



Intention to Shift from Short-Acting to Long-Acting Methods of Contraceptives and Its Associated Factors at Axum St.Mary Hospital: A Cross-Sectional Study

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Abstract

Introduction: Family planning is a means by which individuals or couples space pregnancy and childbirth at intervals, mutually determined by husband and wife in order to have the desired number of children. Unintended pregnancy is a worldwide problem and may result from contraceptive misuse and failure. Adherence to short-acting contraceptives has been shown to be poor, with many women repeatedly missing short-acting contraceptives. In an effort to improve compliance, long-acting contraceptives that minimize the frequency of dosing are becoming increasingly popular. In developing countries, 20% to 30% of women who use oral contraceptives or injectable stop within two years of starting because of side effects or other health concerns.

Objectives: To assess the magnitude and factors associated with shifting of contraceptives from short-acting to long-acting contraceptives among reproductive age women at Axum St Mary Hospital from July 30–September 30, 2016.

Methods: An institution-based quantitative cross-sectional study was conducted from July 30–September 30, 2016 at St Mary Aksum Hospital on women who were attending family planning clinic. Systematic sampling technique was used to get a total sample of 252 participants.

Data was entered by EPI 7 version and analyzed by using SPSS version 20. Binary and multilogistic regression were used to identify factors associated with shifting of contraceptives from short-acting to long-acting.

Result: The study showed magnitude of shifting from short-acting to long-acting methods of contraception was 65.5%. Age (AOR=0.245(0.065–0.932, P value<0.039 CI 95%), occupation (AOR=0.126(0.020–0.788, P value<0.027, CI 95), highest grade of the mother completed (AOR=0.023(0.002–0.277, P value<0.025, CI 95%) and number of alive children women had (AOR=0.049(0.003–0.79, P value>0.033 at CI 95) were a significant association for shifting of contraception from short-acting to long-acting methods of contraception.

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Conclusion and Recommendation: About 65.5% of the study respondents had intention to change from short-acting to long-acting contraception. Age, occupation, highest grade of the completed and number of alive children women were statically significant factors to shift from short-acting to long-acting contraception

Keywords: Intention to shift, Aksum St. Mary Hospital, Tigray region

Introduction

Family planning is a process that usually involves a discussion between a woman, a man, and trained service provider focusing on family health and the desire of the couple to either limit or space their family. It is a key strategy in promoting mother and child health through adequate spacing of birth and avoiding pregnancy at high-risk maternal ages and parities. A woman's ability to space her pregnancies has a direct influence on her health and the outcome of her pregnancy. In other words, reducing unwanted and unplanned pregnancies can reduce childbirth-related injury, illness, death and abortion.¹

The World Health Organization (WHO) estimated in 2012 that 287,000 maternal deaths occurred in sub-Sahara Africa (56%) and Southern Asia (29%). These accounted for the global burden of maternal deaths. Despite this decline, developing countries continued to account for 99% of the maternal deaths. The majority of maternal and newborn deaths can be prevented with proven interventions to ensure that every pregnancy is wanted, using modern contraceptives and every birth is safe. In developing countries, 20% to 30% of women who use short-acting contraceptives stop within two years of starting because of side effects or other health concerns.²

In sub-Saharan Africa, nearly half of the reproductive age women (48.8 million) want to shift methods of contraception from short-acting to long-acting contraception. Only 2.7million reproductive age women shift towards long-acting contraception. The reasons are limited supplies everywhere, partner/husband disapproval, fear of side effects and health concerns.³

The contraception coverage is dominated by short-acting contraception. 37% of women want no more children but only 3.4% shift towards Implanon and only 0.3% shift towards IUCD and <1% shift towards female sterilizations. The overall prevalence of long-acting contraceptive is 12%.⁴

Women had different perceptions on long-acting contraception; that is why most women do not want to change methods from short-acting to long-acting contraception. They claim that it causes excessive bleeding, cancer and infertility. Misinformation about IUCD is also present; most women claim that it causes sexually transmitted infections and pelvic infections. The other thing is that knowledge about one contraceptive and having positive attitude about that contraceptive is a factor for not using and shifting towards long-acting contraceptives.⁵

An estimated 33 million unintended pregnancies are a result of contraceptive failure or incorrect use, so it is important that young people be well informed about the different methods available. Women in developing countries face multifaceted and challenging barriers to shift the contraceptive usage from short-acting to long-acting contraceptives. The influence of the male partner on a woman's reproductive health decisions is an important area of method shifts. These complex areas are demographic, social, cultural, and economic factors that contribute to a woman's failure to shift the contraception from short-acting contraception.¹

Even well-educated women who desire to shift the methods fail to do so because of their husbands' objection to long-acting family planning. A study from Ghana states that a husband's attitude towards long-acting family planning was found to strongly influence the wife's attitude towards the shift. Similar findings were reported in Pakistan, where women were faced with making a decision about method shift towards long-acting family planning tend to base their decision on their husband's fertility preferences and attitudes toward it.²

Evidence suggests that if couples can space their pregnancies by at least two years apart through the use of long-acting family planning, up to 35% of maternal deaths and up to 13% of child mortalities could be averted whilst 25% of under-five mortalities could be averted if birth intervals were at least three years.³

The long-acting contraceptive methods are between 3 and 60 times more effective than short-acting methods during a year of typical use. Thus, the use of LAPMs has not kept pace with short-acting contraceptive methods.⁴

The Ethiopian RH strategy set provision of all family planning methods with special emphasis on long-term and permanent methods as key strategy for achieving one of its primary goals. Creating the access to long-acting and permanent methods of contraception, which are the most effective contraceptives, can substantially reduce the high levels of maternal mortality and morbidity as well as unwanted pregnancies and unsafe abortions. In addition, from the perspectives of unmet need for family planning, long-acting contraceptives are more useful for spacing and limiting than short-acting. However, currently utilization of implants and IUD are 3% and 2% respectively, which is very low.⁶

Even though there are different methods and trained health

workers available to provide the long-acting contraception, there is still high utilization of short-acting family planning in Ethiopia. There are few studies examining the factors associated with the relatively high usage of short-acting methods and the lower utilization of long-acting methods. Particularly, as far as my knowledge, there is no study conducted in Tigray region to dig out factors associated with shifting of contraceptives from short-acting to long-acting contraceptives among reproductive age women. Therefore, the purpose of this study is to assess the magnitudes and factors associated with shifting of contraceptives from short-acting to long-acting contraceptives among reproductive age women at St Mary Axum hospital, Tigray region in Ethiopia, in 2016. The results will help the health service managers, policymakers and care providers to give baseline and valuable information as to why women do not prefer to use long-acting contraceptives as a choice of contraception and can also be used to indicate areas of success, and aims to have certain contribution in closing the gaps.

Methods

The study was conducted at St Mary Aksum Hospital from July 30 to September 30, 2016. The hospital is situated in Axum town, which is located in central zone, northern Ethiopia, Tigray region. The town is found 1033 km from the capital city of Ethiopia, Addis Ababa in the North East direction and at 250 km from the capital city of the region (Mekele). An institution-based cross-sectional study was conducted. The source populations were all women who were using family planning and attending family planning clinic to get family planning service. The study population comprised the selected women who were using short-acting contraceptives and were available during the study period.

All women who came for family planning service and were present during the data collection period were included in the study and all women who were already using long-acting contraception and those women who were unable to hear or speak or were mentally ill or not willing to participate were excluded from the study. The required sample size of the study participants was determined by using single population proportion formula by considering 18.2% proportion of mothers who explained to shift from short-acting to long-acting contraception in Amhara region.²⁶ Finally, by adding 10% of nonresponse rate, the calculated sample size was 252. All women who were registered for short-acting family planning service during data collection period were taken as a sampling frame. Then individual study subjects at health facility were selected every k^{th} by systematic random sampling technique until the required sample size was obtained. Every woman who registered at the registration counter was approached and the first woman was selected by simple random sampling among the service users in the sample frame. The interval of sampling was calculated with the following formula. $k=N/n$,

where: k =Random sampling interval, $252/816=0.30$ =one every three client was selected randomly. The dependent variables were intention to shift contraceptives from short-acting to long-acting contraceptives and the independent variable was sociodemographic (age, marital status, ethnicity, educational status, income, occupation, religion, family size), discussion with husbands on family planning and contraceptives, number of desired children, number of children available, family planning ever used, current family planning used, practice of contraception or other methods of birth control.

A structured questionnaire was prepared and utilized after reviewing relevant literatures. The questionnaire was prepared in English version and translated to the local language, which is Tigrigna. To check its consistence again, it was translated back to the English version by a language expert. Data was collected by pretested questionnaires.

All family planning users who fulfilled inclusion criteria were interviewed by structured questionnaires. Data was collected by face-to-face interview by using structured pretested questionnaires on magnitudes and factors associated with shifting from short-acting to long-acting contraceptives. Data was collected by BSc. midwives or Nurses who were working at Axum University Referral Hospital.

To assure the quality of the data, technical training was given before data collection to data collectors. Data collectors were given one-day training on the content of the questionnaire and how to collect the data.

After data was collected from each respondent, it was checked for completeness, clarity and consistency by the principal investigator and supervisor immediately at the end of data collection day. Data was collected during working hours and completeness was checked at night after completeness of data collection. There were two data collectors and one supervisor, including the principal investigator. The filled questionnaire was collected and signed by the supervisor after it was checked for any missing value, correctness and consistency. Pretest was held on 5% of the sample size, which are 13 family planning users at Adwa General Hospital.

Data cleaning and cross checking was done before analysis. Data was checked, coded and entered into EPI Info version 7, then it was exported to SPSS version 20 for analysis. Both descriptive and analytical statistical procedures were utilized. Descriptive statistics like percentage, mean, and standard deviation were used.

Binary logistic regression and multiple logistic regression were used to identify factors associated with shifting of contraceptives from short-acting to long-acting contraceptives.

Ethical Considerations

Ethical clearance was obtained from College of Health Sciences, Mekele University. The college of health sciences wrote an official letter of cooperation to the administrator of Central Zone Health Bureau. The supportive letter was written for Axum St Mary Hospital. Concerned body from each health institution was officially communicated before conducting the data collection and informed consent from each study participant was obtained. The participants were informed that they had the full right not to participate in the study or to stop participation at any time during the interview.

Results and Discussions

Sociodemographic Characteristic of the Respondents

In this study, 252 reproductive age women were interviewed with a 100% response rate, of which all of the study participants were from Aksum town. In average, the study

participants were 29.15±6.236 SD with the largest numbers of reproductive women belonging to the age range between 25 and 34 years 136 (54%) followed by age range 15–24 years 66 (26.2%) and the least groups were those found between 35 and 44 years 50 (19.8%). Majority of the respondents, 223 (88.5%) were married, 22(8.7%) were single. Regarding ethnic and religious distribution of the respondents, the predominant ethnicity, 232 (92.1%) were Tigrians and 16 (6.3%) were Amhara while the dominant religious 284 (81%) were orthodox followed by Muslims accounting for 45 (17.9%). The greatest number of the respondents' occupation was private business 74 (29.4), housewife 61 (24.2%) followed by government employee 59 (23.4%). Majority of the participants were at educational level of the 9–12 grades and 76 (30.2%) had greater than 12 educational level. 38(15.1%) had completed 5–8 grades and 9.5% (24) had no formal education. Regarding educational level of the husband, more than half of the husbands' educational status 170 (67.5%) was completed grade 12. Around 213 (95.1%) of the participants had average monthly income greater than 1000 Ethiopian birr (Table 1).

Table 1. Socio Demographic Characteristics of the Respondents at Axum St. Mary Hospital, Central Tigray, Ethiopia

n = 252

Variables	Frequency	Percent (%)	Variables	frequency	Percent (%)
Age in years			Monthly income of mother (n=224)		
15-24	66	26.2	>=500	3	1.3
25-34	136	54	501-1000	8	3.6
35-44	50	19.8	>=1001	213	95.1
Mean +Standard deviation	29.15±6.236		M+SD	4110.71±1597.973	
Ethnicity			Birth place (place of grow up)		
Tigre	232	92.1	Urban	207	82.1
Amhara	16	6.3	Rural	45	17.9
Other	4	1.6	Monthly income of husband (n=224)		
Religion			<=500	3	1.3
orthodox	204	81	501-1000	8	3.6
Muslim	45	17.9	>=1001	213	95.1
other	3	1.2	M+SD	4110.71±1597.973	
Marital status			Birth place (place of grow up)		
Single	22	8.7	Urban	207	82.1
Married	223	88.5	Rural	45	17.9
Divorced	5	2	Current resident area		
Widowed	2	0.8	Urban	236	93.7
Educational status			Rural	16	6.3
Uneducated	24	9.5	Educational level of husband (n=234)		
Read and write	7	2.8	Un educated	3	1.2
Elementary school(1-4)	13	5.2	Read and write	1	0.4
Grade 5-8	38	15.1	Elementary school (1-4)	11	4.4
Grade 9-12	94	37.3	Grade 5-8	19	7.5
Above grade 12	76	30.2	Grade 9-12	30	11.9
Occupation of the mother					
House wife	61	24.2			
Government employee	59	23.4			
Private business	74	29.4			
Farmer	20	7.9			
Other	38	15.1			

Factors Associated with Shifting of Contraception from Short-Acting to Long-Acting Contraception, Axum St Mary Hospital, 2016

In bivariate analysis with p-value of less than 0.25, the factors found to be significantly associated with shifting of contraception from short-acting to long-acting contraception were age of the mother, marital status, highest grade of education completed by mother, occupation of the mother, birth place (where the mother grew up), educational level of the husband, age at first marriage, age at first birth, number of alive children women had, number of children the woman wished to have in the future, the family size of the woman, etc., were predictors of the shifting of contraception from short-acting to long-acting contraceptive at a confidence interval of 95%.

The odd ratios of the 15–24 years are 19.79 times more likely than that of 35–44 years (COR=19.79(4.464–87.746, p-value <0.00) to shift from short-acting to long-acting contraception. The odds of the 25–34 are 45.1 more likely to shift than that of 35–44 years (COR=45.1(8.715–233.662, p-value <0.00). The odd of the marital status of married women are 15.66 times more likely (COR=15.066(4.311–52.644, p-value <0.00) than single women. Divorced women are 25.3 more likely (COR=25.333(2.0650–310.757, p-value <0.012) and widowed women are 6.333 more likely (COR=6.333(.307–130–751, p-value <0.232) to shift towards long-acting contraception than single women respectively. Regarding the highest grade of the mother completed, those who were able to read and write were 57.1% less likely (COR=0.429(0.108–1.707, p-value <0.229) than who had completed grade 12 to shift from short-acting to long-acting contraception.

Regarding the occupation of the mother, those who were included in other occupations such as students were 45.8 and less likely (COR=0.542(0.236–1.245, p-value <0.149) to shift towards long-acting contraception. With respect to birthplace (grew up), those who were born in urban areas were 17.9 and were more likely (COR=1.793(0.859–3.744, p-value <0.120) than who were born in rural areas, to shift towards long-acting contraception.

The study findings also showed that those whose husbands were uneducated (8.09) were less likely (COR=0.191(0.017–2.157, p-value <0.181) to shift towards long-acting contraceptive than whose husbands were educated more than 12 grade.

Those who were married at the age of the 15–17 years and who had given birth below 18 years (31.6) were more likely (COR=31.607(5.678–176.68, p-value <0.00) and were more likely 45.1 times (COR=45.125(8.715–233.66,) p-value <0.00), respectively to shift towards long-acting contraceptives than who had married below 18 years and had given birth below 18 years.

With respect to the number of alive children, women who had alive children 1–2 and 3–4 were 68.8% were less likely 0.312(0.088–1.504, p-value <0.071), 0.312 (0.084–156, p-value <0.081), respectively to shift towards long-acting contraceptives than women who had alive children greater five respectively. Those whose family size was one to four 66.3% were less likely 0.663(0.337, 0.185–0.615, p-value <0.00) than women whose family size was larger than five.

Finally, these study findings show that those women who want to have three to four children in their life (8.4) were more likely (0.661–106.835, p-value <0.101) than women who wish to have children one to two throughout their life.

From variables found to be significant in bivariate analysis: age of the mother in years, highest grade of the education completed by mother, occupation of the mother, number of alive children women had, were found to be significantly associated with factors associated with shifting of contraception from short-acting to long-acting contraceptives in multivariate analysis as follows:

The study findings showed that those women whose age was between 25 and 34 years were 75% less likely to shift (AOR=0.245(0.065–0.932, p-value <0.039) at CI 95% than women whose age was between 35 and 44 to shift from short-acting to long-acting contraception.

With respect to the highest grade of the women completed those who had completed one to four grades were 97.7% were less likely (AOR=0.023(0.002–0.277, P value <0.025) at CI 95 than who were completed above grade twelve grade to shift from short-acting to long-acting contraception .

Regarding the occupation of the women those who were government employees (87.4%) were less likely (AOR=0.126(0.020–0.788, p-value <0.027, CI 95%) than who were homemakers to shift from short-acting to long-acting contraception.

Finally, the women who had less than four children (96.7%) were less likely (AOR=0.049(0.003–0.79, p-value >0.033 at CI 95) than a woman who had alive children more than five to shift from short-acting to long-acting contraception.

This institution-based cross-sectional study has attempted to determine magnitudes and factors associated with shifting of contraception from short-acting to long-acting contraception at Aksum St Mary Hospital, Tigray Region, 2016. Age, highest grade completed, occupation and number of alive children women had were statistically significant factors to shift from short-acting to long-acting contraception.

The current study found that the magnitudes of shifting of contraception from short-acting to long-acting contraception is 65.5% which is three times higher than the

study conducted in Amhara region.²⁷ Among women who explained to shift towards long-acting contraception 41.3% had explained to shift towards Implanon, 22.2% towards IUCD and 2.4% towards tubal ligation. Among women who explained to shift towards long-acting contraception, 44% had not shifted due to fear of side effect, 39.3% were for child spacing and 21.8% never wanted to have

children in the future (Fig. 1). The difference may be due to socio-cultural factors, study area, and sociodemographic characteristics of the study participants. Another possible explanation for higher result to shift towards long-acting contraception were that this study was conducted in a town as they have access to information, and that which was conducted in Amhara.

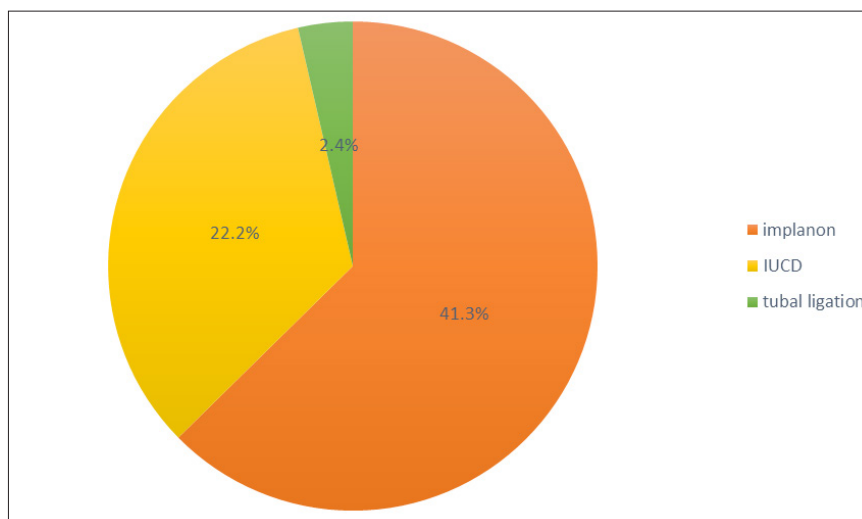


Figure 1.Type of Long-Acting Family Planning to Change among Women Who Explained to Change

Table 2.Magnitudes of Shifting of Contraception from Short-Acting to Long-Acting, at St Mary Axum Hospital, Tigray Region, Northern Ethiopia, Nov 2016

Shifting of contraception	Frequency	Percent
Yes	165	65.5
No	87	34.5
Type of FP to shift (n=165)		
Implanon	104	41.3
IUCD	56	22.2
Tubal ligation	6	2.4
Reason for shifting		
Fear of side effect	11	4.4
Birth spacing	99	39.3
Never want to have children	55	21.8
Reason for not to shifting (n=87)		
Desire for more children	23	9.1
Fear of side effect	43	17.1
Fear of procedure	12	4.8
Spouse or FP pressure	9	3.6
Peer pressure	1	0.4

One of the pertinent findings was that occupation was indirectly associated with shifting of contraception from short-acting to long-acting contraception (AOR=0.126(0.020–0.788). This study finding is in line with the study conducted in Debre Markos town.⁹ Those who were occupied on government employee 87.4% less likely to shift than those who were employed on house wives. The possible explanation were government employee were

far apart from their spouse and they got each other after a week or month, so they were forced to stay on short-acting contraception.

In contrast to these house wives who stayed with their spouses every time, in them the chances of unwanted pregnancy were high. So they were more accessible to shift towards long-acting contraceptive than government employees.

With respect to the age of the women that age between 24 and 35 were 75% less likely to shift towards long-acting than 35–44. These findings are in line with the study conducted in Debre Berhan, Butajira, China Hohoe district of Ghana, east Hararge zone and Mekele city.^{3,6,9,13,17} The possible explanation for these was those whose age was above 35 had mostly completed their family size and they were more access to shift towards long-acting contraception. The reason for the age difference could be due to those women who were older were having more children and had more desire to limit or space the number of pregnancies than younger ones who had none or few children. This study was supported by the study conducted at Bale Goba and Pakistan.^{10,12}

Another statistical finding in this study is the education level of the mother. Women who had completed their educational level below four grade were 97.4% less likely to shift towards long-acting than women who were above 12 grades. This finding is in line with the study conducted in Nkwanta district of Ghana.³ The possible explanation for this is that as educational level of the women increases, awareness about long-acting family planning increases.

The study, which was conducted in Amhara regional state, contradicts these findings. It states that educational level of the women has no relationship to change type of family planning from short-acting to long-acting contraception. The possible explanation for this finding was that the data was collected from the same educational level of reproductive age women.²⁷

Another statically significant finding of this study is the number of alive children women had. Those who had less than four children were 96.7% less likely (AOR=0.049(0.003–0.79, p-value >0.033 at CI 95) than a women who had alive children more than five to shift from short-acting to long-acting contraception. The possible explanation for this finding was the reason that those women who had more than four children were at an older age of reproduction and they might have perceived not to be at risk of pregnancy. Secondly, older women are more likely to practice sex infrequently and the chance to become pregnant is low as compared to women of less than 35 years. This finding is in line with the finding at Debre Markos town, Pakistan, and Bangladesh. Those findings revealed that as age increases, the shifting of contraception from short-acting to long-acting is high.^{5,9,12}

Limitation of the Study

This study was institution-based and the respondents were current users of family planning services who came to the health facility. Therefore, the study findings may not be generalizable to women in the community.

Conclusion

About 65.5% of the study respondents had intention to change from short-acting to long-acting contraception. Age of the mother in years, occupation of the mother, highest grade of the mother completed and number of alive children women had were statistically significant to shift from short-acting to long-acting contraception.

Among women who had intention to shift from short-acting to long-acting contraception, 41.3% had intention to change towards Implanon and 39.3% were for birth-spacing. Fear of side effect was the main reason for not shifting from short-acting to long-acting contraception .

Recommendations

- For researchers to conduct further researches that look into manager and community opinion towards LAFP with the emphasis of qualitative study.
- Providing comprehensive family planning counseling and services by healthcare providers and health extension workers and strengthening behavioral change interventions to change negative attitudes at the community level.

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Conflict of Interest: None

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