

ORIGINAL ARTICLE**Postnatal Care Utilization and Associated Factors among Married Women in Benchi-Maji Zone, Southwest Ethiopia: A Community Based Cross-Sectional Study**Tafesse Lamaro Abota^{1*}, NiguseTadeleAtenafu²**OPEN ACCESS**

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ABSTRACT

BACKGROUND: In Ethiopia, maternal health service utilization is very low, especially postnatal care (PNC). The percentage of mothers who receive care within two days of childbirth has shown little progress, from 2.4% in 2000 to 13% in 2014. However, it is very far below the expected level as compared to other sub-Saharan regions. Therefore, the aim of this study was to assess PNC services utilization and its associated factors among married women in Benchi-Maji Zone, Southwest Ethiopia

METHOD: A cross-sectional study was conducted from June 15 to August 15, 2015. A total of 801 married women were sampled from randomly selected districts in the zone. Semi-structured questionnaire was used to collect data and informed consent was obtained from participants. The collected data were entered into the computer using Epi-data version 3.0, and then exported to SPSS Windows version 20.0 for analysis. Logistic regression was used to identify important predictors of PNC utilization.

RESULT: Out of 765 participants, 392 (51.24%) of married women who attended PNC in this study. Out of them, more than two-third 305 (77.8%) attended mainly to immunize their baby. The vast majority, 251 (86.3%), of respondents mentioned lack of information as a main reason for not following PNC, and of them, the majority mentioned that they were appointed to come after 45 days for Family Planning (FP). In comparison with housewives, farmer women were less likely (AOR 0.3, 95% CI 0.2-0.7) to attend for PNC. Awareness of problems during postnatal period showed the strongest association in which those who knew the problems were about nine times (AOR 8.7, 95% CI 5.6-13.4) more likely to attend PNC. Similarly, married women who followed antenatal care (ANC) were more likely (AOR 2.2, 95% CI 1.1-4.6) to attend PNC in comparison with those who did not attend ANC at all.

CONCLUSION: Residence, ANC follow-up, maternal occupation, awareness about problems of postnatal period had effects on use of PNC. In light of this study, providing deep counselling about PNC at the time of ANC visit and discharge after delivery is strongly recommended. Furthermore, targeting more of rural married women may increase PNC utilization.

KEYWORDS: PNC, Benchi-Maji, Southwest Ethiopia, Cross-sectional study, Mizan-Tepi University

INTRODUCTION

Globally, Maternal Mortality (MM) remains a major challenge of health systems. An estimated 287,000 maternal deaths occurred in 2010 and showed a decline of 47% from levels in 1990. In 2010, 56% of world MM occurred in the sub-Saharan Africa. The global Maternal Mortality Rate (MMR) in 2010 was 210 maternal deaths per 100 000 live births, down from 400 maternal deaths per 100,000 live births in 1990. The MMR in developing regions was 15 times higher than the one in developed regions(1). Sub-Saharan Africa had the highest MMR at 500 maternal deaths per 100 000 live births (2). Ethiopia is one of the countries in sub-Saharan Africa with markedly high MMR. The maternal mortality ratio (MMR) in Ethiopia has stagnated at 676 per 100,000 live births after declining from 871 per 100,000 live births in 2000 to 673 in 2005. Efforts to reduce maternal mortality have been made and again should focus on reducing the probability of having high risk pregnancies, serious complications of pregnancy or childbirth and improving the outcomes for women with complications (3).

Millions of women who survive childbirth suffer from pregnancy related injuries, infections, diseases and disabilities, often with lifelong consequences. In fact, most of these deaths and conditions are preventable. On the other hand, the scientific evidence indicates that approximately 80% of maternal deaths could be averted if women had access to essential maternity and basic healthcare services (4). Maternal healthcare service utilization is important for the improvement of both maternal and child health (5). Booming maternal and child health rely on increasing the percentage of women following ANC, giving birth in health institutions with the assistance of trained staff and having PNC services, which is the central goal of the safe motherhood and child survival movements (6). From these maternal health services, the postnatal period is a critical phase in the lives of mothers and newborn babies. Most maternal and infant deaths occur in the first month after birth, and almost half of postnatal maternal deaths occur

within the first 24 hours (7). However, the brief focuses on postnatal care and the importance of antenatal and intrapartum care within a continuum are recognized to have the greatest impact on maternal and newborn survival. Despite this, an analysis of Demographic and Health Survey (DHS) data from 23 sub-Saharan African countries found that only 13% of women who delivered at home received postnatal care within 2 days of birth (8).

In Ethiopia, maternal health service utilization is very low in general and postnatal care in particular. The percentage of mothers who receives PNC within two days of childbirth has shown little progress from 2.4% in 2000 to 13% in 2014. However, it is very far below the expected level as compared to the cases in other sub-Saharan regions. In addition, only less than 1% of the women who delivered at home received postpartum care within 42 days, as of the most recent DHS. This has declined to 3.5% as reported in the 2000 DHS. For this low postnatal care service utilization, socioeconomic and demographic factors are associated with relevant uptake of postpartum care (9-11). As compared to others region in the country (Ethiopia), the utilization rate of postnatal care in the south region was recorded as the second lowest (6.4%) next to Somali (4.5%) according to 2011 Demographic and Health survey (12). Despite the fact that postnatal care is critical for better improvement of maternal and child health and it is a period of major maternal death occurrences, little is known about the use and factors influencing the use of these services in peripheral area in the region in general and particularly in Benchi-Maji Zone. Therefore, the aim of this study was to assess postnatal care utilization and its associated factors among married women in Benchi-Maji Zone, Southwest Ethiopia.

METHODS AND MATERIALS

Study setting and period: The study was conducted in Bench-Maji Zone in the Southern Regional State. It is situated at about 561km far from Addis Ababa, the capital city of Ethiopia, in

the southwest direction with a total population of 760,313 (Male = 380,841, Female = 379,472). The majority (86%) of the population lives in rural areas (13). There are a total of 218 health facilities in the zone and further quantified as one General hospital, 35 Health Centers and 182 Health post. It is also a center of one university and one health science college (Zonal Health Department Report). The study was conducted from June 15 /2015 to August 15 /2015.

Study design: The study was a community based cross-sectional in design and was conducted to assess postnatal care service utilization and its associated factors among married women in Benchi-Maji Zone, Southwest Ethiopia.

Source population: The source populations of this study were all childbearing married women residing in the zone.

Study population: All childbearing married women who had given at least one birth in the past two years preceding the survey from randomly sampled districts, were considered as the study populations

Sample size determination: A sample size of 801 was determined from three randomly selected districts in the zone by using a formula for estimation of single population proportion with the assumption of 95% confidence level, the margin of error of 5% and taking a proportion of PNC $P=61.6\%$ to obtain maximum sample size (15) with design effect of 2. In addition, the non-response rate of 10% of the determined sample was added upon the calculated sample size, and then the total sample size of 801 was taken.

Sampling procedure: Probability sampling methods were used for selecting the required samples from the study areas. Administratively, there are ten districts in the Benchi-Maji Zone with one administration town (Mizan-Aman Town). From 11 districts, three districts; namely, Mizan-Aman Town, Shey-Bench and Menit-Shasha was randomly selected. The selections of two Kebles (lowest administrative units) were carried out by using the lottery method from three districts. Then, recording the number of households in six selected Kebles was done. After that, the calculated sample size was obtained by using probability proportional to the size of

household in the six randomly selected Kebles. From the six randomly sampled kebles, a total of 801 samples was selected systematically. Lottery method was used for households with more than one eligible woman. In case there were households with no eligible women, the immediate next households were interviewed. Revisits of two times were made in case eligible respondents were not available at the time of the survey. Regarding women who had more than one child, the most recent birth was taken.

Study variables: The dependent variable in this study is utilization of postnatal care. On the other hand, the independent variables are socio-demographic factors (age of mother, religion, ethnicity, occupation, education, household economy), obstetric history, parity, gravidity, birth interval, mothers child experience).

Data collection techniques and procedures: Pre-testing was conducted among similar populations outside of the study area. Therefore, pre-tested, semi-structured, an interviewer-administered questionnaire was employed to collect the data. The questionnaire was adopted and modified from EDHS and the different relevant literature. The English version of the questionnaire was translated into Amharic language for better understanding by the data collectors. The questionnaire, then translated back into English to check for its consistency. Six Diploma Midwives who fluently speak the local language were trained as interviewers, and three BSc nurses were recruited for supervision of data collection. The translations of the questionnaire were checked by two people who are fluent in both languages. A two days training was given for data collectors and supervisors. The training was focused on explanation of the study purpose, interviewing technique, data handling techniques, and ethical considerations during data collection. Data collection guidelines were given to data collectors. The supervisors monitored data collection process face-to-face and through phone communication.

Data quality control: Pretest of the questionnaire was carried out to maintain data quality. Based on the finding of the pretest, data collectors were reoriented, and the questionnaire was modified as necessary. Data were collected by the trained

six Diploma Midwives from the selected kebles. On the days of data collection, the principal investigator and the supervisor monitored the data collection process by checking completeness of the data. The data were checked again for its completeness before data entry, and the cleaning process was done by running a simple frequency after data entry for its consistency.

Data processing and analysis: After checking for its completeness, the data was entered into a computer using Epi-data version 3.0. The data were cleaned accordingly and exported to SPSS Windows version 20.0 for analysis. Frequency, percentage, chi-square were used to describe the study population in relation to relevant variables. Two step logistic regressions [bivariate and multivariate] were used to see the effect of the independent variables on the dependent variable by controlling confounders. Statistical significance was set at 95% level of significance. Tables and bar graphs were used to present the data.

Ethical consideration: Ethical clearance was obtained from Mizan-Tepi University Ethical Review Committee. Permission was secured from all Selected Kebles of Bench-Maji Zone. All the study participants were informed about the purpose of the study, their right to refuse and informed verbal consent was obtained prior to the interview. The women were told that the information obtained from them would be kept confidential.

RESULTS

Socio-demographic characteristics of married women in Benchi-Maji Zone 2015: A total of 801 women who had given birth in the last two years preceding the survey were interviewed. From all eligible women in the selected sample, 765 responded to the questionnaire which made the response rate to be 95.51%, and the data was used for all subsequent analysis. The rest, 36(4.49%), women's responses were discarded for the incompleteness of main variables and inconsistencies among completed variables. The mean age of the mothers was 25.43. The mean monthly income of study participants was 1146.19

Ethiopian Birr. The average family size of study participants was 4 with a minimum of 2 and maximum of 11. Bench and Amhara were the predominant ethnic groups accounting for 188 (24.6%) and 155(20.3%) respectively. The majority of the mothers were followers of Protestantism, 369(48.2%), followed by Orthodox Christianity, 281(36.7%). Out of all the study participants, 306(40%) were not able to read and write while the majority of their husbands, 308(42.5%), attended primary school. About 73.2% of the mothers were housewives while 36.3% of their husbands were farmers followed by merchants (34.3%) (Table 1).

The obstetric history of married women on postnatal care services utilization in Bench-Maji Zone, Southwest Ethiopia, 2015: Out of all the respondents included in the study, 49.2% gave birth to their first child in the age range of 20-24 with the mean age during first child birth of 20.2(SD=2.75). Teenage pregnancy (15-19) which is a major health concern because of its association with higher morbidity and mortality for both the mother and the child was also significantly higher among the study participants (43.7%). Among 765 women who delivered in the last two years, 28(3.7%) had children less than a year apart. Concerning the outcomes of pregnancy, 10(1.31%) of the mothers never gave live births, whereas 37(4.9%) and 31(4%) of them had a history of stillbirth and abortion respectively. The majority, 513(67.1%), of respondents jointly decided the number of children they have.

Awareness and practice on postnatal care service utilization among married women in Benchi-Maji zone, southwest Ethiopia, 2015: The respondents were asked whether they had ever heard about postnatal care services or not. The vast majority, 683(89.3%), of them replied that they ever heard about PNC services mainly from a health institution by health professionals, 492(72.04%), though some of them did not know the benefits of PNC 39(5.71%). The married women were also asked whether they knew the benefits of using postnatal care or not. The most frequently mentioned benefits of PNC

were to give opportunity for family planning and to check conditions of infants by 429(66.6%) and

278(43.2%) of the respondents respectively.

Table 1: Socio-demographic characteristics of married women in Bench-Maji Zone, 2015

Variable	Number	percent	Variable	Number	percent
Maternal age n=765			Maternal occupation n=765		
15-19	21	2.7	House wife	560	73.2
20-24	319	41.7	Merchant	75	9.8
25-29	271	35.4	Farmer	60	7.8
30-34	109	14.2	Government Employee	44	5.8
>35	45	5.9	Other***	26	3.4
Ethnicity n=765			Husband Occupation n=724		
Bench	188	24.6	Farmer	263	36.3
Amhara	155	20.3	Merchant	248	34.3
Menit	148	19.3	Government Employee	99	13.7
Kaffa	140	18.3	Daily laborer	85	11.7
Silte	41	5.4	Farmer	29	4.0
Oromo	33	4.3			
Other*	60	7.8			
Religion n=765			Availability of TV/Radio =765		
Protestant	369	48.2	Yes	483	63.1
Orthodox	281	36.7	No	282	36.9
Islam	96	12.5			
Other**	19	2.5			
Maternal Educational level n=765			Husbands Educational level n=724		
Cannot read and write	306	40.0	Primary school (1- 8)	308	42.5
Able to read and write	22	2.9	Cannot read and write	165	22.8
Primary school (1- 8)	312	40.8	Secondary school (10- 12)	111	15.3
Secondary school 10- 12)	80	10.5	Diploma and above	89	12.3
College diploma and above	45	5.9	Able to read and write	51	7.0

Note* Hadiya, Wolayita, Gamo, Tigre, Sheko, Sheka, Yem, Dawero, Dize, Gurage **Traditional religion, Catholic and Apostolic ***Private business, Driver, Carpenter, Student, Religious leader, daily laborer

Out of all the respondents included in the study, 523(76.57%) replied that they knew danger signs of postnatal period. The postpartum hemorrhage (bleeding) was the frequently mentioned danger sign among 489(93.5%) of the respondents. From half, 392(51.24%), of the married women who attended PNC in this study, more than two-third, 305(77.8%), attended mainly to immunize their baby. The majority, 251(86.3%), of the respondents mentioned lack of information as a main reason for not following postnatal care, while out of them, the majority mentioned that they were appointed to come after 45 days for

family planning. On the other hand, 32(11%) of the respondents did not follow PNC due to mistreatment by health professionals, waiting more time at the facility, husbands' disapproval and forgotten appointments. The future intention of postnatal care service utilization was also sought. Out of all the study participants, 672(98.4%) married women intended to use PNC in the future. Only 11(1.6%) of the respondents replied that they would not come even if they give birth again because of mistreatment by health professionals, husband disapproval and economic problems (Table 2).

Table 2. Awareness and practice of postnatal care service utilization among married women in Bench - Maji Zone, 2015

Variables	Number	Percent
Ever heard about PNC n=765		
Yes	683	89.3
No	82	10.7
The sources of information about PNC services n= 683		
Health institution/ care provider	492	72.04
Radio/TV	108	15.81
Family/Relatives	67	9.81
Other*	16	2.34
Know that PNC service has an advantage n=683		
Yes	644	94.23
No	39	5.71
Listed benefits of PNC n=644		
To give opportunity for family planning	429	66.6
To check conditions of infants	278	43.2
To get information how to feed their infant	236	36.6
To detect and treat health problems during the postpartum period	202	31.4
Vaccination	174	27.02
Other**	4	0.8
Do they know problems that may arise during PN period n= 683		
Yes	523	76.57
No	160	23.43
Listed problems that may arise during PN period n=523		
Bleeding (PPH)	489	93.5
Maternal death	191	36.5
Sepsis	79	15.1
Other***	32	6.12
Attended PNC in the six weeks after delivery n=765		
Yes	392	51.24
No	373	48.46
Reason why they visit clinic for PNC n=392		
For immunization of baby	305	77.8
To start family planning	254	64.8
Because they told to come	167	42.6
Other****	24	6.12
Type of service they get during their PN visit n=392		
Immunisation of baby	333	84.9
Family planning services	281	71.7
Counselling	97	24.7
Breast feeding education	92	23.5
Physical examination	75	19.1
Number of PN visits within 6 weeks after delivery n=392		
Less than recommended 3 or more visit	325	82.9
Within recommended 3 or more visit	67	17.1
Time for the first PN visit n=392		
Immediately after delivery	101	25.8
Within 24 Hrs	208	53.1
>2 days	82	20.9

*From school (education) and more than one source

**Better quality of life, prevent child death, circumcision

*** Puerperal psychosis, anemia, child disease and death, cramp, Retained placenta

****Bleeding post delivery, to check CS scar, Circumcision, to make sure they can back to work, because of illness.

Factors associated with postnatal care services utilization among married women in Bench-Maji Zone, Southwest Ethiopia, 2015:

A number of factors may influence respondents' postnatal care utilization. To identify the factors associated with postnatal care service utilization, logistic regression was used. Bivariate analysis of the selected factors for this study (maternal age, religion, maternal educational level, maternal occupation, marital status, availability of TV/radio, residence, knowledge of problems that may occur some days after delivery, place of delivery for their last child, ANC follow-up and maternal age during first pregnancy) was performed. Some factors like maternal marital status and maternal age have not shown a statistically significant association with postnatal services utilization in bivariate logistic regression.

After adjusting for confounding factors with multivariate analysis, religion, maternal occupation, residence, maternal age during the first pregnancy, knowledge of problems during post-natal period and ANC follow-up maintained statistically significant associations with postnatal service utilization. Among the factors which were associated with PNC utilization, residence and awareness about problems that may occur during postnatal period had the strongest associations with PNC service utilization.

The probability of seeking PNC was six-folds (AOR 6.1, 95 % CI 1.7-21.5) higher among married women who were following Traditional Religion, Catholic and Hawariyat in comparison with those who follow Protestantism. In comparison with housewives, those mothers who were farmers were less likely (AOR 0.3, 95 % CI 0.2-0.7) to attend PNC. Similarly, mothers who were from semi-urban (AOR 0.3, 95 % CI 0.2-0.5) and rural areas (AOR 0.2, 95 % CI 0.1, 0.4) were less likely to attend postnatal care in comparison with those from urban areas.

Maternal age during first pregnancy also showed significant association in which mothers in the age range of 20-24 during their first pregnancy were greater than one and a half times (AOR 1.7 95 % CI 1.2-2.5) more likely to attend PNC in comparison with mothers in the age group of 15-19 during their first pregnancy. Knowledge

of problems during postnatal period was among the factors which showed the strongest association in which those who know the problems were about nine times (AOR 8.7 95 % CI 5.6-13.4) more likely to attend PNC. Similarly, ANC follow-up even if it was below the recommended four visits was more likely (AOR 2.2 95 % CI 1.1-4.6) to attend for PNC in comparison with the case of women who did attend ANC at all (Table 3).

DISCUSSION

The study was aimed at addressing the barricades to postnatal care utilization in Bench-Maji Zone in the Southern part of Ethiopia. The finding reveals that the majority of mothers (89.3%) ever heard about PNC. For 72.04 % of mothers, health professionals were the main source of information for PNC. This was slightly higher than study conducted in Gondar Zuria (15). The possible reason may be differences in the studied populations. About two-third (77.8%) of the mothers attended PNC to vaccinate their baby, and this finding is similar to other studies (15,16).

The study has documented that 51.24% of the married women attended postnatal care within six weeks after their last child delivery. The finding of this study was consistent with a cross sectional study conducted in Adwa Town which found that 264(78.3%) mothers had attended postnatal care service (16). However, this finding is higher than a population-based study conducted elsewhere in the country (17,18). This might be because, in this study, every visit was counted as a postnatal care. On the contrary, the finding of this study was lower than a cross-sectional study conducted in Gondar Zuria District which found that from 820 mothers, 66.83% obtained PNC (15). Although it was higher than some studies, yet it has not reached the recommended level (PNC=90%) by WHO. This might be attributed to increased home delivery and lack of focus on mothers for coming back again when discharging mothers.

In this study, lack of information was mentioned as a main reason for not following PNC by the majority of the married women (86.3%), and from them, the majority mentioned that they were appointed to come after 45 days for FP. This finding is also in agreement with studies conducted elsewhere in the country (16, 18, 19). Unlikely, the finding from elsewhere reveals that having no health problem to attend, illness, and cost to obtain the services were the major reasons for not attending postnatal care were (21). In this regard, simply having awareness about PNC services did not

Table 3: Factors associated with PNC service utilization among married women of in Bench -Maji Zone, 2015

Variables	PNC				COR (95%CI)	P-value	AOR (95%CI)	P-value
	No No	(%)	Yes No	(%)				
Maternal Age								
15-24	165	44.2	175	44.6	1			
25-34	183	49.1	197	50.3	1.02(.8,1.4)	.921		
35-44	25	6.7	20	5.1	.8(.4,1.4)	.377		
Religion								
Protestant	204	54.7	165	42.1	1		1	
Orthodox	128	34.3	153	39.0	1.5(1.1,2.02)	.014*	.8(.5,1.2)	.196
Islam	35	9.4	61	15.6	2.2(1.4,3.4)	.001*	1.1(.6,2.0)	.837
Other**	6	1.6	13	3.3	2.7(1.0,7.2)	.051*	6.1(1.7,21.5)	.005*
Maternal Educational level								
Can't read	163	43.7	143	36.5	1		1	
<=Primary	159	42.6	175	44.6	1.3(.9,1.7)	.153	.8(.5,1.3)	.365
>=Secondary	51	13.7	74	18.9	1.7(1.1,2.5)	.019*	.7(.4,1.3)	.233
Maternal occupation								
House wife	261	70.0	299	76.3	1		1	
Gov't	17	4.6	27	6.9	1.4(.7,2.6)	.309	1.5(.7,3.3)	.356
Merchant	34	9.1	41	10.5	1.1(.7,1.7)	.835	.8(.5,1.5)	.553
Farmer	47	12.6	13	3.3	2(.1,5)	.000*	.3(.2,7)	.005*
Other**	14	3.8	12	3.1	.8(.3,1.7)	.471	.4(.1,1.0)	.047
Maternal Marital Status								
Married	350	93.8	374	95.4	1			
Other	23	6.2	18	4.6	.7(.4,1.4)	.335		
Availability of TV/Radio								
No	162	43.4	120	30.6	1		1	
Yes	211	56.6	272	69.4	1.7(1.3,2.3)	.000*	1.0(.6,1.6)	.989
Residence								
Urban	142	38.1	257	65.6	1		1	
Semi urban	98	26.3	68	17.3	.4(.3,.6)	.000*	.3(0.2,0.5)	.000*
Rural	133	35.7	67	17.1	.3(.2,.4)	.000*	.2(0.1,0.4)	.000*
Maternal age during first pregnancy								
15-19	185	49.6	149	38.0	1		1	
20-24	162	43.4	214	54.6	1.6(1.2,2.2)	.001*	1.7(1.2,2.5)	.005*
25-34	26	7.0	29	7.4	1.4(.8,2.5)	.264	2.0(.9,4.2)	.082
Knowledge of problems during post natal period								
No	191	48.8	51	87.0	1		1	
Yes	182	51.2	341	13.0	7.0(4.9,10.0)	.000*	8.7(5.6,13.4)	.000*
ANC follow up								
None	64	17.2	18	4.6	1		1	
<4	123	33.0	112	28.6	3.2(1.8,5.8)	.000*	2.2(1.1,4.6)	.036*
>=4	186	49.9	262	66.8	5.0(2.9,8.7)	.000*	2.0(.9,4.1)	.078
Place of delivering last child								
Home	119	31.9	47	12.0	1		1	
H.Facility	254	68.1	345	88.0	.3(.2,.4)	.000*	1.0(.6,1.8)	.997

* Significant association, **Traditional religion, Catholic, Hawariyat, *** Private business, Driver, Carpenter, Student, Religious leader, daily laborer

substantiate their use if do not practice it. It is a critical time to give many cares which play a vital role for both maternal and child health. It also needs intensive counselling during discharge of clients and home visits.

In this study, residence, religion, maternal occupation, maternal age during the first pregnancy, knowledge of problems during postnatal period and ANC follow-up maintained statistically significant associations with PNC.

Mothers within the age range of 20-24 at first child birth were more likely to attend PNC in comparison with mothers within the age range of 15-19 at their first childbirth. This may be attributed to the fact that the more advance in age, the more mature in health care seeking. On contrary to this, the findings from other national studies revealed that there was no effect of maternal age on PNC utilization (9). This may be explained by the difference in sample population size and study period.

In this study, place of residence had an effect on postnatal care utilization. Mothers who were from rural dwellings were less likely to follow postnatal care compared with mothers who were from urban settings. This similar with the study from Gonder Zuria districts that showed that urban mothers were more likely to receive PNC than rural mothers (15), and it also coincides with national findings of 2011(9). The possible reason might be that urban women had more access to information, education and communication (IEC), or it is easier for urban women to reach postnatal services than it is for rural mothers.

Mothers who had antenatal follow-up were more likely to follow PNC than mothers who did not have antenatal follow-up. This has also been revealed in other similar studies (15, 21). This could be due to the effect of ANC to consecutive maternal health care service linkage. This finding is different from the study conducted in Adwa which found no association between antenatal visit and postnatal service utilization (16).

This study found that occupation of women was independently associated with having received postnatal care. Similarly, study in Adwa showed that self-employed mothers were 9.1 times more likely to have had PNC than women who did not have any job (16). Other studies also reported similar findings (20). On the other hand, work status of women was not found to be associated with the use of PNC services (9,15). The finding of this study was similar to a study conducted elsewhere in the Sidama Zone (17). However, the 2011 national finding of the country revealed that listening to the radio and watching television programs had no effect on use of PNC

services (9). This study reveals that mothers who were aware of the problems of postnatal period were more likely to use PNC compared with mothers were not aware. This is different reports from other studies (16, 21, 22).

Unlike the findings of this study, literacy status was significantly associated with PNC service utilization in which illiterate women were 24.7% less likely to use PNC services compared with literate women (17). Other similar studies identified that literacy levels of mothers were associated with use of PNC services (20). On the other hand, mothers' level of education did not determine PNC as reports from other studies indicated (15,16).

In conclusion, awareness and utilization of postnatal care among married women in the study area is more or less good comparatively with findings of other studies in the region. However, it is far below the World Health Organization recommended level (it should be at least 90%) for sub area. It is also the remotest from Health sector Development plan (100%) of the country for postnatal care. Religion, maternal occupation, residence, maternal age during first pregnancy, knowledge of problems during postnatal period and ANC follow-up maintained statistically significant associations with PNC. Therefore, in light of this study, all motherhood services stakeholders (both governmental and non-governmental organizations) are should give due attention to women empowerment, early marriage, deep counselling about the postnatal care at a time of ANC visit and discharge after delivery to increase postnatal care up-take. Furthermore, creating awareness on utilization of postnatal care through community leaders and by targeting more rural married women is also strongly recommended.

The limitation of this study might be subject to recall bias since it was based on past events. In addition, methodological perspectives, it lacks triangulations. Since the study is cross-sectional in nature, it may not show temporal relation.

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