

Utilization and associated factors of antenatal care among women who gave birth within the last two years, in Teda Kebele, Gondar town, northwest Ethiopia

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Research note

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Abstract

Objective The purpose of this study was to assess utilization and associated factors of antenatal care among women who gave birth within the last two years. Three hundred fifty two participants were selected by simple random sampling technique from April 1-May -27, 2015. Bivariate and multivariate data analysis was performed using SPSS for Windows version 23. **Result** The study identified that 84.4% of respondents were utilized antenatal care.

Introduction

Pregnancy is a normal physiological process associated with a certain risks to the health of women and the infant she bears. It is an important event from both social and medical point of view. Therefore, pregnant women should receive special care and attention from the family, community and the health care system (1).

Antenatal care (ANC) service utilization refers to skilled antenatal care rendered by the health workers in the health institution. This care is given to pregnant women and their baby from the time of conception to the delivery of the baby (2)

Worldwide hundred thousands of women die from complications during pregnancy and child birth each year; that is one women dying every 90 seconds and millions more are left with life altering disabilities (3). An estimated 287,000 women died during pregnancy and child birth in 2010. Every day, nearly 800 women across the global die due to complications during pregnancy and child birth, 99% of these occur in developing country including Ethiopia. In Ethiopia, the levels of maternal and infant morbidity and mortality are among the highest in the world. This attributed to, among other factors, non use of modern health care services by women in Ethiopia (4, 5).

In Ethiopia, the levels of maternal and infant morbidity and mortality are the highest in the world. This is due to mainly non use of modern health care services by women in Ethiopia. According to the 2011 EDHS, more than six in ten mothers did not receive ANC at all. The utilization of maternal health service remains low in the low resource countries like Ethiopia. The major direct cause of maternal morbidity and mortality are unsafe abortion, obstructed labour, haemorrhage, infection and hypertension (6, 7). According to recent (2011) Ethiopian Demographic and Health Survey report, only 34%, 10%, and 6% women have ANC, delivery, and post natal care by skilled provider, respectively. This can be due to lack of knowledge about importance of health services, lack of transportation, distance from health facilities, small number of health facilities, lack of money and lack of family support (1, 7).

Therefore this study aims to determine the prevalence of ANC utilization and explore its determinants.

Methods

Study area

The study was carried out in Teda Kebele; which is one of the largest Kebele in Gondar town. It is located 710 km away from Addis Ababa, the capital city of Ethiopia, 145 km to the capital city of Amhara regional state, Bihar Dar and 35 km from Gondar town. It has a total population of 12518. From these populations 5917 are males and 6601 are females. Of these 2546 women are in the age group of 15–49. Teda kebeles has one governmental and three healths post and three private pharmacies institutions.

Study design and period

A community based cross sectional study was conducted from January to April 13 among women who gave birth within the last two years in Teda Kebele, Gondar town, Northwest Ethiopia, 2015.

Sample size and sampling techniques

The sample size required for assessment of the utilization of antenatal care and associated factors among women who gave birth within the last two years in Teda kebeles, Gondar town was calculated using single population proportion formula by considering the following assumption: proportion (p) = 32.3% (8), w = tolerable (margin) of error = 5 % and Z = Z score for 95 % confidence interval = 1.96 and considering 5% none response rate then the final calculated sample size was 352. Simple random sampling technique was used to select the study subjects after getting lists of the study population from health extension workers which is 823 women who gave birth within the last two years and 352 women included in the study by lottery method.

Measurement

Data collection tools and procedures

Structured interviewer administered questionnaire was used to collect the data which was adapted from relevant literatures and modified to local context. Questionnaires was first prepared in English language then it was translated first in to Amharic and then to English to check consistency. The questionnaire was consisting of Socio demographic characteristics, Reproductive and obstetrics characteristics, and knowledge related questionnaires. Pre-tested structured interviewer administered questionnaire was used for data collection purposes. The data was collected by four diploma midwives and supervised by two BSc midwives by those who can speak and write the local language.

Data quality assurance

The collected data were checked for the completeness, accuracy, clarity and consistency after conducting pre-test. A pre-test was conducted on 5% or 18 child bearing women and the instrument was amended accordingly. Any error, ambiguity or incompleteness identified was corrected immediately. The data collectors were trained for one day about the contents of the questionnaire, methods of data collection

and aim of the study. The data collection process was supervised by the supervisor and the investigator throughout the data collection period.

Data processing, Analysis and Interpretation

Data was coded, cleaned and entered by Epi.info version 3.5.3 and analyzed using computer database software and transported to the SPSS version 20 statistical software. Descriptive statistics like frequencies and percentages were used to present the categorical independent variables, and mean/standard deviation was used to describe a continuous variable. Frequency tables and graphs were used to present descriptive results.

For this study, bivariate logistic regression model was fitted as a primary method of analysis. Odds ratios (OR) was computed with the 95% confidence interval (CI) to see the awareness of OBF in relation to the considered associated factors in this research. Independent factors, with a P-value <0.2 obtained in the Bivariate logistic regression were entered into the multiple logistic regression models. Consequently, the most important associated factors were identified using the multivariate logistic regression analysis. Then an adjusted odds ratio (AOR) with 95% confidence interval was calculated for the significant predictive variables, and statistical significance was accepted at (P< 0.05).

Results

Socio-demographic and reproductive characteristics of the respondents

A total of 352 women were interviewed with response rate of 100%. Two hundred forty four (69.3%) of the respondents were in the age group of 21–34 years. Three hundred thirty (93.8%) was followers of Orthodox. Three hundred fifty one (71.3%) of the study participants were housewives. Three hundred fifty (99.4%) were Amhara and one hundred eighty four (52.3%) were unable write and read. 331(94.0%) have knowledge of the presence of regular ANC visit. Of the total respondents 296(84.1%) revealed that ANC is important for child, mother and family. Three hundred six (86.9%) of respondents Saied that ANC is needed for all pregnant women. Among the total respondents 328(93.2%) were believed ANC reduces associated problems that occurs during pregnancy. Of the respondents 180 (51.1%) revealed that both husband and wife decide ANC follow up. Of the total respondents 333 (94.6%) were knowing all pregnant women have the right to get ANC follow up (*table 1*).

Current situation of antenatal care utilization

Among the total participants 84.4 % of women were have ANC. The rest 15.6 % were not attended ANC among 84.4% respondents (those who had ANC) only 70.7 were attended ANC within the recommended time (*figure 1*).

Associated factors of ANC utilization

Bivariate analysis was done to assess any association between independent variables and dependent variable.

In bivariate analysis: Distance, women education, residence, age at first pregnancy, occupation and state of pregnancy was considered statistically significant with utilization of ANC.

Multivariable logistic regression analysis showed that women in urban area uses ANC services three times more than women in rural area with AOR (95% CI) 3.18(1.28,7.92).. Likewise women with primary level of education and above were more likely to be utilized than those who had no education with AOR (95% CI) 1.95(1.075, 2.68) and respondents who were their pregnancy planned were more likely to utilize ANC compared to respondents with unplanned pregnancy with AOR (95% CI) 1.21(1.001, 3.301) (*Table2*)..

Discussion

This study showed that the prevalence of antenatal care was 84.6%. Although this shows a high level of antenatal care utilization, more than 50% of them initiated their first visit during the second and third trimester of pregnancy.

This finding is consistent with the result of the studies in Holeta town and Hadiaya zone which showed 87% and 86.6% (9&10) respectively. This might be due to the fact that closeness of the study time and have related socio demographic factors. The finding of this study was significantly higher than from North Gondar zone and Metekel zone which were (32.8% and 49.8 % (8, 11) respectively. This might be due to the previous study conducted in the zonal level and it covered more areas like remote areas and distance from health institution and those participants were less chance of getting / exposing to media, information and education but our studies conducted in the town Kebele label that covers small area so that more informative to service utilization. It is also important to note the time gap between the current studies to the previous study.

In this study, socio-demographic, obstetric and information factors related to the utilization of antenatal care. Residence is significantly associated with ANC utilization; That is women in urban area uses ANC services three times more than women in rural area with AOR (95% CI) 3.18(1.28, 7.92); This finding agrees with the studies done in (9, 10&12) respectively; This may be due to the fact that rural women are less likely to use different media, information, getting written papers and have less knowledge about their health than urban women. The other explanation could be busy to different activities, family and self-attitude, inadequate health service, etc.

Antenatal care utilization was significantly related to their level of education. Women with primary level of education and above were more likely to be utilized than those who had no education with AOR (95% CI) 1.95(1.075, 2.68). This finding agrees with the studies done in (13, 14, 15, 16 and 17) respectively; this might be female education has a positive effect for maternal health service utilization. The possible explanation for why education is a key determinant could be that better educated women would likely appreciate the importance of service utilization more than uneducated ones. In other perspective the

higher the educational status the better understanding and having good knowledge and easily access for media and information.

The analysis showed that respondents who were their pregnancy planned were more likely to utilize ANC compared to respondents with unplanned pregnancy with AOR (95% CI) 1.21(1.001,3.301);The association of women with unintended pregnancies and early initiation of first antenatal care were they recognize the pregnancy late, might be not ready emotionally and financially,busyness for the care of the family and to full feel the demands of the family more likely to less care of themselves and the developing fetus during pregnancy.

Conclusion

In this study the antenatal care service utilization is high, which is higher than the study done in North Gondar zone. However, the majority of women who attend ANC did not receive adequate number of visits. It is statistically significant with residence, educational level and state of pregnancy.

Limitation of the study

Since the data was collected from those gave birth within the last two years, it may be affected by recall bias.

Since the data collectors were health professionals, it may induce social desirability bias.

Abbreviations

ANC: AnteNatal Care *EDHS*: Ethiopian Demography Health Survey

Declarations

Authors' Contribution

FY inception designed the protocol, data analysis, interpretation, manuscript drafting, wrote the paper and revised the manuscript. AG data collection, data analysis and interpretation. Both authors read and approved the final paper

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Conflict of Interests: The authors declare that they have no conflict of interests regarding the publication of this paper.

Availability of data and materials: The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Consent for publication: Not applicable

Ethics approval and consent to participate

Ethical clearance was obtained from the institutional review board of Gondar University. A formal letter request of cooperation was written to Teda kebeles administration office. Written consent was obtained from each study participants. Confidentiality of information and privacy was maintained.

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Tables

Table 1: Socio-Demographic and reproductive characteristics of respondents in Teda Kebele, Gondar town, North-western Ethiopia, 2014.

Variables	Frequency	Percent
Age in years		
<20	42	11.9
20-34	244	69.3
>34	66	18.8
Religion		
Orthodox	299	84.9
Muslim	21	5.9
protestant	32	9.1
Marital status		
Married	305	86.6
Single	7	2.0
Divorce	31	8.8
Widowed	9	2.6
Educational status		
Unable to write and read	184	52.3
Primary school(1-8)	98	27.8
Secondary school(9-10)	43	12.2
Preparatory school(11-12)	6	1.7
Diploma and above	21	6.0
Occupation		
House wife	251	71.3
Governmental employee	22	6.2
Merchant	43	12.2
Daily labourer	36	10.3
Ethnicity		
Amhara	330	93.8
Tigre	16	4.5
Oromo	6	1.7
Family size		

<5	194	55.1
>=5	158	44.9
Address		
Urban	238	67.6
Rural	114	32.4
Distance from the health institution		
<2 km	228	64.5
2-4 km	91	25.9
>4 km	33	9.4
Age at first pregnancy		
<=19 years	124	35.2
>=20 years	228	64.8
Do you have ANC follow up?		
Yes	297	84.4
No	55	15.6
If yes at what month of amenorrhea you began?		
At 2 month	36	12.1
At 3 month	108	36.4
At 4 month	66	22.2
At >=5 month	87	29.3
Who decides ANC service utilization		
Pregnant women	146	41.5
Husband	8	2.3
Health professional	18	5.1
Both pregnant women and Husband	180	51.1
Gravidity		
1	50	14.2
2-3	200	56.8
>=4	102	29

State of pregnancy		
Planned	265	75.3
Unplanned	87	24.7
Do you satisfied by ANC service give		
Satisfied	272	91.6
Unsatisfied	25	8.4
By what method not satisfied		
Privacy	16	63.3
Providers approach	6	22.7
Service quality	3	14
Reason not using ANC service		
Lake of awareness	192	54.5
Too far facility	44	12.5
Lake of interest to use	102.4	29.1
Do to social and economical problem	12.6	3.6

Table 2. Logistic regression analysis of socio-demographic and obstetric factors for Utilization of ANC among women who gave birth in the last two years in Teda Kebele, Gondar town, Northwest Ethiopia, 2014.

Variable	Do you have ANC follow up		COR(CI)	AOR(CI)	P-value
Address	Yes	No			
Urban	215(90.3%)	23(9.7%)	3.65(2.02,6.60)	3.18(1.28,7.92)	0.013
Rural	82(71.9%)	32(28.1%)	1		
Distance					
<=2 km	201(88.2%)	27(11.8%)	3.24(1.39,7.53)		
3-4 km	73(80.2%)	18(19.8%)	1.76(0.714,4.35)		
>4 km	23(69.7%)	10(30.3%)	1		
Occupation					
Unemployed	63(96.9%)	2(3.1%)	6.3(1.69,30.08)		
Employed	234(81.5%)	53(18.5%)	(1)		
Educational status					
Educated	151(89.9%)	17(10.1%)	2.31(1.25,4.28)	1.95(1.075,2.68)	0.03
Un educated	146(79.3%)(1)	38(20.2%)	1	1	
age at first pregnancy					
21 years	208	30	1.96(1.03,9.43)		
<21 years>=	88	25	1		
State of pregnancy					
Planned	230	35	1.4(1.017,5.012)	1.21(1.001,3.31)	0.001
unplanned	72	15	1		

Figures

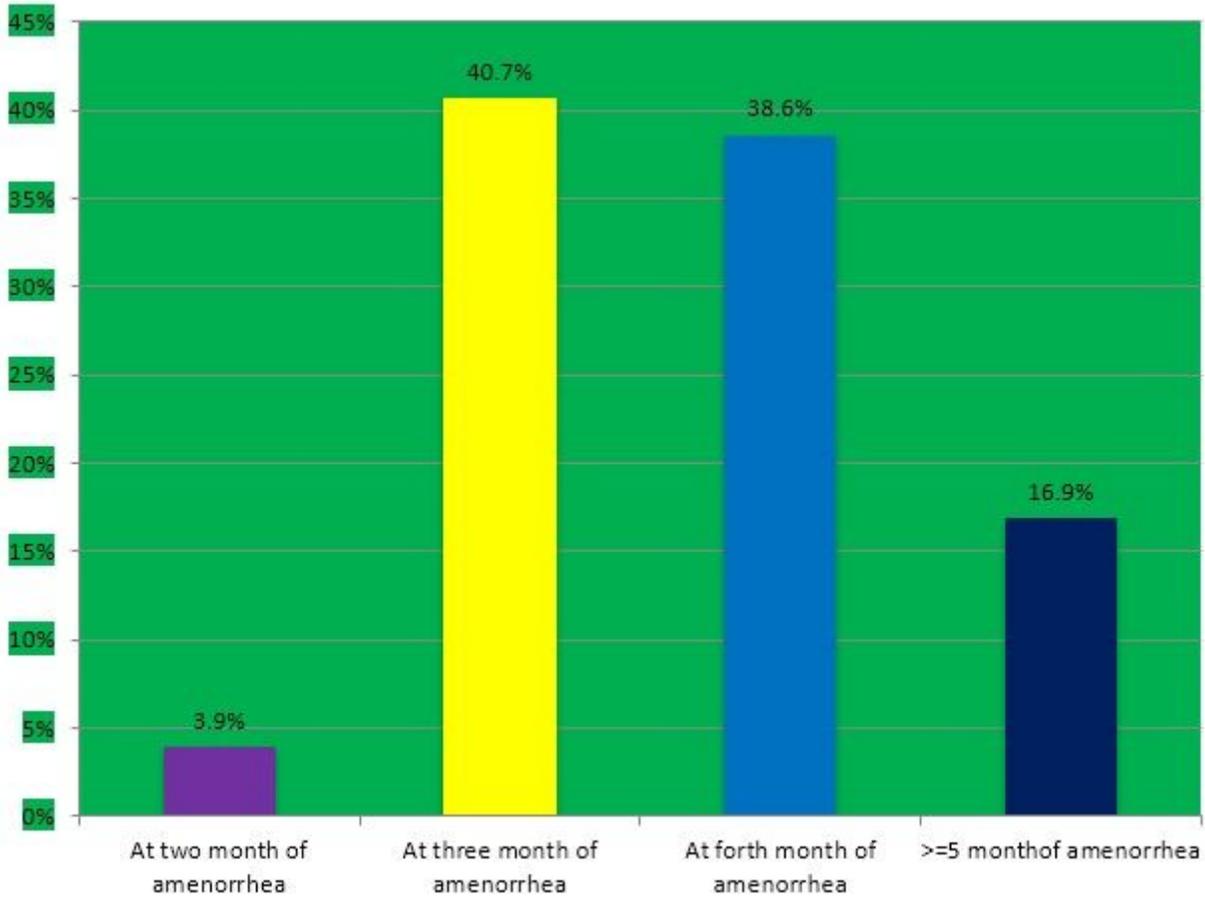


Figure 1

prevalence of first registration of ANC among women who gave birth in the last two years in Teda Kebele, Gondar town, Northwest Ethiopia, 2014.