

FEMALE SURGICAL STERILIZATION AT A TERTIARY CARE HOSPITAL IN KARACHI

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Background: Tubal ligation for sterilization is one of the common methods of contraception practiced by women in developing countries like Pakistan. This study was undertaken to study characteristics of couples undergoing surgical sterilization, and to identify ways of improving utilization of contraceptive services. **Material and methods:** Details of 1148 women who underwent tubal ligation at the reproductive health center Jinnah Postgraduate Medical Center Karachi from January to December 2002 were recorded on a special proforma. The woman's age, duration of marriage, number of living children and the couple's educational status were recorded. Contraceptive use and duration, and associated medical conditions were documented. Data was entered in SPSS, frequency tables, means and standard deviations were obtained and comparative evaluation undertaken using non parametric methods, as indicated. **Results:** Out of the 4210 initial clients, 1163 (27.62%) underwent surgical sterilization. This included 1148 (98.69%) tubal ligations and 15 (1.31%) vasectomies. Of these, 608 (52.96%) were carried out in the immediate puerperium. The mean age of women was 33.1 ± 3.55 years, they had been married for 14.84 ± 4.22 years and 44.34% had already had 6 or more children. **Conclusion:** Tubal ligation performed after careful selection and counseling, by experienced personnel under local anaesthesia is a safe procedure with very few complications. However older women with no history of contraception, who have already had 6 or more children, seem to avail it. Promotion of temporary contraceptives for birth spacing among younger couples is more likely to improve maternal and newborn health in addition to limiting the family size.

Key words: Female surgical sterilization, tubal ligation, age, parity, counseling, birth spacing

INTRODUCTION

Pakistan is a low income country with a population of 142 million.¹ This puts an enormous burden on the limited resources of the country. The decline in the fertility rate of the Pakistani woman from 5.2 in 1974² to the current 4.6³ has taken too long and at a high cost to the women of childbearing age. In Pakistan, the maternal mortality ratio is estimated to be as high as 673 per 100,000 live births in some areas⁴, but even at present 32% of women of childbearing age remain at risk of unintended pregnancy³. Family planning contributes significantly to population welfare and making motherhood safe^{5,6}. The current contraceptive prevalence rate of 27%¹ is far below that of our neighbouring countries,³ and feasible ways of enabling couples to plan the size of their families, need to be determined by assessing the use of contraceptive services and devising ways of improving their utility. Voluntary surgical contraception is a significant component of all Family planning programs in developing countries.⁷ Men can opt for a vasectomy as a permanent method of sterilization, but in most cases women undergo the procedure by having their tubes ligated. This can be done at Caesarean section, in the first week after delivery or as an interval procedure.

This study was undertaken to study characteristics of couples undergoing surgical sterilization, and to identify ways of improving utilization of contraceptive services by clients.

MATERIAL AND METHODS

The Reproductive Health Services Centre affiliated with the Department of Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre is one of the largest in the city of Karachi. It offers a wide variety of Family Planning services, including facilities for postpartum and interval tubal ligation. Clients come here directly from homes, or are referred from various clinics and hospitals in the city. A detailed history and physical examination is followed by a counseling session with a trained staff member.

After ensuring suitability of the candidate for surgical sterilization and written consent/thumb print of the client and her husband, tubal ligation is carried out as a day care procedure under local anaesthesia by mini laparotomy.

After being under observation for a few hours, women are provided transport to take them home. Prophylactic broad spectrum oral antibiotic and analgesia is provided. The stitches are removed, on the 5th postoperative day, either in the (RHSC), or a Welfare Center close to the client's residence. Any intra or postoperative complications are recorded in the Register as well the patient's card.

The records of all women who had tubal ligation at the Reproductive Health Services Centre, Jinnah postgraduate Medical Centre Karachi, between January and December 2002, either postpartum or as an interval procedure, were analyzed. Information was gathered from Registration and Operating Theater registers. Details were also obtained from cards filled out for each individual patient. The woman's age duration of marriage, parity, number of living children and the couple's educational status were recorded in a proforma designed for data collection. Details of contraceptive use and duration, and any associated medical condition in the woman were documented. Data was entered in SPSS, frequency tables, means and standard deviations were obtained and comparative evaluation undertaken using non parametric methods, as indicated.

RESULTS

A total of 4210 initial clients were registered at the RHC between January and December 2002 (Table1). Out of them 1163 opted for surgical sterilization (27.62%). These included 1148 women who had tubal ligation and 15 men who had vasectomies. Of the women who had tubal ligation, 608 underwent the procedure in the first week after delivery (52.96%). During the same period, 593 tubal ligations were performed at Caesarean section, in the Department of Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre. The details of later are not considered here.

The mean age of women opting for tubal ligation, either interval or postpartum, was 33.10 ± 3.55 years. The mean duration of their marriage was 14.8 ± 4.2 years and 44.34% had 6 or more children before opting for tubal ligation. 68.5% women and 51.2% of their husbands were illiterate. There was no history of prior contraceptive use in 50.17% couples. Only 10% of the women had a significant health problem like cardiac disease, hypertension or diabetes.

Table-1: Surgical sterilization at RHS Centre, Jinnah Postgraduate Medical Center, Karachi. January-December 2002 (n=1148)

	No.	%
Total clients for Family Planning	8402	
Initial clients	4210	50.11
Surgical sterilization	1163	27.62
1. Tubal ligation	1148	98.71
o Interval	540	47.04
o Postpartum	608	52.96
2 Vasectomy	15	1.31

* 593 additional tubal ligations were carried out at Caesarean section in the Department of Obstetrics and Gynaecology, in the same period

Table-2 shows that 66.47% women were older than 30 years at the time when they chose to have their tubes ligated, but less than 1%, were above 40 years of age at the time. Table III shows that nearly 70% women had been married for over 12 years, and more than 85% had already had 5 or more children by the time they decided to ultimately end their reproductive function. Less than 1% opted for surgical sterilization if they had fewer than 3 children. These were women with serious medical conditions like severe hypertension, uncontrolled diabetes or heart disease.

Table-2: Age of women in years, at tubal ligation (n=1148)

Age Group	No.	%
<25	26	2.26
26-30	359	31.27
31-35	523	45.56
36-40	232	20.21
>40	8	0.70

Table-3: Duration of marriage in years, before tubal ligation (n=1148)

Age Group	No	%
<10	132	11.50
10-12	226	19.69
13-15	268	23.34
16-18	322	28.05
>18	200	17.42

Table-4: Number of children before tubal ligation (n=1148)

No Children	No.	%
<3	10	0.87
3-4	161	14.02
5-6	468	40.77
>6	509	44.34

There were two notable intraoperative complications. The uterus was perforated on one occasion, but it was possible to complete the procedure under local anaesthesia, the patient was kept under observation for a day and she recovered with conservative management. In another instance, the fallopian tube was lacerated during surgery and the ensuing haemorrhage necessitated shifting the patient to the departmental Operating theatre, where the suprapubic incision was enlarged under general anaesthesia to arrest haemorrhage and complete the procedure. No blood transfusion was required and recovery was uneventful. Minor complications included, slight wound infection in six clients (0.52%) that responded to antibiotics.

No woman expressed regret over the procedure during the study period.

DISCUSSION

Voluntary surgical contraception is practiced widely in developing countries like Pakistan. Among couples opting for it, almost always women undergo the procedure by having their tubes ligated. Tubal ligation can be performed either intrapartum at Caesarean section or postpartum. The later can be done during the puerperium or as an interval procedure. The facility is available in many areas of the country, both in the government and private sector as well as Non governmental organizations.

In Pakistan, various methods are used to occlude or ligate fallopian tubes^{8,9}, but most such procedures in Reproductive Health Service Centers are carried out on women by mini laparotomy, using Pomeroy's technique. This has the advantage of ease of performing surgery as a day care procedure under local anaesthesia with relatively few complications^{7,10-13}. To achieve the desired results it is essential that candidates are selected appropriately and surgeons are competent and experienced¹⁴⁻¹⁸. The very low rate of complications in the present study corroborates other similar studies alluded to above and is a reflection of the quality of services.

There is a view that sterilization carried out in the immediate postpartum period is more likely to be associated with regret¹⁹. But in developing countries, hospital confinement offers women an opportunity to have surgical sterilization also. Although the present study does not include analysis of tubal ligation at Caesarean section, performed in 593 women during the same period, this along with 608 tubal ligations carried out in the postpartum period constitutes 69% of all female surgical sterilization procedures. Surgical sterilization carried out at Caesarean section and in the immediate postpartum period, may not have been planned in advance, but with appropriate

counseling the acceptance is more likely to benefit the woman, and regret is more likely to be the result of declining the procedure^{20,21}.

It is vital that all surgical contraception programs really be 'voluntary', free of coercion by economic or social incentives or pressures^{22,23}. Such tactics not only infringe upon the basic right of free choice of individuals, but are also detrimental to the long term objectives of success of the programs. In the service outlet where this study was carried out, a lot of stress is laid on appropriate counseling taking into consideration the woman's age, parity, marital stability, number, age and gender of children. It is of paramount importance that the irreversibility of the procedure is understood by the client and her husband, to enable them to make an informed decision with little chances of regret.²⁴⁻²⁷

It is worth noting that 88.5% of women in the present study, who underwent surgical sterilization had been married for 10 or more years, 85% of them had already had 5 or more children and 50% had no history of previous use of contraception. The indications being that sterilization perhaps decreases maternal mortality and morbidity in these women of high parity by preventing further pregnancies. However, it is unlikely to have much impact on infant survival and well being of younger women in reproductive age. In Pakistan the norm still is early marriage and childbearing, with very limited practice of Family Planning. This means that most women have early pregnancies, followed by repeated pregnancies in quick succession.²⁸ Women are very hesitant to admit to having unwanted pregnancies terminated, and although this study did not address this issue, but evidence is available to suggest that those with no prior use of contraceptives, who ultimately opt for surgical sterilization, are more likely to have had abortions induced.²⁹ It is therefore essential that birth spacing for family planning be promoted among younger couples. Such efforts will have a favourable impact on reduction of current growth rate of 2.6% as well.³⁰

Another fact worth pondering upon is that during the study period, only 15 vasectomies were carried out in the same Reproductive Services Center, as compared to 1148 tubal ligations, although facilities for carrying out both the procedures were available. Unless males are involved more in Family Planning, lifting some of the burden off the women's shoulders, the hurdles will remain difficult to cross. But looking at the slow pace of change in societal attitudes, it seems that for the foreseeable future, among couples wishing to plan their families, women will continue to be responsible for practicing contraception

Despite the availability of various other forms of contraception, there will always be a sizable proportion of couples for whom, voluntary surgical sterilization is more suited or more acceptable. This includes relatively older women who have completed their families³¹⁻³⁴, or those for whom, other methods like hormonal contraceptives or intrauterine contraceptive devices are less suitable. For this reason, such services need to be made available more freely and the quality of care offered in existing service programs improved further for their optimum utilization.

CONCLUSIONS

- 1 Female surgical sterilization is the commonest permanent method of contraception with very few complications in an appropriate setting.
- 2 Women opting for tubal ligation are more likely to have never practiced contraception before.
- 3 As sterilization is primarily carried out in older women who have already had many deliveries, the procedure is unlikely to benefit younger couples with fewer children.
- 4 Birth spacing by using temporary methods of contraception should be promoted further in younger couples, to improve maternal and child health as well as decrease the population growth rate.
- 5 Appropriate counseling and patient selection minimize chances of regret following the procedure.
- 6 Peripartum tubal ligation is an acceptable procedure in women undergoing Caesarean section or immediately following confinement.

- 7 The extremely low rate of Vasectomies, emphasizes the fact that Family Planning Programs need to focus on greater involvement of males.

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