women in which the prevalence was estimated to be 0.4 percent. The second was among blood donors with a prevalence of 0.2 percent.

Using the 1994 HIV prevalence as a baseline and the two scenarios mentioned above, projections were made through the year 2000. The projected estimated new infections of HIV were between 550 and 1,080 persons per 100,000 inhabitants, which represents from 41,000 to 81,000 new persons living with HIV by the year 2000. In addition, estimates were made of case distribution by age and sex and of the epidemic’s impact on infant mortality and on tuberculosis (TB), which is endemic in Guatemala. It was estimated the majority of AIDS cases will occur in the 20 to 24 year age group in the year 2000 and that the male to female ratio will approach 1:1.

The study's economic component estimated the average daily cost of patient care to be US$213, the average duration of hospital stay at 20.3 days and the future cost of treatment for AIDS patients to be approximately US$11.3 to US$24.4 million in the year 2000.

The study also presented the possible impact of AIDS on families and communities. Projections made through the year 2000 estimate the number of orphans caused by the epidemic to be between 9,000 and 18,000 and the loss of potential income per person with AIDS to be US$27,600. At the level of the national economy by the year 2000, the families of the estimated 10,800 cumulative AIDS cases will stop receiving around US$298 million dollars in potential income.
# Appendix One

## FHI Population Activities in Guatemala

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Effective Dates</th>
<th>Collaborating Agencies</th>
<th>Funding Source</th>
<th>Total Funding</th>
<th>FCO</th>
<th>Project Status</th>
<th>Project Objective</th>
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<tbody>
<tr>
<td><strong>Evaluation and Acceptability of Contraceptive Methods</strong></td>
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<tr>
<td><strong>INTRAUTERINE DEVICES (IUD)</strong></td>
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<tr>
<td>A Comparative Study of the TCu 200B With and Without Strings</td>
<td>1980-1981</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>Not available</td>
<td>Completed</td>
<td>To evaluate the possible role of the IUD string in the development of clinically apparent pelvic inflammatory disease.</td>
</tr>
<tr>
<td>A Comparison of the Lippes Loop D, the Lippes Loop D with Copper and the Photoreduced Lippes Loop IUDs</td>
<td>1977-1980</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>Not available</td>
<td>Completed</td>
<td>To compare the standard Lippes Loop D, the Lippes Loop D with copper and the photoreduced Lippes Loop IUDs.</td>
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<tr>
<td>Evaluation of the Lippes Loop D and Ypsilon IUDs</td>
<td>1976-1980</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>Not available</td>
<td>Completed</td>
<td>To evaluate the Lippes Loop D and Ypsilon IUDs.</td>
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<tr>
<td><strong>ORAL CONTRACEPTIVES</strong></td>
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<tr>
<td>A Study of a Progestogen-Only Oral Contraceptive for Lactating Women</td>
<td>1984-1987</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>Not available</td>
<td>Completed</td>
<td>To evaluate the overall acceptability and contraceptive efficacy of the progestogen-only oral contraceptive Ovrette in breast-feeding women.</td>
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<tr>
<td>A Comparative Study of Norinyl 1/35 versus Lo-Ovral</td>
<td>1982-1986</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>Not available</td>
<td>Completed</td>
<td>To determine differences in the continuation rates between Norinyl 1/35 (Syntex) and Lo-Ovral (Wyeth) as well as the frequency of selected symptoms which might contribute to discontinuation.</td>
</tr>
<tr>
<td>Project Name</td>
<td>Effective Dates</td>
<td>Collaborating Agencies</td>
<td>Funding Source</td>
<td>Total Funding</td>
<td>FCO</td>
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<td>Project Objective</td>
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<tr>
<td>• BARRIER METHODS</td>
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<tr>
<td>Comparative Clinical Evaluation of VCF and Conceptrol</td>
<td>1995-1998</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>2211</td>
<td>Completed</td>
<td>To assess the contraceptive effectiveness, safety and acceptability of vaginal contraceptive film (VCF) in comparison to Conceptrol loaming tablets.</td>
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<tr>
<td>• FEMALE STERILIZATION</td>
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<tr>
<td>Evaluation of the Filshie Clip vs. the Wolf Clip via Laparoscopy</td>
<td>1985-1988</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>2091</td>
<td>Completed</td>
<td>To obtain FDA approval of an effective and easy-to-use tubal occlusion device that limits tubal damage, thus facilitating potential sterilization reversal.</td>
</tr>
<tr>
<td>• MALE STERILIZATION</td>
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<tr>
<td>No-Scalpel versus Standard Incision Vasectomy</td>
<td>1986-1992</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>2006</td>
<td>Completed</td>
<td>To evaluate the safety and efficacy of two different techniques for performing percutaneous vasectomy and to introduce the no-scalpel technique into programs in participating countries.</td>
</tr>
<tr>
<td>Male Sterilization Using the KLI Vas Ring</td>
<td>1977-1978</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td></td>
<td>Completed</td>
<td>To evaluate the effectiveness, complications and technical ease associated with the use of the vas ring for male sterilization.</td>
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<tr>
<td>Information Dissemination</td>
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<tr>
<td>Continuing Medical Education Seminars</td>
<td>1998-1999</td>
<td>AGOG</td>
<td>USAID</td>
<td>$70,845</td>
<td>3414</td>
<td>Ongoing</td>
<td>To provide current, accurate information to Guatemalan service providers on contraceptive methods and family planning services, STDs and selected obstetric and gynecologic issues via educational seminars.</td>
</tr>
<tr>
<td>Project Name</td>
<td>Effective Dates</td>
<td>Collaborating Agencies</td>
<td>Funding Source</td>
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<tr>
<td>Training of Expert Presenters</td>
<td>1998</td>
<td>AGOG</td>
<td>USAID</td>
<td>$68,459</td>
<td>3413</td>
<td>Completed</td>
<td>To prepare selected physicians to be expert presenters and to disseminate current information on contraceptive technology.</td>
</tr>
<tr>
<td>Association of Gynecologists and Obstetricians of Guatemala Annual Meeting</td>
<td>1998</td>
<td>AGOG</td>
<td>USAID</td>
<td>$27,977</td>
<td>3412</td>
<td>Completed</td>
<td>To implement a four-hour seminar on “Recent Advances in Contraceptive Technology” at the OB/GYN Society National Congress; to sponsor the participation of two international experts, plus three Guatemalan “expert presenters” at the seminar; to disseminate materials and resources at FHI’s exhibition booth at the Congress.</td>
</tr>
<tr>
<td>Randomized Clinical Trial Methods for Contraceptive Research</td>
<td>1989</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>Not available</td>
<td>Completed</td>
<td>To strengthen the institutional research capacity of APROFAM and the other institutions that sent participants to the training in order that they could collaborate in future FHI research projects.</td>
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</table>

**Other Population Projects**

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<tr>
<td>A Prospective Study of Spontaneous and Illegally Induced Abortions Treated at Selected Guatemalan Hospitals</td>
<td>1979-1980</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>Not available</td>
<td>Completed</td>
<td>To collect medical and sociodemographic data on spontaneous and illegally induced abortions at selected Guatemalan hospitals.</td>
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<tr>
<td>Spontaneous and Illegally Induced Abortions Treated in Guatemalan Hospitals</td>
<td>1976-1978</td>
<td>APROFAM</td>
<td>USAID</td>
<td>Not available</td>
<td>Not available</td>
<td>Completed</td>
<td>To conduct a retrospective study of spontaneous and illegally induced abortions at selected hospitals and collect medical and sociodemographic data on 2,908 cases.</td>
</tr>
</tbody>
</table>
**APPENDIX TWO**

**FHI AIDS CONTROL AND PREVENTION ACTIVITIES IN GUATEMALA**

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Effective Dates</th>
<th>Collaborating Agencies</th>
<th>Funding Source</th>
<th>Total Funding</th>
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<th>Project Status</th>
<th>Project Objectives</th>
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<tr>
<td><strong>Sexually Transmitted Diseases</strong></td>
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<tr>
<td>Strengthening STD Services in Guatemala</td>
<td>1990-1992</td>
<td>APROFAM</td>
<td>USAID</td>
<td>$86,065</td>
<td>4141</td>
<td>Completed</td>
<td>To strengthen APROFAM's STD and HIV diagnostic capacity; to adapt, develop and produce STD/HIV educational materials; and to set up a continuing education program for APROFAM staff.</td>
</tr>
<tr>
<td><strong>Other AIDS-related Projects</strong></td>
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<tr>
<td>The Socioeconomic Impact of HIV/AIDS in Guatemala</td>
<td>1995</td>
<td>Ministry of Public Health; PAHO</td>
<td>USAID</td>
<td>$10,950</td>
<td>35446-2</td>
<td>Completed</td>
<td>To examine the socioeconomic impact that the AIDS epidemic would have on Guatemala through the year 2000.</td>
</tr>
</tbody>
</table>
