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Factors influencing utilization of early postnatal care services among postpartum women in Yirgalem town, Sidama Regional State, Ethiopia

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Abstract

Objective: Providing postnatal care services at right time could help to reduce maternal and newborn deaths. Thus, this study aimed to assess the factors influencing the utilization of early postnatal care services among postpartum women in Yirgalem town, Sidama Regional State, Ethiopia.

Methods: A community-based cross-sectional study was done using structured and interviewer-administered questionnaires among randomly selected 306 postpartum women. Data were cleaned, coded, and entered into EpiData-3.1, and exported to Statistical Package for Social Science-21 for analysis. Descriptive statistics, bivariable, and multivariable logistic regression analysis were done. A p-value ⩽ 0.05 was used to consider statistically significant variables.

Results: Generally, 202 (66.7%) visited a health facility for postpartum care. The prevalence of early postnatal care service utilization was 45.5% (95% confidence interval = 39.9–50.5). Mainly practiced services were physical examination (37%) and family planning (31%) services. Having formal education (adjusted odds ratio = 3.6; 95% confidence interval = 1.7–7.4), having antenatal care (adjusted odds ratio = 3.5; 95% confidence interval = 1.6–7.6), institutional delivery (adjusted odds ratio = 2.3; 95% confidence interval = 1.2–4.7), and getting advice from healthcare provider (adjusted odds ratio = 18.69; 95% confidence interval = 9.19–37.99) were factors significantly associated with early postnatal care service utilization.

Conclusion: The practice of early postnatal care needs more attention in the study area. Improving the educational status of the women, strengthening healthcare providers' counseling on the benefits of postnatal care, and inspiring pregnant women to use antenatal care and institutional delivery services will improve the use of postnatal care services on time.

Keywords

Postnatal care, service, Ethiopia

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Introduction

Postnatal period is the scientific term for the period following childbirth to 6 weeks during which the body tissues particularly the genital and pelvic organs return back to normal state, and it begins as soon as placenta is expelled.[1,2]

Early postnatal care (EPNC) is maternal and child healthcare service offered from the time of delivery up to the first week of postpartum period. It encompasses promotion of the health and provision of advices regarding contraception use, immunization, breastfeeding, and nutrition services.[3,4] The first postpartum week is a critical phase in the lives of mothers and their babies since many maternal and neonatal deaths occur in this period due to delay in early identification of the complications.[2]

Globally, a large proportions of women die in each year due to pregnancy and childbirth-related complications,[3] and majority of these deaths occur during the postpartum period,

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particularly in the first week after delivery.[4] The majority (94%) of all maternal deaths occur in low- and lower middle-income countries due to lack of using existing services on timely manner.[5,6] Providing of a postnatal care services at right time could results in reduced maternal and neonatal morbidity and mortality.[3]

Sub-Saharan Africa alone accounted for roughly two-thirds (196,000) of maternal deaths, while Southern Asia accounted for nearly one-fifth (58,000).[7] In addition, most the mothers are not visiting the health facility following childbirth, indicating that EPNC services are getting less attention from policy makers and community perspectives.[8,9] Most of these complications and deaths happened due to easily avertable cause like blood loss, hypertension, sepsis, HIV, pre-existing medical disorders, and other indirect causes.[9]

World Health Organization (WHO) recommended that deliver of postpartum care services should be started immediately after giving birth to ensure women's physical and mental health through advising on danger signs and symptoms, and taking appropriate measures for potentially life-threatening conditions.[2] The first hours, days, and weeks after giving birth are a dangerous time for both the mothers and their newborns because majority of the complications and deaths happen during this time.[10–12]

Although there is a progressive decline in maternal and child mortality rates in some regions of the world, in Ethiopia this rate is still in alarming condition with maternal, under-five, infant, and neonatal mortality ratio of 412/100,000, 67/1000, 48/1000, 29/1000 live births, respectively.[13]

Despite the fact that it has very substantial and positive impact on reduction of maternal and newborn morbidity and mortality, previous studies focused on general postnatal care and less attention given on factors affecting use of EPNC services. Also, there is a scarcity of updated information regarding utilization of EPNC as well as different factors influencing it in Sidama Regional State. Therefore, the aim of this study was to assess the factors influencing utilization of EPNC services among postpartum women in Yirgalem town, Sidama Regional State, Ethiopia in 2019.

Method and materials

Study area and period

This study was conducted in Yirgalem town, Sidama Regional State, Ethiopia. It is 45 km east of Hawassa, a capital city of Sidama Regional State, and 320 km south from Addis Ababa, a capital city of Ethiopia. It has 13 kebeles (the smallest administrative unit of the Ethiopia), one governmental general hospital, one health center, and 10 health posts. The total population of the town was estimated to be 79,506 from which 39,912 are females, out of which 18,526 are women of reproductive age group.[14] The study was conducted from 25 March to 15 April 2019.

Study design, sample size determination, and population

A community-based cross-sectional study design was used. Sample size was determined by taking proportion of 0.237 from previous study,[15] 95% confidence interval (CI) with 5% marginal of error and 10% non-response rate with single population proportion formula as shown as follows

$$n = \frac{(Z\alpha/2)^2 * p\ (1-p)}{d^2}$$
$$= \frac{(1.96)^2 * 0.237(1-\ 0.237)}{(0.05)^2} = 278$$

By adding 10% non-response rate, the final sample size was 306 participants.

The source population was all women of reproductive age group in the Yirgalem town. Those women who gave birth in the last 12 months prior to this survey and lived at least for 6 months in the selected kebeles were included in the study. However, those who gave birth and were below 7 postpartum days, sick and unable to give response during data collection period were excluded.

From a total of 13 kebeles, five kebeles were selected by the lottery method. The list of all eligible women was obtained from the Yirgalem town Health Office and a sampling frame has been developed based on it. The calculated sample was proportionally allocated to each selected kebele to obtain a representative sample. Finally, study participants were selected using a simple random sampling method.

Data collection tools, procedures, and quality assurance

Data were collected using interviewer-administered structured and pretested questionnaires developed by reviewing the related literature.[15,16–18] It contains socio-demographic factors, and items related to reproductive and health service utilization characteristics of the study subjects. Data were collected by five diploma nurses who have experience of data collection, and two Bachelor of Science health professionals were recruited as supervisors.

To ensure quality of the data, properly designed data collection tool was developed in English and translated into local language (Sidaamu Afoo) and back to English by language experts. All data collectors and supervisors were trained for 1 day by principal investigator before starting actual data collection. Training was given on general objective of the study, contents of the tool, and how to approach the study participants. Before starting actual data collection, the tool was pretested on 5% of the sample at Aleta Wondo town, and necessary measure was taken accordingly. Collected data were checked for its completeness and consistency before starting actual data entry.

Table 1. Socio-demographic characteristics of the study participants.

Variables categories	Frequency (n = 303)	Percentage (%)
Age		
15–19 years	12	4.0
20–24 years	92	30.4
25–29 years	101	33.3
⩾30 years	98	32.3
Religion		
Protestant	209	69.0
Orthodox	69	22.8
Muslim	25	8.2
Ethnicity		
Sidama	194	64.0
Oromo	61	20.1
Amhara	42	13.9
Others[a]	6	2.0
Current marital status		
Single	31	10.2
Married	257	84.8
Widow/divorced	15	5.0
Educational status of mother		
No formal education	190	62.7
Primary	35	11.6
Secondary	28	9.2
College and above	50	16.5
Occupation of mother		
Housewife	171	56.4
Merchant	62	20.5
Employee	55	18.2
Others[b]	15	4.9
Education level of husband		
No formal education	108	39.7
Primary	44	16.2
Secondary	50	18.4
College and above	70	25.7
Occupation of husband		
Employee	148	54.4
Merchant	76	27.9
Farmer	41	15.1
Others[b]	7	2.6

[a]Gurage, Wolaita, and Silte.
[b]Daily laborer and carpenter.

Measurements

EPNC services are given by healthcare professionals immediately after delivery up to the end of first postpartum week for mother and her newborn. The outcome variable was utilization of EPNC that was measured by yes or no responses. A positive answer (yes response) has been validated by asking additional question about items/types of the service they used.

Independent variables were socio-demographic factors (age, marital status, religion, ethnicity, educational, and occupational status), reproductive/ obstetric factors (parity, history of abortion, birth-related complications, and mode of delivery), and health service-related characteristics of the respondents (history of antenatal care (ANC) follow-up, time of starting ANC, and place of delivery). Utilization of EPNC services was assessed by asking the mother whether or not used the services with yes or no responses.

Statistical analysis

After cleaning and checking its completeness, the data were coded and entered in to EpiData version-3.1 software and finally exported to Statistical Software for Social Science (SPSS) version 21 for analysis. Descriptive analysis was done for each predictor variable, and cross tabulation was performed to see the distribution of predictor variables in relation to outcome variable. The goodness-of-fit of the model was also checked by the Hosmer–Lemeshow goodness of model fit. Multicollinearity was checked among predictor variables. Bivariable analysis was done for each independent variable with outcome variable, and variables with p-value of ⩽0.25 were entered into multivariable logistic regression analysis to control possible confounders. Adjusted odds ratio (AOR) with 95% CI was calculated to determine the presence and strength of association among predictors and outcome variable. A p-value ⩽ 0.05 was used to consider statistically significant variables. Finally, the results were described by texts, figures, and tables.

Results

Socio-demographic characteristics of the study participants

From 306 study participants planned for this study, about 303 respondents were interviewed, making the response rate of 99%. The mean age of the respondents was 27.62 ± 6.3 years. Of them, 209 (69%) were followers of protestant religion and Sidama was the dominant ethnic group with 194 (64%). Regarding the marital status, majority of respondents were married 257 (84.8%). Concerning educational status, only 190 (62.7%) did not attend formal education. In terms of occupational status, 171 (56.4%) were housewives (Table 1).

Reproductive/obstetrics characteristics of the study participants

Majority (73.3%) of the participants reported that their last pregnancy was planned. About 213 (71%) of them had less than four children and 90 (29%) had four and above children. Fifty-eight (19.1%) of them faced complications during their last pregnancy. About 115 (38%) of the respondents developed complications at the time of delivery (Table 2).

Table 2. Reproductive/obstetrics characteristics of the study participants.

Variables	Categories	Frequencies (n = 303)	Percentage (%)
Number of live children	<4	213	71.0
	>4	90	29.0
Hah history of abortion	Yes	44	14.5
	No	259	85.5
Condition of the last pregnancy	Planned and supported	222	73.3
	Unplanned but supported	51	16.8
	Unplanned and unsupported	30	9.9
Experienced complication during last pregnancy	Yes	58	19.1
	No	245	80.9
Type of complication experienced during last pregnancy	Vaginal bleeding	20	34.5
	Severe abdominal pain	15	26.0
	Severe headache	13	22.3
	Blurring vision	10	17.2
Experienced complication during delivery	Yes	115	38.0
	No	188	62.0
Types of complications experienced during delivery	Delay of labor	49	42.6
	Vaginal bleeding	31	26.9
	Fetal distress	20	17.4
	Pregnancy-induced hypertension	15	13.1
Mode of delivery	Spontaneous vaginal delivery	261	86.1
	Cesarean section	42	13.9

Table 3. Distribution of respondents' characteristics in terms of health service utilization.

Variables	Categories	Frequency (n = 303)	Percentage (%)
Had ANC visit for last pregnancy	No	83	27.4
	Yes	220	72.6
Frequency of ANC visit	1	70	31.8
	2–3	89	40.5
	>4	61	27.7
Place of current delivery	Home	173	57.1
	Health facility	130	42.9
Visited health facility after delivery	No	101	33.3
	Yes	202	66.7
Used EPNC for current delivery	No	110	54.5
	Yes	92	45.5
Time of starting EPNC utilization	Within 24 h.	20	21.7
	Within 2–3 days	29	31.6
	Within 4–7 days	43	46.7
Reason for not using EPNC services	Lack of information	41	37.3
	Lack of time	30	27.3
	Unplanned pregnancy	20	18.2
	Culturally influence	14	12.7
	Others[a]	5	4.5

ANC: antenatal care; EPNC: early postnatal care.
[a]Lack of money for transportation.

Respondents' characteristics related to the healthcare service utilization

In terms of ANC service utilization, 220 (72.6%) of them had at least one ANC visit. Less than half (42.9%) of them gave birth to their last child at health institution. About 202 (66.7%) visited health facility for postpartum care. From them, only 92 (45.5%) used EPNC services for current delivery (Table 3). The most commonly used services were physical examination for mothers and their newborn (37%)

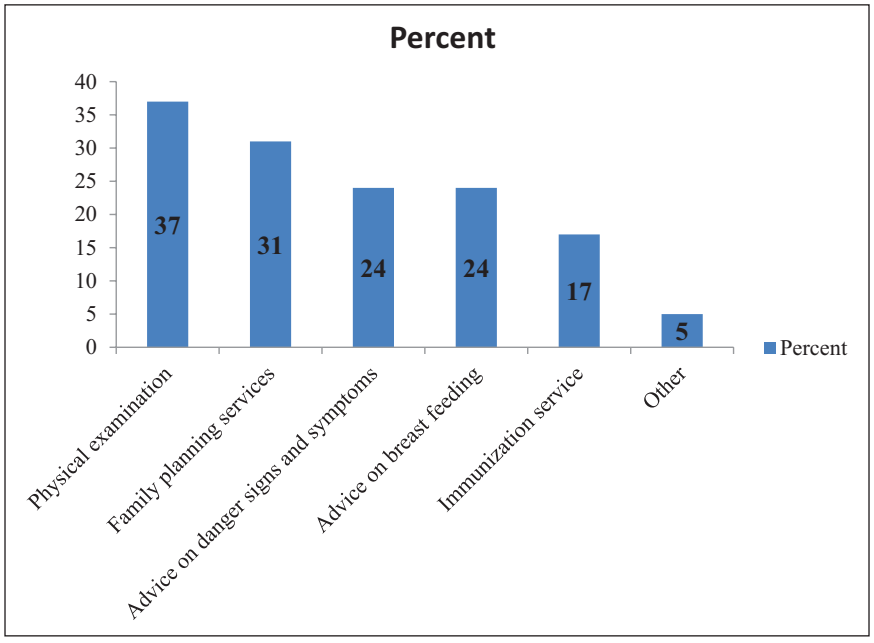

Figure 1. Items of care received during the early postpartum visit by study participants in Yirgalem town, Sidama Regional State, Ethiopia, 2019.

followed by provision of family planning (31%) (Figure 1). These services were delivered by health extension workers (32.6%), midwives (27.2%), doctors (21.7), and health officers/nurses (18.5%). Family planning methods used were injectables (50%), implants (34.4%), and intra-uterine contraceptive device (15.6%).

Factors associated with utilization of EPNC services

In bivariable logistic regression analysis, six variables (attending ANC, place of delivery, educational status of the mother, getting advice from healthcare providers on EPNC services, previous experience of using EPNC, and condition of last pregnancy) were found to be candidate for multivariable logistic regression analysis. After controlling the confounders using multivariable logistic regression analysis, attending ANC, place of delivery, educational status of the mother, and getting advice from healthcare providers on EPNC services were found to be statistically significant predictors of EPNC utilization.

Those whose educational level was college and above were 2.6 times more likely to use EPNC service when compared with their counter parts (an illiterate mothers) (AOR = 2.6; 95% CI = 1.7–7.4). Those mothers who gave birth at health facility were two times more likely to use EPNC when compared with those who gave at home (AOR = 2.3; 95% CI = 1.2–4.7).

Mothers who got information/advice on early postnatal care serves utilization from health professionals were 18.7 times more likely to use early postnatal care utilization than those who did not get information (AOR = 18.7; 95% CI = 9.2–37.9). In addition, mothers who attended ANC during their last pregnancy were 3.5 times more likely to use EPNC services than those who did not attend ANC (AOR = 3.5; 95% CI = 1.6–7.6) (Table 4).

Discussion

This study has attempted to assess the level of EPNC service utilization and its associated factors among postpartum women. Accordingly, the prevalence of EPNC service utilization was found to be 45.5% (95% CI = 39.9–50.5). This finding was in line with previous study conducted in India (45%).[19]

But it was high when compared with previously reported findings from Aseko district (23.7%), Jabitena district (20.2%), Nepal (13.5%), Ambo town (9.3%), Dembecha district (34.5%), and Loma district (7%).[15–17,19,20] It was also found to be high when compared with other findings from South Sudan (11.4%) and Kenya (38%).[18,21] The possible reason for this gap could be differences in socio-demographic characteristics of the study participants and the population across the countries, as well as in variation of study period.

In addition to this, majority of the study participants of the previous Aseko and Loma districts were from rural settings and this might decreased their intention of practicing the service due to lack of information, limited resources, and other related obstacles. Other explanation for this difference could be that majority of the study participants in Ambo town, Dembecha district, and South Sudan were not advised

Table 4. Bivariable and multivariable logistic regression analysis of factors associated with EPNC service utilization among postpartum women.

Variables and categories	Utilized EPNC		COR (95% CI)	AOR (95% CI)
	No	Yes		
Educational status of mother				
No formal education	137	53	1	1
Primary	21	14	1.7 (0.3–3.2)	1.2 (0.6–2.1)
Secondary	12	16	3.4 (0.8–4.5)	2.2 (0.6–2.5)
College and above	18	32	4.6 (3.4–7.2)	2.6 (1.7–7.4)*
Attended ANC				
No	21	62	1	1
Yes	76	144	4.1 (2.0–8.3)	3.5 (1.6–7.6)**
Previous experience of using EPNC				
No	97	15	1	
Yes	41	150	1.1 (1.7–1.8)	0.9 (0.4–2.1)
Advice from healthcare professionals on EPNC				
No	132	16	1	1
Yes	33	122	30.5 (15.9–58.2)	18.6 (9.2–37.9)**
Place of delivery				
Home	127	46	1	1
Health facility	38	92	6.7 (4.0–11.1)	2.3 (1.2–4.7)*
Condition of last pregnancy				
Unplanned	54	27	1	1
Planned	100	122	2.0 (1.1–3.4)	1.4 (0.6–3.1)

EPNC: early postnatal care; COR: crude odds ratio; CI: confidence interval; AOR: adjusted odds ratio; ANC: antenatal care.
*Statistically significant at p-value < 0.005; **significant at p-value < 0.001.

on EPNC services and most of them gave their birth at home. As a result, the probability of practicing the service would be decrease when compared this study.

Mothers who attended college and above education were 2.6 times more likely to use EPNC service when compared with their counterparts (no formal education). This finding was concurrence with similar studies done in Ethiopia and South Sudan.[16–19,22] The possible explanation for this might be that educated women might get evidence-based and updated information on benefits of maternal health service utilization as well as related consequences due to lack of these services on recommended manner.[18,20] Therefore, this could encourage them to practice postnatal care services on timely manner.

Those mothers who gave birth at health facility were 2.3 times more likely to use EPNC when compared with those who gave at home. This finding was in line with similar studies done in Ethiopia, India, and Bangladesh.[15,17,19,23,24] This could be happened due to that if woman gave birth at health facility, she can get all necessary information immediately after delivery from healthcare professionals who assisted her during delivery. So, this might help her to access the available services before discharge from the facility and would be more excited to come back for the next appointments.[9,22,24]

Mothers who got information/advice on EPNC serves from health professionals were 18.7 times more likely to utilize EPNC services when compared with those who did not get. This finding was consensus with previous studies done in Ethiopia, South Sudan, and Kenya.[15,18,19,21] Counseling mothers during pregnancy, labor, or at time of delivery on importance of utilizing available maternal health services could increase their intention to practice the existing maternal care services including EPNC.

In addition, mothers who have attended ANC during their last pregnancy were 3.5 times more likely to use EPNC services than those who did not attend ANC. This finding was also in line with similar studies previously done in Dembecha district and Gondar Zuria district.[16,25] ANC service is one of the best strategies to detect different risk factors during pregnancy. So, these activities could help postpartum women to access and utilize all packages of maternal care services on right time.[19,22,25,26]

The main drawback of this study was that it did not assess different factors related to cultural beliefs in the community, as well as health sector-related issues. In addition, this study applied a cross-sectional study design, so it could not establish causal relationship between the outcome and exposure variables.

Conclusion

Although this study reported slightly higher results as compared to previous findings, so far, it needs more attention. Attending ANC, place of delivery, educational status of the

women, and getting advice from healthcare providers were predictors positively associated with EPNC service utilization. Improving the educational status of the women, strengthening healthcare providers' counseling, enhancing practice of ANC, and institutional delivery will increase the likelihood of using EPNC services.

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Author contributions

A.D. contributed to conception and design, acquisition, analysis, interpretation of data, and preparing the original manuscript. T.T. contributed to conception and design, analysis, and interpretation of the data. A.A. and D.D. critically revised the document. All authors read and approved the final version to be published.

Availability of data and materials

The finding of this study is generated from the data collected and analyzed based on stated methods and materials. The original data supporting this finding are available from the corresponding author on reasonable request.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics approval

Ethical approval for this study was obtained from the Research and Ethics Review Committee of the Yirgalem Hospital Medical College with a reference number of REC075/2019. Also, a supporting letter was taken from the Yirgalem town Administration Health Office.

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Informed consent

The Research and Ethics Review Committee of the Yirgalem Hospital Medical College approved verbal consent for this study. Accordingly, informed verbal consent was taken from the entire study participant after explaining the aim of the study. Informed verbal consent was also obtained from the legally authorized representatives of minor subjects prior to study initiation and approved by the Research and Ethics Review Committee of the Yirgalem Hospital Medical College.

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Supplemental material

Supplemental material for this article is available online.

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