FACTORS AFFECTING LONG-TERM AND PERMANENT CONTRACEPTIVE UPTAKE AMONG IMMEDIATE POST-PARTUM MOTHERS AT SAINT PAUL'S HOSPITAL MILLENNIUM MEDICAL COLLEGE, ADDIS ABABA, ETHIOPIA: A CROSS-SECTIONAL STUDY

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ABSTRACT

BACKGROUND

Postpartum family planning (PPFP) focuses on the prevention of unintended and closely spaced pregnancies through the first 12 months following childbirth.

OBJECTIVE

This study assesses the barriers to uptake of long-term and permanent family planning methods among immediate post-partum mothers at Saint Paul's Hospital Millennium Medical College in Addis Ababa, Ethiopia.

METHODOLOGY

An institution-based cross-sectional study was conducted from January 1 to June 30, 2017. The six months of study were used as strata and systematic sampling used to select participants in each month. Post-partum mothers were interviewed using pretested structured questionnaires. Data entry and analysis were done using SPSS version 17. Bivariate and multivariable logistic regressions were fitted to identify determinants of post-partum family planning uptake. A OR with 95% CIs were calculated, and p values set at 005 was used to determine statistical significance of associations.

RESULTS

Four hundred and twenty-two post-partum women were interviewed. Two hundred sixty-eight (63%) women received counselling on family planning and 241 (66.8 %) got information about contraception. One hundred and nifty two (45%) of the women accepted long-term and permanent contraception on their immediate postpartum period before discharge. Contraceptive counselling (OR=2.13, 95% CI 1.004-3.331), getting information from the health facility (OR=15.15, 95% CI 1.848-19.242), and partner support (OR=1.367, 95% CI 1.175-2.771) were significantly associated with long-term and permanent contraception uptake.

CONCLUSION

Postpartum counselling on family planning and provision of contraception information improves immediate postpartum FP acceptance, and, hence postpartum programs need to strengthen such services.

KEY WORDS: Contraception, Immediate postpartum, Long-term family planning.

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INTRODUCTION

Postpartum family planning (PPFP) focuses on the prevention of unintended and closely spaced pregnancies through the first 12 months following childbirth [1]. The postpartum period is critical for addressing widespread unmet needs in family planning (FP) and for reducing the risks of closely spaced pregnancies [2]. FP can avert more than 30% of maternal deaths and 10% of child mortality if couples space their pregnancies more than 2 years apart [3]. If all couples waited 24 months to conceive again, under-five mortality would decrease by 13%. If couples waited 36 months, the decrease would be 25% (4). According to an analysis of Demographic and Health Surveys data from 27 countries, 95% of women who were 0–12 month's post-partum wants to avoid a pregnancy in the next 24 months; but 70% of them were not using contraception[5]. Research has shown prenatal visits[6][7], place of delivery[6][7][8], postnatal visits[7][9], family planning counseling during antenatal care (ANC) and postnatal care (PNC)[10][11] and resumption of menses after birth [7][9], to be key predictors of postpartum modern contraceptive use. In Ethiopia, evidence has shown that nearly half (47%) of all pregnancies occur within a short birth interval of less than 24 months after the preceding birth[12].

Postpartum women are an important group as they may not realize that they are at risk of pregnancy even if they are breastfeeding[13]; and the immediate post-partum period is the window of opportunity for our clients to address the unmet need for FP. The aim of the study therefore is to determine factors that affect uptake of long term and permanent contraceptive (LTPC) services among immediate post-partum mothers. Identifying such factors could inform clinicians and policy makers and suggest context specific strategies to improve contraceptive service provision amongst post-partum mothers in order to reduce unintended pregnancies with short interval and decrease maternal morbidity and mortality. Post-partum in this study refers mothers within one week of delivery and before discharge from hospital.

METHOD

This is a hospital-based cross-sectional study .5around 8,677 deliveries were attended in 2016 G.C. Four hundred and twenty-two immediate post-partum women who were less than one week after delivery before discharged from hospital irrespective of mode of delivery and gave written informed consent from January 1 to June 30, 2017 participated in the study. Women who didn't fulfill WHO's medical eligibility criteria were excluded.

Sample size was calculated using single population proportion sample size estimation formula (n = Z2 p (1-p) / w2); where n was sample size; 1.96 and 95% were used for Z and confidence interval, respectively. P (proportion) of 21 % is modern contraceptive up take six months after delivery and was taken from EDHS[15] and with margin of error (W) of 5 %, substituting each in to the formula the sample size (n) was 255. With 1.5 multiplying design effect (DE) and 10% non-response, a sample size of 422 immediate postpartum women was used.

Data collection period was spread out for a period of six months to enable us capture any variations. The sample were divided among six months which gave us a sample of 70 participants in the first 4 months and 71 clients in the 5th and 6th month of study period. Considering average monthly delivery of 850 in the hospital and dividing by 70 which was sample size in each month yields 12, so every 12th delivery was sampled until sample size in each month was acheived.

Up take of long term and permanent contraceptive methods was the dependent variable considered while demographic and obstetric characteristics and FP counseling, information, prior use and partner support were considered as independent variables. A questionnaire was prepared in English and translated into Amharic and pretested at SPHMMC. Five data collectors and two supervisors were trained to facilitate data collection. Data was collected after obtaining informed written consent. The principal investigator and two research assistants supervised the data collection exercise. Data editing was done by the principal investigator to ensure consistence and completeness of data.

Data was entered and analyzed using Statistical Package of Social Sciences (SPSS) version 17.0.

Binary logistic regression was done and variables with p value <0.2 were selected for multivariable logistic regression analysis to see association of variables. A OR and 95% confidence interval and p value set at 0.05 were used to determine the statistical significance of the associations.

Ethical approval for the research was obtained from the SPHMMC Ethics and Research Committee. Informed consent was taken from each respondent before participation in the study. Questionnaires were coded and patients' names were not used. No incentives were given to the study participants. Privacy and confidentiality were safeguarded throughout the course of the study. Participants who desired LTPC were linked to and provided by family planning team. Data collectors introduced themselves to each participant and inform her of the nature and purpose of the study. The participants were participated in the study on a voluntary basis.

RESULTS

Four hundred twenty-two (422) post-partum participants were interviewed before discharge with 100% response rate. The mean age of the respondents was 26.7 years (SD=4.7) years median parity of 2 (IQR 1-3). Majority of the women (n=296, 69.8 %) were housewife and residents inAddis Ababa (n=196, 46.2 %) (Table 1).
The mean number of live-children was 2 (SD=1.29) and 52(12.7 %) women had at least one abortion before the current delivery. The current pregnancy was planned pregnancy in 351(82.8 %). Majority of the women gave birth vaginally (n=249, 58.7 %) and had health neonate (n=355, 79%) (Table 2).
Table 2: Reproductive characteristics of post-partum mothers at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, June 2017(n=422)

Table 1: Socio-demographic characteristics of post partum mothers at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, June 2017(n=422)

Variable	Frequency (%)
Religion	
Christian	320(75)
Muslim.	102(25)
Marital status	
single	18(4.2)
Married	401(94.6)
Divorced	3(.7)
Educational status.	
Illiterate.	76(17.9)
Primary school.	187(44.1)
Secondary school.	111(26.2)
College and above.	48(11.3)
Occupation	
Daily laborer.	6(1.4)
Student.	11(2.6)
Employee.	90(21.2)
House wife.	296(69.8)
Others.	19(4.5)
Address.	
Addis Ababa.	196(46.2)
Out of Addis Ababa.	224(52.8)

VARIABLE.	FREQUENCY (%)
PARITY	
1-2	296(70.1)
3-4	102(24.1)
≥5	24(5.8)
ABORTION	
YES.	52(12.7)
NO.	370(87.3)
MODE OF DELIVERY VAGINALLY.	249(58.7)
C/S.	173(41.3)
DELIVERY OUTCOME ALIVE AND WITH MOTHER.	355(79.5)
ALIVE AND REFERRED TO NICU.	71(16.7)
STILL BIRTH	16(3.8)
WAS THE PREGNANCY PLANNED?	
YES.	351(82.8)
NO.	71(17.2)

Majority of the women (n=299, 70.9%) were aware of LTPC methods while 123 (29.1 %) had never heard of such methods. The main sources of family planning information were health facilities (n=241, 66.8 %). Two hundred and sixty-eight (63.2 %) of the post-partum women got FP counseling and majority of the counseling (n=175, 65.2%) were done post-partum (Figure 1).

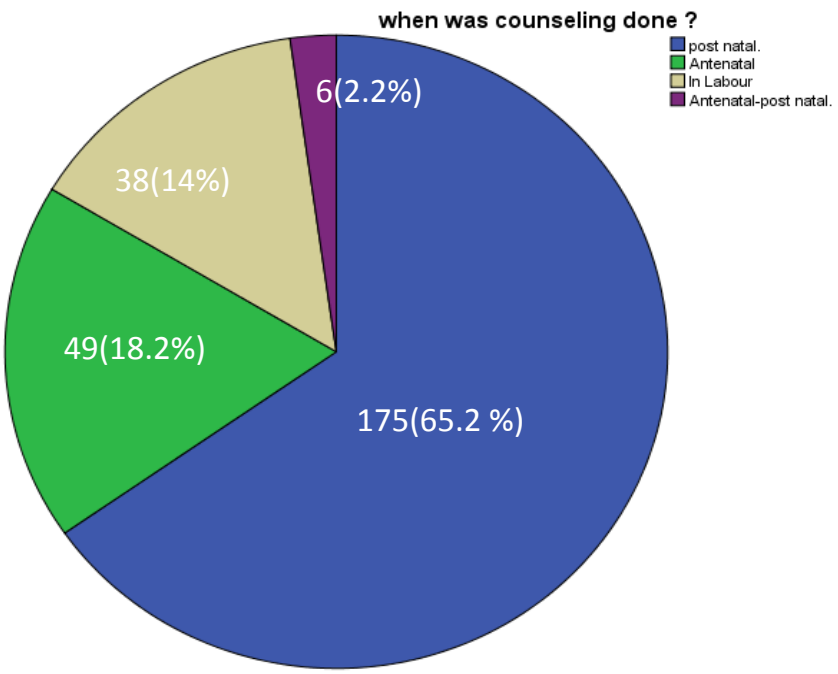

Figure 1: Family planning counseling timing at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, June 2017(n=268)

Majority of the women 233 (55%) had support from their partners on the use of LTPC methods (Table 3).

Table 3: Contraceptive awareness and utilization characteristics of post-partum mothers at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, June 2017(n=422)

VARIABLE.	FREQUENCY (%)
TYPES OF CONTRACEPTIVE USED BEFORE	
OCP.	44(10.4)
DMPA.	153(36.1)
IMPLANT.	44(10.4)
IUCD.	14(3.3)
NEVER USED	167(39.8)
AWARENESS OF LTCM	
YES.	299(70.9)
NO.	123(29.1)
WOULD LIKE/PREFER TO USE LONG TERM METHOD?	
YES.	213(50.5)
NO.	209(49.5)
PARTNER SUPPORT USE OF FAMILY PLANNING?	
YES.	233(55)
NO.	185(43.6)
NOT APPLICABLE.	4(1.4)
FP INFORMATION	
HEALTH FACILITY	241(57.1)
OTHERS (MEDIA, FRIENDS, RELATIVES)	123(29.1)
NO INFORMATION.	58(13.8)
CONTRACEPTIVE COUNSELING	
YES.	268(63.6)
NO	154(36.4)

Almost half of women (n=213, 50.5 %) preferred using LTPC methods, among which 192(45.5%) accepted LTPC method before discharge from hospital, 64 Jadelle (15.1%), 90 Implanon (21.2%), 33 IUCD (7.8%) and 5 BTL (1.2%). The remaining 21(5%) who preferred LTPC wants to use it on interval method.

The study revealed that the odds of using LTPC was 2.3 times higher in women who deliver vaginally than by cesarean section, P=0.010, a OR=2.33(95% CI 1.125-3.545). Those who had secondary school education were 3.9 times more likely to use LTPC compared to those with no education, p=0.027, a OR=3.907(95%CI, 1.165-13.057). Government employee were six times likely to use LTPC compared with merchants p=0.037, a0R=6.347 (95% CI 1.237-33.161). The Odds of using LTPC was 77% lower in those with previous abortion history compared to those with no abortion. P=0.035, a OR=0.332(95% CI 0.119-0.926) (Table 4).

Table 4: Socio demographic and reproductive characteristics verses LTPCs preference at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, June 2017(n=422)

Variable	LTPCS PREFERENCE.		COR (95% CI)	P VALUE	A OR (95% CI)
	Yes 213(50.2%)	No 209(49.5%)			
Parity.					
1-2	133(62.4%)	163(77.9%)	2.97(1.199-7.391)	0.019	3.81(0.231-4.051)
3-4	63((29.5%)	39(18.6%)	1.50(0.572-3.952)	0.408	1.35(1.000-1.695)
≥5	17(7.9%)	7(3.3%)	1		
Occupation					
Daily laborer	**2(0.94%)**	**4(1.9%)**	**5.62(0.773-40.594)**	**0.880**	**2.07(1.920-3.467)**
Student	**4(1.87%)**	**7(3.34%)**	**4.91(0.992-24.208)**	**0.051**	**4.13(0.089-5.826)**
Employee	**36(16.9%)**	**54(25.8%)**	**4.20(1.391-12.678)**	**0.011**	**6.40(1.237-33.161) ***
House wife	**159(74.6%)**	**137(65.5%)**	**2.47(0.871-7.058)**	**0,089**	**3.17(1.250-4.567)**
Merchant.	**12(5.63%)**	**7(3.34%)**	**1**		
Marital status.					
Single.	6(2.8%)	12(5.7%)	4.12(0.299-53.468)	0.295	
Married	205(96.2%)	196(93.7%)	1.91(0.172-21.207)	0.598	
Divorced	2(0.9%)	1(0.4%)	1		
Educational status					
College education.	49(23%)	27(12.9%)	0.59(0.287-1.250)	0.172	0.09(0.583-1.240)
Primary school.	96(45%)	91(43.5%)	1.03(0.546-1.944)	0.926	1.37(0.999-1.890)
Secondary school.	43(20%)	68(32.5%)	1.71(0.868-3.403)	0.120	3.90(1.165-13.057) *
Illiterate.	25(11.7%)	23(11%)	1		
Abortion					
Yes.	20(9.3%)	31(14.8%)	0.59(0.329-1.088)1	0.092	0.33(0.119-0.926) *
No.	192(90%)	178(85.1%)			
Mode of delivery					
Vaginally.	111(52.1%)	138(66%)	1.78(1.206-2.645)	0.004	2.33(1.125-3.545) *
C/S Delivery.	102(47.8)	71(33.9%)	1		
Delivery outcome.					
Alive and with mother.	176(82.6%)	159(76%)	0.30(0.095-0.953)	0. 041	0.20(0.182-2.850)
NICU.	33(15.4%)	38(18.1%)	0.38(0.113-1.305)	0.125	0.43(0.123-1.843)
Still birth.	4(1.8%)	12(5.7%)	1		
Planned pregnancy?					
Yes.	165(77.4%)	186(88.9%)	1.82(0.000)	1.000	
No.	47(20.6%)	23(11%)	1		

***p value<0.05**

Those who get counseling were two times more likely to use LTPC**, a** OR=2.13(95%CI 1.004-3.331), **P=0.003** compared with those who has no FP counseling. Those women who get contraceptive information from health facility were 15 times more likely to use LTPC compared to those who hear from Medias, friends or relatives, OR=15.15(95% CI 1.848-19.242), p=0.011**.** Mothers who have Partner support for the use of LTPCs were 1.3 times more likely to uptake LTPC than those who has no partner support, a OR=1.367(95% CI 1.175-2.771), p = 0.008. Odds of LTPC uptake was 6 times higher in past OCP users compared to those never used contraception, a OR=6.033(95% CI 1.151-31-637), p=0.050 (Table 5).

Table 5: Contraceptive knowledge and counseling versus LTCM preference at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, June 2017(n=422)

Variable	LTPC preference.		COR (95%CI)	P value.	A OR (95% CI)
	YES	NO			
	213(50.2%)	209(49.5%)			
Awareness of any contraceptive					
Yes.	187(87.7%)	176(84.2%)	0.71(0.408-1.247)	0.236	
No.	25(11.7%)	33(15.7%)	1		
Awareness of LTCM					
Yes.	165(77.4%)	134(64.1%)	13(0.000)	1.000	
No.	47(22%)	75(35.8%)	1		
Contraceptive used before					
OCP	19(8.9%)	25(11.9%)	4.82(1.179-19.74)	0.029	6.03(1.151-31-637*
DMPA	76(35.6%)	77(36.8%)	3.71(0.997-13.84)	0.050	3.23(1.231-4.240)
Implant.	29(13.6%)	15(7.1%)	1.89(0.458-7.851)	0.377	4.16(1.756-5.782)
IUCD.	11(5.1%)	3(1.4%)	0.76(0.520-1.138)	0.189	2.62(1.489-3.694)
Never used	77(36.1%)	89(42.5%)	1		
Source of information					
Health facility	133(62.4%)	108(51.6%)	2.66(0.133-3.334)	0.070	15.15(1.848-19.242) *
Others (Media, friends, relatives)	56(26.2%)	68(32.5%)	1		
Contraceptive counseling					
Yes.	161(75.5%)	107(51.2%)	1.33(0.224-2.513)	0.001	2.13(1.004-3.331) *
No.	52(24.4%)	102(48.8%)	1		
Time of counseling					
Post-partum.	89(41.7%)	86(41.1%)	156(0.000)	0.999	
Antenatal.	34(15.9%)	15(7.1%)	712(0.000)	0.999	
In Labour.	32(15%)	6(2.8%)	302(0.000)	0.999	
Antenatal-post-partum.	6(2.8%)	-	1		
Partner support.					
Yes.	142(66.6%)	91(43.5%)	1.37(0.250-2.555)	0.001	1.36(1.175-2.771) *
No.	68(31.9%)	117(55.9%)	1		

*p value <0.05

Participants report that fear of side effect 81 (38.8%), opposition from husband 52 (24.9%) and desire to have more children 27 (12.9%) were main reasons for not using long term and permanent FP methods. (Table 6)**.**

Table 6: Reasons for non-use of LTPCs amongst immediate post-partum at Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia, June 2017(n=209)

Maintained reasons.	Frequency	Percent
Desire to have more pregnancy	27	12.9
Peer/family Pressure	7	3.3
partner opposition	52	24.9
Lack of awareness	12	5.7
Fear of side effect	81	38.8
Religious influence.	11	5.3
Wants to use other method	19	9.1
Total	209	100.0

DISCUSSION

The findings showed that the prevalence of LTPC uptake at immediate post-partum was 45.5% (n=192) This finding is in line with studies conducted in town of Gondar (48.4%) [7], in Kenya and Zambia (46%),[14] in Rwanda (50%) [15], and in Mexico (47%) [16]. However, is above the national prevalence of use of LTPCs [17]. This might be because of facility based and our hospitals policy on counseling post-partum mothers on LTPC considering postnatal care a window of opportunity for information; education and communication to newly delivered mothers so that they will make appropriate choices especially towards care of infants and themselves and particularly take decisions on use of family planning methods. However, patients might discontinue the method any time making national prevalence low.

This study revealed family planning counseling rate of 63.2%. This is similar to a study done in Kenya, Namibia and Tanzania in 2011 which found that that only some of participants had discussed family planning with a health care provider (68% in Kenya, 40% in Namibia and 32% in Tanzania) [18]. In this study counseling on family planning in general increases up take of it but passing of family planning information specifically during antenatal clinic does not improve chances of a mother using a long term and permanent family planning method (p value=0.999). zbe because during pregnancy, family planning may not be a priority and the pregnant mother may be more concerned with the health of the fetus they are carrying. They may also be more interested of how to carry the pregnancy to term without any complications and issues of family planning uptake may be important only after delivery of the baby.

Women with vaginally delivery were more likely use LTPC (p= 0.010) but previous abortion was negatively associated with uptake of LTPC, a OR=0.332(95%CI 0.119-0.926) P=0.035. This might be because of health professionals skewed counseling more of to those with normal vaginally delivery despite the fact that those who gave birth by cesarean section benefits more and people with abortion might be not using with lack of proper information thinking that infertility and abortion associated with long term contraception.

Getting information about contraception from health facility supports uptake of LTPC (p value=0.011). This may be due to adequate information to address the family planning needs of the clients at the health facility than from media, relatives or friends. Again, important to note is that in the study (70.9%) of mothers had been exposed to information on long term and permanent family planning methods, yet this did not increase the preference for LTPCs (p value1.000). This may be due to inadequate information to address the family planning needs of the clients. For example, the main reason why post-partum mothers were not using LTPCs was fear of side effect. This may also be because the mothers have a lot of unexplained questions specially to do with perceived side effects of LTPCs.

Despite availability of long term family planning methods services at immediate post-partum at SPHMMC, the preference for them was at 50.5 %. Among client related factors, the number of living children was not found to influence preference for LTPC uptake in this study. This is contrary to what other study reported(19). This could be explained by the study being done in an urban setting and by the positive attitudes of men towards FP services
This study revealed that 55% of men support use of LTPCs by their women and LTPC uptake was improved by partner support, a OR=1.368(95%CI 1.175-2.771) P=0.008. Male involvement in Reproductive health services is crucial to improve LTCMs uptake. This is similar finding with reports from different part of our country that wife-husband discussion increase LTPC up takes(7) [20].
The study revealed that prior use of OCP was associated with more LTPC uptake compared to none users of any contraception. This can be explained by the fact that women who are not satisfied with short-acting methods but still wish to avoid pregnancy need alternative family planning choices(21).

Level of education and occupation of the women associated with long term contraceptive uptake in this study. This is similar with other study [6][11][22][23].
The reasons stated by many women (38.8%) for not using LTPC were fear of side effect. Women also report opposition from husband, desire to have more children and few reported lacks of awareness about LTPC as reason for not using. This is similar finding with national report, EDHS 2016[17] and study done in Aksum, northern part of Ethiopia [24].

Level of education, occupation, vaginally delivery, previous abortion, partner support and prior use of OCP were associated with long term and permanent contraceptive method up take.

High proportion of post-partum mothers reported fear of side effect as a reason for not using LTPC, so detailed counseling with partner involvement would ensure the mothers receive accurate and complete information on LTPCs to reduce the myths and perceptions concerning the LTPC use during postpartum period and beyond.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to declare for this study

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