

## A FIVE-YEAR REVIEW OF FEMALE STERILIZATION AT THE LAGOS UNIVERSITY TEACHING HOSPITAL, LAGOS.

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### ABSTRACT

**Background:** Over the decades, female sterilization has become a highly effective, convenient, simple and safe method of long term contraception, attributable to technological and medical advances.

**Objective:** This study aims at determining the uptake, indications, timing and surgical techniques of female sterilization in LUTH.

**Methodology:** A retrospective study involving all female clients who had sterilization done at the Lagos University Teaching Hospital between January 2010 and December 2014. Clinical data were retrieved from the case files and analyzed with SPSS version 19. one hundred and eighteen clients were eligible, however only 115 case files could be located. Available case files had adequate information for the study.

**Results:** There were 8,695 deliveries with 115 cases female sterilization, resulting in an incidence of 13 per 1000 births. The mean age at sterilization was 37.9 years. Completed family size was the main indication. Ninety percent of the clients had a postpartum procedure and Pomeroy's method was used in 76.5% of the clients.

**Conclusion:** Female sterilization still has a role to play in family planning in our environment. Majority of the procedure were performed during planned caesarean section.

**Keywords:** female sterilization, contraception, family planning, Pomeroy, tubal ligation.

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### INTRODUCTION

Unintended pregnancies are a huge global public health issue, despite advances in contraceptive technologies.<sup>1</sup> Despite women having access to various contraceptive methods in the 21<sup>st</sup> century; the unmet need for contraception in low-resource countries is at an estimated 222 million.<sup>2</sup> Reasons adduced for this include limited access to family planning services, fear of experience of adverse effect, socio-cultural or religious opposition, poor quality of available service and gender-based barriers.<sup>2</sup>

Female sterilization is the most common

form of contraception globally.<sup>3</sup> It is also referred to as tubal ligation or tubal occlusion.<sup>4</sup> It is a surgical procedure which aims at permanent contraception, although reversal is possible in carefully selected cases.<sup>5</sup>

Female sterilization was reportedly first performed in the 1800s; however it was not until the 1930s that it started getting entrenched in medical practice when Pomeroy introduced his technique.<sup>4</sup>

There is no gain saying that female sterilization is a veritable tool in reducing unplanned pregnancy and the associated maternal mortality, its uptake in our environment is abysmally low.<sup>2,3,6</sup> This is in sharp contrast with the developed world where since the 1970s the trend has been towards smaller families and with effective

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surgical techniques, there was an increase in demand for voluntary female sterilization.<sup>7</sup>

Globally, about 180 million couples rely on tubal occlusion as a means of contraception, and about two-thirds of sterilization procedures in the world are female sterilization procedures.<sup>7</sup> However, in Sub-Saharan Africa, the practice of sterilization has been limited due to aversion to the procedure.<sup>8</sup>

In Nigeria, the prevalence of female sterilization has been reported to be between 0.3% and 2.7%<sup>7,9</sup> This is rather low when compared to other regions of the world.<sup>8</sup>

Female sterilization as a contraceptive method is a highly personal decision which can be based on social reasons such as completed family size, when other methods are unsuitable or when pregnancy will pose a great danger to the mother as obtained in multiple caesarean section, uterine rupture or serious cardiac, renal or hepatic condition.<sup>3,4,7,10</sup>

Surgical modalities of female sterilization include Laparoscopy, micro-laparoscopy, laparotomy (concurrent with caesarean section), mini-laparotomy, hysteroscopy and vaginal procedures. Laparoscopy is the gold standard for interval procedures, while in postpartum clients a mini-laparotomy is preferred. Vaginal colpotomy is now rarely used.<sup>4, 10</sup> Female sterilization can be done under local, regional or general anaesthesia.<sup>11</sup>

A significant proportion of pregnancy related deaths globally could be prevented by the use of effective, safe, accessible and acceptable family planning methods. The health benefit of female sterilization is evident in developing economies where temporary methods may be used less

effectively or in short supply and where unwanted and undesired pregnancies carry a high risk of maternal morbidity and mortality.<sup>7</sup>

## JUSTIFICATION FOR THE STUDY

There have been anecdotal reports on the declining uptake of female sterilization, especially voluntary sterilization among family planning clients at the Lagos University Teaching Hospital. Moreover, the last review of female surgical contraception in this Health institution was last carried out by Oye- Adeniran et al in 2000.<sup>12</sup>

This study is aimed at determining and evaluating recent trends in surgical contraception in LUTH, and to also make recommendations to increase the uptake of voluntary female sterilization. It will also serve as a reference for other researchers and health institutions within and outside the shores of Nigeria.

## AIM

To determine the prevalence, indications and techniques of female sterilization in Lagos University Teaching Hospital (LUTH) between January 2010 and December 2014.

## SPECIFIC OBJECTIVES

- determine the prevalence of female sterilization in LUTH
- determine socio-demographic distribution of clients who had female sterilization
- identify indications and timing for female sterilization
- identify techniques of female sterilization

## METHODOLOGY

This is a retrospective study of 115 women who had bilateral tubal ligation done, over a period of 5 years: January 1, 2010

-December 31, 2014.

The hospital numbers of the women who had sterilization was obtained from the theatre register. The case records of the patients were then retrieved from the medical records unit.

Relevant information pertaining to the study was then extracted from the case notes using a data capture proforma designed for the study. Information extracted includes socio-demographic parameters, indication and type of surgical procedure and operative findings. The case records of women who had other forms of contraception were obtained from the family planning clinic.

The data obtained was recorded in tabular forms, and was recorded as frequencies and percentages.

Data was analyzed using SPSS 19.0 version. A p-value of less than 0.05 was considered significant.

The limitation of this study is that being a hospital based study the incidence of tubal ligation might not be representative of the general population.

## RESULTS

During the period, January 2010 to December 2014, one hundred and eighteen patients were sterilized. Three case files could not be located, giving a retrieval rate of 97.46%

The prevalence of female sterilization has remained fairly steady over the years in review.

Although since 2011, the number of sterilization cases has been on the decline.

1,070 women had modern methods of contraception during the study period with

115 cases of female sterilization (3.75%), as depicted in Table 1a.

Table 1b shows the trends in female sterilization over the study period. A gradual decrease in incidence can be observed over time.

Table 2 shows the age of the patients ranged from 22 to 44 years with a mean of 37.9 years. Majority of the clients (48.7%) were aged 35- 39 years. 18 clients (15.7%) were above 40 years. There were 11 (9.56%) grand multiparous clients.

Table 3 shows the parity of clients who opted for female sterilization. Their parity prior to sterilization ranged from 1 to 6 with a mean of 3.03 births.

As depicted in table 4, 48 (41.7%) of clients had tertiary education.

Completed family size was the most common indication for sterilization 80 (69.6%). 7 cases were due to medical complications such as cardiac disease and sickle cell disease. 7 women had sterilization following uterine rupture, while 8 (6.95%) of sterilization was among women who had multiple caesarean section (Table 5).

Table 6 shows the timing of surgery. 11 cases (9.6%) were not related to pregnancy (interval), while majority 104 (90.4%) were done postpartum. There was no case of post-abortal sterilization.

Pomeroy technique was employed in 88 patients (76.5%), while modified Pomeroy technique was used in 27 (23.5%) patients.

## DISCUSSION

In this study the incidence of female sterilization was 13 per 1000 births. This is higher than 8 per thousand as reported by

Omokanye et al in Ilorin. plausible explanation for this, is that Lagos University Teaching Hospital is the apex referral centre in the most populated state in Nigeria, which also provides healthcare services to neighbouring states and the West-African sub-region.

The age and parity distribution of the cases presented are related to the indications for the procedure. In this study, 74 women (63.3%) were above the age of 35, with a mean parity of 3.9. This lends credence to completed family size as the leading indication for female sterilization.

The study also showed that 81.1% of the women had secondary or above secondary education. Hence, they were more exposed to information in print, electronic and social media which had a positive impact on health seeking behaviour and uptake of sterilization

Apart from completed family size, other indications for sterilization are ruptured uterus and medical conditions such as cardiac diseases, sickle cell disease and diabetes mellitus. This is in consonance with previously reported findings.

Pomeroy technique was the method of choice in 76.5% of clients. It is simple to perform and the most common method in my centre. This and the modified Pomeroy method has been associated with a failure rate of 1 in 300- 500<sup>4,13,14</sup>

Most clients had sterilization done as a postpartum procedure. This is similar to findings by other authors.<sup>15</sup>

This is because delivery presents an opportunity for contact with healthcare facilities and personnel. Female sterilization is a safe and acceptable procedure associated with complications in few

women. Completed family size is the main indication for the procedure. Large family size is associated with grand multiparity, which contributes significantly to high maternal mortality rate in Nigeria.

Paternal death could be reduced by a third each year, if all women had access to contraception once they desire not to have more children.

The role of qualitative female education and empowerment, and promotion of reproductive health information and effective counselling cannot be overemphasized. This will help dispel rumours and misconceptions associated with sterilization.

Technical and financial support from various organizations such as United Nations development programme, Society for family health and Association for Voluntary Surgical Contraception will help reduce the cost and facilitate the uptake of the procedure by more women.

## CONCLUSION

The findings in this study showed that the incidence and uptake of sterilization is low compared to other contraceptive methods.

Education and counselling will lead to an increased acceptance of the procedure and consequently a reduction in high maternal mortality from unwanted pregnancies.

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## CONFLICT OF INTEREST

There are no conflicts of interest.

**TABLES**

**TABLE 1a: TRENDS IN INCIDENCE OF FEMALE STERILIZATION**

<b>Year</b>	<b>sterilization cases</b>	<b>modern contraceptive methods</b>	<b>Incidence</b>
2010	23	692	3.33%
2011	40	912	4.4%
2012	20	518	3.86%
2013	17	497	3.42%
2014	15	451	3.33%
<b>Total</b>	<b>115</b>	<b>3,070</b>	<b>3.75%</b>

**TABLE 1b: TRENDS IN INCIDENCE OF FEMALE STERILIZATION**

<b>Year</b>	<b>Sterilization cases</b>	<b>number of deliveries</b>	<b>Sterilization-delivery ratio</b>
2010	23	2,278	0.010
2011	40	2,187	0.018
2012	20	1,912	0.011
2013	17	1,619	0.011
2014	15	699	0.022
<b>total</b>	<b>115</b>	<b>8,695</b>	<b>0.013</b>

**TABLE 2: AGE DISTRIBUTION OF CLIENTS**

<b>Age</b>	<b>Number</b>	<b>Percentage</b>
25- 29	8	6.9%
30- 34	33	28.7%
35- 39	56	48.7%
..	18	15.7%
<b>Total</b>	<b>115</b>	<b>100%</b>

**TABLE 3: PARITY OF CLIENTS**

Parity	Number	Percentage
3	76	66.1%
4	21	18.1%
5	10	8.7%
6	8	7.1%
<b>Total</b>	<b>115</b>	<b>100%</b>

**TABLE 4: EDUCATIONAL STATUS OF CLIENTS**

Educational level	Number	Percentage
None	3	2.6%
Primary	15	13%
Secondary	46	40%
Tertiary	48	41.7%
Not stated	3	2.7%
<b>Total</b>	<b>115</b>	<b>100%</b>

**TABLE 5: INDICATIONS FOR STERILIZATION**

Indications	Number	Percentage
Completed family size	80	69.6%
Multiple caesarean section (previous caesarean sections)	8	6.95%
Uterine rupture	7	6.1%
Medical complications	7	6.1%
HIV	13	11.3%
<b>Total</b>	<b>115</b>	<b>100%</b>

**TABLE 6: TIMING OF STERILIZATION**

Timing	Number	Percentage
Interval	11	9.6%
Postpartum	104	90.4%
Postabortal	0	0
<b>Total</b>	<b>115</b>	<b>100%</b>

**TABLE 7: SURGICAL TECHNIQUES FOR STERILIZATION**

Surgical techniques	Number	Percentage
Pomeroy	88	76.5%
Modified Pomeroy	27	23.5%
Falope ring/ Clips	0	0
Others	0	0
<b>Total</b>	<b>115</b>	<b>100%</b>

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