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Maternal Antenatal Care Service Satisfaction and Factors Associated with Rural Health Centers, Bursa District, Sidama Zone, Southern Ethiopia: A Cross-sectional Study

Tesfaye T[1]*, Mekonnen H[2] and Negesa L[1]

[1]Haramaya University, College of Health and Medical Science, Harar, Ethiopia

[2]Addis Ababa University, School of Public Health, Addis Ababa, Ethiopia

*Corresponding author: Tamirat Tesfaye D, Haramaya University, College of Health and Medical Science, Harar, Ethiopia, Tel: +251938611577; E-mail: tesfaye_tamirat@yahoo.com

Abstract

Introduction: Pregnancy and childbirth are natural and often eventful processes many women are at risk for developing complications during pregnancy and childbirth. Complications of pregnancy and childbirth are the leading causes of disability and death among women in the reproductive age (15-49) years in developing countries. Some studies have estimated that ANC alone can reduce maternal mortality by 20% given good quality and regular attendance. Measuring the components of ANC is essential for assessing the assessing maternal ANC service satisfaction. Pregnancy complications are a primary source of maternal and child morbidity and mortality.

Objectives: The study was aimed at assessing maternal antenatal care service satisfaction and factors associated with, in rural health centers, Bursa District, Southern Ethiopia.

Method: Facility based cross-sectional study was conducted in rural health centers in Bursa District from March to April 2014. Four rural health centers were selected purposively and systematic random sampling technique was used to select the study subjects. SPSS for windows (version 20) was used for statistical analysis. The magnitude of association between independent variables and dependent was measured using odds ratios and 95% confidence interval and P-values below 0.05 was used to declare statistical association.

Results: Two hundred ninety participants responded the questionnaire making 100% response rate. The mean age was 27.3 years with ± 5.4 SD. Overall Antenatal Care (ANC) satisfaction was 33%. The likelihood of maternal ANC service satisfaction was lower among women secondary and above educational level [AOR=0.14, 95% CI=(0.03-0.78)], Pregnant women who had unplanned current pregnancy [AOR=0.56, (95% CI)=(0.33-0.97)] and those women who had started first visits of ANC after 4 months of pregnancy [AOR= 0.29, 95% CI, 0.11-0.79].

Conclusions: The overall maternal ANC service satisfaction in this study is found to be suboptimal. The study strongly suggests that more could be done to assure that services provided are more standard. This study also revealed several constraints in the provision of ANC services which can be implied as areas of possible improvement, including laboratory investigation, longer waiting time, and poor consultation.

Keywords: Satisfaction; Antenatal care; Pregnancy; Reproductive health

Introduction

Pregnancy and childbirth are natural and often eventful processes many women are at risk for developing complications during pregnancy and childbirth. Complications of pregnancy and childbirth are the leading causes of disability and death among women in the reproductive age (15-49) years in developing countries [1].

Globally, an estimated 287,000 maternal deaths occurred worldwide in 2010. Among these maternal deaths, 56% occurred in Sub-Saharan Africa [2]. The maternal mortality ratio in Ethiopia is strikingly high and has stagnated at 676 per 100,000 live births [3]. The majority of maternal deaths could be avoided if women had access to quality medical care during pregnancy, childbirth, and postpartum [4].

Improving quality of care in reproductive health is one of the key issues emphasized at the time of International Conference on Population and Development [5].

ANC refers to pregnancy related health care provided by health worker in a health facility or home [6]. ANC is the key entry point of a pregnant woman to receive broad range of health promotion and preventive services that promote the health of the mother and the baby [7].

ANC assessment and screening enables early detection and treatment of complications and provides women at risk with an opportunity for referral. It is an entry point to skilled care at delivery, adequate postpartum care, Prevention of Mother to Child Transmission (PMTCT) for HIV and AIDS prevention, nutritional counseling, and health education, thus promoting integrated service delivery for women [8,9].

Some studies have estimated that ANC alone can reduce maternal mortality by 20% given good quality and regular attendance. Measuring the components of ANC is essential for assessing the assessing maternal ANC service satisfaction. Pregnancy complications are a primary source of maternal and child morbidity and mortality. Therefore, pregnant women should routinely receive information on the signs of complications and be tested for them at all ANC visits [10,11].

Woman need to have plan for birth, where to give birth and about transportation. Birth preparedness also includes preparing different items like money for medical care and drug. Maternal and fetal risk increase due to close term ANC visit, low quality health care service, poor infrastructure and maternal complications from diseases like TB, Malaria, Anemia and Sexually transmitted diseases [12-14].

The quality of ANC can be measured by the qualifications of the provider and the number and frequency of ANC visits. ANC quality is monitored through the maternal ANC service satisfaction and the kinds of information given to women during their visits. These services raise awareness of the danger signs during pregnancy, delivery, and the postnatal period. They also improve the health-seeking behavior of the client, orient the client to birth preparedness issues, and provide basic preventive and therapeutic care [3].

Despite the fact that maternal ANC service satisfaction level is important for further improvement of maternal and child health, maternal ANC service satisfaction was not studied in southern Ethiopia in particular Sidama Zone. Therefore, the study was aimed at assessing maternal ANC service satisfaction and factors associated with, in rural public health facilities in Sidama Zone, Bursa district using primary data.

Methods

Study setting

The study was conducted in health facilities of Bursa district in the Sidama Zone, Southern Ethiopia. Bursa district has an estimated population of 126,134. Out of the total population 63,151 are females. There are 5 health centers and 28 health posts. Bursa district is located at 96 km away from Hawassa city and 369 km away from Addis Ababa.

Study design and sampling procedure

A facility based cross-sectional study was conducted in four rural health centers in Bursa district, from March-April 2014. Sample size was determined using single population proportion, taking 95% confidence level with margin of error of 5% and Proportion of satisfaction of women which is 22% [15].

Adding 10% for non-response rate the final sample size was 290. Four rural health centers were selected purposively and systematic random sampling technique was used to select the study subjects from each facility. The total calculated sample was proportionally allocated to each health center based on case flow data gained from annual report of each health facility.

Data collection

Data was collected on exit using interviewer administered structured questionnaires adopted from World Health Organization (WHO) safe motherhood initiative. The questionnaire was translated to the local language (Sidamigna) by experts in both languages and back translated to English by another person to ensure consistency and accuracy. The questionnaire was pre-tested in health center out of the study site. After pre-test, some modification of the questionnaire was made. Four diploma nurses for data collection and two BSc nurses for supervision were recruited.

To assure the data quality, one day training was given for the data collectors and supervisors. The collected questionnaires were reviewed and checked for completeness and consistency by the supervisors and principal investigator and necessary feedback was offered on daily basis.

Variables and Measurement

The primary outcome variable was client satisfaction towards the antenatal care services. Client, satisfaction was measured using ten items questions related to satisfaction during examination, respectfulness, time concern, advice and information provided and personnel.

Clients who scored 80% or more were said satisfied as per WHO standard and those who scored below 80% were classified as not satisfied. Independent Variables in this study were Socio-economic status of mothers such as; age, education level, marital status, monthly income, antenatal visit and parity.

Statistical Analysis

Each completed questionnaires were assigned a unique code. The data was entered using Epi info version 3.0. And SPSS for windows (version 20) was used for statistical analysis. Those variables which were found to have an association with the outcome variable at $P<0.05$ were entered to multivariate logistic regression to test for independent association.

The magnitude of the association between the different independent variables in relation to dependent was measured using odds ratios and 95% confidence interval (CI). P-values below 0.05 were used to declare statistical association.

Ethical Considerations

The Institutional Review Board (IRB) of College of Health Sciences, Addis Ababa University, approved the research for scientific and ethical integrity. Clients were provided with information about the objective of the study, privacy and confidentiality ahead of data collection.

Results

Socio-demographic characteristics of study participants

About 290 participants responded to the questionnaire making 100% response rate. The mean age was 27.3 years with ± 5.4 SD.

The majority of the respondents (84.1%) were in age range of 20 to 34 years. Two hundred sixty eight (92.4%) were Sidama ethnic group and 255(87.9%) were protestant in religion.

One hundred seventy two (59.3%) of the clients had not ever attended school and 111(38.3%) respondents had attended primary school.

About three fourth of the study subjects had monthly income below 500 birr (Table 1).

Variables	Number (n)	Percentage (%)
Age in years		
<20	13	4.5
20-34	244	84.1
≥ 35	33	11.4
Mean ± SD		27.3 ± 5.4
Ethnicity		
Sidama	268	92.4
Amhara	20	6.9
Others (woliata, Gedo)	2	0.7
Marital status		
Married	288	99.3
Divorced	2	0.7
Religion		
Protestant	255	87.9
Orthodox	16	5.5
Catholic	19	6.6
Education status		
Can't read and write	172	59.3
Primary	111	38.3
Secondary and above	7	2.4
Income per month		
≤ 500	221	76.2
>500	69	23.8

Table 1: Socio-demographic characteristics of pregnant women attending Antenatal care at Rural Health Centers, Bursa district, Southern Ethiopia, 2014, (n=290).

Previous maternal status and current pregnancy

Out of total study subjects, two hundred sixteen (74.5%) of the interviewed mothers had come for their second or more pregnancy, while 74 (25.5%) of women had come for their first pregnancy.

At the time of the study, one hundred sixty six (57.2%) of study subjects reported that their pregnancy was planned. From the total study participants (96.6%) of women came for their first, second or third ANC visit and only 3.4% of them came for fourth ANC visit.

One hundred eighty seven (64.5%) women were at their first or second trimester of pregnancy while 35.5% of interviewed mothers were at their third trimester of pregnancy. Two hundred fifty three (87.2%) women started their first visits of ANC after four months of

pregnancy and (12.8%) started their ANC follow up within the first four months of pregnancy.

Maternal ANC service satisfaction

Client satisfaction was rated by 10 satisfaction questions. Respondents were categorized as not satisfied (if they score below 80%) or satisfied (if they score ≥ 80%). According to this study, only 97(33.4%) of the mothers participated in the study were satisfied with ANC service and the remaining majority 193(66.6) were not satisfied with the service. Clients were highly satisfied with general physical examinations (83.3%) and explanation of the results of examination (74.5%).

The main reason given by respondents for non-satisfaction with the over-all quality of care received in the rural health centers were absence of routine laboratory pregnancy related tests. Also one hundred forty three (49.3%) of interviewed women were dissatisfied with the explanations of danger sign that arise during pregnancy (Table 2). The mean waiting time for the service was 66.81 minutes and the mean consultation time was (7.90 ± 4.68) minutes.

Types of Variables	Yes	Percentage (%)
Provider performs general examination	241	83.1
Provider explain procedures before examination	155	53.4
Provider explain the results of examination	216	74.5
Confidentiality discussion providers with clients	151	52.1
Provider treats clients respectfully	212	73.1
Waiting time was fair for examination	156	53.8
Explain types of laboratory investigation satisfactory way	57	19.7
Explain dander sign complication arise during pregnancy	143	49.3
Satisfaction of all over received a health advice	210	72.4
Generally, you are happy with all the services you have got today	203	70
Overall satisfaction	97	33.4

Table 2: Level of client's satisfaction based on following points of Antenatal care services in rural public health centers of Bursa District, Southern Ethiopia, 2014 (n=290).

Factors associated with client's satisfaction

A multiple logistic regression statistical model analysis was performed in order to identify factors associated with level of satisfaction of the pregnant women. After adjusting for other factors, pregnant women whose education level was secondary and above were less likely satisfied with ANC services compared to those whose education level were cannot read and write [AOR=0.14, 95% CI=0.03-0.78].

Pregnant women who had unplanned current pregnancy were 0.57 times less likely satisfied than those who had planned current

pregnancy [AOR=0.56, (95% CI)=(0.33-0.97)]. Level of satisfaction of the study participants had also a significantly associated with their timing of first visits for present pregnancy.

Those women who had started first visits of ANC after 4 months of pregnancy were less likely satisfied than who had started before 4 months of pregnancy [AOR=0.29, 95% CI, 0.11-0.79] (Table 3).

Variables	Category	Crude OR (95% CI)	Adjusted* OR (95% CI)
Age in years	<20	1	1
	20-34	0.32[0.07-0.15]	2.74[0.94-7.97]
	≥ 35	0.82[0.14-4.70]	2.64[0.98-7.12]
Religious	Protestant	1	1
	Orthodox	1.2[0.4-3.56]	3.37[0.73-15.54]
	Catholic	4.63[1.05-20.52]	3.46[0.53-22.57]
Education status	Can't read and write	1	1
	Primary	1.94[1.14-3.30]	0.27[0.05-1.44]
	Secondary and above	0.47[0.10-2.15]	0.14[0.03-0.78]*
Gestation	1st or 2nd trimester	1	1
	3rd trimester	1.38[1.82-2.32]	1.37[0.79-2.38]
Planned pregnancy	Yes	1	1
	No	0.48[0.29-0.79]	0.57[0.33-0.97]*
Timing of 1st visits	<16 weeks	1	1
	>16 weeks	0.35[0.14-0.86]	0.29[0.11-0.79]*

Table 3: Associations between socio-demographic and pregnancy related factors with satisfaction of mothers on Antenatal care, Bursa district, Southern Ethiopia, 2014 (n=290) [*Statistically significant at P-value<0.05].

Discussion

In a study findings, three out ten women participated in the study was satisfied. Other similar study was reported in Eastern Uganda on satisfaction was better compared with the present study findings [16]. This might be due to the socio-demographic variation of the study populations. In other hand, the study finding was higher compare with the similar quality study results reported that satisfaction on the ANC services received in North Western Ethiopia in the Amhara region [17].

This might be due to the time variation of the study period. Clients were highly satisfied on provider performed general physical examinations and explanation of the results of examination. In other finding, the variables with the most satisfied percentage of ANC clients were provider's attitude and the examination room privacy. The findings in previous studies revealed that Addis Ababa health Centre were experiencing variables with the most satisfied on general examination and treating respectfully [16,18].

However, the major reasons given for dissatisfaction with the overall quality of care received in the Bursa rural health centers were absence of laboratory tests for pregnancy related cases and the explanations of danger sign arise during pregnancy. This finding was found to be consistent with studies conducted in Luck now district India [19]. The consultations time for ANC during follow up has taken of mean ± SD (7.90 ± 4.68) minutes. The finding was found to be higher than study conducted in Lao People's Democratic Republic,

where the average consultation time for each woman was five minutes [20].

The study further revealed that after adjusting for other factors, pregnant women whose education level was Secondary and above were less likely to be satisfied compared to those whose educations level were can't read and write. Level of education was key factors influencing the timing of entry to ANC and making four or more visits and corresponds to findings from previous studies [16,21,22]. The possible reason for these women with higher level of schooling more needs quality care for satisfactions. The finding showed that pregnant women who had current pregnancy unplanned less likely satisfied than those who had current pregnancy planned [AOR=0.56, (95% CI, 0.33-0.97)].

The finding is consistent with the Ethiopian Demographic and Health Survey (EDHS) 2012, which reported increasing wanted pregnancy in Ethiopia since the year 2005 to 2012 [3]. This implied that the women might be getting wanted pregnancy more satisfied than unwanted pregnancy. No significant relationship was found between the outcome variable (satisfaction) and age, religion and gestational age in our study. The finding in this study indicated that women who had started first visits of ANC after 4 months were less satisfied than who had started before 4 months. The World Health Organization recommends that at least four ANC visits, the first should take place before of 4 months.

Therefore, there was significant association between ANC attendance during first trimester and satisfaction. The finding was

concurring with the previous studies, which reported in Malawi and North Western Ethiopia [16,23,24]. Using cross-sectional study design could be limitation of the study as it does not represent the whole time maternal ANC service satisfaction which limits the cause and effect relationship.

Conclusion

The overall maternal ANC service satisfaction in this study is found to be sub-optimal. The study strongly suggests that more could be done to assure that services provided are more standard. This study also revealed several constraints in the provision of ANC services which can be implied as areas of possible improvement, including laboratory investigation, longer waiting time, and poor consultation. Moreover, the study may had been affected by social desirability bias and the cross-sectional study design used could not express cause and effect relationships.

Competing Interests

The authors declare that there are no competing interests.

Acknowledgements

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