

# Postnatal Care Service Utilization and Associated Factors Among Women in Dembecha District, Northwest Ethiopia

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**Abstract:** Women play a principal role in the rearing of children and management ranges of family affairs. Meanwhile, it is a tragedy to witness mothers losing their life from manageable maternity related causes. Postnatal care service is one of the strategies to avoid this loss. The main aim of this study was to assess the level of utilization of Post Natal Care and associated factors Dembecha District, Northwest Ethiopia. Community-based cross-sectional study design was used. Using women having children of less than two years of age living in Dembecha district were selected. Multistage sampling technique was employed involving a total of 788 samples and semi-structured questionnaire was used as data collection tool. Epidata version 3.1. Software was used for data entry and clearance and then SPSS version 16 was used for data analysis. Bivariable and multivariable logistic regression was fitted and possible association and statistical significance were measured using odds ratio at 95% confidence interval and p-value less than 0.05. The study revealed that the level of Post Natal Care service utilizations was 34.8%. The Predicted probabilities, using logistic regression, showed that women who had formally education {AOR=2.122(1.372, 3.281)}, antenatal care service utilization for the last child {AOR=4.141(2.451, 6.995)}, Distance from the health institutions, had shown significant association {AOR=3.972(2.627, 6.008)}. About 73.9% of respondents answered their reason for not to use PNC service was lack of awareness followed by transportation problem (15.9%). Women did not know whether they were required to go to health institution or not after they had given birth at home unless complications happen to the newborns and themselves. PNC service utilization was less than what was planned by the district. Therefore intervention targeted to women's awareness and empowerment, improving infrastructure in rural areas, expanding health care facilities to the currently unreachable rural areas are recommendations' of the study.

**Keywords:** Postnatal Care, Dembecha, Utilization, Northwest Ethiopia

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## 1. Introduction

Globally, at least 585, 000 women die each year from complications of pregnancy and child birth. The majority of maternal deaths (61%) occur in the postpartum Period and more than half of these take place within a day of delivery [1]. Taking care of mothers during postpartum period can save the mothers. Postnatal care is a care given for all mothers and their newborns following delivery to six weeks period. Encourage and facilitate birth registration, refer for

routine immunizations, counsel on danger signs and home care are also parts of postnatal care. It is very important that Routine Postnatal care is also given for all mothers in accordance with their newborns to assess and check for bleeding, checking the breasts to prevent mastitis, manage anemia, promote nutrition and insecticide treated bed nets and other. It also includes referring for severe complications [2, 3].

The main purpose of providing optimal postnatal care is to avert both maternal and neonatal death, as well as long-term

complications. The fifth millennium development goal aims at improving maternal health and targets reducing maternal mortality ratio (MMR) by 75% between 1990 and 2015.. However, MMR has decreased at the global level at an average of less than 1% annually between 1990 and 2005. It is of major concern that only about 10% of women in Ethiopia give birth in health facilities with nearly 85 percent attended by untrained traditional birth attendants or relatives. And not more than 7% receive any postnatal care (PNC) within two days of delivery [3-5].

In Ethiopia PNC is not often practiced properly due to awareness problems, lack of knowledge and skill by health care workers and essential equipment and supplies. Although maternal mortality shows a declining trend from 2000-2005, however, the 2011 Ethiopian demographic and health survey (EDHS) shows it is still higher. There has been marked variation both in utilization of delivery and PNC services. The study conducted in southern Ethiopia revealed that, the level of antenatal care (ANC) and PNC service utilizations was 77.4 % and 37.2% respectively. This discrepancy of magnitude between antenatal care and postnatal means that only less than half of the mother who attended ANC will subsequently follow PNC. Women, who are literate, have exposure to media, and with low parity are more likely to use both ANC and PNC services [5, 6].

Almost 90% of the maternal deaths occur in Sub-Saharan Africa and Asia. The likelihood of dying from pregnancy related causes for those women in Africa is 1 in 16.. It was only Less than 7% of women, who delivered in the five years preceding a survey conducted in Ethiopia, were assisted by health professionals for their most recent pregnancy. Even more striking is the fact that less than 3 percent of women who delivered outside a health facility received postnatal care.[1, 7, 8].

Unpredictable onset of labor makes everything difficult for women to travel long distance and utilize delivery and postnatal care service. More difficult labor and associated complications are believed to occur among younger women who become pregnant for the first time [6].

A study conducted in Ghana showed that women did not seek care because of distance to the health facility followed by inability to walk/travel to such facility. Perceived barriers to access to postnatal care in the community is the other reason women do not enquire about PNC. :lack of awareness or no perceived need for postnatal care by women and their families (47%), distance to health facility (39%) and lack of transportation or suitable and all season road networks (23%), lack of money (17%), and lack of skilled health workers in the community (14%)[9]. Access to skilled attendance at birth and life-saving basic and comprehensive emergency obstetric and newborn care services is often restricted or unavailable. [10]

Maternal health seeking behavior and postnatal care and other health care service utilization significantly affected by level of education which implies the higher the level of education of mothers the higher the chance of utilizing postpartum care and other health care services [7-10].

Another study carried out in Nepal showed Perceived health problems occurring during the postnatal period were found to be low. Reason may be that women and their families were not aware of signs of health problems or that they did not perceive minor illness as a health problem [11].

Adequate supplies, skilled personnel, and an effective system for referral and transport are particularly important for managing obstetric emergencies, which can arise suddenly and without warning. Interventions are required with families and communities, in society as a whole, in health system, and at the national legislation and policy levels. [12]. Empowering family and community members helps to inform birth planning programs and PNC services to mothers, family, and community members on good maternal and newborn care practices at home. Simple communication and counseling materials can guide families from cultural practices to evidence based essential newborn care, including timely recognition and referral of maternal and newborn danger signs. Postnatal follow up of mothers and their newborns can be provided through outreach visits by a skilled attendant by examining both mother and baby, provide essential maternal and newborn care, and identify complications [13]. The main aim of this study was to assess the level of utilization of Post Natal Care service and associated factors in Dembecha District, Northwest Ethiopia, 2013.

## 2. Methods

### 2.1. Study Area and Period

A community-based cross-sectional study design was conducted in Dembecha district; west Gojjam zone of Amhara National Regional State of Ethiopia, from July-August 2013. According to district health office report, Dembecha district has 25 rural and 4 urban kebeles (the smallest administrative unit in Ethiopia) with a total population of 144,880. Out of this, there were 3,834 women for which the district planned for postnatal care service by 2013. The district has six public health centers, 23 Health post. However 2 rural and 4 urban kebeles have not health posts in this district and 11 Private health institutions. Health professionals are unevenly distributed in all institution; there are 8 health officers, 9 midwife nurses, 7 laboratory technician and 2 technologists, 9 pharmacy technicians, 2 Bachelor of Science in nursing, and 32 clinical nurses. Source population was all women who have at least one delivery history and live in Dembecha district for at least six months. Study population was women who have less than two years old child. Those women who were seriously sick to respond the questionnaire during data collection were excluded from the study.

### 2.2. Sample Size Determination and Sampling Procedure

The sample size of the study was calculated using formula for estimating single population proportion. Taking proportion of PNC p=37.2 % [6], maximum allowable error (5%), n=358, because of that the sampling method was

multistage sampling multiplying by design effect of two gave 716 sample, after adding a nonresponse rate 10% , the final sample size became 788. Multi-stage sampling method was applied in the study by selecting 10 kebeles (the smallest administrative unit in Ethiopia) from rural and urban areas then from systematically selected households a simple random sample of mothers with less than two years child were drawn and interviewed after proportional allocation of samples. Concerning variables of the study, the Dependent variable was utilization of post Natal Care Service. The dependent variables were: Client factors: Age, religion, marital, status, occupation, educational, status, parity, ANC utilization, husband education, age at birth, place of delivery. Health institution factors: Distance from health center and availability of transport service and required equipment supplies. Health professional factors: sex mix of professionals, referral system.

### 2.3. Data Collection Procedure and Quality Assurance

Pre-tested, semi-structured questionnaire was prepared by reviewing previously done studies. Data collection was conducted through face to face interview with women having less than two years old child (children) in selected kebeles using adapted semi-structured questionnaire by Health Extension workers. The data collection technique was supervised by 8 trained supervisors and the principal investigator has guided the overall activity actively. Data collectors were trained on how to interview depending on the aim of the study before the actual data collection was carried out. In order to assess the ability of data collectors as they would be able to collect appropriately and to test reactions of respondents to the questionnaire a pre-test was under taken on 5% of sample size on a week before the actual starting date of data collection in nearby district. During the data collection period data collectors had performed data collection by asking verbal consent from respondents and information had been taken using questionnaire. After each respondent had completed their interview, data collectors checked all questionnaires for completeness before the respondent left. All the filled questionnaires had also been checked for completion, clarity and proper identification of the respondents.

### 2.4. Data Processing and Analysis

EP data version 3.1 software was used to enter data, and then SPSS version16.0 statistical software was fitted for data analysis. Logistic regression had fitted to examine possible associations between dependent and independent variables. Data were presented in frequencies and percentage distributions so as to describe a variable, cross tabulation and chi-square had been used. The probability value of 0.05 was used to declare the significance of the association. These possible associations and their statistical significance was measured using odds ratio at 95% confidence interval.

Concerning the ethical aspects, the proposal was reviewed and approved by research ethics review committee of Debre Markos University medicine and health Science College. And

ethical clearance was obtained before commencing the study. Letter of cooperation had been written to, Dembecha district Health office. Informed verbal consent was secured from each study participant.

## 3. Results

### 3.1. Socio Demographic Characteristics of Respondents

From 788 calculated sample size of this study, 736 of them responded to the questionnaire making response rate of 93.4%. About 76.6% of the study participants' age was between 20 and 34 years. About 81.4% of the respondents were living in rural; 62.4% of mother had less than six family members. Around 89% of the respondents were married. The study findings revealed that 73.6% of the respondents had not had formal education. Almost all of respondents (99.5%) were Orthodox Christian followers while the rest were Muslims. According to the respondents, more than 74% of respondents and 62.6% of respondents' husbands involved in farming and 57.9% of mothers had experienced their first pregnancy below the age of eighteen years.

**Table 3.1.** socio-demographic characteristics of respondents postnatal care utilization among women in Dembecha district, 2013. (n=736).

Age Group	Frequency	Percent
<20	26	3.5
20-34	564	76.6
35-49	146	19.9
Place of Residence		
Urban	137	18.6
Rural	599	81.4
Education status of respondents		
No formal education	542	73.6
Formal education	194	26.4
husband educational status		
No formal education	398	54.1
Formal education	262	35.6
Marital status		
Un married	78	10.6
Married	658	89.4
Occupational status		
Farmer	547	74.3
Merchant	189	25.7
Gov't employee		
Husband occupational status		
Farmer	461	62.6
Merchant	165	22.4
Gov't employee	34	4.6
Family size		
<6	459	62.4
>=6	277	37.6
Age at first pregnancy		
<18	426	57.9
>=18	310	42.1
Children ever born		
1	153	20.8
2-3	271	36.8
4-5	152	20.7
6+	160	21.7
Media utilization		
Yes	145	19.7
No	591	80.3

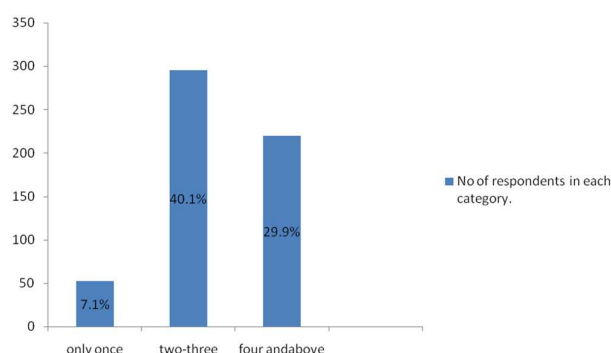
### 3.2. Utilization of Postnatal Care

The level of postnatal care service utilization was 34.8% of which 33.7% were within 48 hours of postpartum and about 0.8% within 2-7 days of delivery. About 77% percent of women had got ANC service during last pregnancy while 31.4% of the sample women had delivered their last child in health institution. From the total ANC attendants, only 234(41.3%) had got postnatal care service. While among home delivered women only 35 (4.8%) received PNC service the rest 30% were women who had delivered at health institution.

**Table 3.2.** proportion of ANC, PNC and Delivery service utilization among women of Dembecha district, 2013.

	Frequency n=736	Percentage
Utilization of ANC		
Yes	567	77.0
No	169	23.0
Place of delivery		
Home	505	68.6
Health Institution	231	31.4
Utilization of PNC		
Yes	256	34.8
No	480	65.2

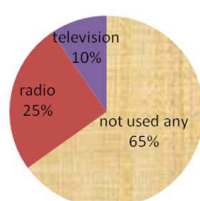
High proportion of women in the study area used ANC but it was very late to start. From the total ANC service utilization, ANC<sub>4</sub> (the fourth visit was about 29.8%) while that of ANC<sub>2</sub> (antenatal care visit two) and ANC<sub>3</sub> (antenatal care visit three) accounts 40.1% service.



**Figure 3.1.** Frequency of ANC service utilization of women in Dembecha district 2013.

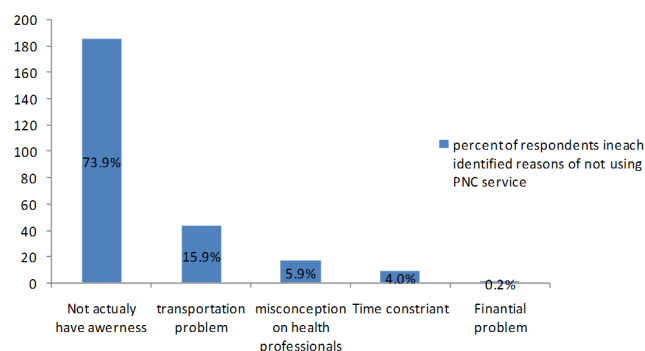
Most of the respondents in this study had not used any form of media as source of information, so as to increase their awareness.

types of media used



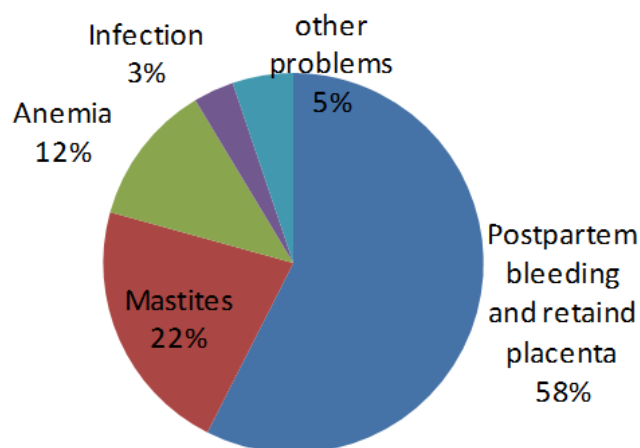
**Figure 3.2.** Proportion of respondents by the media they were using as source of information in Dembecha district, 2013.

About 73.9% of respondents answered their reason for not to use PNC service was lack of awareness followed by transportation problem (15.9%) and misconception on health professionals. Women did not know whether they were required to go to health institution or not after they had given birth at home and no complication to newborn and themselves. Misconception on health professionals and health centers accounts (5.9 %) among non PNC utilizers. Women sent back to their home to stay there after they reach health centers for delivery until labor progresses. This lets most mother home delivery which makes them distrustful and stays at home than seeking PNC after delivery.



**Figure 3.3.** Reasons why mother did not utilize PNC service in Dembecha district, 2013.

In this study the postnatal problems facing mothers and/or their newborn was studied as variable. About 58% of mothers faced postpartum bleeding and retained placenta in their lifetime, and 22% developed mastitis. It was these postnatal complications which induces PNC service utilization among mothers who delivered outside health institution.



**Figure 3.4.** Health problems respondents faced after delivery of their last child in Dembecha district, 2013.

As independent variable health care service provider's sex was asked and 36% of mothers prefer female health professional while receiving service. About (50%) were not bothered whether they were attended by females or male health professional. (See below)

### 3.3. Factors of Postnatal Care Utilization

**Table 3.3.** Bivariable analysis result for factors affecting PNC service utilization of respondents in Dembecha District, 2013.

Variables	PNC Utilization		COR 95% CI	p-value
	Yes	No		
Residence Rural	178	421	3.127(2.136,4.576)	0.0001
urban	78	59	1	
Family size				
<6	185	274	1.95(1.411,2.719)	0.001
>=6	71	206	1	
Use of media				
Yes	73	72	2.260(1.562,3.270)	0.001
No	183	408	1	
Respondents educational status				0.001
No Formal education	156	386	1	
Formal education	100	94	2.632(1.878,3.689)	0.001
Husbands educational				
No Formal education	106	292	1	0.001
Formal education	120	142	2.328(1.675,3.236)	
Age at pregnancy				
<=18	138	288	1	0.111
>18	118	192	1.228(0.944,1.742)	
Children ever born one	91	62	6.360(3.813,10.603)	0.001
2-3	87	184	2.049(1.278,3.284)	
4-5	48	104	2.000(1.184,3.378) 1	0.01
>=6	30	130		
Live children				
<4	193	289	2.025(1.444,2.839)	0.001
>=4	63	191	1	
ANC utilization				
Yes	234	333	4.695(2.911,7.575)	0.001
No	22	147	1	
Frequency of visit One	7	45	1	0.011
2-3	93	202	2.960(1.286,6.810)	
>=4	134	86	10.017(4.319,23.218)	0.001
Neonataldeath				
Yes	65	67	2.098(1.432,3.073)	0.001
No	191	413	1	
Postnatalproblem				
Yes	71	100	1.458(1.026,2.072)	0.035
No	185	380	1	
Transport Available	189	228	3.118(2.239,4.342)	0.001
Not available	67	252	1	
Distance				
<=10kms	218	271	4.424(2.999,6.528)	0.001
>10kms	38	209	1	

**Table 3.4.** Multivariable analysis result factors affecting PNC service utilization of respondents in Dembecha district, 2013.

Variables	PNC Utilization		AOR 95% CI	P-p-value
	Yes	No		
Use of media				
Yes	73	72	1.603(1.023,2.989)	0.040
No	183	408	1	
Respondents educational status				
No Formal education	156	386	1	0.001
Formal education	100	94	2.122(1.372, 3.281)	
Husband educational status				
No Formal education	106	292	1.844(1.266,2.685)	0.001
Formal education	120	142		
Use of ANC				
Yes	234	333	4.141(2.451,6.995)	0.001
No	22	147	1	
Neonatal death				
Yes	65	67	3.503(2.192,5.592)	0.001
No	191	413	1	
Distance <=10kms	218	271	3.972(2.627,6.008)	0.001
>10kms	38	209	1	

## 4. Discussion

This study was aimed primarily on examining the utilization of PNC service and associated factors predicting PNC service utilization in Dembecha district. The study revealed that the level of PNC service utilization was about 36.5%. This study found that several socio-demographic factors were associated with the probability of a woman having postnatal care service utilization. Use of media, Educational status women and their husbands, utilization of ANC service, place of delivery of last child, experience of neonatal death and distance from health institution were significantly associated factors which affect postnatal care service utilization. There are different reasons stated by the respondents for not utilizing PNC. Among these different reasons the most frequently reason (73.9%) was due to lack of awareness.

Along with the primary objective, this study also revealed that the independent variable such as ANC service and delivery service utilization in this district were (77%) and (31.4%) respectively. Here postnatal care service utilization was greater than institutional delivery; possible reason for this would be respondents PNC service utilization considered while they came to health institution for delivery and its complication such as (Retained placenta, post natal bleeding and other complications occurred to newborns). So, postnatal care is higher due to both services given to mothers delivered in health institution and out of health institutions.

When compared the results of this study to the study done by Regassa in southern Ethiopia, PNC service utilization of 37.2% [6], the result of this study shows postnatal care service utilization was 34.8% of which 33.7% were within 48 hours of postpartum and about 0.8% within 2-7 days of delivery which is lower. Here in this study more of the study samples were from different communities with different socio demographic characteristics and this study also contains samples that are very far from information and physical parts of health institution so that this difference occurred. Similarly as the study in Nepal including both those who delivered outside and within a health facility, the utilization of postnatal care was found (34%). Moreover, care within 48 hours was found to be infrequent 19% [11].

This study showed that women's educational status and media utilization has significant association with PNC service utilization. It agrees with study In Uganda (KABUYA MMINAU) 2006. Women who had access to media have 1.5 times more likely to use PNC than their counter parts. Woman's educational status places her at a greater chance of having postnatal care service [10].

In a review article on factors affecting postpartum in Uganda 2006 about 70% of the mothers who knew about the postnatal services, 82% utilized the service. Similarly EDHS 2011 shows 52% of women with level of secondary education received postnatal care service compared with their counter parts [5, 6, 7, and 15]. Accordingly, once a mother is

educated and have information, she will be knowledgeable enough to know the advantages of using postpartum services on her health, a factor that will most likely bring about them to seek for such services. On the other hand, it can be argued that mothers who did not go to school cannot know the importance of postpartum services, and this will make them see no reason as to why they should seek for such services at all. The higher the educational levels of mothers, the higher the chances that they will use the postpartum services [7, 15].

This study also agrees with a study by Yared Mekonnen and his colleagues showed women's education is significantly associated with use of maternal health care as seventy-two percent of women with at least secondary education received antenatal care from a health professional, compared with 45 percent of women with primary education and 21 percent with no education. In Ethiopia, with the use of maternal health care increases linearly with education. Educated women with at least secondary schooling are four times more likely to use postnatal care than women with no education. Due to the small number of postnatal care users, no separate analysis by residence is presented. [8]. Residence of women is an important factor that significantly influences its use in Ethiopia. Women residing in Addis Ababa are eight times more likely to use PNC services than their rural counterparts. But in this study residence had no significant association with post natal care service utilization. This dissimilarity could be due to most of study population in this study were from rural community; even urban samples in this study have similar life style with rural ones. This finding has also difference with the study results in Uganda and WHO repeated reports [5, 7, 15].

Women who delivered at health facility had more chance of getting PNC service when compared to home delivered women. This finding agrees with a study done in Uganda and Ghana. Women getting antenatal and delivery care might have a positive influence on the uptake of postnatal care, as the uptake might be associated with health education and counseling received during antenatal visits and the delivery. Once an expectant mother is staying in a place that is out of health institution, there is high chance that she could not use postnatal care services [7, 8]. This study revealed that distance from health institution to home has significant association with postnatal care service utilization. Women living within 10 kilometers radius from health institution were four times more likely to use postnatal care services compared to women living beyond 10 kilometer radius from health institution. As study in Uganda the utilizations of professional assisted delivery care and PNC among the study population was very low. With regards to the level of PNC, the finding documented that the proportion of postnatal service utilization was (only 37.2%). The poor utilization of delivery and postnatal care service has often been attributable to the unpredictable onset of labor, making it difficult for women to travel long distances [10, 15].

## 5. Conclusion

Postnatal care utilization among women in the district was lower than what is expected and planned in the district. It is important to emphasize that distance, place of delivery; ANC service utilization and educational status of women were vital determinants of PNC service utilization among the study population. Even though small in magnitude maternal images on health care service provider has significant pressure on PNC service utilization. Out of non PNC utilizers lack of awareness about the service was mentioned as the major determinant factor accounting half of the raised reason. So maternal awareness on PNC and other services is vital to attain this service utilization. The implication of this finding is that unless the local government accessed them for awareness opportunities and work on behavioral change communications in rural areas, it will be difficult to attain the targets for PNC. The study realized that making infrastructures and health care institution available in rural areas to minimize distance to be traveled is another assignment for government to reach countries target of PNC and other health care services.

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