

Minilaparotomy Female Sterilisation At A Nigerian Tertiary Health Centre

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Abstract

BACKGROUND: Female sterilisation has an important role to play in reducing the high rate of maternal mortality in developing countries. **OBJECTIVE:** To determine the incidence, sociodemographic characteristics, timing, technique, type of anaesthesia, effectiveness and complications associated with minilaparotomy sterilization at the Federal Medical Centre Makurdi, Nigeria. **METHODS:** A retrospective analysis of the clinical records of 36 patients who accepted female sterilisation by minilaparotomy out of 1346 acceptors of contraceptive methods at the Federal Medical Centre Makurdi over a five year period between November 2002 and October 2007. **RESULTS:** The incidence of Minilaparotomy female sterilisation was 2.7%. Interval sterilisation was done for 72.2% of patients. Tubal occlusion was achieved with the modified Pomeroy's technique in all patients. Heavy sedation was used in 69.4% of cases. Effectiveness was 100% with no mortality. Wound infection and anaesthetic complications each occurred in 5.5% of patients. **CONCLUSION:** Female sterilisation through Minilaparotomy is relatively low at the Federal Medical Centre Makurdi, Nigeria. Training of healthcare providers and scaling up counseling of patients for surgical contraception will improve acceptability.

INTRODUCTION

With present advances in contraceptive technology, surgical contraception stands out as the most popular and safest method of fertility control all over the world.^{1,2} The increasing desire for smaller families particularly in the developed nations coupled with the availability of relatively simple and safe methods of sterilisation, and increasing resistance to prolonged use of oral contraceptives have encouraged an increase in demand for female sterilisation over the less permanent and less invasive non surgical contraceptive techniques.^{3,4,5}

Unfortunately, female sterilisation is practiced only on a limited scale in most developing countries.³ This is probably due to the great desire for large families, limited availability of the method, aversion to operative procedures as well as the permanent nature of the method.^{3,5,6} Religious opposition and legal restrictions are also contributory factors.⁷ While the prevalence of sterilisation is as high as 31.3 % in married women of reproductive age in the United States⁸, Nigeria had one of the lowest female surgical contraception rates in the world with less than 1 % of women over 35 yrs using surgical contraception¹ though recent reviews in Nigeria have reported an incidence of 1 - 3.15 % at best.^{7,9}

Increased usage of contraception has direct effects on maternal deaths by reducing the number of pregnancies.¹⁰⁻¹² Female sterilisation has an important role to play in the reduction of the currently high maternal deaths in developing countries.⁷ Recently, a hospital based study in Makurdi, North Central Nigeria reported a maternal mortality ratio of 4408 / 10000 deliveries.¹³

Though a high maternal mortality ratio has been documented in Makurdi¹³, this is the first attempt at reviewing female surgical sterilisation by minilaparotomy in Makurdi. The information revealed by this study, though retrospective in nature, will highlight the current state of female sterilisation by Minilaparotomy in Makurdi and possibly serve to stimulate future research.

MATERIALS AND METHODS

This was a retrospective descriptive study of all female patients who had surgical sterilisation by minilaparotomy at the Federal Medical Centre, Makurdi, Nigeria over a five year period, between November 2002 and October 2007. The clinical records of the patients were retrieved from the medical and theatre records of the hospital. Information extracted included age, parity, educational and marital status,

indication, type of bilateral tubal ligation (BTL), method employed, indication for tubal ligation, anaesthesia used and complications. Additionally, the total number of voluntary surgical sterilisation done and other forms of contraception offered to patients during the study period was obtained from the Family Planning, Medical and Theatre records. The data was entered and analysed using Epi info.

RESULTS

There were 78 female patients who had bilateral tubal ligation out of 1346 acceptors of family planning methods during the period of review. Of these, 37 (47.4 %) had the procedure done at Caesarean section, 36 (46.2 %) had the procedure through Minilaparotomy while 5 (6.4 %) were offered tubal ligation at laparotomy for ruptured uterus. The incidence of bilateral tubal ligation through Minilaparotomy was 2.7 %. No patient had laparoscopic bilateral tubal ligation during the period of review.

The age of patients accepting bilateral tubal ligation through minilaparotomy ranged from 27 – 43 years with a mean age of 35.5 ± 3.1 years. The parity of patients ranged from 4 – 10 with a mean parity of 7.2 ± 1.2 . No patient with parity of 3 and below was sterilized. Majority of the patients 35 (97.2 %) were grand multiparous. (Table I). The number of surviving children among women accepting bilateral tubal ligation ranged between 5 and 9 with a mean of 6.7. Majority of patients 30 (83.3 %) accepting bilateral tubal ligation had formal education while 6 (16.7 %) had no formal education (Table I). All patients accepting this method were married and of the Christian faith.

Figure 1

TABLE I - Sociodemographic Characteristics Of The 36 Patients Who Had Bilateral Tubal Ligation By Minilaparotomy

CHARACTERISTIC	NUMBER	PERCENTAGE
AGE		
< 20	0	0
20 – 24	0	0
25 – 29	1	2.8
30 – 34	9	25.0
35 – 39	18	50.0
≥ 40	8	22.2
PARITY		
1	0	0
2	0	0
3	0	0
4	1	2.8
≥ 5	35	97.2
EDUCATIONAL STATUS		
NONE	6	16.7
PRIMARY	12	33.3
SECONDARY	8	22.2
TERTIARY	10	27.8

Of the 36 acceptors of bilateral tubal ligation through minilaparotomy, 31 (86.1 %) willfully requested for the procedure without been counseled, while 5 (13.9 %) were counseled and referred for the procedure by a physician or a nurse (Table II). Completed family size was the indication for the procedure in all acceptors.

Figure 2

TABLE II – Referral For Bilateral Tubal Ligation By Minilaparotomy

REFERRAL BY	NUMBER	PERCENTAGE
SELF	25	69.4
SPOUSE	6	16.7
NURSE	2	5.6
DOCTOR	3	8.3
TOTAL	36	100

Most of the patients 26 (72.2 %) had interval sterilisation. Tubal ligation was performed using the modified Pomeroy's technique in all acceptors (Table III).

Local anaesthesia alone was used in 5 (13.9 %) patients, local anaesthesia with mild sedation in 6 (16.7 %) patients

and heavy sedation in 25 (69.4 %) patients (Table III).

Figure 3

TABLE III – Timing And Type Of Anaesthesia

	NUMBER	PERCENTAGE
TIMING		
INTERVAL	26	72.2
POSTPARTUM	10	27.8
ANAESTHESIA		
LA ALONE	5	13.9
LA & MILD SEDATION	6	16.7
HEAVY SEDATION	25	69.4

Complications attributable to the procedure occurred in 4 (11.1 %) patients. Wound infection occurred in 2 (5.6 %) patients, vomiting and hallucination in 1 (2.8 %) patient. The effectiveness of the method during the period of review was 100 % with no mortality recorded.

DISCUSSION

Female surgical contraception is the most widely accepted method of family planning today,^{14,15,16} with over 180 million women of reproductive age worldwide using it.⁷ In contrast, the incidence of female surgical contraception at the Federal Medical Centre Makurdi was 2.7%. This was however in keeping with the variously reported low acceptance of this method in Nigeria.^{2,5,6,9,17} The comparatively low incidence of female surgical contraception may be due to low awareness coupled with sociocultural and psychological aversions towards permanent cessation of childbearing through tubal ligation.¹

This study revealed a mean age of 35.5 years and a mean parity of 7.2 for acceptors of female sterilisation by minilaparotomy. These findings were similar to earlier studies in sub-Saharan Africa.^{2,3,5,6,7,18,19,20} A possible explanation is that women who should ideally be using a permanent method opt for reversible methods of contraception out of fear of reincarnation without fallopian tubes, death of spouse and surgery.²¹ This however contrasts with findings in developed countries, Asia and the Far East where couples elect to limit their families at younger ages.^{22,23}

The high parity of acceptors may be a reflection of the tendency to multiparity in African communities and the uncertainty of survival of children in view of the high

perinatal and infant mortality in Nigeria.^{24,25} The mean number of surviving children among acceptors of sterilisation by Minilaparotomy was 6.7. This finding was in agreement with previous studies in Nigeria^{24,26} as acceptors consider this a reassuring factor. Whereas majority of patients 30 (83.3 %) accepting bilateral tubal ligation had formal education, 6 (16.7 %) had no formal education, thus suggesting that education may play a major role in the acceptance of voluntary surgical contraception.²⁶

All 36 patients in this study were married. Being married in a stable relationship reduces the incidence of regret in permanent methods of contraception.²⁷

All patients who were sterilized in this study were Christians. In Jos and Ibadan, Christians made up 79.7 % and 80 % respectively of patients.²⁶ The fact that Makurdi is a predominantly populated by Christians may explain this finding.

Majority of patients offered bilateral tubal ligation through Minilaparotomy willfully requested for the procedure without being referred. Only 5 (13.9 %) of patients were referred for the procedure by a physician or a nurse. This may suggest that female sterilisation as a method of contraception is not popular among health care providers in the centre.

Majority of patients (72.2 %) had tubal ligation done as an interval procedure. This finding was in agreement with other studies in Nigeria.^{2,7} The modified Pomeroy technique was used in all patients in this study. The technique is widely used because of its simplicity and minimal failure rates.²⁸

Whereas local anaesthesia is the most commonly used anaesthetic regimen worldwide,^{20,29,30} only 30.6 % of patients in this review had local anaesthesia. Majority of patients (69.4%) had the procedure done under heavy sedation which carries greater anaesthetic risk.⁷

No major surgical complication was encountered in this review. This was not surprising as major surgical complications are uncommon, occurring in less than 1 % of procedures.^{18,31,32} Minor complications of wound infection occurred in 5.6 % of patients in this study. This was higher than 3.85 %⁷ but less than 7.5 %³ of patients reported in Benin and Ilorin respectively. The anaesthetic complications of vomiting and hallucination occurred in 5.6 % of patients. This was higher than 1.94 % reported in Benin.⁷ The use of heavy sedation in majority of patients may account for this.

There was no case of pregnancy following female sterilisation by Minilaparotomy in this study. Female sterilisation if performed correctly is one of the most effective contraceptive methods available.⁷ Recently, an eleven year review of failed female sterilisation in Ile-Ife, Nigeria reported a crude failure rate of 0.75 %⁹ which was within the reported range of 0.2 – 0.9 %.^{33,34,35}

CONCLUSION

In conclusion, female sterilisation through minilaparotomy at the Federal Medical Centre, Makurdi, Nigeria is relatively low but safe and effective. For female sterilisation to be acceptable in the centre, more attention would have to be given to education and broad based enlightenment of both patients and health care providers on the method. Reliance on local anaesthesia mainly rather than heavy sedation will minimize the anaesthetic complications.

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