

Maternal Satisfaction with Delivery Services of Government Hospitals in Ambo Town, West Shoa Zone, Oromia Region, Ethiopia, 2020

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Background: Maternal satisfaction with delivery service is used to measure the ability of services provided to meet consumers' expectations. Satisfying women with the care given during labor and delivery helps to develop a positive childbirth experience and a favorable attitude towards motherhood. There were limited studies that assessed maternal satisfaction in Ethiopia, and this study aimed to assess delivery service satisfaction and its associated factors among mothers who gave birth at public hospitals of Ambo town, West Ethiopia.

Methods: Institutional-based cross-sectional study was conducted on 384 women, from April 20 to May 20, 2019, in public hospitals of Ambo town. The study participants were selected by systematic random sampling method and interviewed using structured questionnaires. The data were checked, coded and entered into Epi info version 7, and then exported to SPSS version 20 for analysis. Multivariable logistic regression analysis was performed to identify predictors of maternal satisfaction. A variable with a P value of less than 0.05 was considered statistically significant.

Results: A total of 384 study participants were involved, making a response rate of 100%. Out of 384 mothers who participated in the study, 322 (83.9%) were satisfied with the delivery service, and 62 (16.1%) were unsatisfied with the delivery service. Monthly income less than 650 ETB (AOR=0.46, 95% CI: 0.22, 0.94) was associated with decreased maternal satisfaction. On the other hand, normal birth outcome (AOR=4.409, 95% CI: 1.453, 13.375) and maintenance of mothers' privacy (AOR = 8.405, 95% CI: 1.74, 29.59) were associated with increased maternal satisfaction with delivery services.

Conclusion: The level of maternal satisfaction with the delivery services in this study was moderate. Monthly income, maternal birth outcome and maintenance of privacy were significantly associated with maternal satisfaction.

Keywords: maternal, satisfaction, Ambo town, Ethiopia

Background

Maternal health is important not only to the individual women requiring maternity care but to her newborn and immediate family.¹ Despite the effort taken to reduce maternal mortality; every day, approximately 800 women die from preventable causes related to pregnancy and childbirth. Ninety-nine percent of these deaths occur in most developing countries like Ethiopia.² Maternal satisfaction is a multidimensional concept, influenced by a variety of factors. It is defined as a positive evaluation of a distinct dimension of childbirth.³ Maternal satisfaction with delivery service is used to measure the ability of services provided to meet

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consumers' expectations. In addition, satisfied clients have a higher chance to return to the facility in the future and recommend the institution to their neighbors and relatives.³

Satisfaction from services is maintained with the cooperation of the staff and health facility.⁴ Satisfaction is a statement reporting quality of service and relationship between caregiver and patient, measured by comparing quality services and patient's expectations.¹ Women's satisfaction from maternal services and their qualities can be considered as an outstanding factor affecting the mental health of family and society.⁴ Maternal satisfaction is also considered as an index for quality and justice in women and infants' health by health care authorities and health policymakers.²

Satisfying women with the care given during labor and delivery helps to develop a positive childbirth experience and a favorable attitude towards motherhood.⁵ In contrast, a negative birth experience can make the woman feel distraught and have a negative impact on her mental health, which increases the risks of postpartum blue, depression, psychotic disorders and post-traumatic stress disorder (PTSD).⁶ In maternity services, patient satisfaction has been widely recognized as one of the critical indicators of the quality and efficiency of the health care systems.⁷ Users who perceive the quality of care in a hospital to be good are more likely to visit it again, thereby increasing demand for the service.⁸

Several studies assessed maternal satisfaction with delivery services throughout the world. A study from Pakistan indicated that 61% of the women were satisfied with the delivery services.⁹ According to a study from the West Arsi zone, the overall satisfaction level of mothers with delivery services was 74.6%.¹⁰ In Debre Markos, the overall satisfaction level of delivery service was found to be 81.7%.¹¹ Studies conducted in Amhara Referral Hospitals, St. Paul's Hospital, Southwest Ethiopia and Omo Nada district showed that the overall satisfaction with institutional delivery service was 61.9%, 19.0%, 79.1% and 65.2%, respectively.^{12–15}

Multiple factors affecting maternal satisfaction were determined in previous studies. Structure, process, outcome and other factors such as socio-demographic factors and convenience of access are the major classifications of factors influencing maternal satisfaction.⁸ Facility cleanliness, meal quality, adequacy of staff, seats and beds, laboratory investigations, shower rooms and toilets were found to have a significant impact on the clients' satisfaction. Pain control

also remained to be a major problem and is the main cause of patient dissatisfaction.^{16,17} Studies also showed that long waiting time and unavailability of basic drugs, physical environment of the delivery room and wards, cost paid to service, privacy, lack of consideration for cultural practices and beliefs and health providers' technical competence were the major factors that make mothers dissatisfied.^{8,11}

There is a paucity in the current literature about the level of maternal satisfaction and factors influencing it in Ethiopian health care system particularly in the western part of a country. Better understanding of the maternal satisfaction with the healthcare delivery across different levels of health care facilities will help the stakeholders to develop and implement public health programs tailored to mothers' expectation. Therefore, this study was aimed to assess delivery service satisfaction and its associated factors among mothers who gave birth at public hospitals in Ambo town, West Ethiopia. The finding of this study will help to identify gaps in service provision components and recommend interventions to improve quality of care. It also may help the health managers and policymakers in making maternal health services more women-friendly.

Methods

Study Setting and Population

The study was carried out at two public hospitals in Ambo town, namely, Ambo University Referral hospital (AURH) and Ambo General Hospital which were found in the Oromia Regional State of Ethiopia. Ambo is the capital city of the West Shoa zone of the Oromia regional state which is 112 Km away to the west from the capital city Addis Ababa. The study was conducted from April 20 – May 20, 2019, and an institutional-based cross-sectional quantitative study design was used. All selected mothers who gave birth in the government hospitals of Ambo town during the study period were included in the study.

Sample Size Determination and Sampling Techniques

The sample size was determined using the formula for a single population proportion by considering the proportion of mother's satisfaction with delivery service as 65.5% taken from a previous study done in Omo Nada District,¹⁵ 95% confidence interval ($Z_{\alpha/2} = 1.96$), power of 80% ($Z_{\beta} = 0.80$) and 5% margin of error. After adding a non-response rate of 10%, a total of 384 women were enrolled in the study. There are two government hospitals

in Ambo town and both are selected purposefully. The number of participants from each hospital were determined by proportion to population size by reviewing the report of last year delivery services. Based on the population size of 1-month report of last year's delivery services and the calculated sample size, K interval was determined for both hospitals. For Ambo University referral hospital, $1357/384=4$ and for Ambo general hospital, $601/384=2$. Then, the first K was determined for both hospitals; three for Ambo university referral hospital and two for Ambo general hospital. Then, the data collectors interviewed the mothers every K interval on a daily basis at the point of exit from both hospitals until the required sample allocated was maintained. Accordingly, 266 women were taken from Ambo university referral hospital and 118 were taken from Ambo general hospital.

Data Collection Tool and Procedures

Data was collected using a structured questionnaire and a face-to-face interview was used for data collection. The dependent variable of the study was maternal satisfaction and the independent variables were socio-demographic factors, obstetric-related factors, structural factors, process factors, and outcome factors. Delivery service satisfaction-related questions were adopted from the Donabedian quality assessment framework and presented using a 5 point Likert scale (1 – very dissatisfied, 2 – dissatisfied, 3 – neutral, 4 – satisfied, and 5 – very satisfied). Mothers who scored 75% and above from the items of patient satisfaction questionnaire were categorized under “satisfied”. Mothers who scored below 75% from the items of patient satisfaction questionnaire were categorized under “unsatisfied”.¹⁸ Data was collected by six trained BSc nurses and three senior BSc midwives as a supervisor for a duration of approximately 30 days from April 20 – May 20, 2019.

Data Processing and Analysis

The data were checked, coded and entered into Epi info version 7 and then exported to a statistical package for social science (SPSS) version 20 for analysis. Descriptive statistics were computed and the overall level of maternal satisfaction was determined. To assess the association of different independent variables with the outcome variable, cross-tabulations, and bivariable logistic regression analysis was carried out. In addition, multivariable logistic regression analysis with backward elimination was performed to identify the most important predictors of maternal satisfaction with delivery services. A variable with a P value of less than 0.05 was considered statistically significant in this study.

Data Quality Control

To ensure the consistency of the questionnaire, the English version was translated to Afan Oromo and again back to English. The questionnaire was pretested in 5% of the study participants at Gudar Hospital prior to the data collection and amendments were done accordingly. To maintain data quality, six BSc nurses not working in and around that facility were selected as data collectors for 30 days and the supervision was done by three senior BSc midwives. The training was also given for data collectors and supervisors by the principal investigator for 2 days prior to the study. The collected data were checked for completeness before data entry. The data entry format template was produced and programmed. Double entry was done on 10% of the questionnaires to check the consistency.

Ethics Approval and Consent to Participate

The study was approved by the institutional review board of Wollega University ethical review board. A formal letter was submitted to Ambo town administrative office and Ambo town health bureau. After getting permission from Ambo town administrative office, all participants of the study were provided written consent, clearly stating the objectives of the study and their right to refuse. Then, written informed consent was obtained from the study participants. The filled questionnaires were carefully handled ensuring confidentiality and kept under secured custody of the principal investigator. The confidentiality of client-related data was maintained by avoiding potential identifiers, and therefore, this study was conducted in accordance with the Declaration of Helsinki.

Results

Socio-Demographic Characteristics of the Study Population

In this study, a total of 384 study participants were involved, making a response rate of 100%. Among these respondents, 66 (17.2%) were less than 20 years, 277 (72.1%) were 20–34 years and 41 (10.7%) were above 35 years. More than three-fourth, 289 (75.3%) of mothers were married, 69 (18%) were single, 20 (5.2%) were divorced and 6 (1.6%) were widowed. Three hundred ten (80.7%) respondents were Oromo, 66 (17.2%) were Amhara, 4 (1%) were Tigre and 4 (1%) were Gurage. One hundred ninety-eight (51.6%) of respondents were protestant religion followers and followed by Orthodox religion followers 152 (39.6%). Among the

respondents, 56 (14.6%) have no formal education, 107 (27.9%) were completed grades 1–6, 126 (32.8%) were completed grades 7–12 and 95 (24.7%) have a diploma and above. Regarding the occupational status of the respondents, 103 (26.8%) were housewives, 95 (24.7%) were farmers, 87 (22.7%) were government employees and 62 (16.1%) were merchants. Concerning monthly income of the mothers, 169 (44%) gets monthly income of less than 650 ETB, 75 (19.5%) gets 650–1000 ETB, 43 (11.2%) gets 1001–2000 ETB and 97 (25.3%) gets monthly income more than 2000 ETB. Regarding the residence of the respondents, 277 (59.1%) of the respondents were urban and 157 (49.9%) were rural residents (Table 1).

Obstetric History of the Mothers

More than half of the respondents, 229 (59.6%) were multipara, 126 (32.8%) were primipara and 29 (7.6%) were grand multipara mothers. Majority of the mothers, 194 (50.5%) were referred from other health institutions for delivery service, while 190 (49.5%) mothers were planned for delivery service. Among mothers who gave birth, 307 (79.9%) wanted their pregnancy and 77 (20.1%) did not want their pregnancy. Two hundred fourteen (55.7%) of the mothers gave birth with spontaneous vaginal delivery, 155 (40.4%) of the mothers by caesarian section and 15 (3.9%) by assisted vaginal delivery. From the mothers who gave birth in selected hospitals, 316 (82.3%) gave birth without complication and 68 (17.7%) gave birth with complications. About 339 (88.3%) of the mothers gave birth to a normal fetus and 45 (11.7%) gave birth to dead fetuses. Most of the respondents, 343 (89.3%) had a history of antenatal care follow-up and 41 (10.7%) of the mothers had no history of antenatal care follow-up. Two hundred sixteen (56.3%) of the mothers had an experience of previous health facility delivery and 168 (43.8%) of the mothers did not have previous health facility delivery experience (Table 2).

Hospital- and Care Provider-Related Characteristics

Two hundred Ninety-Six (77.1%) of the mothers were traveled less than 30 KM, 58 (15.1%) were traveled 30–50 KM and 30 (7.8%) were traveled more than 50 KM to get delivery service. Most of the mothers, 328 (85.4%) were used car as a mode of transportation, while 56 (14.6%) were traveled by foot, animal and human

Table 1 Socio-demographic Characteristics of Mothers Who Gave Birth at Government Hospitals of Ambo Town in West Shoa Zone, 2019

Variables	Frequency	Percent (%)
Age		
<20	66	17.27
20–35	277	72.1
>35	39	10.7
Total	384	100
Marital status of the mother		
Single	69	18
Married	289	75.3
Divorced	20	5.2
Widowed	6	1.6
Total	384	100
Ethnicity		
Oromo	310	80.7
Amhara	66	17.3
Tigre	4	1.0
Gurage	4	1.0
Total	384	100
Religion		
Orthodox	152	39.6
Muslim	32	8.3
Protestant	198	51.6
Catholic	2	0.5
Total	384	100
Educational status		
No formal education	56	14.6
Grade 1–6	107	27.9
Grade 7–12	126	32.8
Diploma and above	95	24.7
Total	384	100
Occupational status		
Governmental employee	87	22.7
Merchant	62	16.1
Farmer	95	24.7
House wife	103	26.8
Student	33	8.6
Others	4	1.0
Total	384	100
Average monthly income		
<650 ETB	169	44
650–1000	75	19.5
1501–2500	43	11.2
>2500	97	25.3
Total	384	100
Residence		
Urban	227	59.1
Rural	157	49.9
Total	384	100

Table 2 Obstetric History of Mothers Who Gave Birth at Government Hospitals of Ambo Town in West Shoa Zone, 2019

Variables	Frequency	Percent (%)
Number of parity		
Primipara	126	32.8
Multipara	1229	59.6
Grand multipara	29	7.6
Total	384	100
Type of pregnancy		
Wanted	307	79.9
Unwanted	77	20.1
Total	384	100
Mode of delivery		
Spontaneous vaginal delivery	214	55.7
Assisted delivery	15	3.9
Caesarian section	155	40.4
Total	384	100
Maternal outcome		
Normal	316	82.3
With Complication	68	17.7
Total	384	100
Fetal outcome		
Lived	339	88.3
Died	45	11.7
Total	384	100
ANC follow-up		
Yes	343	89.3
No	41	10.7
Total	384	100

shoulder as a means of transportation. More than half of the mothers, 229 (59.6%) were referred from other health facilities, while 155 (40.4%) were come by a plan to get delivery service. From all the respondents, 312 (81.3%) of the mothers reported waiting time to be seen by health care providers was less than 1 hour, 50 (13.0%) were reported one-two hours and 22 (5.7%) were reported more than 2 hours. Regarding health professionals examining the mothers, 163 (42.4%) were Doctors and 221 (57.6%) were Midwives. Two hundred fifty-three (65.9%) and 131 (34.1%) of the mothers who gave birth in selected hospitals were attended by male and female sex health care providers, respectively (Table 3).

Overall Level of Maternal Satisfaction

Delivery service satisfaction was assessed by a questionnaire adopted from the Donabedian quality assessment framework. From the total mothers participated in the study, 322 (83.9%)

Table 3 Hospital- and Care Provider-Related Respondents' Characteristics at Government Hospitals of Ambo Town in West Shoa Zone, 2019

Variables	Frequency	Percent (%)
Distance travelled		
<30km	296	77.1
30–50km	58	15.1
>50km	30	7.8
Total	384	100
Mode of transportation		
Car	328	85.4
Foot, animal or human shoulder	56	14.6
Total	384	100
Referred from other health facility		
Yes	229	59.6
No	155	40.4
Total	384	100
Payment status		
Paid	0	0
Free	384	100
Total	384	100
Waiting time		
<1 hour	312	81.3
1–2 hours	50	13.0
>2 hours	22	5.7
Total	384	100
Professional who attended delivery		
Doctor	163	42.4
Midwife	221	57.6
Total	384	100
Sex of the professional who attended delivery		
Male	253	65.9
Female	131	34.1
Total	384	100

were satisfied with the overall delivery service (scored $\geq 75\%$) and 62 (16.1%) were unsatisfied with the overall delivery service (scored $< 75\%$) (Figure 1).

Bivariable Logistic Regression Analysis

In bivariate analysis, obstetric-related characteristics such as the type of pregnancy and a maternal birth outcome had a significant association with the satisfaction of mothers with delivery service at P value less than 0.25. On the other hand, health care-related and health care professional-related variables such as maintenance of privacy during the

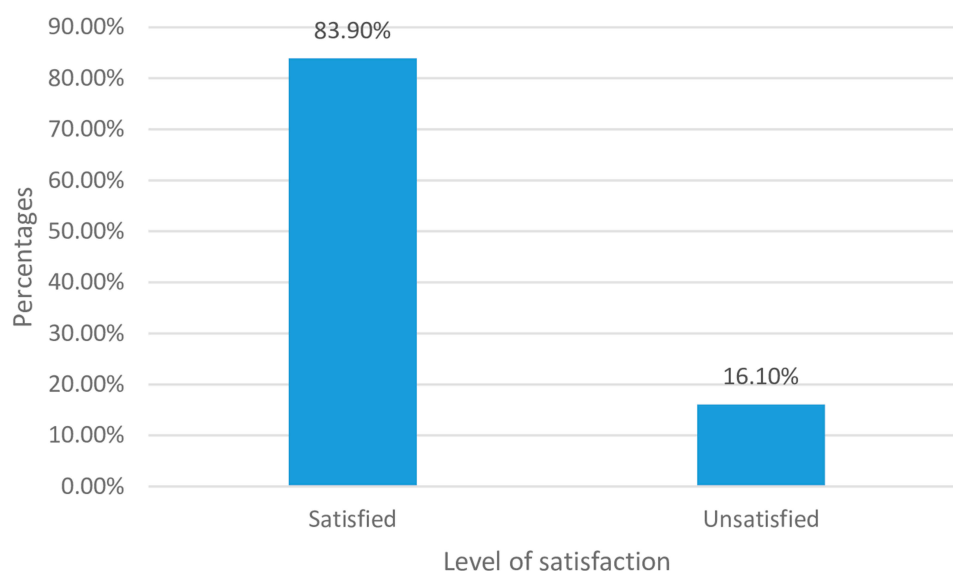


Figure 1 Bar graph showing levels of maternal satisfaction with delivery services of government hospitals of Ambo town, west Shoa, Oromia, Ethiopia, 2019.

procedure were significantly associated with maternal satisfaction at P value less than 0.25 (Table 4).

Multivariable Logistic Regression Analysis

In the final model of logistic regression, average monthly income, maternal outcome and maintenance of privacy were significantly associated with mothers' satisfaction with health delivery at P value less than 0.05. Women who had a monthly income of less than 650 ETB were less satisfied with delivery service than women who had a monthly income of more than 2000 ETB (AOR=0.466, 95% CI: 0.229, 0.948). Mothers whose maternal outcome was normal were more satisfied than mothers whose maternal outcome was with complications (AOR=4.409, 95% CI: 1.453, 13.375). Maintaining privacy was also a significant predictor of maternal satisfaction. Mothers who felt their privacy was maintained were more satisfied with the delivery services than mothers whose privacy was not maintained (AOR = 8.405, 95% CI: 1.74,29.59) (Table 5).

Discussion

In this study, we assessed mothers' satisfaction with delivery service at government hospitals of Ambo town. This study's finding shows that the overall level of maternal satisfaction with the delivery service was 83.9%. This finding is similar to the study conducted in Wolaita zone where the level of satisfaction was 82.9%.¹⁹ This finding is also supported by a study conducted in Mekele town, Assela hospital and Public Health Facilities of Debre Markos

town.^{10,11,20} The level of maternal satisfaction in this study is higher than the studies conducted in Omo Nada district (65.2%),¹⁵ Amhara region (61.9%),¹² St Paul's Hospital Millennium Medical College (19.0%),¹³ Pakistan (61.0%),⁹ Felege Hiwot referral hospital (74.9%),²¹ Mizan-Aman Town (30.4%),²² Gondar teaching hospital (31.3%),²³ and health facilities in Bangladesh (63.2%).²⁴ However, the level of maternal satisfaction in this study is much lower than the study conducted in Southern Mozambique.²⁵ The possible reason for these discrepancies might be due to variations in the socioeconomic status of the participants, differences in study design and sample size, and variation in hospital infrastructure and quality of the health care services in each hospital.

This study showed that average monthly income, maternal outcome and maintenance of privacy were significant predictors of women's satisfaction with delivery service. Women who had a monthly income of less than 650 ETB were less satisfied with delivery service than women who had a monthly income of more than 2000 ETB (AOR=0.46, 95% CI: 0.22, 0.94). This might be due to the fact that mothers may think of the cost for travel, charge for supplies and other unexpected costs, and become dissatisfied. On the contrary, higher-income clients demonstrated a higher level of satisfaction with health care delivery. This finding contradicts with the study conducted in Assela hospital which showed that mothers who had a low monthly income were more satisfied with their delivery service than their

Table 4 Bivariate Analysis of Factors Associated with Mothers' Satisfaction with Delivery Services at Government Hospitals of Ambo Town in West Shoa Zone, 2019

Variables	Maternal Satisfaction		COR (95% CI)	P value
	Satisfied (%)	Unsatisfied (%)		
Age				
<20	59 (89.4%)	7 (10.6%)	0.422 (0.144, 1.239)	0.07
20–35	231 (83.4%)	46 (16.6%)	0.708 (0.317, 1.583)	0.20
>35	32 (78.0%)	9 (22.0%)	1	
Marital status				
Single	65 (94.2%)	4 (5.8%)	1	
Married	237 (82.0%)	52 (18.0%)	0.062 (0.009, 0.408)	0.32
Divorced	17 (85.0%)	3 (15.0%)	0.219 (0.043, 1.118)	0.34
Widowed	3 (50.0%)	3 (50.0%)	0.176 (0.023, 1.326)	0.28
Educational status				
No formal education	47 (83.9%)	9 (16.1%)	1.324 (0.520, 3.375)	0.56
Grade 1–6	87 (81.3%)	20 (18.7%)	1.590 (0.732, 3.456)	0.32
Grade 7–12	105 (83.3%)	21 (16.7%)	1.383 (0.643, 2.974)	0.45
Diploma and above	83 (87.4%)	12 (12.6%)	1	
Income				
<650	145 (85.8%)	24 (14.2%)	0.599 (0.313, 1.145)	0.18
650–1000	65 (86.7%)	10 (13.3%)	0.557 (0.245, 1.267)	0.64
1001–2000	36 (83.7%)	7 (16.3%)	0.704 (0.274, 1.807)	0.77
>2000	76 (78.4%)	21 (21.6%)	1	
Type of pregnancy				
Wanted	276 (89.9%)	41 (10.1%)	5.94 (2.340, 10.35)	0.10*
Unwanted	22 (28.5%)	55 (71.5%)	1	
Maternal outcome				
Normal	258 (81.6%)	58 (18.4%)	3.597 (1.259, 10.274)	0.04*
With complication	64 (94.1%)	4 (5.9%)	1	
Mode of transportation				
Car	272 (82.9%)	56 (17.1%)	1.716 (0.702, 4.196)	0.11
Foot, animal or human shoulder	50 (89.3%)	6 (10.7%)	1	
Waiting time				
<1 hour	265 (84.9%)	47 (15.5%)	1	
1–2 hours	41 (82.0%)	9 (18.0%)	0.473 (0.176, 1.271)	0.10
>2 hours	16 (72.7%)	6 (27.3%)	0.585 (0.179, 1.912)	0.98
The profession who attend delivery				
Doctor	141 (86.5%)	22 (13.5%)	0.706 (0.401, 1.242)	0.21
Midwife	181 (81.9%)	40 (18.1%)	1	
Gender of professional				
Male	217 (85.8%)	36 (14.2%)	1	
Female	105 (80.2%)	26 (19.8%)	1.493 (0.856, 2.602)	0.19
Maintenance of privacy				
Yes	305 (86.4%)	48 (13.6%)	13.405 (1.740, 40.591)	0.17*
No	17 (54.8%)	14 (42.2%)		

Note: *Shows significant at P-value <0.25.

Table 5 Multivariate Analysis of Factors Which Associated with Mothers' Satisfaction with Delivery Services at Government Hospitals of Ambo Town in West Shoa Zone, 2019

Variables	Maternal Satisfaction		AOR (95% CI)	P value
	Satisfied (%)	Unsatisfied (%)		
Age				
<20	59 (89.4%)	7 (10.6%)	1.059 (0.291, 3.852)	0.61
20–35	231 (83.4%)	46 (16.6%)	0.594 (0.246, 1.432)	0.20
>35	32 (78.0%)	9 (22.0%)	1	
Marital status				
Single	65 (94.2%)	4 (5.8%)	1	
Married	237 (82.0%)	52 (18.0%)	0.047 (0.006, 0.398)	0.40
Divorced	17 (85.0%)	3 (15.0%)	0.223 (0.038, 1.304)	0.37
Widowed	3 (50.0%)	3 (50.0%)	0.203 (0.024, 1.713)	0.26
Educational status				
No formal education	47 (83.9%)	9 (16.1%)	1.058 (0.361, 3.099)	0.86
Grade 1–6	87 (81.3%)	20 (18.7%)	1.409 (0.613, 3.239)	0.51
Grade 7–12	105 (83.3%)	21 (16.7%)	1.358 (0.598, 3.081)	0.47
Diploma and above	83 (87.4%)	12 (12.6%)	1	
Income				
<650	145 (85.8%)	24 (14.2%)	0.466 (0.229, 0.948)	0.01*
650–1000	65 (86.7%)	10 (13.3%)	0.498 (0.209, 1.187)	0.55
1001–2000	36 (83.7%)	7 (16.3%)	0.748 (0.277, 2.020)	0.67
>2000	76 (78.4%)	21 (21.6%)	1	
Type of pregnancy				
Wanted	276 (89.9%)	41 (10.1%)	3.27 (0.340, 9.81)	0.02
Unwanted	22 (28.5%)	55 (71.5%)	1	
Maternal outcome				
Normal	258 (81.6%)	58 (18.4%)	4.40 (1.453, 13.375)	0.038*
With complication	64 (94.1%)	4 (5.9%)	1	
Mode of transportation				
Car	272 (82.9%)	56 (17.1%)	1.596 (0.592, 4.305)	0.45
Foot, animal or human shoulder	50 (89.3%)	6 (10.7%)	1	
Waiting time				
<1 hour	265 (84.9%)	47 (15.5%)	1	
1–2 hours	41 (82.0%)	9 (18.0%)	0.352 (0.120, 1.029)	0.22
>2 hours	16 (72.7%)	6 (27.3%)	0.466 (0.130, 1.669)	0.90
The profession who attend delivery				
Doctor	141 (86.5%)	22 (13.5%)	0.813 (0.421, 1.571)	0.36
Midwife	181 (81.9%)	40 (18.1%)	1	
Gender of professional				
Male	217 (85.8%)	36 (14.2%)	1	
Female	105 (80.2%)	26 (19.8%)	0.616 (0.320, 1.184)	0.18
Maintenance of privacy				
Yes	305 (86.4%)	48 (13.6%)	8.405 (1.740, 29.591)	0.02*
No	17 (54.8%)	14 (42.2%)	1	

Note: *Shows significant at P-value <0.05.

counterparts.¹⁰ In addition, a study conducted at Sri Lanka revealed that low-income groups had higher satisfaction with delivery services which is also contrary to the current study finding.²⁶

In this study, mothers whose maternal outcome was normal were more satisfied than their counterparts (AOR=4.409, 95% CI: 1.453, 13.375). This is due to the fact that women who experience no complications may be happy that they survived which may result in satisfaction. Birth outcomes in terms of the health of the mother and newborn affect maternal satisfaction with health care delivery service. This finding is supported by the study conducted in the Amhara region which showed that mothers without complications were more likely to be satisfied than mothers with complications.¹² This finding is also consistent with the study conducted in Gambia,²⁷ India²⁸ and Ghana.²⁹

The current study also showed that mothers who felt their privacy was maintained were more satisfied with the overall delivery services (AOR = 8.405, 95% CI: 1.740,40.591). This finding illustrated that women who perceived privacy was kept during physical examination and delivery were more satisfied than those who perceived the absence of privacy. This might be due to the fact that not maintaining privacy during physical examination increases women's discomfort and leads to decreased satisfaction with health care delivery service. In Ethiopia, privacy of the clients is not always adequately maintained, especially for females. Privacy is a key requirement of women utilizing maternal care services during the delivery process. A study reported that only 45% patients who received care for maternal and/or family planning services were satisfied with privacy maintenance during consultation.³⁰ In support of this, a study conducted at the health institution of West Arsi zone indicates mothers whose privacy was kept were more satisfied with health care delivery service,³¹ and a study conducted in Debre Marko's town and Amhara region indicated good level of maternal satisfaction with assurance of privacy.^{11,12} This finding is also consistent with the study conducted in rural Bangladesh, India and health facilities in Bangladesh.^{24,28,30}

In general, maternal satisfaction has remained an ambiguous and complex concept with numerous predictors. Assessment of quality of care through the patients' satisfaction is highly individualistic and may reflect only part of health system responsiveness.

Limitation of the Study

Causality cannot be confirmed since the study design was cross-sectional. Lack of control groups and residual confounding may alter the associations between predictors and mothers' satisfaction. Recall bias and social desirability bias might be introduced as mothers might have given responses that would please health care providers instead of true reflection of their satisfaction. Since the health facilities from where mothers were selected were purposively selected, the representativeness of the findings may be limited.

Conclusion

The level of maternal satisfaction with the delivery services of government hospitals of Ambo town in this study was moderate. The finding of this study showed that average monthly income, maternal birth outcome and maintenance of privacy were significantly associated with maternal satisfaction. Health institutions delivering maternal health care services should strive towards client interest so that pregnant mothers will develop trust and confidence in the utilization of the health system.

Abbreviations

ANC, antenatal care; AOR, adjusted odd ratio; CI, confidence interval; EDHS, Ethiopian Demographic and Health survey; ETB, Ethiopian birr; FMOH, Federal Ministry of Health; IMR, infant mortality rate; MDGs, millennium development goals; RCOG, Royal College of Obstetricians and Gynecologists; SPSS, Statistical Package for Social Sciences; WHO, World Health Organization.

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Author Contributions

All authors made substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare that no competing interests in this research work.

References

- Nations U, Fund P, Children UN, Confederation I, Council I, Federation I. Definition of skilled health personnel providing care during childbirth: the 2018 joint statement by WHO, UNFPA, UNICEF; 2018:1–4.
- Worku AG, Yalew AW, Afework MF. Availability and components of maternity services according to providers and users perspectives in North Gondar, Northwest Ethiopia. *Reprod Health*. 2013;10:43. doi:10.1186/1742-4755-10-43
- Federal Democratic Republic of Ethiopia Ministry of Health. Health Sector Development Program IV 2010/11 – 2014/15.
- Sandin-Bojö AK, Kvist LJ. Care in labor: a Swedish survey using the Bologna score. *Birth*. 2008;35(4):321–328. doi:10.1111/j.1523-536X.2008.00259.x
- World Health Organization. WHO recommendations on health promotion interventions for maternal and newborn health 2015. World Health Organization; 2015. Available from: <https://apps.who.int/iris/handle/10665/172427>. Accessed June 29, 2020.
- Jahan S, Chowdhury MMH. mHealth: a sustainable healthcare model for developing world. *Am J Model Optim*. 2014;2(3):73–76. doi:10.12691/ajmo-2-3-2
- The Federal Democratic Republic of Ethiopia Ministry of Health. Health Sector Transformation Plan. The Health Sector Transformation Plan (HSTP) Strategic themes of HSTP. 2015/16-2019/20.
- Tuncalp O, Were WM, MacLennan C, et al. *Quality of Care for Pregnant Women and Newborns — The WHO Vision*; 2015:1045–1049.
- Ashraf M, Ashraf F, Rahman A, Khan R. Assessing women's satisfaction level with maternity services: evidence from Pakistan. *Int J Collab Res Intern Med Public Health*. 2012;4(11):1841–1851.
- Amdemichael R, Tafa M, Fekadu H. Maternal satisfaction with the delivery services in Assela Hospital, Arsi Zone, Oromia Region. *Obstet Gynecol*. 2014;4(12):2161.
- Bitew K, Ayichiluhm M, Yimam K. Maternal satisfaction on delivery service and its associated factors among mothers who gave birth in public health facilities of Debre Markos Town, Northwest Ethiopia. *Biomed Res Int*. 2015;2015:1–6. doi:10.1155/2015/460767
- Tayelgn A, Zegeye DT, Kebede Y. Mothers' satisfaction with referral hospital delivery service in Amhara Region, Ethiopia. *BMC Pregnancy Childbirth*. 2011;11:78. doi:10.1186/1471-2393-11-78
- Demas T, Getinet T, Bekele D, Gishu T, Birara M, Abeje Y. Women's satisfaction with intrapartum care in St Paul's Hospital Millennium Medical College Addis Ababa Ethiopia: a cross sectional study. *BMC Pregnancy Childbirth*. 2017;17:253. doi:10.1186/s12884-017-1428-z
- Tesfaye R, Worku A, Godana W, Lindtjorn B. Client satisfaction with delivery care service and associated factors in the public health facilities of Gamo Gofa Zone, Southwest Ethiopia: in a resource limited setting. *Obstet Gynecol Int*. 2016;2016:1–7. doi:10.1155/2016/5798068
- Tadesse BH, Bayou NB, Nebbe GT. Mothers' satisfaction with institutional delivery service in public health facilities of Omo Nada District, Jimma Zone. *Clin Med Res*. 2017;6(1):23–30. doi:10.11648/j.cmr.20170601.13
- Sileshi S Perception of mothers and providers on the quality of care in maternal and newborn service in selected hospitals of Addis Ababa; 2016.
- Melese T, Gebrehiwot Y, Bisetegn D, Habte D. Assessment of client satisfaction in labor and delivery services at a maternity referral hospital in Ethiopia. *Pan Afr Med J*. 2014;8688:1–9.
- Donabedian A. *An Introduction to Quality Assurance in Health Care*. Oxford: Oxford University Press; 2003:240.
- Yohannes B, Tarekgn M, Paulos W. Mothers' Utilization of antenatal care and their satisfaction with delivery services in selected public health facilities of Wolaita zone, Southern Ethiopia. *Int J Sci Technol Res*. 2013;2(2):74–85.
- Marama T, Bayu H, Merga M, Binu W. Patient satisfaction and associated factors among clients admitted to obstetrics and gynecology wards of public hospitals in Mekelle Town, Ethiopia: an institution-based cross-sectional study. *Obstet Gynecol Int*. 2018;2018:1–9. doi:10.1155/2018/2475059
- Mekonnen ME, Yalew WA, Anteneh ZA. Women's satisfaction with childbirth care in Felege Hiwot Referral Hospital, Bahir Dar city, Northwest Ethiopia, 2014: cross sectional study. *BMC Res Notes*. 2015;8:528. doi:10.1186/s13104-015-1494-0
- Yarinbab TE, Ambo WA, Regea T, Mariam A. Level of maternal satisfaction and its determinants at health facilities in Mizan-Aman Town, Ethiopia: cross sectional study. *Int J Womens Health Wellness*. 2019;5:088.
- Gashaye KT, Tsegaye AT, Shiferaw G, Worku AG, Abebe SM. Client satisfaction with existing labor and delivery care and associated factors among mothers who gave birth in university of Gondar teaching hospital; Northwest Ethiopia: institution based cross-sectional study. *PLoS One*. 2019;14(2):e0210693. doi:10.1371/journal.pone.0210693
- Adhikary G, Shawon MSR, Ali MW, et al. Factors influencing patients' satisfaction at different levels of health facilities in Bangladesh: results from patient exit interviews. *PLoS One*. 2018;13(5):e0196643. doi:10.1371/journal.pone.0196643
- Mocumbi S, Högborg U, Lampa E, et al. Mothers' satisfaction with care during facility-based childbirth: a cross-sectional survey in southern Mozambique. *BMC Pregnancy Childbirth*. 2019;19:303. doi:10.1186/s12884-019-2449-6
- Senarath U, Fernando DN, Rodrigo I. Factors determining client satisfaction with hospital? Based perinatal care in Sri Lanka. *Trop Med Int Health*. 2006;11(9):144251. doi:10.1111/j.1365-3156.2006.01698.x
- Cham M, Sandby J, Vangen S. Availability and quality of emergency and obstetric care in Gambia's main referral hospital: women-users' testimonies. *Reprod Health*. 2009;6:5. doi:10.1186/1742-4755-6-5
- George A. Quality of reproductive care in private hospitals in Andhra Pradesh: women's perception. *Econ Polit Wkly*. 2002;37:1686–1692.
- D'Ambruoso L, Abbey M, Hussein J. Please understand when I cry out in pain: women's accounts of maternity services during labor and delivery in Ghana. *BMC Public Health*. 2005;5:140. doi:10.1186/1471-2458-5-140
- Aldana JM, Piechulek H, Al-Sabir A. Client satisfaction and quality of health care in rural Bangladesh. *Bull World Health Organ*. 2001;79:512–517.
- Edaso AU, Teshome GS. Mothers' satisfaction with delivery services and associated factors at health institutions in west Arsi, Oromia regional state, Ethiopia. *MOJ Women's Health*. 2019;8(1):110–119.

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