

Postnatal Care Utilization and Associated Factors Among Mothers Who Delivered in the Last Twelve Months in Sodo Zuria District of Wolaita Zone; Southern Ethiopia: A Community-Based Cross-Sectional Study

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Abstract

Background: Maternal mortality ratios strongly reflect the overall effectiveness of health systems. Many low-income developing countries were suffering from maternal mortality and almost more than half of the deaths take place within the postnatal period. The objective of this study was to assess the prevalence of postnatal care utilization and its associated factors among mothers who delivered within the last twelve months in Sodo Zuria District of Wolaita Zone; Southern Ethiopia, 2016.

Methods: Community-based cross-sectional study design was employed among mothers who delivered within the last twelve months. A total sample size of 394 was used. The study was conducted from March to April 2016. Variables that have statistically significant at bivariate logistic regression with p-value <0.2 were entered into the multiple logistic regression model. P-value <0.05 was considered as statistically significant.

Results: Postnatal coverage of the Sodo Zuria district was 77.7%. Place of delivery, decision-maker for PNC utilization, mothers with one live, and mode of health delivery systems were statistically significant factors for postnatal care utilization. Mothers who decided to follow PNC by their own and with their husband were 14.08 times [AOR=14.08, 95% CI: (2.278-86.98)] and 4.74 times [AOR=4.74, 95% CI: (1.179-19.04)] more likely utilized postnatal care as compared with for those their husbands decided about their wives respectively.

Conclusion and Recommendation: Postnatal care service utilization in our study area was high. Those mothers who able to decide postnatal service utilization by themselves had a small number of children and delivered the recent child in a health facility were more likely to utilize postnatal care service than their counterparts. Therefore, the concerned body should emphasize on women empowerment and institutional delivery to foster postnatal care service utilization.

Keywords: Postnatal care utilization, Utilization of postnatal care, Wolaita zone, Sodo Zuria district

Introduction

The postnatal period begins immediately after the birth of the baby and extends up to six weeks (42 days) after birth [1]. It is a risk period especially the first 24 hours and the first seven days after delivery and post-natal care utilization according to the WHO standards significantly reduce maternal and newborn mortality [1,2]. The low coverage of postnatal care is causing continuous high maternal and newborn morbidity and mortality [2-6].

Worldwide, on average, 50% of mothers follow postnatal care services. In developed countries, the coverage is higher than 80% and in developing counties like Sub-Saharan African (SSA) and some parts of Asian countries its coverage is below 50% in [1, 7-13]. Based on the EDHS 2011 report, about 33.5% of urban residents and 5% of rural residents had used PNC services in Ethiopia [14]. 17% had a postnatal check during the first 2 days after birth. Four in five women (81%) did not receive a postnatal check [12].

Different researches carried out in different regions of the country revealed that there are so many reasons which are not well identified hinder women from attending health institutions to seek their PNC service after delivery [1, 13-19]. Socio-economic status, geographical location, maternal education, culture, belief, religions, income, quality of care, access, availability, previous post-natal care experience, health care system and women participation in decision making are some of the factors that affect PNC [9-11, 20-24].

Many types of research show that the coverage of PNC utilization was below 50% in Ethiopia and the factors affecting mothers not to attend PNC services were not well identified in the study area. Therefore, the study was designed to determine the prevalence of utilization of post-natal care and associated factors in Sodo Zuria District, Wolaita Zone, South Ethiopia, March 2016.

Materials and Methods

Study Area and Setting

This study was conducted in the Sodo Zuria district of Wolaita Zone. Wolaita zone is one of 13 zones in Southern Nations Nationalities and Peoples' Region (SNNPR). It is administratively divided into three town administrations and 12 districts. Based on the 2007 census conducted by the Central Statistical Agency of Ethiopia (CSA), the population of Wolaita zone is about 1,888,390 in 2014, out of which 50.73% is female. The zone has three hospitals, 68 health centers, 372 health posts. Sodo Zuria is one of 12 districts in Wolaita zone with a population size of 172,632 and from this 51% were females. It had 31 kebele and 7 governmental health centers [25].

Study Period and Design

A community-based cross-sectional study was conducted in from March 1-30, 2016.

Sample Size and Sampling Technique

The sample size was calculated using single population proportion formula by assuming the proportion of postnatal care utilization stunting to be 37.2% [17], the confidence level of 95%, 5% degree of precision, 10% for non-response rate. The final sample size was 394. A multistage sampling technique was used to select study participants. All mothers who delivered their last child at both health facilities and home before 6 weeks to 12 months of the survey in the Sodo Zuria district of Wolaita Zone were considered as the study population. Ten kebele was selected from a total of 31 kebele by a simple random sampling technique. Then the total sample size was allocated proportionally to the selected kebele based on the number of children.

A list of households with mothers who delivered within the last six to twelve months before the survey in selected kebele was obtained from the health post family folder. Then a simple random sampling method (generated by computer) was used to select the study participants from each selected kebele.

Operational Definition

Postnatal care- is care given to a mother and her newborn by skilled health professionals (physicians, health officers, midwives, and nurses) any time during the first six weeks after delivery in health facilities or at their home. Postpartum period- is the time from delivery of an infant through the first six weeks (42days) of an infant's life.

Utilization of postnatal care - a mother and her newborn baby obtaining postnatal care service by skilled health professionals (physicians, health officers, midwives, or nurses) at least once during the first six weeks after delivery in health facilities or at their home.

Tool and Measurement

A pre-tested, interviewer-administered structured questionnaire adapted from different kinds of literature and Ethiopian Demographic and Health Survey (EDHS) was used to collect data to assess the prevalence and independent predictors of PNC. The questionnaire addressed Socio- demographic characteristics, obstetrics factors, awareness about postnatal care utilization and health facility-related factors.

Data Collection

Data were collected from the community via face to face interview method until the expected sample size was obtained. Ten female diploma nurses and two supervisors were employed for the data collection process guided by community leaders to locate a specific household.

Data Quality Assurance

The questionnaires which were prepared in English based on different kinds of literature were translated into Amharic by professionals. This translated Amharic version questionnaire was translated back to English by another professional who was blinded for the English version. Two questionnaires were compared to check differences. Two days of training were given for both data collectors and supervisors by the principal investigator on the objective of the study, the relevance of the study, confidentiality of the information, respondent's right, informed consent, and data collection procedures. The questionnaire was pre-tested on 5% of women in the nearby district to identify the clarity of

questions, the sequence of the question, and the gap on the data collector. The discussion was held based on the result of the pre-test to make the necessary correction. Data were checked for completeness by supervisors and principal investigators on a daily base and double entry was done by the principal investigator before analysis.

Data Analysis

Data verified for field-level quality were further cleaned manually and entered by the researcher using Epi-data statistical software version 3.1 which was finally exported for further analysis to SPSS software package of version 20. After cleaning data for inconsistencies and missing value in SPSS, descriptive statistics such as frequency and percentage were computed. Bivariate analysis was done and all explanatory variables which have an association with the outcome variable at a p-value of less than 0.2 were selected for multivariate analysis. Then multivariate analysis using a backward LR method was done to determine the presence of a statistically significant association between explanatory variables and the outcome variable (postnatal care service utilization). Odds ratio with 95% CI was used to measure the degree of association between independent and outcome variables.

Ethical Consideration

Ethical approval and clearance were obtained from Addis Ababa University and a letter of cooperation was obtained from Wolaita zonal health department to Sodo zuria district health office and then to the respective kebele from the district health office. Verbal informed consent was obtained from the study participants by informing the purpose of the study.

Results

Socio-Demographic Characteristics of the Respondents

Three hundred ninety-four women were interviewed in the study with a response rate of 100%. The mean (+SD) age of mothers was 29.47(+5.02) years and about 269 (68.3%) were in the age group of 25-34 years. Majority of the respondents, 210 (53.3%) were protestant by religion, 202 (51.3%) attended primary education, 356 (90.4%) were housewife by occupation, 265 (67.3%) were of family size five and above and 228(57.8%) earn less than 500 Ethiopian Birr (Table 1).

Table 1. Socio-demographic characteristics mothers who delivered in the last twelve months in Sodo Zuria district of Wolaita zone; Southern Ethiopia, 2016.

Variable	Frequency	Percent
Maternal age		
15-24	51	12.9
25-34	269	68.3
35-44	74	18.8
Religion		
Orthodox	155	39.3
Protestant	210	53.3
Others	29	7.4
Educational status of mothers		
Unable to read and write	159	40.4
Primary	202	51.3
Secondary and above	33	8.3
Occupational status of mothers		
House wife	356	90.4
Others	38	9.6
Occupational status of husbands		
Farmer	223	56.6
Daily laborer	171	43.4
Family size		
1-4	129	32.7
Five and above	265	67.3
Family monthly incomes		
<500	228	57.9
500-1500	134	34.0
>1500	32	8.1

Obstetrical History of the Respondents

Concerning obstetric history, 233 (59.1%) had experienced four and above pregnancies in their lifetime and among 374 mothers who gave live birth, 220(58.8%) had given four and above births. About 369 (93.7%) of mothers got information on postnatal care and the majority of them, 350(88.8%) got information from health extension workers (Table 2).

Postnatal Care Utilization and Related Factors

According to the study, about 306(77.7%) women used postnatal care service at least once within 6 weeks after delivery. Among mothers who utilized postnatal care service, 196(64.1%) took service within 24 hours after delivery, 138(45.1%) visited once and 253(82.7%) utilized the service for baby immunization. However, 88 (22.3%) did not utilize postnatal care service and 64 (72.7%) of them were due to the long waiting time (Table 3).

Multivariate Analysis

In our study six variables; maternal age, maternal education, husband education, decision-maker for postnatal care, total live birth, and place of delivery were statistically significant in binary logistic regressions. After adjusting for confounding variables decision-maker for PNC, the total number of live births by mothers and place of delivery were statistically significant in the final model.

Those mothers who able to decide by themselves to utilize postnatal care utilization were 4.74 times; [AOR= 4.74, (95% CI = 1.18, 7.04)] more likely utilized postnatal care service than those mothers in which postnatal care service utilization decision was made by their husbands. Those mothers who delivered less than three children were 3.11 times; [AOR=3.11 (95% CI 1.64, 6.52)] more likely utilized postnatal care service than those who delivered more than four children. Those mothers who delivered their recent birth at the health facility were 4.62 times; [AOR= 4.62, (95% CI 2. 12, 5.87)] more likely utilized postnatal care service than those who delivered at the health facility (Table 4).

Table 2. Obstetric history of mothers who delivered in the last twelve months in Sodo Zuria district of Wolaita zone; Southern Ethiopia, 2016.

Variables	Frequency	Percent
Number of pregnancies		
1-3	161	40.9
4-6	233	59.1
Number of total live births (374)		
1-3	154	41.2
4-6	220	58.8
Got information about PNC		
Yes	369	93.7
No	25	6.3
Source of information		
Health Extension workers	350	88.8
Women Development Army	142	36.1
Health professionals	54	13.7

Table 3. Postnatal care utilization and related factors by mothers who delivered in the last twelve months in Sodo Zuria district of Wolaita zone; Southern Ethiopia, 2016.

Variables	Frequency	Percent
PNC Utilization within 6 weeks (n=394)		
Yes	306	77.7
No	88	22.3
Timing of PNC utilization (n=306)		
Within 24 hrs	196	64.1
2-3 days	8	2.6
4-7 days	23	7.5
8-42days	79	25.8
Number of PNC visit (n=306)		
Once	138	45.1
Twice	92	30.1
Three and above	76	24.8
Reason for PNC utilization (n=306)		
Baby immunization	253	82.7
Family planning	250	81.7
Check up	53	17.0
Others	11	5.6
Reason for not attending PNC (n=88)		
Long waiting time	64	72.7
Lack of helper to care baby	44	50.0
Lack of awareness	35	39.8
Others	24	27.3

Table 4. Independent predictors of postnatal care utilization by mothers who delivered in the last twelve months in Sodo Zuria district of Wolaita zone; Southern Ethiopia, 2016.

Variables	PNC Utilization		COR	AOR
	Yes	No		
Maternal age				
15-24	38	13	1	1
25-34	203	66	1.05(1.01-5.97)	2.72(0.16- 4.32)
35-44	65	9	2.47(1.41-22.36)	4.63(0.15-14.36)
Maternal education				
Unable to read & write	93	66	1	1
Primary	186	16	8.25(2.43-14.08)	0.36 (0.02-7.06)
Secondary & above	27	6	3.19(1.06-13.08)	0.35 (0.02-7.83)
Husband education				
Unable to read & write	92	25	1	1
Primary	176	55	0.87(0.06-8.63)	1.04(0.54-9.92)
Secondary & above	38	8	1.29(1.06-7.76)	2.25(0.74- 4.12)
Decision maker for PNC				
Husband	190	65	1	1
Wife	116	23	1.73(1.06-7.76)	4.74(1.18-7.04)*
Number of live birth (n=374)				
4-6	92	28	1	1
1-3	214	40	1.63(1.27-10.05)	3.11(1.64-6.52)*
Place of birth				
Home	64	43	1	1
Health facility	242	45	3.61(2.9-5.5)	4.62(2.12-5.87)

* Statistically significant

Discussion

In this study, 77.7% of the mothers had utilized postnatal care services. This result was similar to the study conducted in Abi- Adi town of Tigray region that showed 78.3% of the mothers utilized PNC service [15]. The reason for this consistency might be due to the similarity of study design and setting. However, the finding was higher than the study conducted in Southern Ethiopia, Kenya, Western District of Nepal, India, and EDHS 2016 [13,17,21,24]. This might be due to the low commitment of health care providers to mobilize women to attend postnatal care service and cultural factors.

Study participants who delivered less than three children were about three times more likely to utilize postnatal care service than those who delivered more than four children. The finding was consistent with studies conducted in Kenya, Ethiopia, China, and India [7,14,20,21]. However, it is inconsistent with studies conducted in Gondar Zuria district such than mothers with few children did not attend postnatal care service [19]. This might be because primimothers had experienced more complications than multipara mothers which urged them to use postnatal service.

Those mothers who delivered their recent birth at the health facility were about four times more likely to utilize postnatal care service than those who delivered at the health facility. This might be since mothers who delivered at health facilities got information from health professionals to attend postnatal care services. This finding was consistent with a community-based cross- sectional study conducted in India and a cross-sectional study conducted in Nepal [20,25].

Conclusion and Recommendations

Postnatal care service utilization in our study area was high. Those mothers who able to decide postnatal service utilization by themselves had a small number of children and delivered the recent child in a health facility were more likely to utilize postnatal care service than their counterparts. Therefore, the concerned body should emphasize on women empowerment and institutional delivery to foster postnatal care service utilization.

Strength and Limitation of the Study

This study was conducted in a rural community and used of adequate sample size. However, the cross-sectional nature of the study has inherent limitations for establishing cause and effect relationships.

Authors' Contributions

Zelege Argaw: Involved from the inception to design, acquisition of data, data analysis and interpretation, drafting the manuscript. Tilahun Saol: Involved from the inception to design, acquisition of data, analysis, and interpretation, drafting the manuscript Wolde Facha: Involved in the analysis & interpretation of data, manuscript preparation. Tilahun Worku: Involved from the inception to design, analysis, and interpretation, drafting the manuscript and he also involved in data analysis with Mr.Tilahun Saol. Finally, all authors read and approved the final manuscript. & revise the manuscript.

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