ORIGINAL ARTICLE

BILATERAL TUBAL LIGATION AT AMINU KANO TEACHING HOSPITAL: A FIVE YEAR REVIEW

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ABSTRACT

Background: Tubal ligation may be good for women seeking out a safe, effective, permanent and convenient form of contraceptive. However, due to variety of reasons, there is aversion to it especially in developing world. **Objective:** To determine the incidence, socio-demographic characteristics of acceptors, indications and complications of tubal ligation (BTL) at Aminu Kano Teaching Hospital (AKTH), Kano, Nigeria. **Methods:** A retrospective study of BTL at AKTH, was conducted over a five year period, between 1st January, 2008 to 31 December, 2012. The records of women who had BTL/ used other contraceptive methods were retrieved from the medical Records Department and family Planning Clinic. **Results:** Period prevalence of BTL was 2.6% among contraceptive acceptors. The mean age and parity were 35.0±5.0 and 6.0±2.0 respectively. Majority of those that had BTL, had only Quaranic education 23(34.3%). Majority of cases (82.1%) were done during caesarean section / laparotomy. Postpartum BTL accounted for 11.9%, while interval BTL accounted for 6%. BTL in patients with ruptured uterus (31.3%) was the commonest indication. One of the acceptor came back with regrets. Only 4.5% had complications, which were not primarily due to the procedure. **Conclusions**: BTL is a safe and effective method of sterilization. Utilization of BTL especially postpartum and interval BTL is still low in our community.

KEYWORDS: Bilateral Tubal Ligation, period prevalence, regret

INTRODUCTION

Tubal sterilization results in mechanical block or interruption of fallopian tubes to prevent sperm from fertilizing egg[1,2]. Tubal sterilization is indicated for women who want a permanent method of contraception and are free of any gynecologic pathology that would otherwise dictate an alternative procedure [3-5]. Tubal sterilization may also be indicated for women in whom a pregnancy could represent a significant social and medical risk [3-5].

In 1960s, many centers used the American College of Obstetrics and Gynecology formular in which age multiplied by parity had to be greater than or equal to 120 before elective sterilization could be considered. But in 1970s, the protocol was liberalized partly by population control policies [4].

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More than 190 million couples worldwide use surgical sterilization as a safe and reliable method of permanent contraception [2]. Presently in Britain, almost 50% of couples aged 35-44 are using either male or female sterilization as their method of contraception [4]. While in the United State of America (USA) up to 11% of women aged 15-45 years rely on tubal sterilization for contraception[2]. In Nigeria only 0.1% of women aged 14-44 years use female sterilization as a contraceptive method [6].

In Africa, the acceptance rate is low because of deep rooted socio-cultural and religious barriers, poverty, inadequate counseling, limited facilities and trained personnel [1, 6, 7]. These are evidenced by the fact that about 30% and 90% of women in Africa do not have medical care during pregnancy and delivery respectively [8]. Some Muslim countries like Egypt and Indonesia do not permit BTL [5], and faith based institutions will sometimes refuse to permit it [7]. Tantawi[9] a respected Islamic scholar from Cairo in Egypt, explained that Islam permits the use of contraception including BTL, provided that there are strong reasons for it, based on personal circumstances of the couples, and provided that they are used for a good cause and result in no harm. Efforts are being made to correct the misconception that Islam opposes conception in many communities with varying degrees of success [8, 10, 11]. Hussanein [10] found that the use of modern contraceptives has increased in many Muslim populations, but the fertility rate among Muslim women is still higher, while the contraception prevalence is still lower than that of non Muslim women within the same country.

No study has been carried out on the utilization of BTL at Aminu Kano Teaching Hospital, in Kano, Nigeria which is predominantly an Islamic community. It is against this background that this study was designed to study the period prevalence, socio-demographic characteristics of the women, indication and complications of the procedure at Aminu Kano Teaching Hospital, Kano , Nigeria and to make recommendations which will improve its utilization.

MATERIALS AND METHODS

This is a retrospective study of BTL at Aminu Kano Teaching Hospital, Kano, Nigeria, between 1st January 2008 and 31st December 2012.

Aminu Kano Teaching Hospital is a tertiary health care delivery centre that is located in Kano City, in predominantly Islamic community. Kano State is the most populous state in Nigeria, with a population of about ten million people [12], consisting mainly of Hausa/ Fulanis, with a land area of 20,760 square Kilometers and the centre of commerce in Northern Nigeria. The health facility receive patients' from hospitals in the state, and neighbouring Jigawa and Katsina states.

The case records of women who had BTL were retrieved from the Medical Records

Department and analysed for age, parity, educational status, indication and complications. The record of those who had other forms of family planning methods were also obtained from the family planning clinic.

The data obtained were recorded in tabular forms. Quantitative data were recorded as frequencies and percentages. Quantitative data were summarized as mean and standard deviation.

RESULTS

In this study, out of the 2,783 acceptors of family planning methods, 73 clients had bilateral tubal ligation for various indications, giving a period prevalence of 2.6% of all acceptors of family planning methods. Among them 67 case notes were retrieved from the Medical Record department, giving a retrieval rate of 92%. All the clients were married. None of the clients who had tertiary education had emergency BTL. The socio-demographic characteristics is detailed in Table 1.The age range of the women was from 25 to 41 years, with the modal frequency (41.8%) occurring among 35-39 years age group. The mean age was 35.0±5.0 years.

The parity range of the women was from 2 to 10, with the modal parity (58.2%) occurring among para 5-7. The mean parity was 6.0±2.0. The highest frequency of BTL occurred among women with Qur'anic education only (34.3%) followed by primary school (28.4%), secondary school (25.4%), and tertiary education (11.9%).

Out of the 67 clients that had bilateral tubal ligation, majority of them 55 (82.1%) had it done during caesarean section /laparotomy for ruptured uterus, while 8 women (11.9%) had postpartum BTL, and 4 (6.0%) had interval BTL. Emergency BTL accounted for 34 cases (50.7%), while 33 (49.3%) were done electively. The indications for elective BTL were two or more previous caesarean section in 14 cases (16.4%), and medical disorders in 8 cases (11.9%). The 8 clients who had medical disorders and elective BTL had postpartum BTL. Among the cases with completed family size, 7 were done during caesarean section, while 4 had interval BTL. Ruptured uterus accounted for the highest frequency of 21(31.3%) clients, followed by two or more caesarean sections and medical disorders in pregnancy, both of which accounted for 14(20.9%) clients each, completed family size 11(16.4%) clients, and obstructed labour 7 (10.5%) clients. The medical disorders were diabetes mellitus in 3(4.5%) clients, psychiatric illness in 1 (1.5%) client, and hypertensive disease in pregnancy in 7(10.5%) clients, cardiac disease in 1(1.5%) client , and sickle cell disease in 2 (3.0%) clients . Table 2.

Most of the complications were not specific to BTL. Infection (50%) and haemorrhage (25%) were complications of ruptured uterus and obstructed labour. One client (25%) came back with regrets, because she remarried. There was no maternal mortality.

TABLE 1: Socio-demographic Characteristics of Clients Who Had BTL (N=67)

AGE (YEARS)	FREQUENCY (%)
25-29	10 (14.9)
30-34	16 (23.9)
35-39	28 (41.8)
40-44	13 (19.4)
PARITY	
2-4	12(17.9)
≥5	55(82.1)
LEVEL OF EDUCATON	
QU'ANIC ONLY	23 (34.3)
PRIMARY	19 (28.4)
SECONDARY	17 (25.4)
TERTIARY	8 (11.9)

TABLE 2: Indications For BTL

INDICATION	FREQUENCY n (%)
RUPTURED UTERUS	21 (31.3)
TWO OR MORE PREVIOUS CAESAREAN SECTION	14 (20.9)
MEDICAL DISORDERS IN PREGNANCY	14 (20.9)
COMPLETE FAMILY SIZE	11 (16.4)
OBSTRUCTED LABOUR	7 (10.5)

DISCUSSION

The 2.6% rate of bilateral tubal ligation among acceptors of family planning methods in this study is similar to 2.4% from Zaria.[13], which is also a predominantly Islamic community from north western Nigeria. It is however lower than 4% from Ile-Ife [14] and 8% from Enugu [15,] Both predominantly Christian communities in southern Nigeria.This agrees with Hassanein [10] that contraceptive prevalence is still lower among Muslim women even within the same country, which calls for more efforts at correcting misconception about its acceptance and safety, in order to improve its utilization in our community where appropriate. However in developed countries BTL is used by 33% of women using contraception[3]. The low acceptance and utilization of BTL in Nigeria compared to the developed countries is possibly explained by poor utilization of maternity services, higher frequency of unstable marital relationships and remarriages, the fear of surgery, and myths that they may reincarnate with blocked tubes and infertility [1].

The higher acceptance and utilization of BTL in developed countries besides having more stable marital relationships and absence of fear or myths that are associated with it in developing countries, is the changing cultural climate in the developed counties which encourages women to reduce their family size[16]. Surgical advances have resulted in safe, less invasive female sterilization procedures when child bearing is no longer desired[17]. Most importantly, insurance companies began to cover female sterilization procedure, making the procedure accessible to millions of women in the United States of America who previously were unable to afford the surgery [2].

The mean age and parity of 35.0±5.0 years, and 6.0±2.0 in this study is similar to 34.3 years 5.5 from Makurdi, [18] in north central Nigeria. This may be because clients who are less than 30 years of age at the time of the procedure and /or of low parity are relative contraindications to using BTL for contraception because regrets are common [18]. Follow- up interviews 14 years post procedure in India, [19] demonstrated that regrets were expressed by 20.3% of women aged 30 years or younger at the time of BTL and by 5.9% of women older than 30 years at time of procedure.This may explain the mean age of 35 years and high parity of the women who accepted BTL, which agrees with other studies [18,19].

Ruptured uterus with grandmultiparity was the commonest indication for BTL, which may explain why majority of the cases were done as emergencies. Most of the clients for BTL were grandmultiparae, unbooked and low literacy level, which are risk factors that are interwoven and together constitute the triad of maternal calamities, like ruptured uterus in developing countries [20.] This agrees with studies from developing countries [14, 15, 18], and may explain why majority of women that had BTL in this study, are of low literacy level.

The second commonest indication for BTL in this study were two or more previous caesarean section and medical disorders of pregnancy, probably because additional pregnancies would be hazardous to the

mother, and consent for the procedure might have been easier to obtain [19]. This agrees with the findings from Makurdi [17] and India [19]. This, together with the high frequency of ruptured uterus may explain why majority of BTL were done during caesarean section, which was also the experience of Swende et al [18] in Makurdi.

Complications of BTL are usually not primarily due to the procedure, but are usually that of anaesthesia or other procedures that were done in addition [18], which was also the finding in this study. One patient (25%) came with regrets and wanted a reversal because she had just remarried, which was also the experience in other studies [19]. In the USA as many as 6% of women who are sterilized report regret or request information about tubal reversal within 5 years of the procedure [2]. Regrets are common when BTL is carried out on women who were not adequately counseled, less than 30 years of age at the time of the procedure, of low parity and had no male child, single parent status or being in an unstable relation, and lack of partner motivation or involvement prior to sterilization [19]. In the case illustrated in this study, the patient was more than 30 years old and a grand multipara. Involvement of the husband in decision making is mandatory in our hospital, and informed consent must be signed by him before the procedure is carried out. Unstable relationship was the risk factor as she had just remarried.Unstable relationships, high rate of divorce and remarriages are common risk factors for refusal to give consent for sterilization, and it is an issue which should be tackled in our community if appreciable increase in BTL acceptance and utilization is to be achieved.

Involvement of marriage counselors, community and religious leaders in pre-marital and post-marital counseling, and increase in literacy level in our society as well as female employment may go a long way to achieve stable marital relationships. Also overcoming fear and myths that are associated with the procedure, [13, 19] and reliable form of contraception, especially among women who have completed their family.

Oye-Adeniran et al [21] found that more educated women tended to use contraceptives more with higher continuation rate, which may explain why all the clients who had interval BTL had tertiary education. Inculcating family planning into our educational curriculum in western oriented as well as Qur'anic schools at appropriate level will go a long way in creating awareness of BTL. Outreach efforts by the community health workers targeting men is likely to be effective in encouraging the men to support their wives in giving consent to BTL because their consent is necessary in this environment before their wives can have BTL. However, because of the biases which are inevitable in this hospital-based study and the small sample size, larger multicentre studies will be required to confirm these findings.

In conclusion, BTL is a safe and effective method of sterilization. Utilization of BTL is still low in our community. Efforts at enlightening our women on BTL as a safe permanent method of contraception should be encouraged so that more women, especially those who have completed their family size can utilize BTL for contraception.

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