TRENDS OF PERMANENT AND LONG ACTING REVERSIBLE FORMS OF CONTRACEPTION IN KORLE-BU TEACHING HOSPITAL ACCRA

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Abstract

***Objective*:** To determine the trends of permanent and long acting reversible forms of contraception use over a 5-year period (2011-2015)
***Methods*:** Hospital based retrospective study. Data extracted using records from the family planning unit, theatre registers and records from the statistics department of the Korle-Bu teaching Hospital, from 1 January 2011 to 31[1] December 2015.
***Results*:** There were 1982 female sterilizations and 9 vasectomies over the 5-year period. The mean age of sterilized women decreased from 35.7 years to 34.5 years, whereas the mean parity decreased from 4.0 to 3.4. The number of women sterilized each year however declined from 439 in 2011 to 377 in 2015. There was a general upward trend in the number of users of Implant and IUCD.
***Conclusion*:** There is a decline in female sterilizations with a very small number of vasectomies in the Korle-Bu Teaching Hospital over the last 5 years. However, there has been an increasing trend in Implant and IUCD use, which may be partly responsible for the declining trend in female sterilization. Against the background of a declining total fertility rate which stands at 4.2 and the mean parity of 3.4 for clients who had female sterilization, there could be a higher unmet need for permanent methods.

Key Words: female sterilization, vasectomy, implants, intrauterine contraceptive device.

INTRODUCTION

Over the last decade, contraceptive prevalence has risen from about 10% to nearly 60% in developing countries, but still about 1 in 4 births in developing countries (outside China) is unwanted. More than 120 million women in these countries who do not want to become pregnant do not use contraceptives and nearly 600,000 women die each year from pregnancy-related causes and between 67,000 and 204,000 of them from unsafe abortions[1]. Evidence from around the world indicate that the risk of maternal or infant illness and death in both the industrialized and the developing world is highest in four specific types of pregnancy, namely; pregnancy before 18 years, after 35 years, after four deliveries and spaced less than two years.

However, in developing countries as a whole, women over 35 years usually have more than four children, so that their pregnancies fall into more than one high risk category.[3] The total fertility rate in Ghana is 4.2.[4] The most unfortunate maternal death is one that occurs in a woman who has no desire to have any more children, but who is dying as a result of complications of unsafe abortion, pregnancy, labour and puerperium.

Globally, tubal occlusion is the single most commonly used method of fertility regulation, accounting for about one-third of all contraceptive use.[3] It is traditionally viewed as the final and most effective form of contraception. However, this view is being reconsidered in the face of more recently developed, effective reversible long term contraceptives.

In Africa, the rate of voluntary sterilization is one of the lowest in the world. In 1980, while the estimated number of couples controlling fertility by voluntary sterilization in the world was 100 million, Africa contributed to this by only one million. It is in the developing countries that 85 % of the world's babies are born. Ninety-five percent (95%) of infant deaths take place in these countries where ninety-four percent (94%) of maternal deaths occur. The rapid population growth contributes to the economic difference between the developed and the developing world and to the massive difference in health.[1]

It is noted that each voluntary sterilization is estimated to avert 1.5 to 2.5 births, [1] and so voluntary sterilization is of outmost importance if the exponential population growth of Africa is to be contained.

There is evidence that desired family size is smaller than achieved family size and also that 50 % of all third world women with 3 or more children do not want any more[1]. This implies that approximately half of these third world women will require permanent methods or at least effective long- term contraceptive till menopause.

It was against this background of rapid population growth in the developing world and the low acceptance rate of various forms of contraception coupled with bigger family size than desired, that this study was undertaken to find out the trends with permanent and long acting reversible contraception at the KBTH over the last 5 years.

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Materials and Methods

This was a retrospective study at KBTH looking at female sterilization, vasectomy, implant insertions and intrauterine contraceptive device use annually over a 5-year period (1^1 January 2011- 31^1 December 2015). The data were collected from the registers in the family planning unit, the obstetric and gynecology theatre and also from the labour and recovery ward records. The data included the age, parity and the yearly number of sterilizations, Vasectomies, Implant and IUCD insertions. Analysis of data was by the SPSS-16 Version software.

Results

Table 1: Mean age and Parity by Year of female sterilization

Year	Mean age [years]	Mean parity
2011	35.67 (24-47)	4.02 (1-11)
2012	35.46 (25-47)	3.82 (1-10)
2013	35.29 (24-50)	3.65 (1-10)
2014	35.28 (25-49)	3.57 (1-8)
2015	34.50 (26-43)	3.41 (1-8)

There was a general decrease in both mean age and parity.

Table 2: Total number of Sterilizations, Implants, IUCDs & Vasectomies

	Sterilization	Implant	IUCD	Vasectomy
2011	439	1799	2366	0
2012	396	2038	2635	1
2013	363	2393	2949	1
2014	407	2293	2815	0
2015	377	2698	3068	1

The total number of female sterilizations decreased over the years from 439 in 2011 to 363 in 2013, and then an increase in 2014 and a decrease again in 2015.(Table 2)

The youngest was 24 years and the oldest was 50 years. The mean age decreased from 35.67 years in 2011 to 34.50 years in 2015. (Table1)

The mean parity showed a downward trend from 4.02 in 2011 to 3.41 in 2015. The lowest parity was one (1) and highest was 11(Table 1)

Implant use increased from 1799 insertions in 2011 to 2393 in 2013, it decreased in 2014 by 100 insertions and increased again in 2015 to 2698 insertions. Jadelle was the main type of implant provided until Implanon, Sinoimplant(Femplant/Zarin) and Nexplanon (Implanon NXT) were introduced in 2013,2014 and 2015 respectively. From 2013 to 2015 Implanon insertions increased from 339,724 and 942 respectively. SinoImplant also increased from 33 in 2014 to 58 in 2015. Thirty-one insertions of Nexplannon were done in 2015.

Insertions of IUCD followed a similar trend as implants showing a general increase over the years except for small decrease in 2014. Copper IUD has been the main IUD over the years with the Levonogestrel IUS introduced to the centre in 2013. Only 10 insertions were done in 2013 and one in 2014 with the "Mirena" been the specific brand. In the later quarter of 2015 the generic LNG-IUS was supplied by the Ghana Health Service and only 8 insertions were performed.

The numbers of vasectomies was 9 and did not show any pattern. (Table 2). No vasectomies for contraception are performed at urology anymore after they had trained the reproductive health and family planning consultants in this procedure. The last ever joint vasectomy surgery was in 2010, not covered by this review.

Discussion

Healthy women are fertile until about age 50 to 51years; healthy men are fertile essentially throughout life. Because most couples have all the children they want well before the end of their reproductive life span, they will need effective contraceptive protection against unwanted pregnancies for many years. Even though in Ghana, the established age at menopause is 48 years, early marriages and low acceptance of contraception for various reasons, makes couples achieve desired family size at an earlier age far from menopause and thus effective permanent contraception is very necessary if unwanted pregnancies are to be avoided.

Ideally, a couple should consider both vasectomy and female sterilization as options. They are comparable in effectiveness, but vasectomy is simpler, safer, less expensive and even probably more effective than female sterilization and no life threatening complications arise should it fail, as opposed to ectopic pregnancies resulting from failed female sterilization. However, unfortunately, vasectomy has very low patronage in the developing world, especially in places where polygamy is extensively practiced.

The declining trends in sterilization over this period are comparable to what was found in New South Wales, Australia and United Kingdom.[3,8] In U.K the decline since 1996 was partly attributable to the introduction of levonorgestrel-releasing IUD in 1995[3] and also to the fact that there is new information revising long term failure rates for tubal occlusion[9], now estimated to be 1 in 200 [10] . This current study at Korle-Bu Teaching Hospital (KBTH) bears similarity in terms of decline in sterilizations in Ghana as reported in the 2014 annual report on Reproductive and Child health[11].

The decreasing trend in the overall number of sterilizations in KBTH could partly be due to the fact that new, safe, long acting reversible contraceptives such as Implants (Jadelle, Implanon, Nexplanon and Zarin) are available. An increase in sterilization resulted in a decrease in LARC. This was observed in the 2014 report. However the reasons for this particular pattern in 2014 are not clear. This could be partly explained by the fact that district staff had training in the provision of LARC especially on implants and so this decreased the client load at this time as clients are usually mobilized for these training. Regarding the IUD type patronized, certainly cost was important since the Mirena was more than 10 times the cost of the copper IUD. The cheaper LNG-IUS was only supplied to the centre towards the end of last year.

The eventual decline of the mean age of sterilizations to 34.5 years was comparable to the 34.4 in New South Wales and 34.55 in U.K.,[8] An increase in mean age is preferable to a decrease since failure rates and the incidence of regret are higher in women below 35 years of age. The mean parity decreased from 4.02 in 2011 to 3.41 in 2015. The reasons for this decrease are entirely unclear but the downward trend of the total fertility rate may be a factor. In addition the socioeconomic demands could be a factor in limiting family size.

This study was limited by the fact that it did not look at the factors affecting client choice of various types of LARC and previous contraceptive use by clients who had sterilization. Against this background no appropriate sub-regional comparison could be made of such trends

Conclusion

This study has shown a declining trend in female sterilization and an increasing trend in LARC use. With the decreasing mean age and parity for sterilization more research is needed to determine the levels of unmet need for permanent methods and interventions to improve uptake especially vasectomy.

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