



Community and Service Providers' Attitudes about Tubal Ligation for Medical Reasons

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Acronyms and Abbreviations

| | |
|--------|--|
| CAPMAS | Central Agency for Public Mobilization and Statistics |
| CS | Cesarean Section |
| EDHS | Egypt Demographic and Health Survey |
| EIDHS | Egypt Interim Demographic and Health Survey |
| FGD | Focus Group Discussion |
| GP | General Practitioner |
| IUD | Intrauterine Device |
| MOHP | Ministry of Health and Population |
| MWRA | Married Women of Reproductive Age |
| OB/GYN | Obstetrician and Gynecologist |
| OCP | Oral Contraceptive Pill |
| SPSS | Statistical Package for Social Sciences (Statistical software) |



Executive Summary

Background

Health problems such as rheumatic heart disease, kidney disease, grand multiparity, repeated births by Cesarean Section, continue to afflict a disproportionately vulnerable group of women in Egypt. For these women, repeated pregnancy and childbirth can be disabling or even life threatening. The use of tubal ligation, as a permanent form of family planning, could eliminate the chance of a life-threatening pregnancy for these women, thereby reducing unnecessary maternal morbidity and mortality.

There are untold numbers of women in Egypt who are medically indicated for tubal ligation. However, fewer use the method today than in the past. Very little is known about the knowledge, attitudes, and behaviors of these women and their husbands regarding the process of choosing tubal ligation. The knowledge, attitudes, and practice of physicians who serve as the gatekeepers of the method are also poorly understood.

This research is designed to identify current obstacles to providing tubal ligation as an option to women for whom its medically indicated and formulate recommendations for moving forward to ensure the method is well-understood and appropriately provided.

Objectives

There are two main objectives of this study:

- To assess the current obstacles in knowledge, attitude and practice of women who are medically indicated for tubal ligation and their husbands' attitudes toward and demand for the procedure
- To explore the medical community's attitudes toward tubal ligation for medical reasons, understand the causes of resistance to the procedure, and assess the willingness of private sector physicians to pay for training on the procedure.

Methodology

Focus Group Discussions

Physicians of different related specialties, nurses and women medically indicated for tubal ligation and their husbands participated in 37 focus group discussions (FGDs) in Cairo, Minia and Dakahlia Governorates. Standard focus group methodology was used. Moderator guidelines covered the perspectives of participants on various aspects of the topic under investigation.

Structured Interviews

Private physicians were approached because they are more likely to provide the services for a fee than public sector staff. Structured interviews were conducted with 45 private obstetricians and gynecologists (OB/GYNs) selected from the "Ask-Consult" database within



the three designated governorates. Data entry was done using Excel software while statistical analysis was done using SPSS 11.0 software.

Results and Discussion

Current Use of Ligation

According to 91.1% of interviewed physicians, contraceptive use is high among their patients. The intrauterine device (IUD) being seen as the most prevalent contraceptive method by 84.4% of physicians, followed by oral contraceptive pills (OCP). In spite of being well known among physicians (88.4%) and clients (61.4%), tubal ligation was not mentioned by either group as a contraceptive method currently in use.

Women for whom tubal ligation is medically indicated and their husbands claim to be willing to undergo the procedure if medically necessary.

Where tubal ligations are performed

Tubal ligation is rarely performed at Ministry of Health and Population (MOHP) public hospitals where ministerial instructions have discouraged its practice. There is a higher cases load at university hospitals where physicians are less familiar and cautious regarding these instructions.

For women and their husbands, the cost of transportation between their homes and the hospital and the amount of time a woman is away from her family was mentioned as an obstacle to undergoing the procedure. The hardship is accentuated by a loss of privacy regarding the procedure for the woman if she must leave her family and travel to a hospital, unless the ligation takes place at the time of Cesarean Section (CS). If the service were provided at a nearby clinic, cost, mobility, and privacy would be significantly reduced as obstacles.

How tubal ligations are preformed

The majority of tubal ligations are performed in conjunction with CS, under general anesthesia, and using the Pomeroy method (cutting and ligating). Performing tubal ligation in conjunction with CS is motivated by the desirability for privacy, fear of abdominal surgery, and economic limitations that are making two surgeries too costly. Although a major training interest of interviewed physicians, tubal ligation using a laparoscope is rare.

Why tubal ligations are performed

Most of the interviewed private physicians (82.2%) had previously performed tubal ligation for a client at some point in their training or career. These physicians see themselves as the key players in influencing the woman's decision to have the operation. Between 86.7 and 93.3% of physicians either support or agree with the operation when medically necessary. Physicians stated many advantages of tubal ligation; the main ones being its effectiveness (55.6%), safety (48.9%) and that it is a one-decision method (24.4%).

Interviewed physicians considered hypertension and diabetes mellitus as the most important (81.5%) medical indications for tubal ligation. Congenital diseases, heart diseases, kidney diseases, repeated CS and failure of other contraceptive methods are the other main indications for the operation.



Medically indicated women and their husbands were also familiar with the physiological reasons why tubal ligation was recommended for them—multiparity, rheumatic heart disease among others.

Women mentioned that tubal ligation creates ease and security for them and their husbands. It eliminates the “entire headache” of properly using family planning. It also allows couples to continue their normal relations securely, while preserving the uterus and normal menstrual patterns desirable by women. Husbands felt that tubal ligation was safe, secure, and cost-effective when medically necessary.

Physicians and husbands were more attuned than women to the safety and cost-effectiveness of tubal ligation. Women were more motivated by ease and maintaining reproductive functions, like menstruation.

Despite the disadvantages listed by medical professionals, such as irreversibility, pelvic congestion and possible failure, most of the interviewed doctors (84.4%) were ready to perform tubal ligation for medically indicated cases.

Why tubal ligations are not performed

Only 20.0% of physicians in Minia and Dakahlia and 6.7% in Cairo believe that women may regret having had the operation. This regret imbues fear, but does not prevent a physician from performing the procedure.

Interviewed physicians viewed the role the couple's relatives play in the decision to undergo tubal ligation as insignificant. This is not supported by focus group discussions with women and their husbands who both mention fearing becoming stigmatized if their relatives or other community members become aware that the woman has become ligated.

Between 6.7 and 26.7% of physicians believe that the public opposes the operation. FGDs revealed that concerned wives and husbands are less resistant than physicians think the public at large to be.

During the FGDs, women and their husbands stated that they expected women would be satisfied after undergoing tubal ligation. However, many couples fear physiological, psychological, and even divine consequences from undergoing tubal ligation. Physicians perceived the main disadvantages of tubal ligation as being postoperative complications (55.6%) and that its irreversibility could result in social harms (37.8 %) and psychological problems for the woman (24.4%). Husbands mentioned that women are less capable of having normal sexual relations believing the introitus gets narrower after ligation. This reveals some husbands' lack of understanding of the anatomical basis for the procedure. Both women and men believe the procedure permanently compromises a woman's femininity. Both men and women, and even some physicians feel that the procedure would bring about some sort of divine retribution. Many participants mentioned that they knew of someone who had had a tubal ligation and then tragically lost all of their children in an accident—leaving them childless and infertile.

Nurses' opinions are conservative. Unlike physicians, medically indicated women and the husbands, nurses do not support the procedure even when medically indicated. However anecdotal evidence suggests that in another Governorate, Mansoura, a small group of nurses



have undergone tubal ligation themselves and encourage the procedure for other for whom it would be appropriate.

Only 4.4% of the interviewed private OB/GYNs perceive tubal ligation as being contrary to religious practices. However the religious aspect was subject to long debates during the FGDs and a wide range of opinions between "it is not allowed" and "it is acceptable if strongly indicated" were expressed.

Training issues related to tubal ligation

In Minia, physicians favored hospitals as centers for tubal ligation. However in Dakahlia, university hospitals were favored. Finally in Cairo, private hospitals were favored by over 80% of the physicians.

In regard to the number of interviewed physicians trained in tubal ligation, the highest proportion was found in Cairo (50.0%), followed by Minia (33.3%) and then Dakahlia (20.0%). In Cairo and Minia, most of the tubal ligation training activities were performed at one of the MOHP hospitals, while in Dakahlia, training activities were carried out at the university hospital (66.7%).

According to physicians, universities are the main technical support agencies for training on tubal ligation in Minia (80.0%) and Dakahlia (66.7%), while in Cairo, the MOHP and universities appear to share the responsibility for technical training (42.2%).

Physicians maintained that the MOHP is the primary source for funding for training physicians on tubal ligation (64.3%), with university funding coming second (21.4%). All of the trained physicians in Cairo have been trained by the MOHP.

In Minia and Dakahlia, the interviewed physicians find the operation financially unrewarding, while two thirds of doctors in Cairo have the opposite opinion.

Physicians in Cairo (93.3%) and Minia (73.3%) were willing to receive training on the operation, while less than half of the physicians (46.7%) in Dakahlia were willing to receive such training. Although there were variations in the means between the three Governorates, the median amount of money physicians are willing to pay is 100LE in all three Governorates. This token sum indicates the lack of financial rewards physicians expect from learning this procedure.

Physicians in Minia (80%), Cairo (66.7%) and Dakahlia (53.3%) expect tubal ligation to become somewhat more prevalent over time due to the spread of the family planning concept, but do not expect the method to become a common method in Egypt.

Conclusions

These structured interview and FGDs provided valuable information the many obstacles that prevent tubal ligation from becoming a common method for women for whom the procedure is medically indicated. Some private and public sector physicians and nurses are dissuaded from encouraging medically indicated tubal ligations because of their own moral qualms or social discomfort regarding the issue. Although other physicians claim they are willing to perform the procedure, moral confusion and the prerequisite conditions make the procedure unlikely. Medically indicated women and their husbands appear to have more flexible views



than physicians expect from the public. Anticipating significant resistance from couples, it is possible physicians are not recommending the procedure for those who need it.

Of particular importance is the “missed opportunity” presented with multiple Cesarean Section (CS). Both physicians and patients are particularly receptive to tubal ligation when it accompanies this operation in a patient who has already had multiple CSs. Proper counseling before a CS can capitalize upon these previously missed opportunities.

There is no shortage of OB/GYNs who can perform the operation. However, currently there is a lack of incentive because physicians find the procedure to be financially unrewarding and discouraged by Ministerial instructions. These misunderstandings reduce the acceptability of tubal ligation, including: religious and social concerns regarding irreversibility, diminished femininity, feared side effects, and suspicion arising from a lack of discussion of tubal ligations compared to other contraceptive methods in the media.



Introduction

Background and Justification

Tubal ligation for medical reasons would reduce maternal morbidity and mortality by reducing incidence of pregnancy in women for whom pregnancy is medically contraindicated.

Little information is available on the demand for tubal ligation in Egypt. A 1996 study prepared by Delta Consultants for the Association for Voluntary Surgical Contraception (AVSC now known as EngenderHealth) surveyed ever-married women, their husbands, and physicians at three university hospitals to understand their knowledge and attitudes about post-partum contraceptives use, including tubal ligation¹. The research found that women were more accepting of tubal ligation than of IUDs, as a post-partum contraceptive method, despite their fear of sterility and little understanding of the procedure itself. Physicians proved willing and husbands amenable to performing tubal ligation when medically indicated. Based on this acceptability, TAHSEEN sought to further understand the current informational, attitudinal, or access barriers to tubal ligation for women for whom it is medically indicated, to inform its activities to meet this vulnerable group of women.

Objectives

- To assess the attitudes of women who are medically indicated for tubal ligation and their husbands towards the procedure, as well as conditions of optimal acceptability.
- To explore the medical community's attitudes toward tubal ligation for medical reasons, perceptions of acceptability of tubal ligation among couples (where the woman is medically indicated) and among the general public, and private sector physicians' willingness to pay for training on the procedure

Methodology

Study Sites

The study was conducted in Cairo, Minia and Dakahlia Governorates.

Study Design

The study included both qualitative and quantitative components.

Qualitative Component

The qualitative component was designed to:

- Understand the causes of the medical community's resistance to tubal ligation for medical reasons (including different techniques)
- Assess the attitudes towards and demand for the procedure among women with medical indications for tubal ligation and their husbands.

¹ Delta Consultants *Provider and Client Knowledge and attitudes about post partum contraception and tubal ligation*, AVSC, January 1996



Focus Group Discussions (FGDs) were conducted with different groups: physicians of different related specialties, nurses, and women medically indicated for tubal ligation, and their husbands.

Quantitative Component

The quantitative component was designed to:

- Assess private sector OB/GYNs' attitudes towards tubal ligation for medical reasons
- Understand the causes of resistance to performing tubal ligation among physicians
- Determine physicians' willingness to pay for training on tubal ligation.

Structured interviews were conducted with private OB/GYNs within the three designated governorates.

Sampling Technique and Sample Size

The sample for the structured interviews consisted of 45 private OB/GYNs, selected from the "Ask-Consult" database, a national database of private physicians expanded by TAHSEEN to create a bridge between private sector physicians and pharmacists and family planning and reproductive health training and information. Fifteen private sector OB/GYNs were selected in each of the three Governorates.

The doctors interviewed at the three study sites were of similar ages. The average age varied between 44.6 and 48.7 years of age.

Approximately half of the interviewed doctors had completed a postgraduate diploma. One third of the doctors had a M.Sc., while a few had finished a Ph.D. degree.

For the FGDs, the sample included the following, with each group consisting of six to eight persons:

- Six groups of general practitioners (GPs) from health units, two in each of Cairo, Minia and Dakahlia Governorates.
- Six groups of nurses from health units, two in each of Cairo, Minia and Dakahlia Governorates.
- Three groups of OB/GYNs from district (general, in case of Cairo) hospitals, one in each of Cairo, Minia, and Dakahlia Governorates.
- Three groups of internists from district (general, in case of Cairo) hospitals, one group in each of Cairo, Minia and Dakahlia Governorates.
- Four groups of OB/GYNs from general hospitals, two in Cairo and one in each of Minia and Dakahlia Governorates.
- Four mixed groups of internists, cardiologists and nephrologists from general hospitals, two in Cairo and one in each of Minia and Dakahlia Governorates.
- Six groups of women medically indicated for tubal ligation, two in each of Cairo, Minia and Dakahlia Governorates.
- Five groups of the husbands of the participating women medically indicated for tubal ligation, two in Cairo and Minia, and one in Dakahlia. In Dakahlia, at the village of



Bessat Kareem el Deen, a second FGD for the husbands was not implemented as planned, as those husbands were not available since they are mostly fishermen who spend several successive nights aboard their boats.

Data Collection

Types of Data

The quantitative component of the study consisted of structured interviews that provided information on private sector physicians' attitudes towards tubal ligation and their perception of the public acceptability of the procedure. As physicians serve as gatekeepers to the procedure, their own opinions determine the knowledge, attitudes, and demand among female candidates for the procedure and their husbands. The qualitative component consisted of FGDs designed to provide a clearer understanding of the knowledge, attitudes and behaviors among women, their husbands, and physicians.

Instruments of Data Collection

The questionnaire developed for the structured interviews covered all topics under investigation including: socio-demographic information, individual practices and preferences related to tubal ligation, attitudes towards the procedure, perceptions of clients and community attitudes towards tubal ligation, and individual willingness to pay for tubal ligation training.

FGDs were conducted using guidelines to assure the coverage of all topics under investigation. These guidelines included probing questions related to each topic for moderator use. Guidelines were compiled, reviewed and developed separately for each group category.

Methods of Data Collection

For the structured interviews, the number of data collectors was kept to a minimum to ensure quality, coherence and consistency.

Moderators and interviewers attended a two-day orientation workshop in Minia. This workshop covered the essential information and skills needed by data collectors to assure the validity and reliability of the data collected.

The focus group discussions were held at convenient neutral sites. One moderator in conjunction with a co-moderator moderated each session, with notes taken by two assistant moderators. Discussions were videotaped and audio-recorded.

Data Analysis Plan

For the structured interviews, data entry was performed and double-checked using Excel software. Further data cleaning was undertaken after converting the Excel data to SPSS 11.0 software, which was used for statistical analysis. The latter was done in the form of frequency and percents or mean and standard deviation for the answer to each question with results from 45 interviewees.

Data gained from focus group discussions were qualitatively analyzed along similar lines and presented so as to give the majority opinion and possible individual divergences.



Management of the Research Study

The data collection staff at the OB/GYNs' private clinics conducted all structured interviews. On average, one interviewer conducted 3-4 interview visits per day.

Assistant moderators attended the sessions to aid moderators by taking notes. Immediately after the session, moderators and assistant moderators exchanged notes and developed a written report on the session. In addition, video and audio taken during interviews were transcribed to provide material for analysis.



Findings

The History of Tubal Ligation in Egypt

Although tubal ligation is a common method of contraception in many western countries, in Egypt, its use has declined over the past twenty years. In 1984, tubal ligation represented 5.0% of the contraceptive mix in Egypt. In 1988, that percentage declined to 4.0%, and further declined in 1992 and 1995 (2.3%). In 2000, however, that number rose slightly to 2.5%.²

Possible reasons for this decline include:

- Egyptian National Policy for Family Planning's emphasis on reversible contraception supports a silence on tubal ligation making the method appear 'unacceptable' or 'immoral.' Even though tubal ligation is acceptable when medically indicated its absence from the national FP awareness campaigns makes people suspicious of its legitimacy.
- Providers' moral ambivalence about the procedure reflecting on consumers' misinformation, caution, or outright rejection of the procedure. Although the national policy and religious institutions allow for tubal ligation under special circumstances, providers and potential users must consider the choice of permanent sterilization in an increasingly conservative society, where choosing sterilization is considered immoral. Those couples that choose tubal ligation often do so secretly as not to attract attention to their choice. Effectively, society currently views tubal ligation as a technique to deliberately limit progeny, which is considered immoral, as opposed to regulate fertility which is acceptable. This widespread position on fertility makes the decision to undergo tubal ligation a difficult one, even when clearly indicated medically.
- A reduction of the occurrence of grand multiparity (five or more births), thus reducing the total number of women indicated for the procedure. Multiparity (five or more births) has significantly receded over the past twenty years as fertility trends have declined over the past two decades, from 5.3 births per woman in 1980 to 3.5 births per woman in 2000.³
- An increase in dissemination of misinformation about side-effects of tubal ligation. Increased publicity about potential side effects of the procedure may also have contributed to the decline. Internet discussion groups about potential side effects of the operation, including "post-tubal ligation syndrome" made physicians more cautious of the procedure.
- Advances in contraceptive technology making non-permanent methods effective and available. These advances have most likely precluded the need for a costly medically invasive procedure

² El Zanaty, Fatma and Ann Way. 2001 *Egypt Demographic and Health Survey 2000*. Calverton, Maryland (USA): Ministry of Health and Population (Egypt), National Population Council and ORC Macro. P.81

³ Ibid. p. 47



Ministry of Health and Population 'instructions' during the 1980s discouraged public hospitals from performing the procedure. These 'instructions' were meant to reduce the exposure of the hospital and its physicians from dissatisfied couples by requiring that tubal ligations only take place when medically indicated and only in conjunction with a CS.⁵ Many of the physicians were unsure of why the 'instructions' were issued, speculating that it was a precautionary move on behalf of the ministry. They felt there might have been fear that some couples later regret their decision and claim that they did not provide informed consent, blaming the hospital and the doctors for doing the procedure.

The Current Utilization of Tubal Ligation

According to the Egypt Interim Demographic and Health Survey (EIDHS) 2003,⁶ 0.9% of married women of reproductive age (MWRA)⁷ were sterilized through tubal ligation. Anecdotal evidence suggests that this is usually done concurrent with a Cesarean section. Older women, women with more children and illiterate women were more likely to have had the procedure. The percentage of women who had had the procedure increased relative to the woman's age (e.g., 0.0% of women aged 15 to 24, 2.0% of women 40 to 44 and 2.9% of women 45 to 49 years of age). Women with higher numbers of living children were more likely to have had the procedure (e.g., 0.0% of women with no living children, 0.5% of women with two living children, 1.0% of women with three living children and 1.8% of women with four or more living children). Furthermore, the percentage of women who had had the procedure was higher among illiterate women (1.5%) as opposed to those who had completed secondary education (0.7%). This last variant, however, may be due to the fact that fertility rates are higher among illiterate women.

Although accurate figures are unavailable, it is possible to determine a rough estimate of the number of procedures in a given year by using the following formula:

$$\text{Incidence} \times \text{Duration} = \text{Prevalence}$$

or

$$\text{Incidence} = \text{Prevalence} / \text{Duration}$$

As noted earlier, according to the EIDHS 2003, 0.9% of MWRA were sterilized through tubal ligation. If the number of MWRA is approximately 11.5 million (one-sixth of the total population), the prevalence would be 0.9% of 11.5 million, or 103,500. If most women have the operation at the age of 38 (as evidenced in the focus groups), this the duration of protection against pregnancy would be 11 years.

Prevalence (103,500) / Duration (11 years) = Incidence per year: **9,409** (25 procedures per day).

⁵ Unfortunately a copy of the 'instructions' was not available for review, and physicians doubted if copies were kept at the hospital. Given that it was mentioned in all three governorates, its existence is accepted. Furthermore, assuming it contributed to the downward trend in tubal ligation procedures, the presumed date of the decree coincides with the start of this trend.

⁶ El-Zanaty, Fatma and Ann A. Way. 2004. *2003 Egypt Interim Demographic and Health Survey*. Cairo, Egypt: Ministry of Health and Population (Egypt), National Population Council, El-Zanaty and Associates, and ORC Macro. Table 3.3, pg. 33.

⁷ MWRA represents the number of married women between the ages of 15 and 49.



According to the Central Agency for Public Mobilization and Statistics (CAPMAS) Statistical Yearbook, the number of deliveries is approximately 1.8 million per year⁸ and in 2000, an estimated 10.3% of those were by CS.⁹ Therefore, the number of CS performed each year is 185,400. According to the physicians, nurses, women and men who participated in the focus group discussions, tubal ligation is most often performed in conjunction with CS. Assuming that *all* of the 9,409 tubal ligations were performed in conjunction with CS, this total represents only 5.4% of all women undergoing CS. More women undergoing CS could be candidates for tubal ligation, but not accessing the procedure due to lack of information or discouraging counseling from physicians.

Family planning is widely practiced. The majority of married women have used or are using modern contraceptives. Tubal ligation ranks among the least commonly used modern methods available in Egypt. Despite its low utilization, tubal ligation is widely known among physicians and couples. Regardless of its apparent unpopularity, there is a segment of women from who tubal ligation is a medically necessary and morally acceptable.

Who Performs Tubal Ligations

Although most of the physicians interviewed, 82.2%, had performed a tubal ligation sometime during their training or clinical practice, most of the MOHP OB/GYNs who participated in the focus group discussions had not performed the procedure in the last year. Due to the low cases load, most of those who had performed the procedure in the last year had only done so once or twice. This could be attributed to the low number of procedures that take place in MOHP facilities where these specialist work. There is a higher caseload at university hospitals, so the number of procedures per year among physicians practicing there would likely be higher. These physicians were not included in the focus groups. Despite the low caseload, physicians appear to be discussing tubal ligations openly with other physicians. All of the physicians interviewed in Cairo, 86.7% of physicians in Dakahlia, and 66.7% of physicians in Minia knew of a colleague who would perform the procedures if the tubal ligation were medically indicated.

Where Tubal Ligations are Performed

According to EIDHS 2003, 34% of all tubal ligations were performed at public or teaching hospitals with the rest being performed at private hospitals and clinics (10.4%), by private physicians at their private clinics or hospitals (49.5%) or by mosque health units (2.1%). In all three Governorates, tubal ligations are mostly performed at the university hospital and at a few private hospitals or clinics. In Minia, Ra'i El Saleh Hospital in Samalout was frequently mentioned as an excellent provider.

Public and University Hospitals

According to the OB/GYN specialists, tubal ligation is rarely performed at MOHP hospitals, except in cases of repeated CS. Although there are minimal costs for the procedure at public

⁸ Central Agency for Public Mobilisation and Statistics. (2002). *The Statistical Yearbook, 1994-2002*. Egypt: CAPMAS.

⁹ El Zanaty, Fatma and Ann Way. 2001 *Egypt Demographic and Health Survey 2000*. Calverton, Maryland (USA): Ministry of Health and Population (Egypt), National Population Council and ORC Macro, p. 143



hospitals (where all the services are almost free of charge), their capacity to deliver services is limited due to a shortage of beds (in many hospitals there is a chronic problem of high occupancy) and insufficient operating expenses. Furthermore, personnel (including physicians) are underpaid and poorly motivated, and are thus, reluctant to become involved in a procedure that is socially controversial, even when medically indicated. In this setting, tubal ligation is rarely performed and only in conjunction with CS.

Tubal ligation is slightly more common in government run university hospitals. However, even in this academic setting the provision of tubal ligations is still very much in the hands of the physicians who provide information and counseling often based on their own moral positions, rather than the needs of the patient.

Private Hospitals and Clinics

Although there are few private hospitals and clinics in Minia, they are more common in Dakhalia and Cairo. These private centers provide tubal ligation for those who are willing to pay, with the average charge for the procedure ranging from approximately LE 1000 to LE 1500 in Minia and Dakahlia. These fees are beyond the means of most women and their families, who might not support the woman's need for the procedure.

How Tubal Ligations are Performed

Based on information collected in this research, MOHP specialists usually use the Pomeroy (cutting and ligating) technique for tubal ligations. They feel more comfortable performing ligations with the large incisions used in CS, rather than with the small incisions used for tubal ligations (especially with mini-laparotomy). The anesthesia used for tubal ligation is the same as that used for CS, general or spinal anesthesia. The hazards of general anesthesia, however, as well as the efficacy of spinal anesthesia, are often underestimated in Egyptian culture. This decreases the perceived advantages of tubal ligation by mini-laparotomy or laparoscopy, which can be done under local anesthesia or spinal anesthesia.

Why Tubal Ligations are Performed

Women, their husbands, and physicians cited several reasons why women decide to have tubal ligations. These reasons include:

- Ending the “entire headache” of family planning (not having to remember dates for taking pills, injections, checkups, etc.)
- Preventing the weakened state of health that accompanies pregnancy for some multiparous women
- Eliminating the risk of pregnancy
- Avoiding the complications associated with other methods
- Desirability when compared to hysterectomy, as the uterus is preserved and menstruation continues. Some women believe that menstruation is necessary to rid the body of toxic substances.
- Long-term cost effectiveness when compared with other methods



As mentioned earlier, tubal ligations are usually performed in conjunction with CS, which both patients and doctors consider "two operations in one." Both groups identified advantages of tubal ligations in conjunction with CS. Patients appreciated the use of a single incision when doing both operations at the same time, the convenience and saving of time and money and increased privacy. Using a single incision is significant since opening the abdomen is feared within Egyptian culture. It is customary to differentiate between surgical operations opening the abdomen (in Arabic, *amaleyat fath batn*) and other operations. It seems that this dichotomy is supported by scientific evidence. For these reasons, saving an abdominal "opening" is not insignificant. Additionally, a husband may be persuaded to pay for a CS, but may not be easily convinced to pay for an isolated tubal ligation procedure. The increased measure of privacy is significant since a woman may be embarrassed to leave her village to get her tubes ligated for fear that her neighbors would notice and pass judgment on her. If the operation is performed in conjunction with CS, her privacy may be better protected at the time of the operation.

Although the decision to undergo a tubal ligation is often made in the hours after preparations for a Cesarean section have already begun, it should ideally be made after thorough deliberations between the husband and wife. In order to have the procedure, the couple is required to sign a consent form ensuring that if they regret the operation they cannot ask the community, represented by the government, to fund their attempts to regain fertility.

Regaining fertility is of particular concern to women who fear losing all of their children. Pregnancy through in-vitro fertilization is prohibitively expensive for the majority of women, being far more expensive than tubal ligation itself. The use of community resources in the rare event that a woman has lost her children is popularly viewed as fair.

According to the FGDs, the main indications for tubal ligation are grand multiparity, frequently associated with repeated CS and rheumatic heart disease. Since both grand multiparity and rheumatic heart disease are prevalent among underprivileged women, the cost of the operation as a barrier to access should be researched in more detail. Financially privileged women that can afford the procedure are not usually in need of it. Doctors are aware of the cost barriers for their patients. Eleven out of fifteen doctors stated that they believe that the procedure is expensive for their clients.

The doctors' believe the main advantages of tubal ligation are effectiveness (55.6%) and safety (48.9%). In Minia doctors claim to support tubal ligation for its contraceptive effectiveness (73.3%), safety with no side effects (60.0%) and permanency (53.3%). Similarly, doctors in Cairo state safety (60%) and effectiveness (60%) as the main advantages of the operation. In contrast, doctors in Dakahlia mention fewer advantages for the operation. The main perceived advantage, cited by 46.7%, is that it is the one method that relieves the woman of the burden of other methods such as OCP. Effectiveness ranks second at 33.3%. One doctor in Minia and two in Dakahlia opposed the procedure for moral reasons and refused to perform it.



Table 1: Advantages of tubal ligation as a contraceptive method as perceived by interviewed doctors

| | Minia | Dakahlia | Cairo | Average/ Total |
|--|------------|-----------|-----------|----------------|
| Safe | 60.0% (9) | 26.7% (4) | 60.0% (9) | 48.9% (22) |
| Effective | 73.3% (11) | 33.3% (5) | 60.0% (9) | 55.6% (25) |
| Easily done | 13.3% (2) | 0.0% (0) | 13.3% (2) | 8.9% (4) |
| Permanent | 53.3% (8) | 26.7% (4) | 13.3% (2) | 31.1% (14) |
| Inexpensive | 26.7% (4) | 0.0% (0) | 6.7% (1) | 6.7% (5) |
| Relief in choosing a permanent method | 0.0% (0) | 46.7% (7) | 26.7% (4) | 24.4% (11) |

N.B. Answers are not mutually exclusive, so the total exceeds 100%

During the structured interviews, doctors offered several possible indications for tubal ligation:

- Hypertension and diabetes mellitus (81.5%)
- Repeated CS (66.7% in Minia, 40.0% in Cairo and only 20.0% in Dakahlia)
- Failure of other contraceptive methods (35.6%)
- Multiparity (33.3%)
- Congenital, heart, kidney and liver diseases (52.6%).

Table 2: Indications for tubal ligation as a contraceptive method according to doctors (number responding)

| | Minia (n=15) | Dakahlia (n=15) | Cairo (n=15) | Average (Total) |
|---|--------------|-----------------|--------------|-----------------|
| Client's age is greater than 45 | 20.0% (3) | 0.0% (0) | 13.3% (2) | 11.1% (5) |
| Client has had more than three Cesarean sections | 66.7% (10) | 20.0% (3) | 40.0% (6) | 42.2% (19) |
| Client has had more than four children | 33.3% (5) | 46.7% (7) | 20.0% (3) | 33.3% (15) |
| Other methods are contraindicated | 20.0% (3) | 46.7% (7) | 40.0% (6) | 35.6% (16) |
| Client has hypertension/diabetes | 60.0% (9) | 6.7% (1) | 20.0% (3) | 28.9% (13) |
| Client has other morbidities | 75.0% (9) | 53.8% (7) | 30.8% (4) | 52.6% (12) |
| Client has economic problems | 15.4% (2) | 7.7% (1) | 0.0% (0) | 7.9% (3) |

Note: Because the answers are not mutually exclusive the total exceeds 100%.

Why Tubal Ligations are Not Performed

According to FGD Participants

The FGDs yielded several reasons why tubal ligations are not performed. These include:

- Lack of interest on the part of the physician



- Concerns about the religious acceptability of the procedure
- Fear over the lack of reversibility or expense related to a reversal procedure
- Ambivalence over of perceived physical side effects, including femininity
- Fear of possible method failure
- Anxiety by the physician that the couple will have second thoughts after the procedure
- Price of the procedure puts it out of the range of most couples
- Unfamiliarity with the method and procedure because of its relative absence from national family planning education campaigns and its scare use throughout the population creating a lack of role models

Although one might assume that financially motivated physicians would welcome the opportunity to perform tubal ligations and Cesarean sections separately in order to increase their revenue, they prefer to perform them together. In this case, clinical ease and social comfort outweigh financial motives. Physicians claim that any short-term post-operative complications would likely be ascribed to the CS, and not to the tubal ligation. Furthermore, when performed alone, tubal ligations are not financially rewarding (typical for a procedure that is more common among the underprivileged) for physicians working in the MOHP or university hospitals. For this reason and the fact that tubal ligation is considered an unnecessary use of precious resources, if a tubal ligation is not performed in conjunction with a CS, it may not be performed at all in the public sector

A majority of participants in the FGDs classified the procedure as not permissible religiously and will lead to divine punishment. Some stated that it was strictly prohibited while others said that it was acceptable, if medically indicated, under the principle that “necessity makes prohibited matters allowable.” Many participants did not consider tubal ligation to be family planning, since they classified family planning as reversible, which tubal ligation is not. They considered regulation of birth as acceptable, but felt that absolutely preventing additional births reflected interference with the divine will. Furthermore, some believe that tubal ligation damages the perfect God-created structure of the human body. Both professionals and lay people in the three Governorates related a number of stories about women who had lost all of their children in an accident after having had a tubal ligation – presumably as a result of divine punishment. Although most of those stories cannot be substantiated, they reflect a sense that tubal ligation encroaches on a divine domain.

Another concern raised in the discussions with community members was social consequences for the women because of the lack of reversibility of the procedure. People expressed the concern that a woman who got divorced or became a widow after a tubal ligation would not be able to have children with her new husband if she got remarried. Some participants even mentioned that a husband might encourage his wife to undergo tubal ligation, and then use it as an excuse for polygamy, saying he wanted more children. Community members felt that even though a woman might not want to have any more children, she might want to preserve the ability to procreate, in case she or her husband changed their minds in the future.

Focus group participants mentioned side effects of tubal ligation including pelvic congestion (mentioned by women, men, and OB/GYN specialists), and narrowing of the introitus (cited by husbands who presumably do not know exactly which part is being ligated).



Another issue raised was possible method failure. Although this is rare, it is significant because tubal ligations are always performed in cases where pregnancy is contraindicated and the health of the woman will be at risk. These preexisting health problems, in conjunction to the remorse about losing their fertility can lead women to attribute any negative post operative developments to the procedure.

Many women and their husbands feel that after the procedure their femininity has been compromised. In a revealing double-use of terminology, the Arabic term for ligation is *rabt*, the same word used to describe a commonly occurring case of psychological male impotence that often takes place on the wedding night and is ascribed to the “evil eye” or “a spell cast by enemies.” Using the same term for tubal ligation reinforces the impression of decreased femininity as a negative outcome of the procedure.

Many participants mentioned that the cost of the procedure puts it out of reach of most women. In addition to the direct costs associated with the procedure, participants mentioned a number of indirect costs including: travel to the hospital often in an urban area and accommodation costs for the woman and any accompanying relatives. These costs are particularly prohibitive for women from rural areas. Other women claimed that they could not remove themselves from their family responsibilities in order to travel and recover from the procedure. One rural woman in Minia said, “Where shall I go? Kids consume all my time. Who cares (for me)?” Her statement reveals her concern over providing for herself and her family during and immediately after the procedure.

In addition the aforementioned hardships, the lack of media coverage on tubal ligation prompts some to be suspicious that the procedure is unsafe or clandestine for some reason. As one participant put it, “The media are hammering us all the time with messages on family planning, why not a single word about tubal ligation if it is a legitimate method?” Friends and relatives are another important source for information on family planning issues, but since very few women have gone through the experience, it is difficult for women to find a “role model” among peers, especially in small villages. It is noteworthy that in Dakahlia, many nurses had undergone the operation. They most likely understood the procedure and served as each other’s role models.

According to Participants in the Structured Interviews

The physicians participating in structured interviews mentioned many of the same concerns and misconceptions stated by women, men, and physicians in the FGDs. In summary, participants listed the major problems with tubal ligation as:

- Postoperative complications in the form of pelvic congestion and menstrual disturbances (55.6%)
- Irreversibility of the procedure, which could result in social problems if the woman wants to get pregnant later on (such as in the case of remarriage)
- Psychological problems resulting from regretting the operation (slightly higher in Dakahlia at 33.3% than the other two sites at 20.0% each)

Only two doctors mentioned religion as a reason why tubal ligations are not performed. One physician cited the possibility of method failure.



Table 3: Disadvantages of tubal ligation as a contraceptive method as perceived by interviewed doctors

| | Minia | Dakahlia | Cairo | Average/ Total |
|-------------------------------------|-----------|-----------|-----------|----------------|
| Hazard of surgery | 13.3% (2) | 20.0% (3) | 20.0% (3) | 17.8% (8) |
| Post operative complications | 53.3% (8) | 60.0% (9) | 53.3% (8) | 55.6% (25) |
| Irreversible | 33.3% (5) | 40.0% (6) | 40.0% (6) | 37.8% (17) |
| Psychological problems | 20.0% (3) | 33.3% (5) | 20.0% (3) | 24.4% (11) |
| High cost | 0.0% (0) | 6.7% (1) | 6.7% (1) | 4.4% (2) |
| Religious factors | 6.7% (1) | 6.7% (1) | 0.0% (0) | 4.4% (2) |
| Failure | 6.7% (1) | 0.0% (0) | 0.0% (0) | 2.2% (1) |

N.B. Answers are not mutually exclusive, so the total can exceed 100%

Attitudes Toward Tubal Ligation

Physician Perceptions of Wives, Husbands, Relatives and the Community

Physicians participating in the structured interviews were asked about their perception of support for the procedure among wives, husbands and their respective relatives.

According to the physicians, 100% of husbands would agree to his wife undergoing tubal ligation for medical reasons. In Minia and Cairo, the majority of physicians believe the wife's family would be supportive or at least indifferent to the woman having a tubal ligation for medical reasons. In Dakahlia, the situation is somewhat different, as 20% of physicians believe the wife's relatives would not accept her having the operation.

Physicians believe the general public is more hesitant and conservative about tubal ligation, than those women for whom the procedure is medically indicated and their husbands. Twenty-six percent of physicians interviewed from Dakahlia claimed that people (not indicated for the procedure) would refuse or oppose the procedure. This belief was also common among physicians from Cairo (15.4%) and Minia (6.7%).

Table 4: Physician's perception of the attitudes of different parties on tubal ligation for medical reasons

| | Minia | Dakahlia | Cairo | Total |
|--|-------------|-------------|-------------|-------------|
| Husbands' attitudes | | | | |
| Support/indifferent | 100.0% (15) | 100.0% (15) | 100.0% (15) | 100.0% (45) |
| Refuse/oppose | 0.0% (0) | 0.0% (0) | 0.0% (0) | 0.0% (0) |
| Husbands' relatives' attitudes | | | | |
| Support/indifferent | 100.0% (14) | 100.0% (15) | 100.0% (10) | 100.0% (39) |
| Refuse/oppose | 0.0% (0) | 0.0% (0) | 0.0% (0) | 0.0% (0) |
| Clients' relatives' attitudes | | | | |
| Support/indifferent | 92.9% (13) | 80.0% (12) | 100.0% (6) | 90.7% (31) |
| Refuse/oppose | 7.1% (1) | 20.0% (3) | 0.0% (0) | 9.3% (4) |
| Public opinion (according to interviewed doctors) | | | | |
| Support/indifferent | 73.4% (14) | 73.3% (11) | 77.0% (11) | 74.4% (36) |



| | | | | |
|----------------------|----------|-----------|-----------|-----------|
| Refuse/oppose | 6.7% (1) | 26.7% (4) | 15.4% (2) | 16.3% (7) |
|----------------------|----------|-----------|-----------|-----------|

Most of the physicians believe that after the procedure women are satisfied with their decision. Only 7 out of 45 physicians (15.6%) believe that women have postoperative regrets (see Table 5).

Table 5 Clients' feelings after undergoing tubal ligation for medical reasons (as perceived by interviewed doctors)

| | Minia | Dakahlia | Cairo | Total |
|--------------------------|------------|------------|------------|------------|
| Satisfied | 73.3% (11) | 80.0% (12) | 73.3% (11) | 75.6% (34) |
| Indifferent | 6.7% (1) | 0.0% (0) | 20.0% (3) | 20.0% (4) |
| Was not necessary | 0.0% (0) | 0.0% (0) | 0.0% (0) | 0.0% (0) |
| Regret it | 20.0% (3) | 20.0% (3) | 6.7% (1) | 15.6% (7) |

Physicians' views towards the procedure itself

Some physicians are concerned that the procedure is sometimes provided to women for whom it is not medically indicated. Several physicians recommended that each hospital establish a committee of physicians including the hospital director in order to confirm that the procedure is being conducted under necessary circumstances and that the patient is fully aware of the possible consequences of her decision and not influenced by an encouraging physician.

Most of the interviewed doctors had no ideological problem with performing tubal ligation for medically indicated cases (86.7%, 80% and 85.7% in Minia, Dakahlia and Cairo respectively).

Nurses' opinions were as conservative as the physicians perceived the community. They seldom advise others to undergo tubal ligation. However, in Mansoura, many nurses have undergone tubal ligations themselves and could be good advocates for the procedure.

Several participating cardiologists and nephrologists mentioned that they refer women with heart failure, cancer and renal failure to an OB/GYN. They claim to make the referral, informing the woman that further pregnancies would be detrimental to her health, but without specifying a given approach, leaving the decision to the OB/GYN.

Tubal ligation for medical reasons is a well-known method of contraception among physicians (88.4%). All physicians claimed that tubal ligation is a well-known contraceptive method among other physicians. Except in Cairo, the majority of doctors think that no alternative to tubal ligation will give the same results under the same circumstances. Doctors who thought that another method could replace tubal ligation mentioned: hysterectomy, an IUD, injections, subdermal implants, or a combination of more than one method, specifically an IUD and a barrier method. Doctor suggested a range of solutions from male sterilization to sexual abstinence as alternatives to tubal ligation with similar results.



Table 6: Interviewed physicians' opinions regarding medically indicated tubal ligation as a contraceptive method

| | Minia | Dakahlia | Cairo | Total |
|-------------------------|-------------|-------------|-------------|-------------|
| Support | 60.0% (9) | 13.3% (2) | 76.9% (10) | 48.8% (21) |
| Agrees | 20.0% (3) | 80.0% (12) | 15.4% (2) | 39.5% (17) |
| Indifferent | 0.0% (0) | 0.0% (0) | 0.0% (0) | 0.0% (0) |
| Refuses | 20.0% (3) | 6.7% (1) | 7.7% (1) | 11.6% (5) |
| Actively opposes | 0.0% (0) | 0.0% (0) | 0.0% (0) | 0.0% (0) |
| Total | 100.0% (15) | 100.0% (15) | 100.0% (13) | 100.0% (43) |

Use of Contraception/Contraceptive Methods/Tubal Ligation as Contraception

All doctors in Minia and the majority of doctors in Dakahlia (93.3%) believe contraceptive use as highly prevalent in comparison to only 80.0% of doctors in Cairo.

The IUD was ranked as the most prevalent contraceptive method used (84.4%) while OCPs were ranked second (22.2%) except in Minia where injections ranked second (46.7%) after IUD use.

None of the interviewed doctors spontaneously mentioned tubal ligation as a contraceptive method used by anyone they could recollect.

Decision Maker for Undergoing Tubal Ligation

Nearly half of the interviewed physicians in Minia and Dakahlia and 84.6% of physicians in Cairo, believe the physician is the key player in convincing women to undergo tubal ligation for medical reasons. In Minia and Dakahlia, 20.0% and 13.3% of physicians respectively stated that the woman may be interested in and seeking the operation on her own.

Table 7: Primary influence on client to undergo tubal ligation for medical reasons according to interviewed physicians

| | Minia | Dakahlia | Cairo | Average/ Total |
|----------------------|-----------|-----------|------------|----------------|
| Physician | 46.7% (7) | 46.7% (7) | 84.6% (11) | 58.1% (25) |
| Husband | 33.3% (5) | 40.0% (6) | 15.4% (2) | 30.2% (13) |
| Woman herself | 20.0% (3) | 13.3% (2) | 0.0% (0) | 11.6% (5) |

Where Physicians Believe Tubal Ligation Should Be Performed

In Minia, nearly two thirds (66.7%) of the interviewed doctors recommended that general hospitals be centers for tubal ligation, half of them (46.7%) recommended university hospitals as centers, while only one third recommended private hospitals (33.3%). In Dakahlia, interviewed doctors recommended the university hospital (46.7%) followed by private hospitals (26.7%). In Cairo, private hospitals came highly recommended by interviewed physicians (80%) followed by general hospitals (66.7%) then university hospitals (53.3%).

In the three study sites, university hospitals got nearly the same percentage of recommendations; general hospitals were recommended only in Cairo and Minia while private hospitals were highly recommended by physicians in Cairo.



Table 8: Medical facilities recommended as centers for tubal ligation

| | Minia | Dakahlia | Cairo | Total |
|----------------------------|------------|-----------|------------|------------|
| General hospital | 66.7% (10) | 13.3% (2) | 66.7% (10) | 48.9% (22) |
| University hospital | 46.7% (7) | 46.7% (7) | 53.3% (8) | 48.9% (22) |
| Private hospital | 33.3% (5) | 26.7% (4) | 80.0% (12) | 46.7% (21) |
| Private clinic | 6.7% (1) | 6.7% (1) | 20.0% (3) | 11.1% (5) |
| NGO health facility | 0.0% (0) | 6.7% (1) | 20.0% (3) | 8.9% (4) |
| Other | 0.0% (0) | 20.0% (3) | 13.3% (2) | 11.1% (5) |

N.B. Answers are not mutually exclusive, so the total exceeds 100%

Training Issues and the Future of Tubal Ligation

Where Are the Doctors Trained in Tubal Ligation

The highest proportion of interviewed doctors trained in tubal ligation is found in Cairo (50%), followed by Minia (33.3%), then Dakahlia (20%).

In Cairo and Minia, the majority of training on tubal ligation has taken place at MOHP hospitals. The majority of the training in Dakahlia was done at the university hospital (66.7%). One physician (out of seven) in Cairo had received training in the UK.

University hospitals appear to be the main technical supporting agencies for training on tubal ligation, especially in Minia (80%) and Dakahlia (66.7%). However, interviewed physician believe that the MOHP and university hospitals have equal potential for training in Cairo (42.2%).

Funding for Training

For physicians who a formal structured received tubal ligation training (15/45 physicians), the MOHP was the main funding agency (64.3%), with universities second (21.4%). Other physicians stated that they had learned the procedure informally during their clinical training or while practicing from colleagues. Only one (1/14) physician funded himself/herself for the training. Surprisingly, 100% of trained physicians in Cairo were funded by the projects operating under the MOHP.

Willingness to Receive/Pay for Training

In Minia and Dakahlia, interviewed private sector physicians see the operation as financially unrewarding. Whereas two thirds of physicians in Cairo believe the procedure has the potential to benefit them financially if conducted in the private sector.

Physicians in Cairo (93.3%) and Minia (73.3%) were willing to receive training on tubal ligation while in Dakahlia, less than half of the physicians (46.7%) were willing to receive such training. These proportions are consistent with their calculations of the potential benefit of performing the operation to them.

Almost all OB/GYN specialists claim to be comfortable performing the operation during a Cesarean section, but few claim to know how to use the laparoscope. Many physicians are



interested in being trained on laparoscopy (not specifically for tubal ligation purposes), but they specifically expressed interest in practical training, providing them the opportunity to practice the procedure themselves, not just watch. They were ready to pay (within limits) for “useful” training, as opposed to theoretical lectures. One participant mentioned that he had personally paid 500 Saudi Riyals (about \$133), when he was working in Saudi Arabia, to attend a training course on laparoscopy).

Although they were a minority among respondents from their Governorate, physicians in Dakahlia were the most willing to pay for training on tubal ligation (85.7%), Physicians in Cairo (64.3%) were less willing to pay for this training, although they see the operation as having a good cost benefit ratio. See Table 9.

Table 9: Interviewed physicians' training status and willingness to pay for training on tubal ligation

| | Minia | Dakahlia | Cairo | TOTAL |
|--|------------|-----------|------------|------------|
| Physicians trained on the operation | 33.3% (5) | 20.0% (3) | 50.0% (7) | 33.3% (15) |
| See the operation as rewarding | 26.7% (4) | 13.3% (2) | 66.7% (10) | 35.6% (16) |
| Willing to be trained | 73.3% (11) | 46.7% (7) | 93.3% (14) | 71.1% (32) |
| Willing to pay for training | 72.7% (8) | 85.7% (6) | 64.3% (9) | 71.9% (23) |

This could be attributed to the fact of the trained physicians from Cairo, 100% were funded by the MOHP, making the idea of paying for training unfamiliar. Although there were variations in the mean of the sums of money private sector physicians were willing to pay, the median sum of money for all three Governorates was the same (100LE). This low amount reflects the potential nominal benefit that the physician expects to gain from learning the procedure. Although there are differences in the mean sum physicians are willing to pay between the three Governorates, the median sum for all three Governorates is 100LE.

Table 10: Amount of money (in LE) that interviewed physicians are willing to pay for training on tubal ligation

| | Minia | Dakhalia | Cairo | Average |
|---------------------------|-------|----------|-------|---------|
| Minimum | 50 | 50 | 50 | 50 |
| Maximum | 300 | 700 | 200 | 700 |
| Standard deviation | 88 | 228.5 | 57 | 166.8 |
| Mean | 125 | 232. | 120 | 172 |
| Median | 100 | 100 | 100 | 100 |

Future of Tubal Ligation

The majority of physicians in all Governorates expect tubal ligation to become more prevalent in the future—80% in Minia, 66.7% in Cairo, and lastly 53.3% in Dakahlia.

Doctors believe that an increased awareness and support for family planning will be the biggest cause for the spread of tubal ligation (46.7%). Other reasons doctors believe that tubal ligation will become more popular include: 1) it is safer compared to other methods



(15.6%), 2) economic factors in Egypt discouraging multiparity (13.3%), and 3) a higher rate of CS creating a gateway for the procedure for an increased number of women (11.1%).

Increased religiosity among physicians and patients supporting the belief that tubal ligation is immoral was cited as the main reason for the non-increase of tubal ligation.

Table 11: Reasons for possible future increase of tubal ligation (30/45 physicians)

| | Minia | Dakahlia | Cairo | Total |
|---|-----------|-----------|-----------|------------|
| Economic factors | 20.0% (3) | 13.3% (2) | 6.7% (1) | 13.3% (6) |
| Government push | 6.7% (1) | 0.0% (0) | 0.0% (0) | 2.2% (1) |
| Wider spread of concept of FP | 60.0% (9) | 33.3% (5) | 46.7% (7) | 46.7% (21) |
| More candidates/more morbid cases | 13.3% (2) | 0.0% (0) | 20.0% (3) | 11.1% (5) |
| Rumors about side effects of other methods | 20.0% (3) | 0.0% (0) | 0.0% (0) | 6.7% (3) |
| Higher rate of CS | 13.3% (2) | 13.3% (2) | 6.7% (1) | 11.1% (5) |
| Safer compared to other methods | 20.0% (3) | 0.0% (0) | 26.7% (4) | 15.6% (7) |
| Endoscope technique | 13.3% (2) | 13.3% (2) | 0.0% (0) | 8.9% (4) |

N.B. Answers are not mutually exclusive, so the total exceeds 100%



Conclusion and Recommendations

Quantitative and qualitative findings support that physicians are the 'gatekeepers' of tubal ligation and often allow their own moral positions to affect the provision of tubal ligation for women from whom the procedure is medically indicated. The study demonstrated that physicians are more ambivalent about training and practicing tubal ligations, than are the women who are indicated for the procedure or their husbands. Besides their own concerns or beliefs, physician fear a backlash and resentment from the ligated woman or her husband. This fear is unsubstantiated by the FGDs with women and their husbands, appears to be shaped by physicians focus on the general public's position on tubal ligation, The physicians seem to be missing the gap between those who are medically indicated for the procedure who see the procedure as medically necessary and those who are not in need of the procedure. Physicians' tendency to focus on the moral issues at hand, threatens to create a situation where women are not presented with the option (when appropriate) or women and husbands are hesitant to request the procedure for fear of being admonished by their physician.

Other significant barriers to access were exposed in the research. The cost of the procedure and location of the procedure create a serious barrier to access for women (often coming from the most impoverished quintile) who cannot afford the direct or indirectly cost of the procedure. The distance between the facilities where tubal ligation is offered and the women's homes create an additional burden of the cost of transportation and finding childcare during their absence. Women and husbands also highlighted to fact that undergoing tubal ligation was most tolerable during a CS, in order to preserve their privacy with regards to their contraceptive choice and minimizing the health risk of undergoing two procedures. For these reasons, tubal ligation was not described as a procedure that could be undergone without significant planning within the family, despite the risks to the woman of remaining fertile.

Although the frequency of the indications (grand multiparity, rheumatic heart disease, and liver cell failure) is in decline, physicians believe that couples will increasingly demand the procedure when necessary. Despite the described lack of financial incentive on the part of the physician, the majority are motivated to be trained in the procedure and willing to pay a small amount for the training.

In order to prevent missed opportunities to provide tubal ligation to women in need, much can be achieved if women are properly counseled before undergoing CS. Furthermore, a clarification of clinical guidelines would be useful in eliminating the current state of clinical and moral ambiguity. This clarification would go far in assuring that women medically indicated for tubal ligation would be presented with accurate information and objective counseling on the issue. Beyond, improving knowledge and attitudes towards tubal ligation, access issues need to be resolved in order to make the procedure available, affordable, and feasible for women and their families.

Eight specific recommendations, if implemented, could pave the way for increasing the use of tubal ligation for medical reasons.



Recommendations

1. Clear-cut guidelines for medically indicated tubal ligation should be established, taking into consideration scientific, religious and cultural issues. These guidelines, within the framework of the national policy, will enable OB/GYNs to take action when needed, without being afraid of falling into the legal and moral gray areas surrounding this issue.
2. Selected centers should be chosen and upgraded (through training, providing of laparoscopes, etc.) to become centers of excellence for providing tubal ligation service. One center could be selected in small Governorates, and two in larger Governorates. Chosen centers should be widely publicized. Increased promotion of tubal ligation for medical reasons can improve access to these centers.
3. A media campaign should be conducted aimed at dispelling rumors and false concepts about the operation (medical and religious). This campaign should avoid any overbearing tones, which could arouse suspicion rather than inspiring confidence. Care should be taken to replace the term “*rabt*” with a more neutral term in the vocabulary of both physicians and media.
4. Tubal ligation should be included within the counseling package during antenatal care. Candidates for whom the procedure is medically indicated should be approached, especially those who are contemplating a CS delivery (in order to avoid missing the opportunity for this woman to have the procedure)
5. All costs associated with the operation (including prohibitive indirect costs) should be covered for those who are unable to afford it.
6. A funding mechanism should be found to help women in restoring their fertility (possibly through in-vitro fertilization) in case they tragically lose all their offspring after tubal ligation for medical reasons. This highly remote possibility is widely publicized and makes many women refrain from having the operation done. (Clearly the subsequent pregnancy will need to be followed-up closely.)
7. Further research should be conducted to ascertain the exact proportion of tubal ligation procedures conducted independently of CS.
8. Specialists should be encouraged to refer patients to OB/GYNs specifically for tubal ligation when indicated.

