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Postnatalcare Service Utilization and Associated Factors Among Mothers Who Gave Birth in the Past One Year: Community Based Crosesctional Study in Four Different Regions of Ethiopia

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Abstract

Background: Postnatal period is the first six weeks after birth and is critical to the health and survival of both a mother and newborn. Most maternal and infant deaths occur during this time. Yet, this is the most neglected period for the provision of quality care and the level of postnatal care coverage is the lowest maternal and child service utilized in Ethiopia. Thus, this study tries to identify the prevalence of postnatal care (PNC) service utilization and associated factors in four different regions of Ethiopia.**Methods:** community based cross-sectional study design was employed in Addis Ababa, Ambo, Bahir-Dar and Mizan-Aman from June to September 2016. And 664 women who delivered in the past one year before the data collection period were included in the study. The data was collected using structured questionnaire. The questionnaire was pre-tested in 5% of the study population. The data was double entered to Epi Data 3.1 and exported to SPSS version 20 for analysis. Binary and multiple logistic regressions used to identify associated factors with the outcome variable. Texts, tables and graphs were used for descriptive statics. **Result**: A total of 647 study participants were interviewed making a response rate of 97.4 %. The prevalence of PNC service utilization was found to be 81.6%. Factors associated with PNC service utilization were utilizing antenatal care (ANC) service of their last pregnancy [AOR=6.19, 95% CI (2.85-14.85)], history of institutional delivery [AOR=2.87, 95% (1.15-7.15)] and knowledge about the importance of PNC service [AOR=2.11, 95% CI (1.16-3.87)]. Reasons for not utilizing the service were lack of knowledge and lack of partner support are mentioned by majority of the women who didn't utilize the service.**Conclusion and recommendation:** The overall prevalence of PNC service utilization in this study was relatively high. Increasing accessibility and services like ANC and institutional delivery coverage and attended health education on importance of PNC service utilization was very important factor to demonstrate more likely hood of PNC service utilization. Therefore, policy maker would be better consider this factors during training and postnatal program developments.

Keywords: postnatal care service utilization, associated factors

Background

The World Health Organization (WHO) stated that the postnatal period begins immediately after the birth of a baby and extends up to six weeks (42 days) after birth. Previously, the terms "postpartum period" and "postnatal period" are often used interchangeably but sometimes separately, when "postpartum" refers to issues pertaining to the mother and "postnatal" refers to those concerning the baby. But the document clearly state for better understanding "postnatal" should be used for all issues pertaining to the mother and the baby after birth [1].

Postnatal period is critical to the health and survival of a mother and her newborn. The most vulnerable time for both is during the hours and days after birth. Lack of care in this time period may result in death or disability as well as missed opportunities to promote healthy behaviors, affecting women, newborns and children. For the baby this is a period of transition from intra-uterine to extra-uterine life. In fact, the essence of life depends on the successful transition. The extra-uterine adaptation of the baby is usually established in the health institution by careful observation, and nursing care. When the infant is discharged the newborn requires care, dietary energy for adequate development, growth and maintenance of health. During this time it is important for mother

and baby to stay healthy because they will experience numerous physiological, as well as psychological changes. They are thus particularly vulnerable and need special care and assistance because over half a million women encounter complications due to childbirth annually and many die [1-6].

Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. Maternal mortality ratio (MMR) is maternal deaths per 100 000 live births. In 2016 The global lifetime risk of maternal mortality is approximately 1 in 180 for [7]. least developed countries is perhaps greater on maternal mortality [5]. 201,000 sub-Saharan Africa women die due to pregnancy and related causes annually and the average MMR for sub-Saharan African countries is 580[7]. Every year, nearly 3 million babies die within the first month of life, most from preventable causes and More than 1 million babies die on the first day of life[2]. 1.16 million Newborns die in Sub-Saharan Africa[4].

But PNC service is the most neglected period for the provision of quality care[6]. The level of postnatal care coverage is extremely low in Ethiopia. Only 12 percent of women received postnatal care within two days, as recommended according to mini Ethiopian demographic health survey (EDHS) 2014 [8] . The level of PNC service utilization is different in different regions of Ethiopia, but there may be similar factors affecting the utilization of PNC service. Therefore this study aims to access the prevalence of PNC service utilization and associated factors in four different regions of Ethiopia.

Methods

Study area and period

The study was conducted in the capital city Addis Ababa (A.A) and three other towns from three different administrative regions of Ethiopia; Ambo town is in Oromiya Region located in 126 Km west of A.A, Bahir Dar town is in Amhara region 557 Km north of A.A and Mizan-aman town from SNNP (southern nations nationalities and peoples) 565 Km south west of A.A. The study was conducted from May to August 2016. Community based cross-sectional study design was used to access PNC service utilization and associated factors in the past one year prior to data collection.

Sample size determination and sampling procedure

The sample size was determined by Open Epi Version 2.3 using single population proportion formula, by taking proportion of women utilized PNC in the four study areas 50% (no study found on those specific areas), margin of error 5%, confidence interval 95%, design effect 1.5 and non-response rate 15 %, the final sample size becomes 663 and we wind up to 664 for equal distribution. (Sample size was distributed using equal allocation). Sampling frame of mothers, who delivered in the past one year was obtained from health extension workers. Finally the study participants were selected using simple random sampling.

Data collection tool and quality control

The data was collected using interviewing mothers. The questionnaire was adopt from different literatures in English then translated to Amharic and Oromifa language by language experts then translated back to English to assure the consistency. The questionnaire was pre-tested in 5% of the population. The data collectors were trained and the data collection was daily supervised

Data processing

The data was double entered to EpiData 3.1 and exported to SPSS version 20 for analysis. Frequencies, proportions, measures of central tendency, and dispersions were estimated to describe the variables. Crude odds ratios (COR) and adjusted odds ratios (AOR) were calculated to determine the association between the predictor variables and PNC service utilization. Predictor factors with p-value less than 0.05 in the binary logistic regression were entered to multiple logistic regressions. Women who receive care at health institution at least once within the first 42 day after delivery and/ or woman who delivered in health institution should have received PNC service at least one visit after discharged to home to be considered utilized PNC service.

Ethical Issues

Proposal of the research was reviewed by St. Paul's Hospital Millennium Medical Collage (SPHMMC) ethics and review committee, obtained ethical clearance to conduct the study. Ethical clearance also obtained from the respective regional health offices and informed consent was obtained from each respondent, the participants' were informed to withdraw from the study if at any time during the interview.

Result

3.1 Socio-demographic characteristics

A total of 647 women of reproductive age group who gave live birth in the last one year prior to this survey were interviewed making a response rate of 97.4 %. The mean age of the respondents was 27.66 SD 5.57 years. Two hundred two (31.2%) of the participants attended high school and three hundred thirty nine (52.4%) were housewives. Majority of the respondents were Orthodox Christians by religion 354 (54.7%) Amhara by ethnicity

256 (39.6%) and currently married 600 (92.7%). (Table 1)

3.2 Past Obstetric History of Respondents

Regarding their past obstetric history of respondents one hundred eighty three (28.3%) were pregnant twice. Eighthly nine (13.8%) of the respondents had child died before 42 days. From those seventy three (82%) of them had one baby died and thirty seven (41.5%) of them mention that respiratory problem was the main reason for death. Ninety one (14.1%) of the respondents face abortion previously at least once. (Table 2)

3.3 Characteristics of last pregnancy and delivery

Majority of respondents, five hundred seventy two (88.4%) last pregnancy was intentional, six hundred forty (94%) of respondents attend ANC service for their last pregnancy and 570(88.2%) were delivered at health institution. (Table 3)

3.4 Postnatal care service utilization

Regarding on PNC service utilization, Majority of the respondents five hundred twenty eight (81.6%) received PNC service at least once and two hundred four (38.63%) of the respondents go to health center just for checkup even if no complication arise. About the number of PNC visit, One hundred seventy five (24.3%) of respondents visit health centers twice for PNC service. According to respondents three hundred seventy two (57.4%) 7 days to 42 days was the most frequent period of PNC visit. During their visits majority of the respondents receive health education, family planning and immunization for the new born (56.81%), (67.8%) and (75%) respectively. (Table 4) (Figure 1 &2).

3.5 Factors associated with postnatal service utilization

During binary logistic regression analysis, Age, History of delivered baby in Health institution, intentional pregnancy, Attended ANC service, partner support to utilize PNC service and understands the importance PNC service shows statically significant association with p-value less than 0.05. Those variables are entered to multiple logistic regression and four variables show association with PNC service utilization.

From the final multiple logistic regression model, Women who attended ANC service of their last pregnancy are more than six times more likely to utilize PNC service than who didn't attend ANC service [AOR=6.19, 95% CI (2.85-14.85)]. Women who have delivered in health institution before are nearly three times more likely to utilize PNC service than women who haven't delivered baby in health institution [AOR=2.87, 95% (1.15-7.15)]. And finally women who had knowledge about the importance of PNC service before they delivered are more than two times likely to utilize PNC service than who had no adequate knowledge about importance of PNC service [AOR=2.11, 95% CI (1.16-3.87). (Table 5)

3.6 Reasons for not utilizing postnatal service

Over all 119(18.4%) of respondents were not using PNC service, the major reasons explained by these Women was lack of knowledge on the importance of PNC service 47.05% and lack of partner support to go to health institution to receive PNC service 23(19.33%). (Figure 3)

Discussion

This community based cross-sectional study assess the utilization of postnatal care service and associated factors among women who give birth in the last year in four selected cities and towns (Addis Ababa, Ambo, Bihar Dar and Mizan Aman). Results of this study revealed that among the 647 respondents, 528(81.6%) utilized PNC services at least once and 119(18.4%) of mothers did not received the PNC services during the first 6 weeks following delivery. This is nearly similar to Ethiopian ministry of health report on health and health related indicators 2016, which reports the national PNC service utilization is 89.32% [9] and nearly similar to study conducted in Addis Ababa 2016, which 65.6% of the women utilize PNC service[10]. The level of postnatal utilization is also similar to study conducted in Zambia 2012 (82%) [11] and very close to level of PNC service utilization of Cameroon (75%) and Senegal (76%) [1]. But the prevalence of PNC service utilization in our study is much higher than many similar studies in Ethiopia, 23.7% in Arsi Zone, south East Ethiopia 2016[12], 20.2% Jabitena district, Amhara region, Ethiopia 2013[13], 51.4% Lemo Woreda, southern Ethiopia 2016 [14], 31.7 % Gindeberet District, West Shewa, Oromiya Region, Central Ethiopia in 2013[15] and many more similar studies. Similarly the postnatal care utilization of this study finding also higher when compared to other studies conducted in African countries, 37% in Nigeria 2014, 10.4% in Tanzania 2011[16] are some of the studies in Africa and also higher than the prevalence of PNC service utilization when compare to similar studies in Asia. in Nepal 43.2% reported attending postnatal care within the first six weeks of birth [17] and 30 % women received PNC in Pakistan 2016 [18]. These differences are mostly to the time variation and difference in operational definition of PNC service utilization.

The key associated factors that affect PNC service utilization in our study are ANC service utilization, previous institutional delivery and Knowledge about PNC service. These associated factors are also found to be significant in other similar studies. ANC service utilization is found to be associated with utilization of PNC in study conducted in Abuna Gindeberet district in central Ethiopia [15]. This is also supported with another study conducted in in Lemo Woreda, Ethiopia[14]. Another study conducted in three rural districts of Tanzania also reviled that likelihood of mothers seeking the WHO recommended PNC visits is associated with ANC attendance [16]. This is also supported by study in Nepal[17] .

The second associated factor in this study is Institutional delivery. Study conducted in Tigray, Northern Ethiopia shows Women who were delivered at health institution were three times more likely to attend postnatal care services as compared to women who were delivered at home delivery[19]. This also supported by another study conducted in North West Ethiopia [20]. According to study in Tanzania, Mothers who delivered at home were less likely to attend PNC services compared to mothers who delivered in health facility [16]. Study done in Cambodia to assess the determinants of PNC utilization reveled that women who delivered in health institution are nearly five times more likely to utilize PNC service than women who delivered at home [21].

The third associated factor to PNC service utilization is knowledge about importance of PNC service. study conducted on Tigray Region, northern Ethiopia shows that Women who had knowledge on postnatal care services were more than four times more likely to utilize postnatal care services than those women who had no knowledge on PNC services[19]. This is also supported by study conducted in southern Ethiopia [22]. Another study conducted in Indonesia shows that Lack of community awareness about the importance of these services was found to be associated with not utilizing PNC service [23].

Conclusion and Recommendation

The overall prevalence of PNC service utilization in this study was relatively very good as compared to many similar studies. Increasing accessibility and services like ANC and institutional delivery coverage and giving health education about importance of PNC service utilization were found to be very important factor to increase PNC service utilization. Therefore, policy maker would be better consider this factors during training and postnatal program developments. This study also reviled that health professionals are the main source of information. Health care providers should emphatically consider initiation of early MCH service deliveries like ANC as entry point for utilize subsequent services by using health education and mass media.

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Table 1. Socio-demographic Characteristics

Variables	Frequency %
Age at interview	
15-19 years	28(4.3%)
20-24 years	163(163%)
25-29 years	240(37.1)
30-34 years	134(20.7%)
35 and above years	82(12.7%)
Ethnicity	
Amhara	256(39.6%)
Oromo	203(31.4%)
Tigre	42(6.5%)
SNNP	135(20.9%)
Others*	11(1.7%)
Religion	
Orthodox	354(54.7%)
Protestant	151(23.3%)
Catholic	19(2.9%)
Muslim	119(18.4)
Other **	4(0.6%)
Marital status	
Married	600(32.7%)
Single	25(3.9%)
Divorced	14(2.2%)
Widowed	8(1.2%)
Educational status	
Unable to read and write	77(11.9%)
Abel to read and write	76(11.7%)
Elementary school	153(23.6%)
High school	202(31.2%)
Collage and above	139(21.5%)
Occupation	
House wife	339(52.4%)
Private employ	82(12.7%)
Government employ	111(17.2%)
Farmer	28(4.3%)
Merchant	73(11.3%)
Other***	14(2.2%)

* Gurage, Afar
** Waquefeta, Johova witness
*** Student, commercial sex worker

Table 2: Past obstetric History

Variables	Frequency (%)
Total number of pregnancy	
One	170(26.3%)
Two	183(28.3%)
Three	141(21.8%)
Four and more	153(23.6%)
Any child died before 42 days?	
Yes	89(13.8%)
No	558(86.2%)
Number of children's died before 42 days	
One	73(11.3%)
Two	7(1.1%)
Reason for death	
Feeding problem	8(1.2%)
Respiratory problem	37(5.7%)
Diarrhea	14(2.2%)
Fever	9(1.4%)
Bleeding umbilicus	6(0.9%)
Other causes	1(0.2%)
History of abortion	
Yes	91(14.1%)
No	556(85.9%)

Table 3: Characteristics of last pregnancy and delivery

Variables	Frequency (%)
Does your Last pregnancy was intentional?	
Yes	554(85.6%)
No	93(14.4%)
Did you attend ANC service for your last pregnancy?	
Yes	608(34%)
No	32(4.9%)
Place of delivery for last baby?	
Home	76(11.7%)
Health institution	570(88.1%)

Table 4: Postnatal care service utilization

Variables	Frequency (%)
Attend PNC service for the last baby?	
Yes	528(81.6%)
No	119(18.4%)
If yes, Number of PNC service visit	
• once	90(17.05%)
• twice	160(30.30%)
• three times	151(28.60%)
• four times	101(19.12%)
• five and more times	25 (4.74%)
Timing of PNC service visit	
• immediately 2-3 hours after delivery	214(40.53%)
• within 7 days after delivery	147(25.25%)
• 7- 42 days after delivery	385(72.91%)
Reason of PNC visit	
• Because the health professionals told you so	170(32.20%)
• Complication arise to your self	94(17.80%)
• Complication arise to your baby	30(5.68%)
• No complication arise but to receive routine postnatal check up	204(38.63%)
• to receive only birth certificate	29(5.49%)
• Other specify	1(0.19%)
What PNC service did you receive when you went to HC or hospital after delivery(more than one answer was possible)	
• Health education	300(56.81%)
• Immunization of a baby	396(75%)
• Family planning service	358(67.8%)
• Care about medical ill	157(29.73%)
• Other specify	12(2.27%)

Table 5: Factors associated with PNC service utilization

Variables	PNC service use		COR(95% CI)	AOR(95% CI)
	Yes	No		
Age group				
15-19 years	17	11	1	1
20-24 years	127	36	2.28(0.98-5.31)	1.32(0.49-3.51)
25-29 years	205	35	3.79(1.64-8.77)	2.31(0.87-6.1)
30-34 years	112	22	3.29(1.36-7.99)	1.99(0.72-5.49)
35 and above years	67	15	2.89(1.13-7.42)	2.46(0.82-7.39)
Attend ANC service for your last pregnancy				
Yes	512	12	8.89(4.21 – 18.78)	6.19(2.85-14.85)**
No	96	20	0.6	1
Delivered in health institution before				
Yes	515	12	5.77(2.67 – 12.49)	2.87(1.15-7.15)*
No	103	15	1	1
Did you know about importance of PNC service				
Yes	481	46	2.51(1.45 – 4.33)	2.11(1.16-3.87)*
No	96	23	1	1
Partner support to go to receive PNC service				
Yes	446	46	1.66(1.04 – 3.7)	0.75(0.32 – 1.75)
No	74	15	1	1

* P-value less than 0.05
** P-value less than 0.01

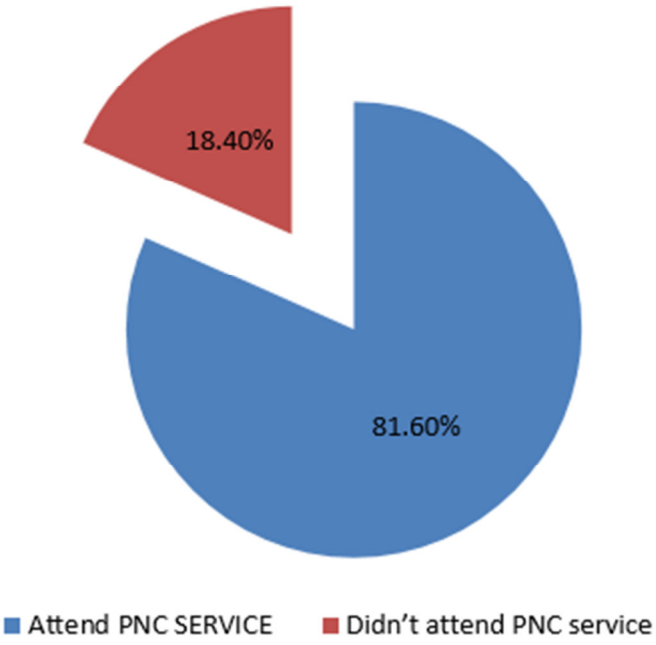

Figure 1: prevalence of PNC service utilization

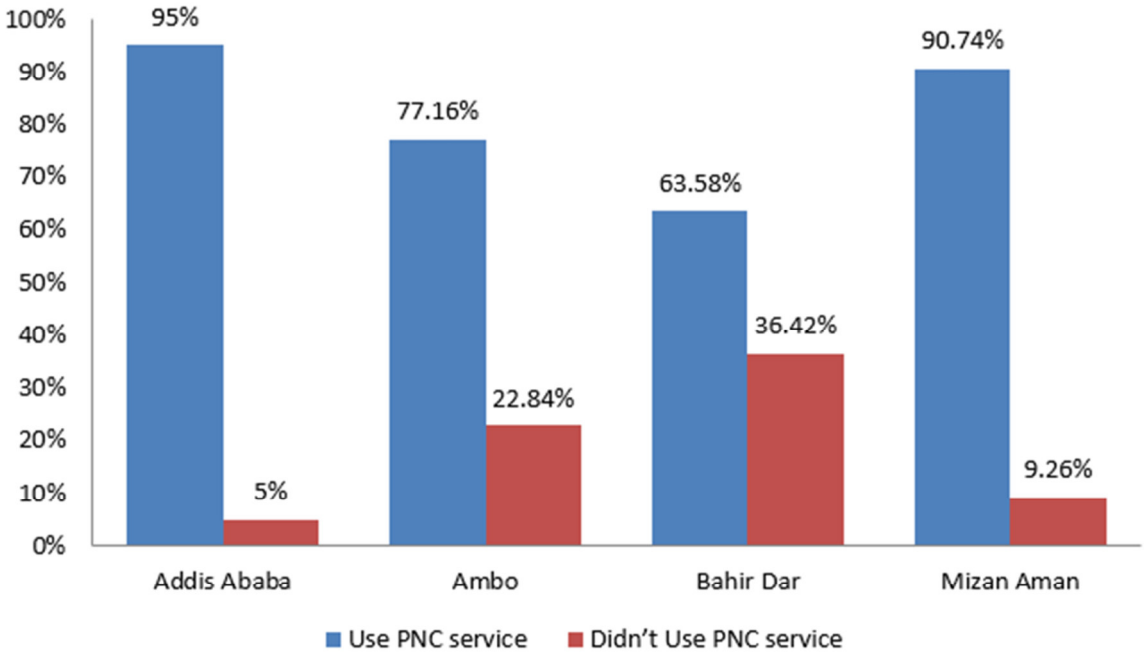

Figure 2: Postnatal service utilization by study area

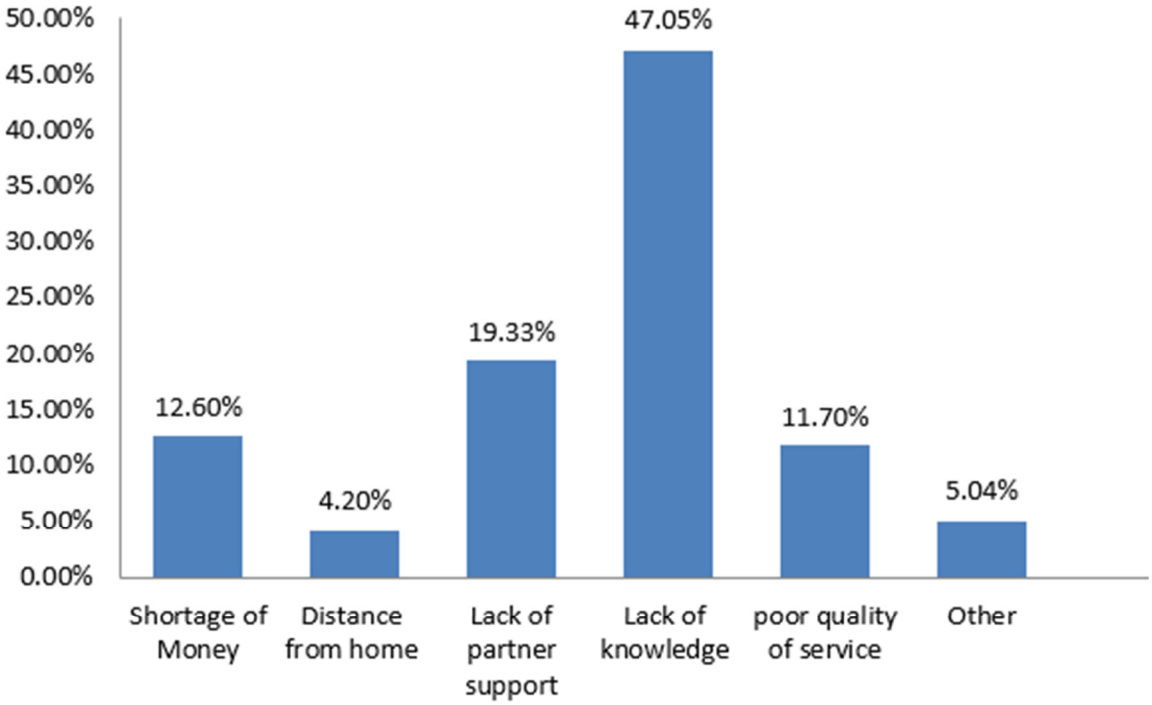

Table 6: Reason for not using PNC Service utilization