



Satisfaction of Pregnant Mothers towards Antenatal Care Services and Associated Factors in Wolkite University Specialized Hospital

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Abstract

Background: Antenatal care is holistic care given to pregnant mothers during their pregnancy and is an essential component of reproductive health care. Maternal satisfaction is the most frequently reported outcome measure for quality of care. Every year, thousands of women die from pregnancy-related complications worldwide. The Sub-Saharan African countries, of which Ethiopia is a part, accounted for over 86% of global maternal deaths.

Method: A cross-sectional study was conducted from 01 June to 15 July 2021. The study was conducted at Wolkite University Specialized Hospital. The data were collected using a semi-structured interviewer-administered questionnaire. The data was entered into a computer using the software; epidata3.1 version and then exported to SPSS version 23 for analysis. Bivariate and multivariable logistic regression was done, and an association was declared at p-value < 0.05, 95%CI.

Result: The overall satisfaction of pregnant mothers towards the ANC service was 50.68%. Variables associated with the mothers' satisfaction were educational status, 27.5% [AOR = 0.275, 95%CI (0.104, 0.727)], service duration, 2.023 [AOR= 2.023, 95%CI (1.011, 4.048)], and waiting time at card room 2.192 [AOR = 2.192, 95%CI (1.024, 4.692)].

Conclusion: The satisfaction of mothers towards antenatal care service is low. It was determined by educational status, service duration, and waiting time at the card room. Health professionals and concerned bodies should work on the quality of antenatal service.

Keywords: Antenatal Care; Satisfaction; Pregnant Mothers; Wolkite University; Ethiopia

Introduction

Antenatal care (ANC) is holistic care given to the mother and her fetus. The care provider assesses, screens, and treats mothers during pregnancy [1] which was initiated in Europe in the early 20th century [2]. ANC is the care of pregnant mothers during their pregnancy, and it is an essential component of reproductive health

care which is an entry point to health care for pregnant women to seek a skilled birth attendant for their delivery [3]. In 2016, World Health Organization introduced new recommendations for antenatal care with a minimum of eight antenatal care contacts. The first contact is in the first 12 weeks of gestation. The second two contacts are in the second trimester of pregnancy, at 20 and 26

weeks of gestation. The left five contacts are in the third trimester at 30, 34, 36, 38, and 40 weeks of gestation [1]. However, in Ethiopia, it is evidenced that focused antenatal care is in use, which indicates the WHO recommendation of eight contacts is not started.

A pregnant mother who has inadequate numbers of antenatal contact seems to have a poor outcome of pregnancy like preterm birth and low birth weight [3]. Globally 85% of pregnant mothers access antenatal care services of which 58% get a minimum of four visits to ANC. Sub-Saharan African and South Asian countries have about 49% and 42% of four ANC visits respectively [1]. In Ethiopia between 2000 - 2016, the utilization of ANC services among pregnant mothers increased from 27% to 62% [4]. Maternal satisfaction is the most frequently reported outcome measure for quality of care. It needs to be addressed to improve the quality and efficiency of health care during pregnancy, childbirth, and puerperium to provide quality maternal-friendly services [5]. Pregnant mother satisfaction is a judgment on the quality of care in all aspects considering the interpersonal process and level of satisfaction difference between pregnant women's expectations of ideal care and her perception of real care [6]. The challenging issue throughout the health facility relayed to the mother's satisfaction is the availability of the best quality antenatal care service [7]. Quality of maternal care is described from different dimensions, which include health care providers, managers, and patients; health care system; safety, effectiveness, patient-centeredness, timeliness, equity, and efficiency; and through the provision of care and experience of care [8].

Every year, thousands of women die from pregnancy-related complications worldwide [1]. Inadequate access to quality antenatal care and poor satisfaction contribute to maternal mortality [9]. The Sub-Saharan African countries, of which Ethiopia is a part, accounted for over 86% of global maternal deaths in 2017. According to EDHS 2016, maternal mortality in Ethiopia was 412 deaths per 100,000 live births [4]. Ethiopia targeted to reduce maternal mortality rate to less than 70 per 100,000 live births by 2030 [10]. The number of ANC visits is higher in high-income countries, while it is low in middle and low-income countries [2].

WHO recommends that antenatal care should be effective, efficient, on time, safe, equitable, and client-centered (World Health Organization, 2018). In Ethiopia, ANC utilization is not

satisfactory. The finding from the systematic review indicates that the proportion of ANC utilization was 63.77% [12]. The utilization of ANC increased from 27% in 2000 to 34% in 2011, and 62% in 2016 according to the Ethiopian demographic health survey showing that only two-thirds are receiving the care. But institutional delivery was only 26% during the survey [4].

There is severe maternal morbidity in low and middle-income countries. In sub-Saharan Africa, the burden is highest with an estimation of 198 per 1000 live births. This morbidity affects the life of both mother and the fetus [13]. Maternal mortality is also high in sub-Saharan Africa due to pregnancy and pregnancy-related complications [14].

Despite the utilization of ANC service in Ethiopia, institutional delivery is lower. This is shown by EDHS 2016, which indicates that there is a huge difference between the proportion of ANC utilization and institutional delivery. It was expected that the proportion of mothers who have utilized ANC service was delivered at the institution. But, the proportion of mothers delivered at the institution was less than half of those who used the ANC service. Therefore, this study aimed to assess the satisfaction of pregnant mothers towards ANC service utilization in Wolkite University specialized hospital.

Methodology and Materials

Study Areas, design, and period

A cross-sectional study was conducted from 01 June to 30 July 2021. The study was conducted at Wolkite University Specialized Hospital (WUSH), Gurage zone, Ethiopia. WUSH is one of the five public hospitals found in the zone. It serves as a referral hospital for the communities found in the zone and neighbor woredas. It is found 168km from Addis Ababa capital city of Ethiopia. It is the teaching hospital of Wolkite University and provides different services for the surrounding community. These are emergency services, outpatient services, inpatient services, major and minor surgeries, maternal care, pediatrics services, ART and TB clinics, laboratory, and radiography services. Maternity services include labor and delivery, post-natal, gynecology, family planning, and antenatal care.

Population

The source population was all pregnant mothers attending antenatal care at Wolkite university specialized hospital. The study population was all mothers attending ANC service during data collection. Mothers with complicated pregnancies and those who could not respond to the interview were excluded from the study.

Sample size and sampling techniques

The sample size was determined by using the single population proportion formula, $n = (Z\alpha)^2 p (1-p) / (d)^2$ by considering the proportion of mothers' satisfaction with ANC service 60.4% in Jimma (15). Based on the given formula the sample size was 368. The monthly average patient flow of the hospital for ANC service was 230. Since the population was less than 10,000, we used the correction formula, $n_f = n_o / (1 + n_o / N)$. Therefore, the final sample size was 224 including a 10% non-response rate. Data were collected from mothers attending ANC service consecutively from all mothers after they received service.

Data collection instrument and procedure

The data were collected using a semi-structured interviewer-administered questionnaire. The questionnaire was developed after reviewing the literature (Lire., *et al.*, 2021, Emiru., *et al.*, 2020, Chemir., *et al.*, 2014, Birhanu., *et al.*, 2020). The questionnaire contains 56 items. They were categorized into three components such as socio-demographic characteristics, obstetrics profile, and satisfaction of mothers towards antenatal care service. The data were collected by 3 graduating nursing students after one day of training on the objective of the study. The objective of the study was explained to the pregnant mothers before the interview.

Data quality control management

The questionnaire was developed in English based on the objective of the study, and it was translated into Amharic. The data collectors were trained for one day before the actual data collection. The questionnaire was checked daily for completeness during data on each day of data collection.

Data processing and analysis

The data were checked for completeness and coded to control errors during entry. Then the data was entered into a computer using the software; epidata3.1 version. Then the data was exported to the software; SPSS version 23. Then the analysis of the data

was done. The descriptive part was used to analyze the data using frequency and percent with a description. The inferential components were used to analyze the relation of independent variables with antenatal care satisfaction. This was done by using bivariate and multivariable logistic regression at p-value < 0.05, 95%CI. Variable with a p-value of less than 0.05 declared statistically significant. The relation of independent variables with maternal satisfaction was checked and those variables statistically significant with satisfaction were identified.

Ethical consideration

Ethical clearance was obtained from the Department of Nursing research committee. The respondents were informed about the objective of the study. Verbal consent was obtained from the mothers before the data collection procedure.

Result

Out of 224 study participants, 221 of them responded to the questions giving a response rate of 98.66%.

Sociodemographic characteristics

Among the study participants, 92 (41.6%) were in the age category of 25-29 years, 6 (2.7%) were in the age category of 19 years, and 15 (6.8%) were 35 years and above. More than half, 134 (60.6%) of the respondents were housewives. About two-thirds, 146 (66.1%) of the respondents' visiting time was in the morning. Regarding service duration, 103 (46.6%) of the respondents spent more than 30 minutes (Table 1).

Variables	Categories	Frequency	Percent
Age of the mother	19	6	2.7
	20-24	69	31.2
	25-29	92	41.6
	30-34	39	17.6
	35	15	6.8
Marital status of the mother	Married	219	99.1
	Unmarried	1	.5
	Divorced	1	.5
Educational status	can't read and write	40	18.1
	primary education	66	29.9
	secondary education	61	27.6
	college and above	54	24.4

Occupation	housewife	134	60.6
	government employee	47	21.3
	Merchant	40	18.1
Religion	Muslim	99	44.8
	Orthodox	84	38.0
	Protestant	38	17.2
Time of visit	Morning	146	66.1
	Afternoon	75	33.9
Service duration	30	118	53.4
	>30	103	46.6
The time it takes to get a card	15	211	95.5
	>15	8	3.6
Laboratory time (n = 144)	30	79	54.9
	>30	55	45.1

Table 1: Socio-demographic characteristics of pregnant women attending ANC service at WUSH, 2021.

Obstetrics characteristics

Among the study participants, 134 (60.6%) were pregnant one to two times 22 (10.0%) were being pregnant five times and more. Regarding parity, 138 (62.4%) of the respondents had given birth to a baby or not. Among the respondents, 28 (12.7%) responded that the pregnancy was unplanned. About one-third, 75 (33.9%) of the respondent were attending their first ANC visit, while 33 (14.9%) were attending their fourth visit. Among the study participants, 22 (14.4%) were given birth to their last baby (Table 2).

Knowledge of mothers towards ANC service

The knowledge of mothers towards antenatal care services was measured using 8 yes-no questions. The finding of this study

Variables	Categories	Frequency	Percent
Number of gravida	1-2	134	60.6
	3-4	65	29.4
	5	22	10.0
Number of para	0-1	138	62.4
	2-4	80	36.2
	5	3	1.4
Is the current pregnancy is planned	Yes	193	87.3
	No	28	12.7
History of abortion	Yes	17	7.7
	No	204	92.3
History of stillbirth	Yes	22	10.0
	No	199	90.0
Current ANC contact	First	75	33.9
	Second	60	27.1
	Third	53	24.0
	Fourth	33	14.9
Previous history of ANC (n = 163)	Yes	143	87.7
	No	20	12.3
Place of delivery of the last baby (n = 153)	Home	22	14.4
	Institution	131	85.6
Current health status of women	Good	213	96.4
	Not good	8	3.6

Table 2: Obstetric profiles of pregnant women attending ANC service at WUSH, 2021.

showed that about three fourth 162 (73.3%) of the respondents had good knowledge about ANC (Table 3).

Variable	Response n = 221(%)	
	YES	NO
ANC is important for pregnant women?	201 (91.0%)	20 (9%)
ANC helps a woman to prepare for labour, lactation and subsequent care.	221 (95.5%)	10 (4.5)
ANC is important to get education and advice from health professionals.	210 (95.0%)	11 (5%)
ANC aimed at promoting and maintaining good health of the mother during Pregnancy	202 (91.4%)	19 (8.6%)
ANC aimed at promoting and maintaining good health of the foetus during Pregnancy	211 (95.5%)	10 (4.5%)
ANC is helpful to detect 'high risk' conditions in the mother and foetus early and appropriately	213 (96.4%)	8 (3.6%)
ANC is helpful to treat 'high risk' conditions in the mother and foetus early and appropriately	205 (92%)	16 (7.2%)
Overall knowledge of mothers towards ANC		
Knowledge level of mothers towards ANC	Good knowledge	162 (73.3%)
	Poor knowledge	59 (26.7%)

Table 3: Maternal knowledge towards ANC service, WUSH, Ethiopia, 2021.

Pregnant mothers’ satisfaction with ANC service

Satisfaction of the mother towards antenatal care service was measured by 27 Likert scale questions. These questions were categorized into 4 components (Table 4). For each question, the

respondents responded one to five, which were then summed up. The overall satisfaction of the respondents towards the ANC service in WUSH was 50.68% (Table 5).

Satisfaction level	Interpersonal skill	Technical skill	Physical environment	Organization of health care
Satisfied	95 (43.0%)	119 (53.8%)	110 (49.8%)	124 (56.1%)
Dissatisfied	126 (57.0%)	102 (46.2%)	111 (50.2%)	97 (43.9%)

Table 4: Maternal satisfaction on four dimensions of ANC service, WUSH, Ethiopia, 2021.

Satisfaction level	frequency	Percentage
Satisfied	112	50.7%
Dissatisfied	109	49.3%

Table 5: Overall satisfaction of mothers towards ANC service, WUSH, Ethiopia, 2021.

Factors associated with antenatal care service.

Logistic regression was done to identify a statistically significant variable at a p-value of < 0.05 at 95%CI. Both bivariate and multivariate analyses were done. In bivariate analysis Educational status, Occupation, Religion, Service duration, Card room waiting time, ANC visit, and previous ANC visit were statistically significant. Multivariate analysis was done using backward

logistic regression to identify associated variables with pregnant mothers’ satisfaction. In multivariate analysis educational status, service duration, cardroom waiting time, and previous ANC visits were statistically significant. Pregnant mothers with secondary education were 27.5% [AOR = 0.275, 95%CI (0.104, 0.727)] less likely satisfied than those who could not read and write. Regarding service duration, pregnant mothers who received ANC service were 2.023 [AOR = 2.023, 95%CI (1.011, 4.048)] times more likely satisfied than mothers who received more than 30 minutes. Waiting times in card rooms less than 15 minutes was 2.192 [AOR = 2.192, 95%CI (1.024, 4.692)] times more likely satisfied than those waiting more than fifteen minutes (Table 6).

Variables	Categories	Level of satisfaction		COR95%CI	AOR95%CI
		Satisfied	Dissatisfied		
Educational status	Can't read and write	14 (35.0%)	26 (65.0%)	1	1
	Primary education	25 (37.9%)	41 (62.1%)	0.883 (0.390,2.001)	0.915 (0.339,2.469)
	Secondary education	40 (65.6%)	21 (34.4%)	0.283 (0.122,0.653) *	0.275 (0.104,0.727) **
	College and above	30 (55.6%)	24 (44.4%)	0.431 (0.185,1.001)	0.472 (0.174,1.275)
Occupation	Housewife	55 (41.0%)	79 (59.0%)	2.983 (1.415,6.289) *	
	Government employee	27 (57.4%)	20 (42.6%)	1.538 (0.639,3.704)	
	Merchant	27 (67.5%)	13 (32.5%)	1	
Religion	Muslim	58 (58.6%)	41 (41.4%)	1	
	Orthodox	37 (44.0%)	47 (56.0%)	1.797 (0.998,3.235)	
	Protestant	14 (36.8%)	24 (63.2%)	2.425 (1.122,5.243) *	
Service duration	30	66 (55.9%)	52 (44.1%)	1.771 (1.038,3.022) *	2.023 (1.011,4.048) *
	>30	43 (41.7%)	60 (58.3%)	1	1

Card room waiting	15	89 (57.1%)	67 (42.9%)	2.989 (1.616, 5.527) ***	2.192 (1.024,4.692) *
	15	20 (30.8%)	45 (69.2%)	1	1
ANC	First	44 (58.7%)	31 (41.3%)	1	
	Second	31 (51.7%)	29 (48.3%)	1.328 (0.670,2.631)	
	Third	20 (37.7%)	33 (62.3%)	2.342 (1.139,4.816) *	
	Fourth	14 (42.4%)	19 (57.6%)	1.926 (0.841,4.415)	
Previous ANC	Yes	73 (51.0%)	70 (49.0%)	1	1
	No	5 (25.0%)	15 (75.0%)	3.129 (1.080, 9.066)	2.855 (0.883,9.231)

Table 6: Factors associated with antenatal care service among pregnant women attending ANC service at WUSH, 2021.

* = p value < 0.05, ** = p vale < 0.01, *** = p vale < 0.001.

Discussion

The finding of the study indicates that the overall satisfaction with antenatal care services among the study population was 50.68%. This finding is lower than studies conducted in Musandam Oman [19], Nigeria, Ghana [23], Gambia [24], Jimma Zone, Ethiopia [15], Southwest Ethiopia [25], Hossana Ethiopia [26], Shire Ethiopia [27], Harari Ethiopia [18], South Gondar Ethiopia [28], West Guji Zone Ethiopia [29], Public Health Centers Hawassa Ethiopia [16]. The variation in the result could be related to tools used for measuring satisfaction. In this study, satisfaction was measured with 27 items. Each item was a Likert scale-based question, while the studies conducted in Nigeria, Oman, Ghana, and the Gambia, southwest Ethiopia, used other measuring tools. There is variation between the number of items and type of tools among the studies. It may be also related to the subjectivity of the respondents about their satisfaction. Measuring satisfaction with yes/no, item questions could lead to the false scoring of the satisfaction proportion among the care receivers. On the other hand, a study conducted in Jimma Ethiopia was done in health centers while a study done in Hosanna Ethiopia was done in health centers and hospitals. In health centers, there may be no overcrowding, and can acquire quality care. However, our study was done in a specialized hospital where there is overcrowding, which may be the reason for lower satisfaction.

On the other hand, the finding of this study was higher than the study conducted in Sidama Ethiopia [30], in northwest Ethiopia [17]. The finding of this study is nearly similar to the study conducted in Goba hospital South West Ethiopia.

The educational status of the pregnant mother was significantly associated with antenatal care service satisfaction. The result of the study shows that pregnant mothers with secondary education were (27.5%) less likely satisfied than those who could not read and write. The finding is supported by the study conducted in Jimma Ethiopia [15], Hosanna Ethiopia [26], Harari Ethiopia [18], Sidama Ethiopia where those with lower educational status were more satisfied. This finding indicates that those who could not read and write were more satisfied. However, those with secondary education were less likely satisfied and this could be due to their inquiry to learn and know about the service they were receiving. Long service duration dissatisfies the mothers. Mothers who completed care within 30 minutes were two times more satisfied than mothers receiving care for more than 30 minutes. This could have resulted from the mothers’ wish of completing ANC visits within a short period. Alternatively, it may be due to the mothers’ interest to leaving shortly due to the crowding of the room. Long waiting times in card room also dissatisfies the mothers. Mothers who got cards within 15 minutes were two times more satisfied than mothers who were waiting more than 15 minutes. In our finding, there was dissatisfaction due to the long waiting time at the card room. Pregnant mothers were dissatisfied because of waiting for the card for a long time while they are tired of pregnancy.

Conclusion

Only half of the pregnant mothers are satisfied with the antenatal care service during the study period. The satisfaction of pregnant mothers was measured by interpersonal skills,

technical quality, physical environment, and organization of health care. The dissatisfaction of the mothers was an indication of the low quality of antenatal care services. Maternal satisfaction was determined by the educational status of mothers, service duration, and waiting time at the card room. The government, the hospital, health professionals, and concerned bodies should have to work on quality and satisfactory antenatal service. Supervision of care provided by the quality control office may help in improving the services. The observational study may also help in identifying the level of service provision.

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