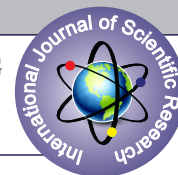


POSTNATAL CARE SERVICE UTILIZATION AND ASSOCIATED FACTORS AMONG PASTORALIST COMMUNITIES IN AFAR NATIONAL REGIONAL STATE, NORTHEASTERN ETHIOPIA, 2016



Public Health

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ABSTRACT

BACKGROUND: Maternal mortality remains a major public health challenge worldwide. Postnatal care is important to treat any complications arising from the delivery, as well as to provide the mother with important information on how to care for herself and her child. Hence, postnatal care is the most crucial intervention for improving maternal and child health.

METHODS: Community based cross sectional study.

RESULTS: 27.7% who gave birth in the last two years preceding the survey had attended at least one postnatal care follow up. Women who attended antenatal care visit, who mentioned at least one pregnancy danger sign and who gave birth at health facility were more likely to utilize postnatal care service. Women who reported pastoralist as their occupation were associated with lower odds of postnatal care service utilization as compared to those who had other occupational status.

CONCLUSION: Nearly three women in every eleven had attended at least one postnatal care visit. Therefore, strengthening pastoralist-based maternal health facilities could be important to improve postnatal care service utilization in Afar Regional State.

KEYWORDS

Postnatal Care, Pastoralist, Afar, Northeastern Ethiopia

BACKGROUND

Maternal mortality remains a major public health challenge worldwide. Every day, about 830 women die from childbirth related complications across the world. Almost all maternal deaths (99%) occur in developing countries [1]. Ethiopia is one of the six countries that contribute for more than half of all maternal deaths worldwide [2]. The recent Ethiopian demographic and health survey shows maternal mortality ratio of 412 maternal deaths per 100,000 live births. This represents 25% of all deaths among reproductive age (15-49 years) women [3].

Postnatal care (PNC) is the care given to the mother and child within the first 6 weeks after birth. If the birth is in a health facility, mothers and newborns should receive PNC in the facility for at least 24 hours after birth. For home delivery, the 1st PNC contact should be as early as possible within a day of birth. At least 3 additional PNC contacts are recommended for all mothers and newborns, on day 3 (48-72 hours), between days 7-14 after birth, and 6 weeks after birth [4].

Lack of care in the postnatal period may result in death or disability as well as missed opportunities to promote healthy behaviors, affecting women and newborns. PNC is important to treat any complications arising from the delivery, as well as to provide the mother with important information on how to care for herself and her child. Thus, PNC is the most crucial intervention for improving maternal and child health [1,3,5].

16.5% of Ethiopian women reported having received a PNC in the first 2 days after child birth. Women who were living in urban places (45.2%) were more likely to attend PNC as compared to rural (12.6%) residents. In Afar National Regional state 11.6% of women had received PNC checkup in the first two days [3]. Maternal mortality ratio(MMR) in Ethiopia is far from the Sustainable development goal's (SDG 3) global target of MMR to less than 70 per 100,000 live births by 2030 [6]. To achieve this goal it is important to identify the factors that could affect maternal health service utilization in general and postnatal care service utilization in particular.

Hence, this study was conducted to assess PNC service utilization and associated factors among mothers who gave birth in the two years preceding the survey among pastoralist communities in Afar Regional State, Ethiopia. The findings of this study will be vital for health

service providers, policy makers and program managers to design intervention strategies that will improve utilization of PNC service in the pastoralist communities.

METHODS

Study Area and Period: Afar National Regional state is one of the nine regions in Ethiopia. Administratively, the region is divided into five zones, which are further subdivided into 32 districts and 404 kebeles (the lowest administrative units next to district in Ethiopia) [7]. In the region, 90% of the total populations are pastorals while the remaining 10% are agro-pastorals. Currently, there are 6 hospitals, 62 health centers and 314 health posts in the region.

A community based cross sectional study was conducted in February 16-27/2016 in Zone one (Afambo and Aysaita districts) and Zone three (Amibara and Awash Fentale districts) of Afar National Regional State.

Study participants and Sampling procedure: A multistage cluster sampling was employed to select 1152 study participants. First, among the five zones of Afar region, two zones (Zone one and Zone three) were purposively selected. Secondly, among the 14 districts (Eight in Zone one and six in Zone three), four districts (two in each zone) were randomly selected. Thirdly, a kebele was defined as a cluster and a total of 38 clusters (20 in zone three and 18 in zone one) were formed. Of these clusters, 23 (12 in zone three and 11 in zone one) were randomly selected.

Finally, spin of bottle was made in each cluster to determine the direction in the selection of the first study subject. Then, in the selected cluster all women who gave birth in the two years preceding the survey were included in the study. If more than one eligible woman is found in a household, one was selected by lottery. Mothers who were unable to communicate were excluded from the study.

Data collection process and instrument: Ten preparatory school female graduates who can speak both the local language (Afar'af) and Amharic were recruited as data collectors. The data collectors were trained for two days on the study instrument, consent form, how to interview and data collection procedure.

Data were collected using a pre-tested, structured and interviewer

administered questionnaire. The questionnaire was prepared first in English then translated in to Afar'af and back to English to check for consistency. Then the questionnaire was pretested on two kebeles which were not included in the study. The pretest was done to ensure clarity, wordings, logical sequence and skip patterns of the questions. The pretest amendments on the questionnaire were made accordingly. Finally, the Afar'af version of the questionnaire was used to collect the data.

Study variables: The dependent variable was postnatal care service utilization. In this study, woman was considered as utilizing postnatal care service if she attended at least one checkup within the first six weeks after birth. The independent variables were socio-demographic (age, marital status, occupation, ethnicity, educational status, religion, family size) and maternal health services (ANC attendance and place of delivery), and knowledge on danger signs of pregnancy. Woman was considered knowledgeable on danger signs of pregnancy if she mentioned at least one pregnancy danger sign.

Data Processing and Analysis: The data were checked for completeness and consistencies. Data were also cleaned, coded and entered into EpiData version 3.02. Then data were exported to SPSS version 20 statistical package for analysis.

The crude odds ratios (COR) with 95% confidence interval were estimated in the binary logistic regression analysis to assess the association between each independent variable and the outcome variable. Variables with p-value <0.2 in the binary logistic regression analysis were considered in the multivariable logistic regression analysis.

The Hosmer-Lemeshow goodness-of-fit with enter procedure was used to test for model fitness. Adjusted Odds Ratio (AOR) with 95% confidence interval was estimated to assess the strength of the association, and a p-value <0.05 was used to declare the statistical significance in the multivariable logistic regression analysis. Variables with p-value <0.05 in the multivariable analysis were considered as significant and independent predictors of postnatal care service utilization.

ETHICAL CONSIDERATION: The study was approved by the ethical review committee (ERC) of Samara University. An official letter was written from Samara University to the selected district administration offices. Then permission and support letter was written to the selected Kebeles/clusters. The participants enrolled in the study were informed about the study objectives, expected outcomes, benefits and the risks associated with it. A verbal consent was taken from the participants before the interview. Confidentiality of responses was maintained throughout the study.

RESULTS

Socio-demographic characteristics of the study subjects: A total of 1124 mothers were included in the study, resulting in a response rate of 97.6%. About 74% and 92.3% of the study participants were Afar and Muslim, respectively. By occupational status, 524(46.6%) of the mothers were pastoralists (Table 1).

Table 1: The distribution of the study subjects in Afar Regional state, 2016.

Variables	Frequency	Percentage (%)
Maternal age		
<20	59	5.3
20-34	840	74.7
>34	225	20.0
Mean (+SD) age of mothers	28.76(+6.45) years	
Religion		
Muslim	1037	92.3
Orthodox	61	5.4
Protestant	26	2.3
Ethnicity		
Afar	831	73.9
Amhara	240	21.4
Oromo	39	3.5
Tigray	14	1.2
Maternal educational status		
Non formal education	853	75.9
Formal education	271	24.1

Family size		
2	66	5.8
3-4	494	44.0
>4	564	50.2
Current maternal occupation		
Pastoralist	524	46.6
House Wife	494	44.0
Government Employee	47	4.2
Private business	47	4.2
Daily laborer	12	1.0
Marital status		
Single	16	1.4
Married	1061	94.4
Divorced	23	2.0
Widowed	24	2.2

Reproductive Health service Utilization: Four hundred thirty three (38.5%) of women who gave birth in the last two years preceding the survey attended antenatal care (ANC) visit, and 311[27.7%; 95% CI (25.0, 30.0%)] of the study women had attended at least one postnatal care follow up (Table 2).

Table 2: Reproductive health service utilization among mothers who gave birth in the last two years in Afar Regional State, Northeast Ethiopia, 2016.

Variables	Frequency	Percentage (%)
Attended ANC visit*		
Yes	433	38.5
No	691	61.5
Number of ANC visits		
1	21	4.9
2-3	276	63.7
>4	136	31.4
Mothers know at least one danger sign of pregnancy		
Yes	266	23.7
No	858	76.3
Place of delivery		
Home	702	62.5
Health institution	422	37.5
PNC service utilization (n=1124)*		
Yes	311	27.7
No	813	72.3
Place of PNC service utilization (n=311)		
Hospital	30	23.8
Health center	207	66.6
Health post	74	9.6
Reasons for PNC service non-utilization (n=813)†		
Health institution is far	275	33.8
Do not have money	184	22.6
No trust on health institution	140	17.2
Cultural taboo	139	17.1
Husband rejection	96	11.8
Do not know	220	27.1

*at least one visit. †multiple answer possible. ANC: antenatal care. PNC: postnatal care.

Factors associated with postnatal care service utilization: Binary logistic regression analysis showed that religion, maternal occupation, antenatal care follow up, knowing at least one pregnancy danger sign and delivery place were significantly associated with postnatal care service utilization at p <0.05. However, in the multivariable logistic regression analysis maternal occupation, antenatal care follow up, knowing at least one pregnancy danger sign and delivery place remained statistically significant at p <0.05 (Table 3).

Mothers who attended antenatal care visit were about three times [AOR: 3.41; 95% CI (2.48, 4.71)] more likely to utilize postnatal care service as compared to mothers who lack antenatal care checkups. Compared to women who were unable to mention at least one pregnancy danger sign, women who mentioned at least one pregnancy danger sign were more likely [AOR: 1.47; 95% CI (1.04, 2.08)] to utilize postnatal care service. Women who gave birth at health facility were more likely [AOR: 2.71; 95% CI (2.01, 3.67)] to utilize postnatal

care service as compared to women who gave birth at home. Pastoralist mothers were less likely [AOR: 0.60; 95% CI (0.437, 0.831)] to utilize postnatal care service as compared to those women who reported having other occupational status.

Table 3: Postnatal care service utilization and associated factors among mothers who gave birth in the last two years in Afar Regional State, Northeastern Ethiopia, 2016.

Variables	PNC service Utilization		COR (95% CI)	AOR (95% CI)
	Yes	No		
Religion	268	769		
Muslim	43	44	0.36(0.23,0.56)*	0.60(0.32,1.14)
Christian†			1	1
Maternal age (years)				
<20	8	51	0.49(0.22,1.08)	0.56(0.23,1.33)
20-34	248	592	1.29(0.92, 1.82)	1.45(0.99, 2.11)
>34	55	170	1	1
Maternal occupation				
Pastoralist	113	411	0.59(0.43,0.73)*	0.60(0.44,0.83)*
Other‡	198	402	1	1
Ethnicity				
Afar	222	609	0.37(0.13,1.05)	0.62(0.17, 2.33)
Amhara	63	117	0.36(0.12,1.06)	0.40(0.11, 1.43)
Oromo	19	20	0.95(0.28, 3.22)	1.18(0.29, 4.79)
Tigray	7	7	1	1
Maternal educational status				
Non formal education	225	628	0.77(0.57, 1.04)	1.24(0.82, 1.87)
Formal education	86	185	1	1
Family size				
2	12	54	1	1
3-4	143	351	1.83(0.95, 3.53)	1.57(0.75, 3.27)
>4	156	408	1.72(0.90, 3.30)	1.81(0.87, 3.78)
Marital status				
Married	295	766	1	1
Single	16	47	0.88(0.49, 1.58)	0.91(0.46, 1.79)
ANC follow up				
Yes	196	237	4.14(3.15, 5.46)*	3.41(2.48, 4.71)*
No	115	576	1	1
Know at least one pregnancy danger sign				
Yes	112	154	2.41(1.80,3.22)*	1.47(1.04,2.08)*
No	199	659	1	1
Place of delivery				
Health facility	171	251	2.74(2.09,3.58)*	2.71(2.01,3.67)*
Home	140	562	1	1

‡Government employee, house wife, private business, daily laborer.

†Orthodox, protestant. COR= Crude odds ratio. AOR= Adjusted odds ratio. CI= confidence interval. *significant at $p<0.05$.

DISCUSSION

This study revealed that 27.7% of the study mothers who gave birth in the last two years preceding the survey attended at least one postnatal care follow up. This was lower than the findings at different parts of Ethiopia [8,9,10]. It was also lower than the findings at other African countries [11, 12]. In addition, the current study showed that pastoral mothers were less likely to utilize postnatal care services as compared to mothers having other occupational status. It is reasonable to assume that women who entirely depend on pastoralism might be unable to attend postnatal care due to their nomadic life style. This life style may provide an explanation for the decreased likelihood of postnatal care attendance among mothers reporting pastoralist occupation in Afar Regional State.

Mothers who attended antenatal care visit were more likely to utilize postnatal care service as compared to mothers who lack antenatal care visits. Similar findings were reported from other studies [8-14]. This might be explained in such a way that antenatal care is an opportunity to encourage women to seek postnatal care for themselves and their newborn.

This study showed that mothers who knew at least one pregnancy

danger sign were more likely to attend at least one postnatal care follow up. In line with this finding in Lemo district mothers who spontaneously mentioned at least one postpartum obstetric danger sign were more likely to utilize postnatal care service compared to those who failed to mention any postpartum danger signs [13]. This finding can be explained by the fact that women who knew pregnancy danger signs might know postpartum obstetric danger signs. Therefore, these mothers might be forced to utilize postnatal care services.

Mothers who gave birth to their last child in health institution were about three times more likely to utilize postnatal care service than those mothers who gave birth at home. This was consistent with other studies [8, 11, 13, 14]. This is possibly because those women who gave birth in a health facility might receive medical care from skilled attendants. On the other hand, mothers who gave birth at home might miss the best opportunities to receive essential postnatal care at the health facilities.

The study could be subjected to the following limitations. First, since this was cross-sectional study, it is unable to establish causality between PNC service utilization and the potential factors. Second, the data was collected based on self-report of the mothers who gave birth in the two years preceding the survey and may be subjected to recall bias.

CONCLUSION

This study showed that nearly three women in every eleven had attended at least one postnatal care visit. Attending antenatal care follow up, knowing at least one pregnancy danger sign and institutional delivery were positively associated with postnatal care service utilization. However, being pastoralist was associated with lower odds of postnatal care service utilization. The main reasons for non-utilization of postnatal care service were lack of trust on health institution, cultural taboo and husband rejection. Therefore, increasing awareness on the benefits of postnatal care, and strengthening pastoralist-based maternal health facilities could be important to improve postnatal care service utilization.

Abbreviations and acronyms

AMREF: African Medical and Research Foundation; ANC: antenatal care; AOR: Adjusted odd ratio; CI: confidence interval; COR: Crude odds ratio; ERC: Ethical Review Committee; PNC: postnatal care.

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Authors' contributions: MLL, AGW and NBZ conceived, designed the main study and supervised the data collection. MLL conceived this problem and performed the data analysis, interpretation of data and drafted the manuscript. PSR assisted in the interpretation of data and critically reviewed the manuscript. All authors had read and approved the final manuscript.

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