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Factors Influencing Antenatal Care Service Utilization Among Pregnant Women in Pastoralist Community in Menit-Shasha District, Ethiopia

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ABSTRACT

Background: *The utilization of antenatal care from a trained provider is important to monitor the pregnancy and to reduce morbidity and mortality risks for the mother and child during pregnancy and delivery.* ***Methods:*** *A community-based cross-sectional study was conducted in Menit-Shasha Woreda Bench Maji zone, southwest Ethiopia. Quantitative and qualitative methods were employed for data collection. Simple random sampling technique was used to select the study localities and subjects (mothers) those who gave birth in the last five years prior to the survey period. Quantitative data were analyzed using SPSS for windows version 16 and qualitative data was narrated thematically and triangulated with quantitative findings.* ***Results:*** *A total of 639 women participated in the quantitative survey with the respondent rate of 98.15%. The proportion of women who received antenatal care for their last pregnancy was only 15.5% (99). Out of this 10.3% received two to three visits. The main reasons mentioned for not attending antenatal care were lack of awareness, 490 (76.7%) and absence of health problems during last pregnancy, 469 (73.4%). Multivariate analysis showed that there was a significant association between antenatal care service utilization and ANC visit by health extension workers (AOR=4.042, 95%CI: 1.982, 8.244,) and residential distance (AOR=4.214, 95% CI 1.025, 17.325), respectively ($p<0.05$).* ***Conclusion:*** *This study revealed low antenatal care service utilization. From those who had antenatal care service, the majority started it lately and received incomplete service. The utilization of antenatal care was influenced by a home visit by health extension workers and by the residential distance from health post. Thus it was recommended to strengthen home visit for improving community awareness on the importance of ANC utilization.*

Keywords: Antenatal care, Services utilization, Associated factors, Pastoralist community, Menit-Shasha woreda, Ethiopia

INTRODUCTION

Early entry to antenatal care (ANC) is important for early detection and treatment of adverse pregnancy-related outcomes. The World Health Organization (WHO) recommends that pregnant women in developing countries should seek ANC within the first 4 months of pregnancy [1].

Approximately 536,000 maternal deaths occur annually, of which over 95% occur in sub-Saharan Africa and Asia. Globally 30% of women between the age group of 15-40 years do not have ANC, 46% of those who did not have ANC are in South Asia while 34% are in sub-Saharan Africa. This low use of services leads to death and disability due to untreated hypertensive disorders or due to mal- or sub-nutrition like iron deficiency anemia [1].

Africa has the highest burden of maternal mortality in the world and sub-Saharan Africa is largely responsible for the dismal maternal death figure for that region, contributing approximately 98% of the maternal deaths for the region. Effects of antenatal care services on birth-weight, the importance of model specification and empirical procedure were used in estimating the marginal productivity of health inputs [2].

According to a report of Mexican DHS, socio-economic and other factors are linked to differentials in maternal mortality. For instance, women with no formal education are 9 times more likely to die than those women who have finished high school and women who live in highly marginalized areas are 3 times more likely to die than those who live in the least marginalized areas [3].

A study done in Bangladesh showed that the probability for use of ANC in women in the highest wealth index group is higher despite their difference in place of residence and educational level, women were found to have a higher level of use of ANC. This depicts that household wealth is a very strong determinant of health service utilization [4].

In India, it has been demonstrated that lack of recognition of health problems were significant reasons for not seeking out antenatal care, which accounts for half of the maternal deaths [5]. Perceived quality of care that comprises the quality of the medical care and experience of the people with the health facility can influence ANC utilization. One Nigerian study showed that many respondents blamed their refusal of ANC as a result of unsatisfactory services at the health facility (54.2%), unfriendly attitude of staff at the health facility (70.8%), unavailability of staff at the health facility (64.0%), long waiting time (75%) [6].

The lower rate of ANC utilization and delivery assistance services has been established as contributing factors for higher rate of maternal mortality. In disadvantaged regions of the world like Ethiopia where such service is poorly developed, maternal mortality remained to be a big challenge in public health. To address these issues, different stakeholders at international, national, and regional levels have been implementing different strategies. The MDG has been one of the internationally coordinated biggest initiatives. But countries having poor infrastructures, low ANC utilization, and assistance delivery rates have been progressing poorly, Ethiopia could be an example. Use of maternal health services has shown almost no change in the country in the five years from 2000-2005 and MMR remains one of the highest in the world [7].

In 2011, DHS showed 26% of the mothers received ANC in rural Ethiopia from a health professional and only 10% of mothers received ANC from HEWs, less than 1% delivery attended by health extension workers [8].

MATERIALS AND METHODS

Study Area and Period

The study was conducted in Meinit-Shasha Woreda Bench Maji Zone, southwest Ethiopia from January 2012 to February 2012. The Meinit-Shasha woreda is one of the six pastoralist woredas in Bench Maji zone, south nation regional states located 750 kilometers from Addis Ababa and 393 kilometers from Jimma town in south-west Ethiopia. The woreda bounded with Meinit-Goldiya woreda to the north, Maji Woreda to the south, Debub Bench Woreda to the west and Debub Omo zone to the north-east. It has 26 rural kebeles and one town according to 2007 CSA's population projected for the year 2011-2012. The woreda has 51645 (50.1%) males and females account for 27776 (49.9%). The total households are 10759 and female in reproductive age accounts 12015. There are three health centers, two private clinics and 19 health posts in the woreda. The woreda HEW consists of 26 female health extension workers and 19 male pastoralist health extension workers. Potential health service coverage of the woreda is 53% in 2003 according to EFY Report.

Study Design

A cross-sectional community-based survey for both quantitative and qualitative methods was employed.

Populations

Source population: All women who were in the reproductive age group (15-49 years) residing in the rural kebeles of the woreda.

Study population: The study was conducted on women, who had given at least one birth in the last 5 years before the survey, irrespective of the outcome of delivery and who resided in the woreda for more than one year, in selected rural kebeles of the woreda.

Study units: Individual mothers with children aged less than 5 years.

Inclusion Criteria

All mothers with children aged less than 5 years and who were a permanent resident of the rural kebeles were included in the study.

Exclusion Criteria

- Women below 15 years and above 40 years of age, and who is not a resident of the kebele.

- Women, who do not have at least one child in last five years.
- Women who live in the area for less than one year.

Sample Size Determination for Quantitative Study

To determine the number of study participants to be included in the study, single population proportion formula for sample size calculation was used. The antenatal care (ANC) coverage in rural Ethiopia is 26% (EDHS, 2011). It gives maximum sample size as maternal health is one of the major healthcare concerns. This proportion is used as 'P' in the sample size calculation.

Where P=0.26, $Z_{1-\alpha/2}$= 95% confidence level, n=desired sample size

$$n = \frac{Z_{1-\alpha/2}{}^{p}(1-P)}{d^{2}}$$

This yields a sample size and the calculated correction sample size was 296. This was multiplied by a factor of two to correct the design effect of sampling which gives a result of 592. Then considering 10% non-response rate, the final sample size was 651.

Sampling Technique

Multi-stage sampling technique was employed to select the study subjects which included mothers with less than five-year-old children and who resided in woreda for more than one year. Around 8 kebeles out of the 26 rural kebeles of Menit-Shasha Woreda were selected by using simple random sampling technique using lottery method. The study was conducted in pastoralist community and for logistical and cost reasons, the 8 kebeles were taken as representative samples. The total sample of the household was proportionally distributed to the 8 kebeles. Finally, the households who were living in rural areas of the selected kebeles of the woreda from each kebeles were selected by simple random sampling technique. The sampling frame used was the maternal and child healthcare services registration log books in the health post.

Data Collection Methods and Procedures

Data collection instrument

The study was conducted using a structured questionnaire. The study instrument was developed from literature and published studies and then modified to the local context for the study purposes. The questionnaire was translated into Amharic and was retranslated into English to ensure its consistency.

Data collectors' selection and training

Data collection was conducted by 16 trained, grade 10th completed interviewers. The supervisors were 4 BSc health professionals (two Nurses, two environmental health professionals). The supervisors and data collectors were trained for two days on relevant data collection principles and procedures before their participation.

Data collection

Data was collected through face to face interview of the mothers with children aged less than 5 years in the randomly sampled households in their respective houses for consecutive nine days.

Criteria for Selection of Data Collectors

During data collector recruitment, we tried to set some selection criteria for the sake of data quality which included previous experience, completion of grade 10th, and those who can speak both Amharic and local language (Menitigna). Also, the willingness of the data collectors was confirmed since the house of the respondents was too dispersed due to which the data collectors faced difficulties during the process of interviewing. In addition, knowledge of the study area and successful performance during the training and pre-testing was given.

Pre-test

The instrument was pre-tested using 5% (33) of the sample size of the study population from normal population other than the selected 8 kebeles (Kilu and Gabi kebeles). After the pre-test, the instruments were distributed to each selected kebeles by respective supervisors.

Dependent Variable

Use of ANC service: If a woman visited health facility at least once to receive antenatal care services during the recent pregnancy.

Independent variables

- Age
- Religion
- Marital status
- Ethnicity
- Mothers' Educational level
- Husbands' Educational level
- Occupation
- Previous obstetric history
- Gravidity
- Parity
- Birth order
- Husband attitude
- Mothers Knowledge
- Family Income
- Family size
- Access to health facility
- Visit by health extension workers
- Polygamy (husbands number of wife)
- Movement of family during recent pregnancy
- Source of information about ANC services

Data Analysis

The questionnaire was edited, coded, cleaned, and then double data entry verification was applied using EpiData version 3.1 and exported to SPSS for windows version 16. Descriptive analysis (Mean ± SD for continuous variables and frequencies for categorical variables) was calculated. Analysis of logistic regression bivariate and multivariate was done to show the relationship between dependent variable and the predictors of the utilization of antenatal care services.

Data Quality Control Measures

The importance of the study, as well as the significance of the true information, has been told to the respondents. Supervisors and data collectors were trained for two days about pertinent data collection principles and procedures before their participation. The questionnaires were administered by 16 trained interviewers who have completed grade 10^{th}. The participants were interviewed in their respective places. When participants who were selected refused to participate in the study or were unable to answer the questions, the next eligible respondent was interviewed. Moreover, the instruments used in the study were pre-tested on a similar population (5% of the actual sample size). Total 33 respondents were asked questions but, were not included in the analysis. Continuous checking of the completed questionnaires was done, and a questionnaire was filled each day by the principal investigator and the other trained supervisor. Incomplete questionnaires were referred back.

Ethical Consideration

Before the start of the data collection process, ethical clearance was secured from Jimma University Ethical Review Committee. Permission was sought from bench Maji zone Health Department and Menit-Shasha Woreda Health Office. Participation in the study was voluntary and based on the ability of each respondent to give verbal informed consent. Participants were guaranteed on confidentiality of the information by not mentioning their name or any identification of respondent, and the interview was done only in the place of the respondent.

Operational Definitions

Access to health facility: The healthcare centers were not more than an hour from pregnant women by local means of transportation or availability of health facility within one hour walk or travel.

Antenatal care attendance: If a woman visited health facility at least once to receive ANC services during the recent pregnancy.

Enabling resources: It implies providing clients with the means to make use of the services.

Health seeking behavior: It is defined as mother's response to signs and symptoms of illnesses to reduce severity, complication or even death after she recognized maternity.

Need factor: It refers to health status, perceived by the individual or evaluated by the healthcare providers.

Perceived susceptibility of the risk of pregnancy: Opinion of mothers getting risk during pregnancy.

Permanent residence: Participant who lived in the study area for more than one year at the time of the survey.

Predisposing factors: Predisposing factors are those, which are supposed to make an individual susceptible towards a specific action or behavior or experience. Different factors in this category are family characteristics (age, household size, and marital status), social structure (education, type of work, ethnicity and moving pattern).

Family income: denotes the total income of all family members earned from all sources per month. Income was classified into two main categories:

1. Families with an income below 150.00 Birr/month.
2. Families with an income more than 150.00 Birr/month.

Knowledgeable: A respondent who answered more than 80% of the 13 questions related to signs and symptom of pregnancy-related risks were considered to have good knowledge and those who respond for less than or equal to 80% of the question were considered to have poor knowledge. The knowledge part of the questionnaire consisted of 13 questions divided into two components: 1) complications that occurred during pregnancy, and 2) benefits of ANC. The complication-during-pregnancy component had 10 questions and the benefits of ANC component had 3 questions. The interviewee's scores were combined to generate the overall score. If the answer was "yes", a score of one was given for a correct answer, and if the answer was "no", zero was marked for a wrong answer. Total 13 questions had a maximum of 13 points or a minimum of zero. The total score of each subject was converted into a percentage. Those who scored more than 60.0% were treated as "knowledgeable" (good knowledge), while those with equal or less than 60.0% were treated as "unknowledgeable" (poor knowledge).

RESULTS

Socio-Demographic Characteristics of the Respondents

A total of 639 mothers with ≤ 5-year-old children from 8 kebeles/villages were included in this study yielding a response rate of 98.1%. Majority of the respondents lie in the age group 25-29 years (42.3%) followed by 30-34 years (24.6%) with the Mean ± SD of (29.612 ± 3.7223) years. Majority of the respondents, 604 (94.5%), were Menit in ethnicity, 617 (96.6%) were married, and 630 (98.6%) were unable to read and write. With regard to husbands' educational status of the respondents, 529 (82.8%) were unable to read and write as well. Concerning the occupation, 559 (87.5%) were homemakers. The estimated median of average family monthly income of the respondents was 150 Birr/month. Regarding the respondents' religion, 273 (58.4%) and 270 (41.6%) were protestants among others. Almost three fourth, 473 (74.0%), of the respondents have ≥ 5 family members. Around 13.0% (83) moved from

one place to another due to usual socio-economic reason and 16 (2.5%) moved due to clan conflicts. Almost half of the respondents, 314 (49.1%), do not know about their husbands' attitude towards their care and 112 (17.2%) of respondents reported as negative. Around 248 (38.8%) of respondents' husbands had more than one wife (Table 1).

Table 1: Socio-demographic characteristics of ANC user respondents in community survey, Menit Shasha Woreda Bench Maji zone southwest Ethiopia, January 2012-February 2012

Characteristics Variables		Numbers (N=639)	Percentages (%)
Age at interview	<20 years	14	2.20%
	20-24	94	14.70%
	25-29	270	42.30%
	30-34	157	24.60%
	>35 years	104	16.30%
	Mean ± SD	(29.612 ± 3.7223)	
Ethnicity	Menit	604	94.50%
	Others	35	5.50%
Occupation	House wife	560	87.60%
	Others	79	12.40%
Religion	Protestant	373	58.40%
	Traditional Religion	266	41.60%
Marital status	Married	618	96.70%
	Others	21	3.30%
Family size	2-Jan	19	3.00%
	4-Mar	232	36.30%
	>=5	388	60.70%
Family income	<150 Birr/month	372	58.20%
	>150 Birr/month	267	41.80%
Mothers educational status	Unable to read and write	630	98.60%
	Able to read and write	9	1.40%
Husbands education status	Unable to read and write	529	82.80%
	Able to read and write	110	17.20%
Husbands attitude	Positive	112	17.50%
	Negative	213	33.30%
	I don't know	314	49.10%
Movement of family during last pregnancy	Yes	96	15.00%
	No	543	85.00%
Knowledge of mothers about ANC	Good knowledge	117	18.30%
	Poor knowledge	522	81.70%
Polygamy (more than one wife)	Yes	248	38.80%
	No	391	61.20%

Antenatal Care Services Utilization

Out of the total women included in the study, 99 (15.5%), had at least one prenatal visit during their last pregnancy. Majority of these, 85 (85.6%), started their visit at the nearby health centre or health post, while 14 (14.4%) came for regular follow-up visits. Only 16 (16.2%) mothers visited ANC in their first trimester, 71 (71.7%) in their second trimester of pregnancy, and another 12 (12.1%) attended in their third trimester of pregnancy. Only 9 (9.1%) have four or more prenatal visit while 66 (66.7%) had two to three antenatal contacts and 24 (24.2%) reported to have one visit respectively (Figure 1).

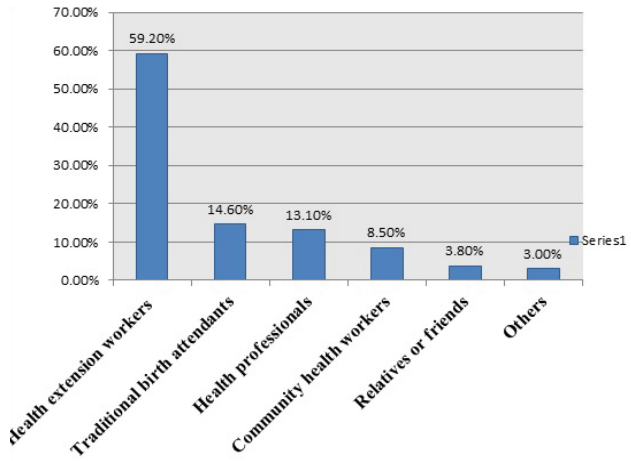

Figure 1 Percentage distribution of respondents' source of information about antenatal care services in Menit Shasha Woreda Bench Maji Zone south-west Ethiopia, January 2012-February 2012

During antenatal service follow up, 83 (83.8%) had one to three and 16 (16.2%) of the respondents had four or more doses of tetanus toxoid (TT) vaccine. The majority, 89 (89.8%) reported having received some health education on the different topic, 26 (26.3%) received prophylaxis for anemia and only 17 (17.2%) of the ANC users got VCT services. A lower proportion of the mothers, 246 (38.5%), knew one and more danger signs of pregnancy. Among the respondents, 191 (29.9%) reported that ANC check-up has benefits to mothers, 200 (31.3%) mentioned that it benefits only the child, while 83 (13.0%) mentioned its benefit for both the mother and child and 165 (25.8%) of the respondents didn't know to whom the service was specifically given. In case of a place of service, 66 (66.6%) of the respondents received the service from health centre and 33 (33.3%) of the respondents received service from the health post. The median duration of gestation at which the first ANC visit was made was 5.4 months. ANC users gave different reasons for their ANC initiation with 81 (81.8%) as result of facing some other kind of health problem. Regarding decision making, the majority including the antenatal care service, 351 (54.9%) said it was made by their husbands, 153 (23.9%) said it was made by themselves and 92 (14.4%) respondents said the decision was taken by both, while 43 (6.7%) respondents said other family members make the decisions. Concerning the problems with recent pregnancy, the majority 446 (69.8%) did not have any illness but 193 (30.2%) had experienced some health problems. The majority 296 (46.3%) of the respondents had reported as they don't know their husbands attitude towards the antenatal care services and others maternity care services among which 116 (18.2%) were reported as positive. With regard to geographical access, the majority (88.7%), had access with <60 minutes' walk and 420 (65.7%) of respondents said it was far away (Tables 2 and 3).

Table 2 Antenatal care services utilization characteristics among ANC mothers in pastoralist community survey, Menit Shasha Woreda Bench Maji zone southwest Ethiopia, January 2012-February 2012

Characteristics Variables	Numbers N=99	Percentage (%)
Received ANC services		
Yes	99	15.5%
No	540	84.5%
Total	639	100.0%
Main reasons initiated to utilized ANC services		
Health problems	81	81.8%
To start regular check up	18	18.2%
Total	99	100.0%
Place of ANC services received		
Health canter	66	66.7%
Health post	33	33.3%
Reasons for choosing health institution		

Near to my home	85	85.6%
Conducive service time	14	14.4%
Total	99	100.0%
Timing of first ANC services received		
1-3 months	16	16.2%
4-6months	71	71.7%
7-9months	12	12.1%
Total	99	100.0%
Frequency of ANC received		
1 visits	24	24.2%
2-3 visit	66	66.7%
>=4 visits	9	9.1%
Total	99	100.0%
Tetanus toxoid (TT) vaccine received		
Yes	99	15.5%
No	540	84.5%
Total	639	100.0%
Number of tetanus toxoid vaccine received		
One doses	10	10.1%
Two-three doses	73	73.7%
4+ doses	16	16.2%
Total	99	100.0%
Tetanus toxoid vaccine card presence		
Yes seen	85	85.9%
Others	14	14.1%
Total	99	100.0%
Health education received during ANC follow up		
Yes	89	89.9%
No	10	10.1%
Total	639	100.0%
Prophylaxis for anemia		
Yes	26	26.3%
No	73	73.7%
Total	99	100%
VCT services received during ANC follow-up		
Yes	17	17.2%
No	82	82.3%
Average waiting time during ANC follow-up		
<20 minutes	70	70.7%
>20 minutes	29	29.3%
Total	99	100.0%
Do you think Waiting time as a problem		
Yes	44	44.4%
No	55	55.6%
Total		
Perception of distance from health facility		
Very close	68	68.7%
Average	31	22.3%
Total	99	100.0%

Table 3 Knowledge and attitude related to Antenatal care services utilization among ANC mothers in pastoralist community survey, Menit Shasha Woreda Bench Maji zone south-west Ethiopia, January 2012-February 2012

Characteristics Variables	Numbers (n=651)	Percentage (%)
Belief about risk of pregnancy		
Yes	246	38.5%
No	393	61.5%
Total	639	100.0%
Benefit of ANC follow up		
For mothers	191	29.9%
For babies	83	13.0%
For both	200	31.3%
I don't know	165	25.8%
Total	639	100.0%
Husband attitude towards ANC services		
Positive	112	17.5%
Negative	213	33.3%
I don't know	314	49.1%
Total	639	100%
Who decide to utilize ANC services		
My self	153	23.9%
Husband	351	54.9%
Both	92	14.4%
Others	43	6.7%
Total	639	100.0%

Association between ANC visits and related factors

We tried to test the relationship of predictor variables and ANC visit using bivariate and multivariate logistic regression statistical test. Accordingly, all independent variables found to be significant at 0.25 levels in the bivariate analysis were put into multivariate analysis taking the significance level to be at $p<0.05$. The multivariate logistic regression test analysis showed that there was the statistically significant difference between husbands' education level, polygamy (husbands those who have more than one wife), a visit by health extension workers, parity, accessibility (walking distance from home to health institution nearby) and age at first pregnancy and ANC utilization.

The husbands' education status was significantly related to antenatal care services utilization at (p=0.0001). This means the level of ANC use by mothers who live with their husbands and cannot read and write decrease by 79% when compared to mothers who live with husbands and can read and write (AOR 0.21, 95% CI 0.011, 0.042). This is consistent with a study done in the Philippines, which concluded that husband's educational level is a stronger predictor than woman's education. This might be related to other social structure of the community. This was also supported by qualitative finding which reflects the male dominancy. Also in the area there is need to have a child, this is the reason why they don't allow their wife to visit health institution in a fear of using family planning. The result also showed that mothers whose husbands have more than one wife were 4.0 times (AOR 4.026, 95% CI 2.116, 7.660) more likely to utilize antenatal care services when compared to those who were single (p=0.0001).

On the other hand, women who were visited by health extension workers during recent pregnancy were 4.8 times (OR 4.042, 95% CI 1.982, 8.244) more likely to receive antenatal care services as compared to women who were not visited by health extension workers during their recent pregnancy (p=0.0001). This might indicate that level of awareness about the ANC services and trend of antenatal care services utilization in pastoralist community becoming improved due to the implementation of health extension program. This implies that there is limited access to the source of information about antenatal care services rather than the presence of health extension workers (Figure 2).

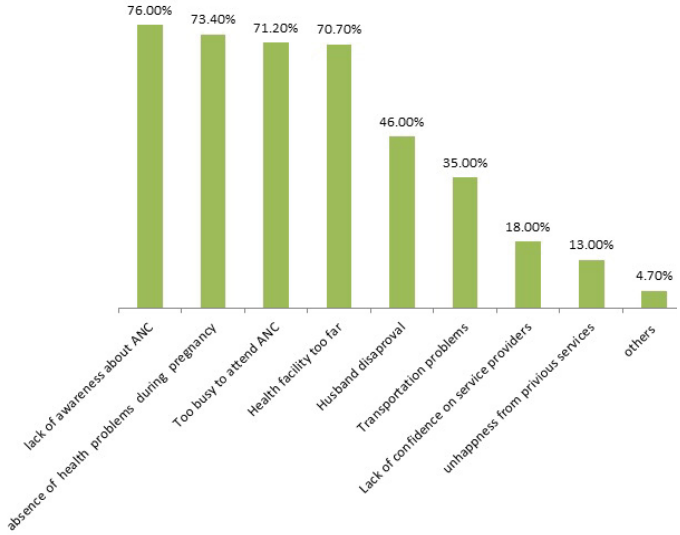

Figure 2 Main reasons for not attending antenatal care in pastoralist community, Menit Shasha Woreda Bench Maji Zone South-West Ethiopia, January 2012-February 2012

The age at first pregnancy is significantly related to ANC attendance (p=0.04). Mother in lower age category (<20 years of age) were 3.7 times more likely to utilize ANC compared to mothers in age group >20 years at first pregnancy (AOR 3.727, 95% CI 1.289, 10.773). This could be attributed to the age difference between the two age categories that make it more compelling for younger women to seek ANC services (Figure 3).

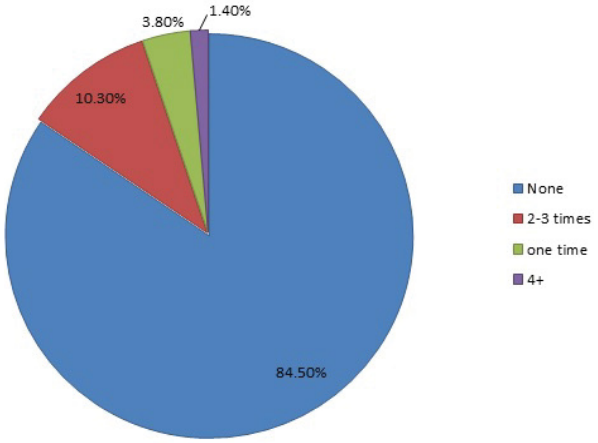

Figure 3 Percentage distribution of antenatal care service utilization in Menit Shasha Woreda Bench Maji Zone South-West Ethiopia, January 2012-February 2012

Average time taken to access health institution nearby from home is also significant at strong predictor (p=0.008) of antenatal care services utilization. Women in the area who travel on an average <60 minutes were 4.0 times more likely to utilize antenatal care services when compared to those who travel >60 minutes in the study area (AOR 4.214, 95% CI 1.025, 17.325) (Table 4).

Table 4: Association between ANC visits and related factors among ANC mothers in pastoralist community, in Menit Shasha Woreda Bench Maji zone southwest Ethiopia, January 2012-February 2012

Variables	Antenatal care utilization		Crude		Adjusted	
	No N (%)	Yes N (%)	OR	95% CI	OR	95% CI
Visit by health extension workers						
Yes	291 (53.9%)	84 (84.8%)	(0.268)	(1.329-10.516)	(4.042)	(1.982-8.244)
No	249 (46.1%)	15 (15.2%)	1	-	-	-

Age at marriage						
<18 years	157 (29.1%)	30 (30.3%)	0.943	(0.591-1.504)	-	-
>18 years	383(70.9%)	69 (69.7%)	1	-	-	-
Age at first pregnancy						
<20 years	278 (51.7%)	35 (35.7%)	(1.925)	(1.232-3.008)	(3.727)	(1.289-10.773)
>20 years	260 (48.3%)	63 (64.3%)	1	-	1	-
Age at last pregnancy						
<20 years	13 (2.4%)	3 (3.0%)	1.131	(0.271-4.715)	-	-
20-24 years	127 (23.5%)	18 (18.2%)	0.694	(0.300-1.609)	-	-
25-29 years	266 (49.3%)	56 (56.6%)	1.032	(0.493-2.159)	-	-
30-34 years	85 (15.7%)	12 (12.1%)	0.692	(0.278-1.718)	-	-
35-49 years	49 (9.1%)	10 (10.1%)	1	-	-	-
Total number of pregnancy						
1-2	143 (26.5%)	16 (16.2%)	0.551	(0.286-1.064)	-	-
3-4	259 (48.0%)	55 (55.6%)	1.047	(0.635-1.725)	-	-
≥ 5	138 (25.6%)	28 (28.3%)	1	-	-	-
Gravidity						
1	60 (11.1%)	15 (15.2%)	1.37	(0.675,2.782)	-	-
2-4	343 (63.5%)	59 (59.6%)	0.943	(0.567-1.567)	-	-
≥ 5	137 (25.4%)	25 (25.3%)	1	-	-	-
Parity						
1	39 (7.2%)	2 (2.0%)	0.324	(0.073-1.438)	-	-
2-4	362 (67.0%)	75 (75.8%)	1.309	(0.783-2.188)	-	-
≥ 5	139 (25.7%)	22 (22.2%)	1	-	-	-
Planned pregnancy						
Yes	448 (83.0%)	76 (76.8%)	0.679	(0.404-1.139)	-	-
No	92 (17.0%)	23 (23.2%)	1	-	1	-
Belief about risk of pregnancy						
Yes	155 (28.7%)	38 (38.4%)	1.547	(0.991-2.417)	-	-
No	385 (71.3%)	61 (61.6%)	1	-	-	-
Accessibility (walking distance)						
<60 minutes	471 (87.2%)	96 (97.0%)	(4.688)	(1.445-15.204)	(4.214)	(1.025-17.325)
>60 minutes	69(12.8%)	3 (3.0%)	1	-	-	-

Qualitative Result

Five focus group discussions were conducted with participants including women, husbands, community leaders and health extension workers. A total of 39 participants were involved in the five groups. The focus group discussions were intended to explore and clarify their views in a subjective way within the findings of the quantitative part of the study and to benefit from the group interactions in getting further deeper insight on the socio-cultural and individual issues that impinge on antenatal care services utilization in the pastoralist community. Four focus group consisted of eight members but one group with seven members that were homogenous in sex but drawn from different kebeles of the Woreda those who were not involved in survey data interview. One group consists of only health extension workers who were working in different kebeles of the woreda with more than two years of work experience. The participants selected purposively based on their willingness to participate in the discussion. Thus the first and the second group were taken from females of different age groups, the third and fourth group consists of husbands and community leaders, and the fifth group consists of health extension workers. The focus group discussion moderated by the principal investigator, and Amharic and Menitgna language speaker, BSc nurse through interpreters to the local language Menitigna, and then translated into Amharic.

In the presentation of the results, quotes originated from the FGDs are indicated from women, husbands, community leaders and health extension workers.

What is an antenatal care service?

The majority of the participants didn't understand clearly what maternal health care services and antenatal care in both

women and men group discussions but, women group relatively had better knowledge than men. The health extension workers group have a good understanding based on the question. They misunderstood the services between family planning and antenatal care.

What are the major factors associated with antenatal care services utilization in your community?

In pastoralist community, women have many responsibilities social and cultural accepted practices, lack of awareness about the service, husband attitude towards maternal health care services and the community value for females considering as an asset related to the marriage means of income. A woman aged 40 years said from kilu kebele "we women are less privileged in the community due to different social and cultural problems the main one is giving birth alone, it came from our ancestor so that we are practicing. Nowadays, there are some improvements due to start of health extension program in our community".

What kind of problems do mothers have related to antenatal care service utilization in your community?

The majority of the participants' women group raised the reasons for not utilizing the antenatal care in the pastoralist community which included primarily lack of awareness as the first one and in general there was no health service utilization trend before in pastoralist community that is why most of the pregnant women didn't visit health institution. In addition, fear, sham husband disapproval was also included. The main reason for this was every man and women need to have sex due to social value, economic and cultural reasons. In addition, they had a heavy workload, making them unaware of pregnancy-related complications. Some of the participants perceived that ANC had no advantages.

One woman married at an age of 31 years from Era kebele said that "most of the time we women have many responsibilities like taking care of our children, and we are engaged in farm and household activities. Therefore, even though we know the presence health extension workers in our kebele, we don't have time to go to visit health extension workers not only for antenatal care services but also any maternal health services we need the permission of our husbands. For example, I have six children, how could I go to the health facilities leaving them alone at home? Due to this reasons, I decided not to go".

Why is antenatal care not used?

Antenatal care service utilization had not practiced before in pastoralist community. This is due to different social, cultural, political and health system which has implication in the current health status of the women. Thanks to the Ethiopian government, we got to focus now every aspect special mothers and child health services addressed to our house, but our main problem is a misunderstanding of the community related with family planning and other maternal services. From health extension group, husbands influence their wives whether to utilize not antenatal care services but also other maternal services, this is due to fear of family planning. The women have the tendency to visit the health post when they get ill or complication during delivery. As the solution increased women awareness and male involvement to improve the antenatal care service utilization in the community has been recommended by health extension workers.

A man age 45 years from kudum kebele said: "we men had influenced our wives about benefit and importance of the maternal health services that the government is providing for the betterment". A woman aged 28 years from bukitu kebele said: "even if we get information about antenatal care services from health extension workers due to fear of our husbands we didn't use the services but, for the future, I agreed with my husband to get the services". Religion, traditional and cultural factors are related to the antenatal care services utilization in the pastoral community. There are a number of factors related to their way of life and living environment, living husband, and wife in different house and bedding, not allowing their wife to be seen by health professional cultural prohibited, preventing their wives to visit health extension workers and health institution due to fear of utilizing family planning and stop pregnancy. This might be the need for having many children in the community which is a social value. Moreover, there are sex preferences due to the cost paid for a female to marry.

An old man, aged 51 years from Kuju kebele said that" pregnant women in our society are not allowed to visit health institution since it is a recent practice, earlier they give birth by themselves and we marry them by paying a lot of money, that is why we care for them. We consider them as a measure of status in the community.

DISCUSSION

This community based cross-sectional study tried to assess factors affecting utilization of antenatal care services in pastoralist community. In addition, the study tried to explore social and cultural factors related to antenatal care services utilization. So far most studies on this topic have been limited to the highland areas of the country with little information which was institution based. According to the WHO recommendation, every pregnant woman should receive at least four ANC visits during pregnancy [9]. However, in this study, only 99 (15.5%) of the mothers had at least one visit and less than two percent (1.4%) had the recommended four and above ANC visits. This is inconsistent with the report from EDHS, 2011 where 26% of rural mothers had ANC visit from nurse/midwife and health extension workers and similar study in Yem Liyu woreda [10]. This might be due to the difference in access as this study considered only pastoralist mothers having less access to the service while the EDHS is comprehensive from rural kebeles of the country as well as time gap might have contributed to the difference and setting matters too. ANC is more effective in preventing adverse pregnancy outcomes when it is sought early in pregnancy and is continued throughout pregnancy [11]. Only 16.3% of the pregnant women from ANC users in this study made their first prenatal visits before the fourth month of pregnancy. This indicates that, majority of women in the study area start ANC at relatively late stage of pregnancy. The visits were not in need of antenatal care services but, from ANC users pregnant mothers (81.8%) received ANC at time when they face other health problems. Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, a major cause of early infant death in many developing countries, which often failed to observe hygienic procedures during delivery [12]. From ANC users about 73% of the mothers who attend ANC received at least two injections of tetanus toxoid during last pregnancy. The difference with that of ANC service coverage may be due to husband and wife decision attributed to the receiver of TT vaccination. This also may indicate the health extension or health workers follow up/counseling at first ANC visit. This study confirmed that the utilization of ANC among women with sufficient knowledge about the benefits of ANC and the complications occurring during pregnancy was higher among women lacking such knowledge. Study by Marshall, et al., and Ghobashi, et al., have supported our findings [13,14].

Therefore, each respondent's knowledge has played a very important role in the utilization of ANC, encouraging pregnant women to seek and accept ANC services. Similarly, previous studies have emphasized the importance of raising awareness among women about reproductive age, especially among the uneducated. Improving knowledge about the benefits of ANC for pregnant women is an important element in enabling them to enrich their experiences as well as supporting their effort to better appreciate ways to protect their health and that of their children. Moreover, once they become knowledgeable about ANC, they will take better care of their own health which is one of the main philosophies of health extension program in Ethiopia. Healthy mothers who regularly visit ANC during pregnancy will greatly enhance their family's health. A diminishing rate of maternal and child mortality will also reduce a family's expenses and ensure their children's good health. As the findings suggest husbands were a more influencing factor in the pastoral community due to different social and cultural reasons, due to this working on husbands attitude is very important to improve the utilization of services in the area. A good attitude is the most valuable pre-condition for any healthy behavior. Our study showed that women who had a husband with a positive attitude towards ANC had a higher proportion of ANC visits than those with a negative attitude. This finding was inconsistent with that of previous studies which focus on mothers who receive the services but, this study focuses on mothers who receive the services with their husbands. In many ways, changing attitudes and behavior are the most challenging tasks, even if designing proper strategy to address the knowledge, attitude and other contextual issues. It is better to address it in coordination with the existing programs. Our findings also revealed that the use of ANC was higher among women who live with their husbands and who can read and write so adolescent education program will be a good opportunity to fill this gap in pastoralist community.

CONCLUSION

The results of this study confirmed that the utilization rate of ANC services is very low in the Meinit Shasha woreda. The main factors influencing the utilization of ANC are the respondent's level of husbands educational status, marital status (polygamy), husbands attitude, access (walking distance) and a visit by health extension workers. Women of husbands those have some education got a home visit by health extension worker, and those who live nearer to health facilities were found more likely to ANC. Thus, it was recommended that the responsible bodies should focus on strengthening basic adult education, community health extension implementation with a special focus at home visit.

DECLARATIONS

Conflict of Interest

The authors have disclosed no conflict of interest, financial or otherwise.

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