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Assessment of Antenatal Care Utilization among Reproductive Age Group Women of Mizan-Aman Town, Southwest Ethiopia

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Abstract

Background: Pregnancy is one of the most important periods in the life of a woman, a family and a society. ANC (Antenatal Care) is special care for women during pregnancy through the public health services. The goal of ANC is to prevent health problems in both infant and mother and to ensure that each newborn child has a good start.

Objective: This study attempted to estimate the levels and also examines the patterns of ANC utilization in the study area.

Method: Community based cross sectional study design was used to assess utilization of ANC in Mizan-Amantown reproductive age group women. This study was conducted in Mizan-Aman town among reproductive age women from April to May 2013. Multi stage sampling technique was used in selecting the 388 study participants for data collection. Data was collected using structured questionnaire. The collected and cleaned data was entered in to Epidata 3.1 and then exported in to SPSS version 17 for statistical analysis. Then frequencies were calculated descriptively.

Results: Among 339 respondents 34 (10%) had no ANC follow up. From the mothers who had ANC follow-up 225 (74%) booked for it before or at 12 weeks. Out of 305 respondents with previous utilization of ANC those who were vaccinated only once were 18 (5.9%). For 301 (98.4%) blood pressure were measured every time they go for ANC follow up. For 300 (98.4%) weight was measured during each visit. For 304 (99.7%) laboratory examination was performed and for 125 (41%) height was measured. Eighty seven, (28.5%) of the respondents correctly named at least one of the danger signs during pregnancy. Decreased/absent fetal movement 55 (18%) followed by vaginal bleeding 85 (27.9%) were the common mentioned signs. Out of 386 respondents majority 98.4% waited for less than 2 hours and the remaining 1.6% for 2-4 hours.

Conclusion: ANC follow up of women of reproductive age group was found high. Addressing the major factors which affects the level of utilization of ANC is very important for the effective utilization of the service.

Keywords: Antenatal care; Utilization; Booking; Mizan-Aman

Introduction

Pregnancy is one of the most important periods in the life of a woman, a family and a society. ANC (Antenatal Care) is special care for women during pregnancy through the public health services. The goal of ANC is to prevent health problems in both infant and mother and to ensure that each newborn child has a good start. To achieve this objective, the service is organized into a booking (first visit) and a follow up clinic. The aims of the first visit are primarily to establish a rapport with the client and collect information to evaluate the state of health of the mother, and her preparedness for motherhood and chart the likely course of the pregnancy [1].

WHO (World Health Organization) recently recommended a reduction in the number of ANC visits because of evidence suggesting that having fewer ANC visits do not affect the outcomes of care. The newly proposed, focused ANC recognizes that every pregnant woman is at risk for complications. In this model, four ANC visits are recommended for most pregnant women. Ideally, the first visit during first trimester; the second, close to week 26; the third around week 32; and the fourth and final visit between weeks 36 and 38 [2].

In most developing countries, women of reproductive age constitute more than one-fifth of the total population. These women are exposed repeatedly to the risk of pregnancy and childbearing and, under existing socioeconomic conditions and the inadequacy of medical and health facilities, are at greater risk of morbidity and mortality from causes related to pregnancy. The death of women, who, in most developing countries plays the principal role in rearing of children and the management of family affairs, is important in social and personal

tragedy [3,4]. The child bearing functions of women, especially in developing countries, have been granted as a normal or routine process yet these valued and precious parts of daily functioning are among the most hazardous experiences that women often engage in without being aware of the risks that they are in [5].

Each year 3.3 million babies – or maybe even more – are stillborn, more than 4 million die within 28 days of coming into the world, and a further 6.6 million young children die before their fifth birthday. Maternal deaths also continue unabated – the annual total now stands at 529,000 [3].

The 2005 Ethiopian demographic and health survey (EDHS) has shown that only 28% of women received antenatal care and only 6% of women were assisted by a health professional for their most recent birth in Ethiopia, the maternal mortality was estimated to be 673 deaths per 100,000 live births and infant mortality rate was 77 per 1,000 live births, which is among the highest in the world [6].

The world population growth rate is very high compared with the

socio-economic development, particularly so in developing countries where 80% of the world children die. This population is largely unhealthy. Each year 14 million under-five years old children die and 2000 children die every hour [7].

The major factors affecting mother's utilization of Antenatal Care (ANC) are perception about the capacity of facilities, concerns about the attitudes of health workers towards community members, perception about the cost of the care lack of planning and preparation for pregnancy, inaccessibility of facility based delivery care. Women's health seeking behavior, however, is influenced by intervening social relation that may prescribe the range and extent of their autonomous action. In traditional patriarchal societies where restrictions are placed on a women's freedom of movement and contact with unrelated men, a husband's attitude toward prenatal care may be an important factor in determining whether such care is received [3,8-11].It is relevant to look into the problem so as to have to the basic information which will help for policy makers working ANC follow-up to design intervention measures. To achieve one of the millennium development goals and decrease maternal mortality conducting research on factors influencing ANC utilization is essential.

Knowledge on maternal health services is important in the development of plans to improve the level of utilization of ANC. Despite the fact that maternal health care utilization is essential for further improvement of maternal and child health, little is known about the levels and patterns of ANC service use in Mizan-Aman town. This study, therefore, attempted to estimate the levels and also examines the patterns of ANC utilization in the study area.

It is hoped that the results of the study will help improve policy-makers' understanding of the determinants of maternal and child mortality and morbidity in the area and serve as an important tool for any possible intervention aimed at improving the use of ANC services in the area.

Method

Study area and period

This study was conducted in Mizan-Aman town among reproductive age women from April to May 2013.Mizan-Aman town is the largest town and administrative center of Benchi Maji zone and located 561Kms to the south west of Addis Ababa, the capital of Ethiopia. Mizan-Aman has an elevation of 1451meters.The town was structured into 5 kebeles (sub-localities) and 2 sub-cities. The population of Mizan-Aman town was 334,491. Of which 18360 (53.23%) were males and 16131 (46.7%) were females .The economy of the town is widely based on trade of cash crops especially of coffee [12].

Study design

Community based cross sectional study design was used to assess utilization of ANC in Mizan-Amantown reproductive age group women.

Source population

The source population was all reproductive age group women of Mizan-Aman town.

Study population

Women of reproductive age who had delivery within the five years prior to the study

The sample size

The sample size for the study was estimated using single population proportion formula. Prevalence level of (86%) was considered from the report of a research conducted in Hadiya zone. Sample size was determined based on the following formula

$$n = \frac{Z_{a/2}^2 \; p\,(1\text{-}p)}{d^2}$$

Where

n=Sample Size; Z=1.96 p=0.86; d=0.05

Since we used multistage sampling, design effect of 2 was used and with 5% contingency the total sample size was 388.

Sampling method

Multi stage sampling technique was used in selecting the study participants for data collection. In the first stage, two kebeles (sub localities) were selected randomly by lottery method from 5 kebeles. In the second stage, villages were selected from each selected kebeles. Lottery method was used to select villages. Sampling fraction was allocated using population probability proportional to size of household unit in the selected villages and housing units was identified using systematic sampling technique. Finally, from each household unit, one individual who fulfill the eligibility was selected for the data collection. If there were more than one eligible, one of them was selected by a lottery method. If a selected household had no eligible individuals or refused interview, the next household was taken.

Data collection procedure

Data was collected using structured questionnaire. Different literatures were assessed for necessary data then the questionnaires developed in relation to the objective of the study by modifying the questionnaire from previous study. Questionnaire was developed first in English. The final version of the English questionnaire was translated to Amharic version and then back to English to ensure message consistency and coherency. Finally pretesting was carried out in 5% of population outside the study area. Three BSc nursing students who were fluent Amharic speakers and one supervisor were recruited and trained for data collection. Beside this, they were trained on their responsibilities for describing the purpose of the study, giving orientation, telling service users and providers the importance of honest and sincere reply, on responding to questions.

Data quality assurance

Thus training was given for both supervisors and data collectors for two days before the pretest of the questionnaire. Data collection tool was taken and modified from standard questionnaire. The principal investigator also checked the activities of the supervisors and data collectors randomly on daily basis. Data collectors were instructed to check the completeness of each questionnaire at the end of each interview. The quality of the data was assured through careful design, translation and retranslation and pretesting of the questionnaire, proper training of the interviewers and supervisors, close supervision of the data collectors and proper handling of the data. It was monitored frequently both in the field and during data entry.

Operational definitions

ANC utilization: Having at least two antenatal care visits.

Professionally assisted delivery (PAD): Deliveries that took place in a health facility.

Distance from health facilities: Based on a Proximity to health facilities individuals and groups who will be "near" (within 1 km) facilities, "far" from such facilities (5 to 10 km); and "very far" (i.e., more than 10 km)."

Data analysis

The unit of analysis for this study was women who had live birth in the last five years preceding the survey. The collected and cleaned data was entered in to Epidata 3.1 and then exported in to SPSS version 17 for statistical analysis. Then frequencies were calculated descriptively.

Ethical consideration

Before starting of the data collection process, ethical clearance was obtained from Mizan-Tepi University. Participants' confidentiality of information was assured by limiting the data exposure to the third party and the clients' name was excluded from data. Informed consent was obtained from study participants. They have been informed about objective of the study.

Results

Socio-demographic characteristics of the study participants

Out of 339 respondents (response rate of 92%) who responded to the interview 48 (12.4%) were in the age group of 15–19 years and 35 (9.1%) were in age range of more than 35 years. The ethnic composition of the respondents was Amhara (31.6%), Bench (26.2%), and Keffa (17.6%). Regarding respondents' religion, Orthodox religion accounted for 185 (47.9%) followed by Muslim, Protestant, and Catholic (Table 1).

ANC service utilization

Past history of ANC service utilization and timing of ANC visits: Among 339 respondents 34(10%) had no ANC follow-up and 90% had ANC follow up for last pregnancy (Figure 1). From the mothers who had ANC follow-up 225 (74%) booked for it before or at 12 weeks and 80 (26%) booked after 12 weeks of gestation (Figure 2).

Services provided during ANC follow-up: Out of 305 respondents with previous utilization of ANC those who were vaccinated only

Variable	Number	Percentage (%)
AGE IN YEARS		
15–19	48	12.4
20–24	198	51.3
25–29	50	12.9
30–34	55	14.2
35–39	30	7.8
>40	5	1.3
MARITAL STATUS		
MARRIED	309	80.1
DIVORCED	23	5.9
WIDOWED	42	10.9
SINGLE	12	3.1
RELIGION		
ORTHODOX	185	47.9
MUSLIM	99	25.6
PROTESTANT	84	21.8
CATHOLIC	12	3.1
OTHER	6	1.6
ETHNICITY		
AMHARA	122	31.6
BENCH	101	26.2
KEFFA	68	17.6
OROMO	42	10.9
TIGRIE	30	7.8
OTHER	23	5.9
EDUCATIONAL STATUS		
INFORMAL EDUCATION	34	8.8
PRIMARY(GRADES 1-8)	256	66.3
SECONDARY (GRADES 9-12)	78	20.2
POSTSECONDARY (12+)	18	4.7
OCCUPATION		
HOUSE WIFE	165	42.7
GOVERNMENT EMPLOYED	43	11.1
OTHER	178	46.1

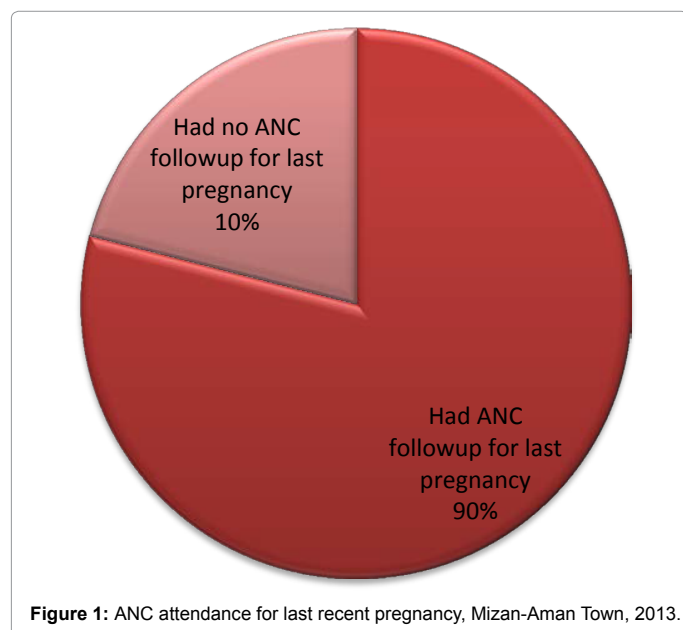**Table 1:** Socio-demographic characteristics of respondents, Mizan-Aman, 2013(n=339).
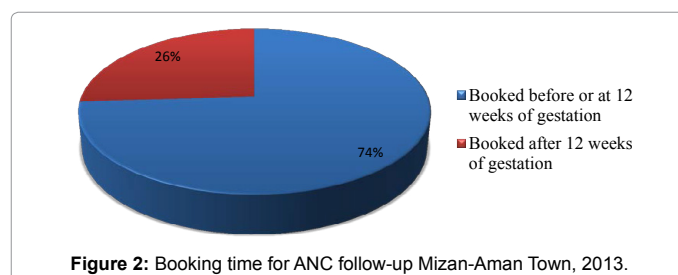

Figure 2: Booking time for ANC follow-up Mizan-Aman Town, 2013.

once were 18 (5.9%). For 301 (98.4%) blood pressure were measured every time they go for ANC follow-up. For 300 (98.4%) weight was measured during each visit. For 304(99.7%) laboratory examination was performed and for 125 (41%) height wasmeasured each time they go for ANC (Table 2).

History of the most recent pregnancy ANC utilization: Out of 305 respondents, 98 (32%) of respondents responded that they had received advise on ANC use before first booking while 207 (67.8%) did not receive advise from any one before first booking. Majority (55.1%) received advice from their husbands, followed by friends, mothers,

Figure 1: ANC attendance for last recent pregnancy, Mizan-Aman Town, 2013.

Variable	Number	Percentage
TT vaccinated		
Never	4	1.3
Once	18	5.9
Two or more	283	92.8
Blood pressure measured		
Yes	301	98.7
No	4	1.3
Weight measured		
Yes	300	98.4
No	5	1.6
Laboratory tests performed		
Yes	304	99.7
No	1	0.3
Height measured		
Yes	125	41
No	180	59

Table 2: Services delivered during ANC follow up of respondents, Mizan-Aman, 2013(n=305).

Variable	Number	Percentage
Received advise on ANC		
Yes	98	32
No	207	67.8
Received Advice on ANC from		
Health professional	54	55.1
Friend	6	6.1
Mother	9	9.2
Husband/Spouse	5	5.1
Sister	8	8.2
Other	16	16.3
Advice includes time of booking? (n=98)		
Yes	96	98
No	2	2
Advise time(n=98)		
Advised to seek care before or at 12 weeks of gestation	79	80.6
Advised to seek care after 12 weeks of gestation	19	19.4

Table 3: History of the most recent pregnancy ANC utilization. Mizan-Aman, 2013 (n=305).

sisters, community health workers and other individuals. Ninety six (98%) respondents reported that they were informed when to book from their advisors. Among 96 respondents who were informed when to be booked ANC, 79 (80.6%) were informed the correct time was before or at 12 weeks of gestation while the rest 19 [19.4%] were informed the correct time was after 12 weeks of gestation (Table 3).

Knowledge and Attitude about pregnancy service: Eighty seven, (28.5%) of the respondents correctly named at least one of the danger signs during pregnancy. Decreased/absent fetal movement 55 (18%) followed by vaginal bleeding 85 (27.9%) were the common mentioned signs (Figure 3).

Discussion

In this study, it was learnt that close to 90% of women sought at least one ANC from modern health care providers. However, a considerable number did not have the minimal number of visits (four) as recommended by the WHO [4]. This study finding was not consistent with the EDHS (2000) in Ethiopia in the respective region, which showed that women received professionally assisted antenatal care only
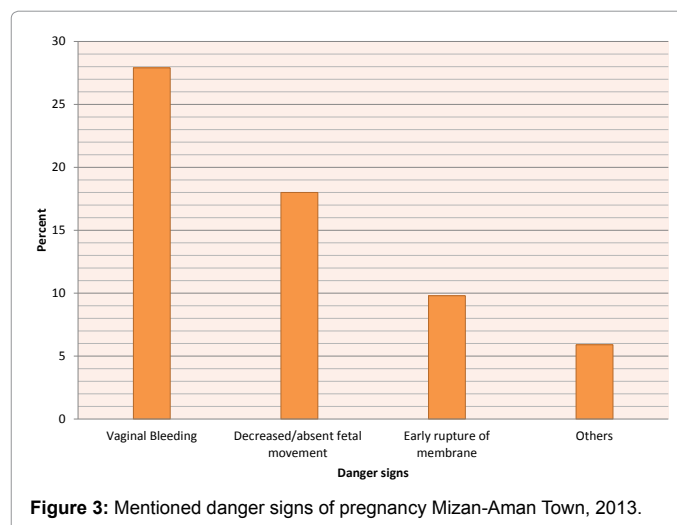

Figure 3: Mentioned danger signs of pregnancy Mizan-Aman Town, 2013.

about 27% [7]. This might be due to the fact that EDHS (2011) Ethiopia was conducted in both rural and urban areas where as our study was exclusively urban environment. However, the study conducted on assessment of safe delivery utilization in Yem and Metekel town showed similar findings, which were 88.5% and 79.8% respectively [13,14].

In this study, only about 74% of respondent had started their ANC within the recommended time and the rest 26% were booked late. A cross sectional study conducted on 2007 in Metekel showed that 55.1% started their visit during their second trimester and only 248 (48.0%) had the recommended four or more visits [14]. A study conducted in Yem, southwestern Ethiopia showed that 49.2%were booked late [13].

Vaccination is provided for the mothers during the ANC follow-up in the health setups. This vaccination is provided for them as a prophylaxis against tetanus which is also helpful for the children too. Based on the data collected in this study area on reproductive age group women vaccination level of utilization, it was found that 5.9% were vaccinated for tetanus only once and 92.8% received two or more vaccines during their attendance period of ANC in the health institutions. This finding was comparable with the finding of cross sectional study conducted in Metekel, north western Ethiopia (90.9% received tetanus toxoid (TT) vaccine and 81.7% of them had received TT2 and above) [14].

In this study, 32% of respondent reported that they received advice on ANC before being booked. Majority of respondents who were advised on the service were told when to book. Among respondents who have informed when to book ANC, 80.6% reported as they were informed to be booked within 12 weeks of5gestation.These finding was similar with the study conducted in Metekel, north western Ethiopia [14]. This suggested that proper information and advice on pattern of ANC utilization is important to book early than other factors.

Conclusion

ANC follow up of women of reproductive age group was found high. Addressing the major factors which affects the level of utilization of ANC is very important for the effective utilization of the service.

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