Method Shifting from Long to Short Term Contraceptives and its Associated Factors among Reproductive Age Women, Northwest Ethiopia, 2018

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Research note

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Abstract

Objective: Even if long term contraceptives are more effective, cost efficient and tolerable choices, method shifting from long to short term contraceptives continued as a global issue. Therefore this study assessed the proportion and associated factors of method shifting from long term to short term contraceptives in Gondar city administration, northwest Ethiopia.

Result: A total of 390 women participated in the study that made the response rate of the current study as 96%. The overall proportion of method shifting from long to short term contraceptives was 48.5% with (95% CI: 43.8, 53.3). Had secondary level educational status (AOR=0.18, 95%CI 0.07, 0.51), had information about long acting contraceptives from friends (AOR=6.67, 95%CI 1.89, 23.52), use of long acting contraceptives for limiting purposes (AOR=0.26, 95%CI 0.11, 0.60), and had enough counseling on long acting contraceptives during ANC visits (AOR=0.20, 95% CI 0.08, 0.50) were found to have statistically significant association with method shifting.

Introduction

Method shifting is changing the choice of contraceptives from one group to another group, such as from LACM to short acting [1, 2]. During method shifting, women usually took time to decide the choice of contraceptives, which in turn exposed them for unintended pregnancy. In addition, some contraceptive methods may be new for women and they may need extra time to adapt the new method [3–6].

Evidence showed as long acting contraceptive methods (LACM) are more effective in preventing unintended pregnancy as compared to short acting ones [1, 3, 7]. In addition, short term contraceptive methods have an increased discontinuation rate as compared to LACM. Moreover, the rate of unplanned pregnancy and abortion is high among short term contraceptive users as compared to the LACM users due to high failure rate or miss use [5, 6, 8].

A study conducted among IUCD users in Pakistan showed that 33.3% of women shifted their method of choice to short term methods[8]. Another study done in Malawi showed that 58% of woman switched to more effective method, 24% switched to similarly effective methods and 18% switched to less effective methods [9]. A study in Lusaka, Zambia showed that among 145 implant users 13% shifted the methods, from these 89% shifted to short term family planning methods. And also of the 40% IUCD users 33% shifted the method, of these 92% shifted to short term family planning methods and 8% to Implanol [10]. Another similar study conducted in Kenya showed, 31.3% of woman shifted from LACM to short term contraceptives [11]. In addition, a study done in Honduran showed, 14% of IUCD users switched to other methods [12]. Furthermore, a study conducted by Marie stops by the year 2013, showed 25% of contraceptive users shift their method choice from short term to LACM [13].

A study conducted in Dire Dawa showed, 40.4% of woman who use LACM shifted their method of choice, from these 29.8% from implants and 10.6% from IUCD [3]. Another study done in Agarfa, Oromia region showed, method shifting from LACM to short term contraceptives was about 4.2%, from this implant to injectables account for 3.4% and implant to pill 0.8% [14]. A study conducted in Jimma, showed among all contraceptive users 9.6% of them shifted to other methods within their first year of use. The highest 12 months shifting rate was observed for pills (19.9%) followed by condom (12.4%), while it was much lower for Implant (3.3%) and IUD (5.1%) [15].

Ethiopia planned to achieve 55% of Contraceptive Prevalence Rate (CPR) among reproductive age woman by 2020. Of this LACM were planned to take 48% of all methods [16].

The proportion of method shifting from LACM to short term contraceptives considerably vary from one study setting as compared to another setting. Similarly, factors associated with method shifting also vary from place to place. All the above evidences showed there is a need to conduct the current study in that specific context. Therefore, this study assessed the proportion of method shifting from LACM to short term contraceptive methods and its associated factors among reproductive age women in Gondar city administration, northwest Ethiopia.

Methods

An institution based cross-sectional study was conducted from February to June 2018, at health facilities found in Gondar city [17].

Reproductive age women, who live in Gondar city and came to the health centers for removal of LACM or shift to short term and who had follow up visits of LACM were included in the study. Women who were severely ill or unable to respond were excluded. Study subjects were selected using systematic random sampling technique. Sample size was determined using single population proportion formula, considering the following assumptions: 40.4% as proportion(P) of woman who shift their method of choice from long to short term contraceptives [3], 95 % confidence level and 5% degree of precision and 10% non-response rate. Finally, the sample size calculated for the study was 407.

Method shifting is defined as the altering of previous choice of contraceptives, LACM to short term methods. That is from implant to any short term methods within three years of insertion and from IUCD to any short term methods within five years of insertion.

Data were collected by using a pre-tested, structured, and interviewer-administered questionnaire. Data were entered into Epi-info version 7 soft ware, and then it was exported to the Statistical Package for Social Sciences (SPSS) soft ware version 20. The data were checked for completeness, cleaned, coded and for further analyzed using SPSS. Descriptive statistics were carried out for each of the variables and to ascertain the proportion of woman who shifted their method of choice. Then, findings were summarized and presented by frequency tables and charts. Adjusted odds ratios with 95 % confidence intervals (CI) and P-Value less than 0.05 were taken as statistically significant.

Results

Socio-demographic characteristics of the respondents

A total of 390 women participated in the study that made the response rate of the current study as 96%. The majority of the respondents, 315(80.8%), were urban residents; while one-third, 148(37.9%), of the respondents were uneducated. Concerning the age of the respondents, the majority, 139(35.6%), ranged between 18–24 years, with the mean age of 27 years and a standard deviation (SD) of ± 6.4 (*Table 1*).

Regarding the source of information, more than half, 222 (56.9%), of them get information about contraceptive methods from health care providers. Moreover, about 14.4% of them revealed that counseling service provided at health institution was not adequate (*Table 2*).

Factors associated with method shifting

Two models called the bivariable and multivariable logistic analysis were carried out to identify factors associated with the outcome variable. In the bi-variable logistic regression analysis; age, educational status, counseling about LACM during ANC visit, reason for family planning use, previous number of children, demand of children, counseling satisfaction during family planning service, marital status, experience of pregnancy while using modern family planning, information about LACM were eligible factors found to have significant association(having p-value of less than 0.2) with method shifting. All of those variables having P-value of <0.2 in the bivariable analysis were fitted in to the multivariable logistic regression model. Had secondary educational level, got information about LACM from friends, contraceptive use for limiting and get counseling from providers during ANC visits were found to be significant factors associated with method shifting at p-value of less than 0.05.

The odds of method shifting was 83% less likely to occur among women who had secondary educational level as compared to those women who were uneducated (AOR = 0.17; 95% CI 0.06, 0.45). The odds of method shifting was 75% less likely to occur among women who used LACM for limiting as compared to those women who used for spacing (AOR = 0.25; 95% CI 0.11,0.56). The odds of method shifting was 6.67 times more likely to occur among women who get information about LACM from friends as compared to those who get information from health providers (AOR = 6.65; 95% CI 1.92–23.02). The odds of method shifting

was 78% lower as compared to those women who did not get adequate counseling during ANC visit (AOR = 0.22; 95% CI 0.09,0.51) (*Table 3*).

Reproductive history of the respondents

More than half, 234(60%), of women started first sexual intercourse at age before 18 (mean age 17.9, SD± 2.8) and about 186(53.4%) of women married before the age of 18 years. In addition, nearly half of the respondents, 139(48.4%), had history 1–2 pregnancies. Moreover, one-fifth, 72(23.5%), of the women had history of home delivery. Nearly half, 147(47.9%) of the women attended antenatal care at least once (*Additional file 1: Table S1*).

Proportion of Method shifting

Nearly half, 113(48.5%) (With 95% CI: 43.8–53.3), of respondents had shifted from LACM to short term contraceptive methods. Method shifting from implant to other short term contraceptive methods was 34 % and shifting from IUCD was 14.5 %. More than a third, 76(37.1%), shifted their previous method between 6 and 12 months. More than one-fifth (25.9%) of women shifted the contraceptive within the first six months of insertion (*Additional file 2: Figure S1*).

Additional file 2: Figure S1: Time of Method shifting from long to short family planning methods

Forty four (11%) of women reported that they were pregnant while using modern contraceptive methods such as DEPO, 23(5.9%), and pills, 15(3.8%). The main reasons for method shifting were side effects 176 (87.14%) such as bleeding, weight loss and feeling of numbness (*Additional file 3: Figure S2*).

Additional file 3: Figure S2: Reasons for Method shifting from long to short term contraceptive methods.

Discussion

In this study, the proportion and factors associated with method shifting from LACM was assessed. The proportion of method shifting was 48.5% with 95% CI (43.8, 53.3).

The finding was in line with the study conducted in Egypt 46%[20]. This finding was lower as compared with those studies conducted in Vietnam 80 % [21] Malawian 58% [9], Zambia 89% [10], and Vietnam 66.7% [22]. The possible justification might be due to the fact that Ethiopian government has given more emphasis for LACM use, through nurses, midwives and health extension programs even at lower level of the health care system (primary health care unit). Moreover, variations in study subjects among studies might be the possible justification for the differences. For instance, only post-partum women were included in Malawi and HIV concordant positive or discordant couples were study participants included in Zambia.

This finding was lower in studies conducted in Kenya (31.3%) [11], Pakistan (33.3%) [8], Agarfa, Oromia region (4.2%) [14], Dire Dawa (40.4%) [3]. This might be due to differences in selection of study subjects and variation in some socio demographic characteristics between studies. For instance, 91 % of participants in the study conducted in Dire Dawa were married, while 76% of women in the current study were single. As a result, married women might be less likely shift their method of choice from LACM as compared to single women.

The odds of method shifting among women who had secondary education was 83% less as compared with uneducated women (AOR = 0.17: 95% CI 0.06,0.45). This finding was consistent with other studies done in Dire Dawa and Senegal [3, 21, 23]. This might be because women who were educated get information on LACM.

The odds of method shifting was 75% less likely among women who used contraceptives for limiting as compared to women who used for spacing(AOR = 0.25; 95% CI 0.11, 0.56). This finding was consistent with those studies done in Dire Dawa, Jimma and Hossana[3], [15, 19]. This might be because women who use LACM for limiting may reached their desired family size, decide to have no more children for future.

The odds of method shifting among women who get information about LACM from friends were 6.65 times more likely to occur as compared to women who get information from health care providers (AOR = 6.65; 95% CI 1.92, 23.02). This finding was consistent with those studies done in Dire Dawa[3]. This might be due to the fact that women who get information from friends may not get tangible information; the information from friends may be full of misconceptions, myths and false believes.

The odds of method shifting was 78% less likely among women who get counseling about LACM during ANC follow up compared to those didn't get counseling(AOR = 0.22; 95% CI 0.09, 0.51). This finding was consistent with the study conducted in Jimma town [15]. This might be because women who attend all ANC follow up will get counseling about LACM during the course of ANC follow-up to get adequate information about LACM.

As a conclusion, method shifting was moderate compared to previous studies. Educational status, got information from health care providers, use of LACM for limiting purposes, and had enough counseling on LACM during ANC visits were found to have statistically significant association with method shifting. Therefore, improving women's educational status, providing proper information about LACM through health care providers and provision of enough counseling about LACM during ANC visits are strongly recommended.

Limitations

The cross-sectional nature of the study design might have prevented the work from showing temporal relationships. In addition, the study did not consider the role of husband in contraceptive method utilization.

Abbreviations

AOR: Adjusted Odds Ratio; CI: Confidence Interval; COR: Crude Odds Ratio; CPR: Contraceptive Prevalence Rate; EDHS: Ethiopian Demographic Health Survey; FGA: Family Guidance Association; IMP: Implant; IUCD/IUD: Intra Uterine Contraceptive Device; LACM: Long Acting Contraceptive Methods; SPSS: Statistical Package for Social Sciences

Declarations

Ethics approval and consent to participate

Ethical clearance was obtained from the Institute Review Board (IRB) of the Institute of Public Health, University of Gondar. A letter of permission was obtained from the respective health facilities. After the objective of the study was explained, verbal and written consent was obtained from each participant. The right of participants to withdraw from the study at any time without any precondition was provided. Moreover, the confidentiality of information obtained was guaranteed by using code numbers rather than personal identifiers and by keeping the questionnaire locked.

Consent to publish

Not applicable.

Availability of data and materials

All the data required to make the conclusions of the results of this study are included in the manuscript and as additional files.

Competing interests

The author declared that there have no competing interests.

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Authors' contributions

ND, YAH and MKY conceived the study. ND coordinated the data collection. ND, YAH and MKY performed statistical analysis and drafted the manuscript. All authors read and approved the final manuscript.

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Tables

Table 1: Socio-demographic characteristics of women of reproductive age in health facilities of Gondar City, 2018

Variables	Frequency	Percent
Age of the women (in year)		
18-24	139	35.6
25-29	138	35.4
30-34	51	13.1
Above 35	62	15.9
Place of residence		
Urban	315	80.8
Rural	75	19.2
Educational status		
Uneducated	148	37.9
Elementary (1-8)	102	26.2
Secondary (9-12)	98	25.1
Diploma and above	42	10.8
Marital status		
Married	305	78.2
Divorced	23	5.9
Widowed	11	2.7
Single	51	13.2
Religion		
Orthodox Christian	298	76.4
Muslim	82	21.1
Others ¹	10	2.5
Ethnicity		
Amhara	299	76
Muslim	70	18
Others ²	21	6
Employment status		
Student	77	19.7
Merchant	53	14.1
Daily laborer	15	3.5
House wife	173	44.3
Government employee	50	12.7
Others ³		

¹ protestant, catholic, ²Oromo, ³Farmer

Table 2: Contraceptive history of women of reproductive age who were using health facilities in Gondar city, northwest Ethiopia, 2018

Variables	Frequency	Percent
Reason of family planning use		
Birth spacing	230	59
Birth limiting	160	41
Over all method shifting		
Yes	232	59.5
No	158	40.5
Method shifting from long to short term contraceptives		
Yes	113	48.5
No	119	52.5
Pregnancy while using family planning method		
Yes	44	11
No	346	89
Source of information for long acting contraceptive		
Health facility	233	59.7
Colleague	77	19.7
Media	71	18.2
Others	9	2.4
Counseling service at the health facility		
Satisfied	334	85.6
Not-satisfied	56	14.4

Table 3: Factors associated with method shifting from long acting family planning method among women of reproductive age in Gondar city, northwest Ethiopia, 2018.

Variables	Method shifting		Crude Odds Ratio [95% CI]	Adjusted Odds Ratio [95% CI]
	Yes	No		
	N (%)	N (%)		
Age of women (in years)				
Less than 24	72(35.8%)	76(40.2%)	1	1
25-29	63(31.3%)	71(37.6%)	1.07(0.67-1.71)	1.82(0.71-4.65)
30-34	28(13.9%)	19(10.1%)	0.64(0.33-1.25)	1.13(0.31-4.06)
Above 35	38(18.9%)	23(12.2%)	0.57(0.31-1.06)	0.57(0.31- 1.06)
Educational status				
Uneducated	69(34.3%)	79(41.8%)	1	1
Elementary	42(20.9%)	60(31.7%)	1.25(0.75-2.08)	1.06(0.35-6.69)
Secondary	65(32.3%)	33(17.5%)	0.44(0.26-0.75)	0.18(0.07-0.51)*
Diploma and above	25(12.4%)	17(9%)	0.59(0.30-1.19)	0.95(0.25-3.57)
Marital status				
Married	163 (81.1)	143 (75.7)	1	1
Single	25 (12.4)	20 (10.6)	0.912(0.49-1.71)	1.878(0.12-29.37)
Others	13 (6.5)	26 (13.8)	2.280(1.13-4.60)	3.704(0.60-23.02)
Number of pregnancy				
1-2	49(33.3%)	76(54.3%)	1	1
3-4	75(51%)	50(35.7%)	0.43(0.26-0.71)	0.32(0.13-0.75)
Above 5	23(15.6%)	14(10%)	0.39(0.18-0.84)	0.25(0.06-1.12)
Number of children				
1	53(35.8)	57(40.1%)	1	1
2-4	79(53.4%)	82(57.7%)	0.97(0.59-1.57)	0.82(0.34-1.94)
Above 5	16(10.8%)	3(2.1%)	0.17(0.05-0.63)	0.12(0.01-0.96)
Number of children to have				
1-2	113(56.8%)	133(70.7%)	1	1
3-4	67(33.7%)	44(23.4%)	0.56(0.35-0.88)	0.85(0.36-2.02)
Above 5	19(9.5%)	11(5.9%)	0.49(0.23-1.08)	0.77(0.18-3.27)
Have you experience pregnancy while using on Family planning				
Yes	16(8.0%)	28(14.8%)	2.01(1.05-3.85)	4.31(0.74-25.26)

No Got enough counseling on long term contraceptive during ANC visit	185(92%)	161(85.2%)	1	1
Yes	44(49.4%)	45(50.6%)	0.35(0.18- 0.65)	0.20(0.08-0.50)*
No Have you satisfied on Adequate counseling during family planning	23(25.3)	68(74.8%)	1	1
Yes	178(88.6%)	156(82.5%)	0.61(0.34- 1.09)	0.59(0.18-1.88)
No Reasons for family planning use	23(11.4%)	33(17.5%)	1	1
Birth limiting	95(47.3%)	65(34.4%)	0.59(0.39- 0.88)	0.26(0.11-0.60)*
Pregnancy spacing	106(52.7%)	124(65.6%)	1	1
Source of information about long term family planning				
Health facility	142(70.6%)	91(48.1%)	1	1
Friends	39 (19.4%)	38 (20.1%)	2.28(1.28- 4.06)	6.67(1.89-23.52)*
Media /others	20 (10%)	60 (31.8%)	2.16(1.04- 4.47)	2.31(0.51-9.76)

*Found statistical significant at p-value ≤ 0.05

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