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Early Postpartum Modern Family Planning Utilization and Associated Factors in Dilla Town, Sothern Ethiopia;2019

Zeleke Girma Abate[1] and Girma Worku Obsie[2*]

[1]Department of Public Health College of Medical and Health science, Dilla University; Dilla Ethiopia
[2]Department of Public Health College of Health science, Arsi University; Assela, Ethiopia

***Corresponding author:** Girma Worku Obsie, Department of Public Health College of Health science, Arsi University; Assela, Ethiopia, Tel: +251910256481, Email: natigirmaw16@gmail.com

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Abstract

Background: Postpartum family planning is the time to prevent the high risk of unintended and closely spaced pregnancies following childbirth and the highest impact interventions to save infant death, and adverse maternal health outcomes; however, most of the women are delayed during this period to use of family planning in Ethiopia. Therefore; this study was conducted with the aim of assessing early postpartum modern family planning utilization and associated factors among postpartum mothers.

Methods: A community-based cross-sectional study was conducted among women who gave birth six month before study period in Dilla town southern Ethiopia in May; 2019. Systematic random sampling technique was employed to conduct 293 participants via face to face interview with structured questionnaires. Both bivariate and multiple logistic regression models were fitted. Odds ratios with 95% Confidence Intervals were computed to identify factors associated with early postpartum family planning use.

Result: The proportion of early postpartum modern family planning utilization in the town was 39.2% (115). In multivariable logistic regression analysis pointed that age of the mothers ≤24 years [AOR= 2.65; 95% CI: (1.64-4.01)], marital status(married)[AOR= 5.63; 95%CI: (2.38-6.95)], educational status of women(secondary and tertiary education)[AOR= 5.03; 95%CI: (3.24-6.97)]& [AOR=6.76; 95%CI: (2.06-8.07)], ANC visited [AOR= 5.81; 95%CI: (1.89-7.56)], PNC used [AOR= 1.85; 95%CI: (1.04-4.62)], returned of menses [AOR= 6.03; 95%CI: (2.98-10.23)], number of alive children [AOR= 0.22; 95%CI: (0.19-0.68)], informed early postpartum family planning after delivery [AOR= 6.15; 95%CI: (3.11-9.64)] and previous history of family planning [AOR= 2.53; 95%CI: (1.89-7.26)] had significant association with utilization of early postpartum family planning.

Conclusion: Early postpartum contraceptive practice was lower as compared to previous studies of extended postpartum contraceptive used. Therefore, strengthening family planning counseling during antenatal care visiting and early postnatal care would improve utilization of early postpartum family planning in the postpartum period.

Keywords: Early Postpartum Family Planning; Postpartum Mothers; Dilla Town; Ethiopia

List of Abbreviation: AOR: Adjusted odd ratio; COR: Crude Odd Ratio; CI: Confidence Interval; ANC: Antenat-al Care; PNC: Postnatal Care; PPFP: Post-Partum Family Planning; FP: Family Planning

Background

The women and men both should be insured the treat benefit from the latest evidence-based clinical practices; that provided by professionals' reproductive health care workers. One of the services is postpartum family planning (PPFP) with the aim to prevent unintended pregnancy and closely spaced pregnancies after childbirth. Due to misconception the availability of services was limited to address family planning goals. [1,2] Unmet needs in family planning and reducing the risks of closely spaced pregnancies can be addressed by the postpartum contraceptive use. In contrast; postpartum women understanding amenorrhea for varying lengths of time, depending on their breastfeeding practices. Such as who are not breastfeeding, pregnancy can occur within 45 days of giving birth likewise who do not exclusively breastfeed; pregnancy can also occur before menses resumes [3].

The world health organization (WHO) consulted for better maternal and child health at least two years space the next birth; high risk of mortality had been seen children born within one year of last birth [3]. Likewise; the risks of preterm birth, low birth weight and small-for gestational-age babies have been increased by close spaced pregnancies within the first year postpartum. [2] So; to overcome the variations of time of return of fertility after childbirth; women should be given the opportunity to make an informed choice about their modern contraceptive use [2].

The highest unmet need for family planning is postpartum period. This period, which aims to prevent the high risk of unintended and closely spaced pregnancies during the first year following childbirth, is one of the highest impact interventions to avoid increased risk of premature birth, low birth weight, fetal and neonatal death, and adverse maternal health outcomes [4].

Globally, around 222 million women have unmet need for family planning [5]. This unmet need prevalent in particular populations, especially those who are sexually active, those with low socioeconomic status, those living in rural communities and those coping with conflicts and disasters [6]. One-third of maternal deaths can be occurred miss using contraception in women who are seeking to postpone or delay postpartum [7]. In the same situation around 265 million unwanted pregnancies, 110 million unsafe abortions, 590,000 avoidable maternal deaths and 8 million preventable infant deaths are existed throughout the world [8].

There is the highest fertility rate in Sub-Sahara Africa lead to low utilization of modern contraceptive methods. This low usage of contraceptives in some developing countries has raised the annual number of maternal deaths by 40% in the last 20 years [9].

In Ethiopia the study related to the topic has been shown that less than half of all pregnancies occur within a short birth interval of less than two years and consequence high fertility, low life expectancy, high maternal and child mortality [8]. In the same way the health survey addressed by the 2016 EDHS established that nationaly among currently married women age 15- 49 who are not using a family planning method, 58% made the decision not to use family planning jointly with their husband, 30% decided themselves, and for 10% the husband decided. Following this the contraceptive prevalence rate (CPR) for currently married women age 15-49 was 36%, with 35% using modern methods and 1% using traditional methods besides this an unmet family planning was 22% thus currently are not using contraception. Although, the current government policies are essential and can provide insights on existing gaps and opportunities for offering FP to postpartum women there is limited studies addressed particularly to ward effective utilization of early PPFP as national and in study setting [10]. Based on presented situation; the aim of this study was to identify factors affect early utilization of PPFP among targeted groups to overcome risk of mothers and children.

Methods

Study design and setting

A community-based cross-sectional study was conducted in May 2019 at Dilla town. The town is located is 365 kms southern of Addis Ababa the capital city of Ethiopia. It is 1570 meters above sea level and climate condition is woynadega. The town is divided in to three sub city and with nine lower administrative units/kebekes. According to the 2017 population projection estimate; there were 102,624 residences and more than half of them were females. Using conversion factor of 3.46% to estimate the women delivery in the year, the estimated number of women were 3551[11]. There are one referral and teaching hospital and two health centers serving population by providing maternal and others services. Postpartum women, from 48 hours to 6 weeks and prolonged postpartum period who gave birth six months prior to the study period and not pregnancy was included in the study.

Sample size and sampling procedures

Sample size was calculated using single proportion population formula by taking; 95% confidence level, 5% margin of

error and prevalence of postpartum modern contraceptive utilization 72.9% from a previous study was used [12]. Since the total population of estimated postpartum mothers less than 10,000 correction formula was used and final adjusted with 10% for non-response rate the minimum sample size was computed to be 308. Out of 9 kebeles of the town three kebeles were selected by simple random sampling lottery method. Before the actual data collection, survey was conducted to known the number of postpartum women in each kebeles. The study subjects were selected via systematic random sampling technique. The sampling interval was obtained by dividing the number of postpartum women between 48 hours and 6 months of delivery in each kebeles by the proportionally allocated sample for each kebeles. The sampling interval was to be three and then every three postpartum women was included based on their house's identification number end to the computed sample size for each kebele was achieved. The first postpartum woman was also selected by lottery method.

Operational definitions

Postpartum women: women who had live births within the last six months prior to the data of data collection [13].

Utilization of early postpartum family planning: If a woman is using any one of the following modern contraceptive methods between 48 hours and 6 weeks following her recent to childbirth: pills, intrauterine device, injectable, woman sterilization and implants [14,15].

Data collection instrument and process

The questionnaire was originally prepared in English then, translated to local language (Gedeoffa) and again translated back to English by independently expert of language to check for consistency. Four trained diploma holder nurses and one supervisor background of public health professional were involved in data collection process and local guiders such as urban heath extension professions were participated in exhibited eligible women. Training was given to data collectors and supervisor on the purpose of study, questionnaire and how to interview and fill the responses. Information will be collected on four parts of questionnaires such as socio-demographic variables, reproductive history and maternal health care, current practices regarding postpartum contraceptive use and finally, past experiences with modern contraception services and sexuality related varia¬bles. To assure the quality of data, pre-test was done on 5% of the sample size in at outside of study area. Necessary corrections were considered to be check based on the finding of pre-test before actual data collection started. Furthermore, to make sure the quality of data, principal investigator and supervisor were made spot-checking and reviewing the completed questionnaires on daily bases to ensure completeness and consistency of the information collected was done.

Data Analysis

The collected data was initially checked manually for its completeness. Following this it was cleaned, coded and entered into Epi-data 3.1 and exported to statistical package for social science (SPSS) version 24.0 for analysis. Then descriptive statistics were done and presented with tables and figure. Both bivariate and multiple variable logistic regression analysis were carried out to identify association of independents with the dependent variables. Variables found to be significant in bivariate analysis having P-value less than 0.05 were fitted into logistic regression model to control the effects of confounding variables. Besides this crude and adjusted odds ratio with their 95%CI were computed to determine the strength and presence of association. Finally, at P-value less than 0.05 was considered to declare the level significance.

Ethical considerations

Ethical clearance was obtained from Review Board of Dilla University. An official letter was also taken from town health office and kebeles administrative office. After explanation of the purpose of the study verbal informed consent was approved from each of the participant. Participants were also informed that the participation was voluntary basis and that they can withdraw at any time if they are not comfortable towards questionnaire. The information was provided by respondent kept confidential at all.

Result

Socio-demographic characteristics

In this study a total of 293 women participated with the response rate of 95%. Almost 5 in 8 of women 180(61.4%) were between 25-34 years of age and mean age of them were 29.24(SD + 5.35). Majority of respondents 278(95%) were married. Forty-one percent were Orthodox and followed by protestant (39.3%) in religious. Just half of participants (51.2%) were Gedeo by ethnicity and above one-third of women 100(34.1%) had secondary education whereas 15(5.1%) had no formal education and 39.6% of partners attended secondary school. (Table 1).

Table 1: Socio-demographic characteristics of the study participants of early postpartum family planning use at Dilla Town, Southern Ethiopia; 7May 2019(n= 293)

Variables categorized	Frequency	Percent (%)
Age		
≤24	53	18.2
25-34	180	61.4
≥35	60	20.4
Marital status		
Married	278	95
single	10	3.4
Divorced	5	1.6
Religion		
Orthodox	120	41
Muslim	47	16
Protestant	115	39.3
Catholic	11	3.7
Ethnicity		
Gedeo	150	51.2
Oromo	50	17
Amhara	27	9.2
Sidama	20	6.8
Gurage	40	13.6
Wolayita	6	2.2
Educational status		
No formal education	15	5.1
Primary education	86	29.4
Secondary education	100	34.1
Tertiary education	92	31.4
Husband educational status (n= 278)		
No formal education	5	1.8
Primary education	58	20.9
Secondary education	110	39.6
Tertiary education	105	37.7
Occupational status		
House wife	118	40.3
Government employee	38	13
Merchant	75	25.6
Student	20	6.8
Daily laborer	37	12.6
Others*	5	1.7

* self-employed, farmer

Reproductive health and maternal health service-related characteristics

More than half of respondents 154(52.6%) had three to four live birth. Likewise, one hundred fifty-eight (54%) of respondents reported that they had two to three children. About 125(42.6%) of the women had birth interval less than 24 months in their live. More than one in three of mothers 115(39.2%) wanted to limit whereas sixty mothers (20.5%) undecided to have children forwards. The majority of mothers 283(96.6%) had ANC attendance. In the same way above ninety-five percent of mothers 281(95.9%) had institutional delivery. A little more than half 155(53%) of mothers' had PNC service of the last birth. About 122(41.6%) of women had experience the retuned menses in the last birth prior to study period. Of these three -fourth (75.3%) had the time of returned of menses between one to three months. Besides this nearly three in four 205(70%) of respondents had resumed sexual intercourse since last birth at time of study. Furthermore, more than half of mothers 163(55.6%) were informed about early PPFP utilization before delivery as well as forty-five percent of respondents informed after delivery utilization of early PPFP. Consequently, the prevalence of utilization of early postpartum family planning was found to be 115(39.2%) in the last prior to study period. (Table 2).

Table 2: Reproductive health and maternal health service-related characteristics of study participants at Dilla Town, May 2019(n=293)

Variables categorized	Frequency	Percent (%)
Parity		
1-2	93	31.9
3-4	154	52.6
≥5	46	15.5
Number of children		
1	60	20.5
2-3	158	54
≥4	75	25.5
Birth interval (in months)		
<24	125	42.6
24-47	85	29
≥48	83	28.4
Reproductive intention		
Want to space	103	35.2
Want to limit	115	39.2
undecided	60	20.5
Want to have a child	15	5.1
ANC visit for the last pregnancy		
Yes	283	96.6
No	10	3.4
Place of delivery		
Institution	281	95.9
Home	12	4.1
PNC visit for the last child		
Yes	155	53
No	138	47
Returned of menses		
yes	122	41.6
No	171	58.4
Time of returned of menses(n=122)		
1-3 months	92	75.3

4-5 months	25	20.6
at 6 months	5	4.1
Resumed sexual intercourse		
yes	205	70
No	88	30
Currently used modern contraceptive at early postpartum period		
Yes	115	39.2
No	178	62.8
Informed about early PPFP before delivery		
Yes	163	55.6
No	130	44.4
Informed about early PPFP after delivery of the last child		
Yes	132	45
No	161	55
History of family planning		
Yes	223	76.1
No	70	23.9

Types of contraceptives use and reasons of not using contraceptive methods

Among the contraceptive were using, the most commonly used methods was injectable 70(60.5%) besides followed by oral contraceptive pills 21(18.3%), implants (9.5%) and ICUD (8.2%) respectively (Figure 1).

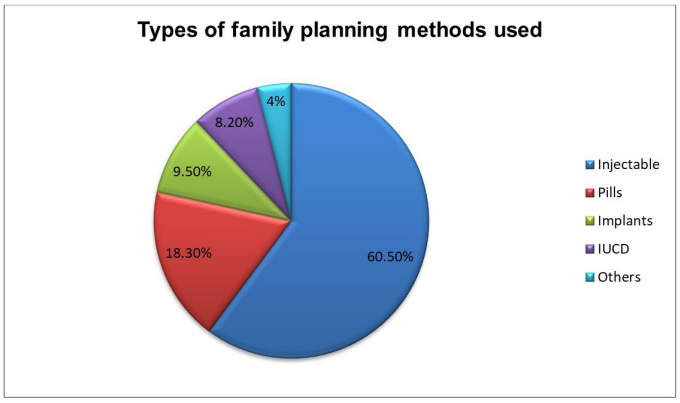

Figure 1: Types of family planning methods used by women in early postpartum period prior to study time at Dilla town, Ethiopia; May 2019

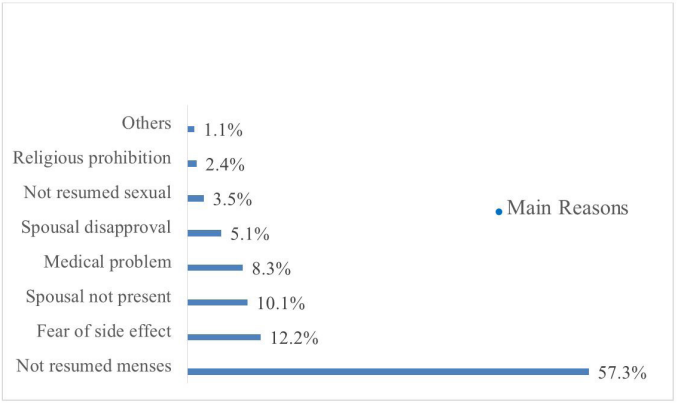

Figure 2: Reasons not using contraceptive among women during early postpartum period in Dilla town, Southern Ethiopia, May 2019

The postpartum women who were not using contraceptives currently reported different reasons such as menses not resumed 102(57.3%), fear of contraceptive side effect 22(12.2%), and followed by spousal not presented 18(10.1%)& medical problem 15(8.3%) with sequence (Figure 2).

Factors associated with early postpartum family planning utilization

Both in the bivariate and multiple logistic regression analysis pointed out factors significantly associated with utilization of early postpartum family planning such as, age of the mothers ≤24 years [AOR=2.65; 95%CI:(1.64,4.01)], marital status(married).

[AOR=5.63;95%CI: (2.38-6.95)], educational status of women(secondary and tertiary education)[AOR= 5.03; 95%CI: (3.24-6.97)]& [AOR=6.76; 95%CI: (2.06-8.07)], ANC visited [AOR= 5.81; 95%CI: (1.89-7.56)], PNC used [AOR=1.85; 95%CI: (1.04-4.62)], returned of menses [AOR= 6.03; 95%CI: (2.98-10.23)], number of alive children [AOR= 0.22; 95%CI: (0.19-0.68)], informed early PPFP after delivery [AOR= 6.15; 95%CI: (3.11-9.64)] and previous history of FP [AOR= 2.53; 95%CI: (1.89-7.26)] were declared as independent variables associated with dependent variable at P- value less than 0.05(table 3).

Table 3: Bivariate and multivariable logistic regression analysis of factors associated with utilization of early postpartum modern family planning at Dilla town, Southern Ethiopia; 2019 (n= 293)

Variables categorized	Early PPFP use		95% CI	
	Yes	No	COR	AOR
Age				
≤24	23(43.4%)	30(56.4)	2.26(1.95-5.68)*	2.65(1.64-4.01)*
25-34	80(44.4	100(55.6)	1.85(1.63-2.69)	0.68(0.52-1.85)
≥35	12(20%)	48(80%)	1	1
Marital Status				
Married	107(38.5%)	171(61.5%)	4.35(1.64-6.53)*	5.63(2.38-6.95)**
single	5(50%)	5(50%)	1	1
Divorced	3(60%)	2(40%)	1.75(1.22-3.26)*	1.05(0.61-2.14)
Education status				
No formal education	6(40%)	9(60%)	1	1
Primary education	36(41.9%)	50(59.1%)	2.66(1.38-4.29)*	2.25(0.15-3.98)
Secondary education	40(40%)	60(60%)	4.63(2.37-8.69)*	5.03(3.24-6.97)*
Tertiary education	33(35.9%)	59(64.1%)	6.02(1.89-7.32)*	6.76(2.06-8.07)**
Number of children				
1	25(41.7%)	35(58.3%)	0.81(0.12-0.93)*	0.22(0.19-0.68)*
2-3	75(47.5%)	83(52.5%)	0.26(0.95-1.64)	0.75(0.02-3.26)

≥4	15(20.0%)	60(80.0%)	1	1
Place of delivery				
Institution	108(38.2%)	173(61.8%)	5.23(3.28-9.97)*	2.36(0.86-5.67)
Home	7(58.3%)	5(41.7%)	1	1
ANC visited				
Yes	111(39.2%)	172(60.8%)	6.37(2.94-9.01)**	5.81(1.89-7.56)***
No	4(40.0%)	6(60.0%)	1	1
PNC used				
Yes	85(54.8%)	70(45.2%)	2.96(1.63-5.23)*	1.85(1.04-4.62)*
No	30(21.7%)	108(78.3%)	1	1
Returned of menses				
yes	92(75.4%)	30(24.6%)	6.53(3.28-9.63)*	6.03(2.98-10.23)*
No	23(13.5%)	148(86.5%)	1	1
Resumed sexual activity				
yes	109(53.2%)	96(46.%)	2.64(2.01-7.68)*	2.36(0.92-6.28)
No	6(6.8%)	82(93.2%)	1	1
Informed about early PPFP before delivery				
Yes	93(57.1)	70(42.9%)	3.25(1.85-6.23)*	1.49(0.23-5.83)
No	25(19.2%)	105(80.8%)	1	1
Informed about early PPFP after delivery++				
Yes	85(64.4%)	47(35.6%)	5.24(2.61-11.59)*	6.15(3.11-9.64)*
No	30(18.6%)	131(81.4%)	1	1
Previous history of FP				
Yes	105(47.1%)	118(52.9%)	2.84(2.21-6.38)*	2.53(1.89-7.26)**
No	10(14.3%)	60(85.7%)	1	1

Discussion

Early postpartum family planning utilization plays a major role in decreasing unmet need and avoid closely spaced births, but the utilization at level of provision is very low. The finding of this study showed that the prevalence of early postpartum modern contraceptive utilization was 39.2%. It is lower than the finding of conducted in Hoshana town 79.2% [12] and in Addis Ababa city 80.3% [13]. The discrepancy might be the time gaps of studies, setting area opening to access and availability services and the study design which is facility based of both studies. In addition, the respondents were interview in extended post-partum period whereas early post-partum period of our study. Moreover, this finding is consistent with study was done in Debre Berhan town with same study design 41.6% [16]. On the contrary the finding of this study was higher than studies which were done in Uganda 28% [17] and at kebribeyah town Ethiopia 12.3% [18]. This might be due to the differences in Socio-demographic characteristics between our study and Kebribeyah town population and types of data used in Uganda on population based secondary data whereas our study was primary data.

This study showed that a significant difference in contraceptive utilization among the different age groups. Women their age ≤24 years were around 3 times more likely to utilize early post-partum family planning than older age groups. This could be justified that the young women are more sexually active than older women practice. Beside this by assuming increasing the age might indicate that decrease to exposure of got pregnancy. The result was in lined with those of studies were done in Gondar town, Ethiopia and Uganda [17,19].

Women who were married 5.6 times more likely to use modern contraceptive than singles. This finding was consistent with the study conducted in Debre Tabore town& Addis Ababa [13,15]. The explanation could be in fact that because of married women frequently lived with their husband then, they start regular sexual intercourse earlier that may initiate utilization of early PPFP to be programmed the birth of the next child. Furthermore, the early PPFP utilization was associated with mothers' education status that exhibited mothers who have been secondary level 5 times more like to use and tertiary level 6.7 times more need to use contraceptive than they had no formal education. This might in line for as level of education increased leading to that increases early postpartum women are likely had a better empathetic of the service, its benefits of that regulating fertility. It is supported by the studies were conducted at Hoshana town, Northern Ethiopia and Uganda [12,17,20].

Number of alive children is another variable that revealed significant associated with early PPFP use. This might be due to the fact that women who had one child delay to use early postpartum contraceptive compared to who had four or more children. It was in lined with the study was done on population-based Crosse-sectional data in Burundi and Rwanda [21].

In the same way women who had ANC visit prior to the last pregnancy were 5.8 times more likely to attend early postpartum contraceptive than who didn't use ANC service. The possible justification may be due to women who were received family planning counseling and understanding the benefit might be highly initiated to attend modern contraceptive at early postpartum period. The result was supported with those of studies were addressed in somilia, Axum and Gonder town [18, 19,20]. Eventually utilization of PNC services was a significant associated with use of early PPFP. The interpretation of this finding was that women who had PNC services may be likely to obtain saturated family planning information and counseling then adjusted themselves to attend utilization of early postpartum family planning. This finding was also consistent to those of studies conducted in norther part of Ethiopia [19,20].

In this study women whose menses returned early after birth were 6 times more likely to use early PPFP compared to women whose menses didn't come back. This result agrees with study those of studies conducted in Hoshana town, Debre Tabore, Gondar town, Addis Ababa, Ethiopia and Nigeria [12, 13,15,19,22]. The reason of explanation was the most of the women might be perceived that the happening of pregnancy is direct related to menses resumption. Likewise, women whose didn't resumption of menses have faith in that is not returning of their fertility at all. On the other hand, women who were informed about early PPFP after delivery about 6 times likely to use early postpartum contraceptive than who were not informed. The possible justification could be that if the beneficiaries were informed the benefit and risky of pregnancy after birth during prenatal and postnatal care at postpartum period increased the proportion of utilization of early postpartum modern family planning. [20,23].

In the final phase women who had history of family planning utilization before to their last pregnancy were 2.5 times more likely to dem-and to use early postpartum contraceptive compared to who had not previous history of family planning. The result was in lined with the studies were conducted in Addis Ababa, Ethiopia and Uganda [13,17]. This could be due to women who had previous history of family planning use might have more information, positive attitude and practice with committed towards early PPFP utilization compared to those who had not any more utilization family planning.

Alternatively, the limitation of this study was stated; there was not considering the issue of integration of infant immunizing time and utilizing early PPFP. Overall, the study mainly focused on individuals related factors rather than health systems and quality of service providers. Thus the researchers would be addressed these absorptions in the future.

Conclusion

This study found that the prevalence of utilization of early postpartum modern family planning was low. Age ≤24years, marital status married, educational status of women, having ANC service, PNC used, resumption of menses, number of alive children, informed early postpartum family planning after delivery and previous history of family planning were factors significantly associated with utilization of early postpartum family planning. Therefore, strengthening family planning counseling during antenatal care visit and early postnatal care including empowering women with family planning education would improve utilization of early postpartum family planning in the postpartum period.

Authors' contribution

GW contributed significantly in initiation and design of the study, data analysis and interpretation, drafting and critically revising the manuscript for important intellectual content. ZG contributed design of the study, data collection, analysis and interpretation as well as drafting and revising the manuscript. Both authors have read and approved the final manuscript for possible publication.

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Data Availability

The datasets generated or analyzed during the current study are not publicly available due privacy issue and restricted institutionally to be disclosed but are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

Ethical clearance was obtained from department of public health under the delegation from Ethical Review Board of Dilla University. Written consent was obtained from each study participants after informing the objective of the study. In the consent, statements about potential risk, benefit and confidentiality were included and information was recorded anonymously. Ethics Committee approval was obtained for this written consent.

Author details

[1]Department of Public Health College of Medical and Health Science, Dilla University, Dilla; Ethiopia

[2]Department of Public Health College of Medical and Health Science, Dilla University; Ethiopia.

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