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Factors Associated with Client Satisfaction with Institutional Delivery Care at Public Health Facilities in South Ethiopia

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Abstract
Background: Ethiopia has one of the world's highest maternal death rates. Client satisfaction is a dynamic indicator of quality of delivery care services. However, little is known about the factors that contribute to client satisfaction in this setting. **Objective:** To assess client satisfaction with institutional delivery in women attending for delivery at public health facilities in South Ethiopia**Methods**: A quantitative and qualitative cross-sectional study was conducted. Sixteen health facilities (one hospital and 15 health centers) were included in the study: a total of 380 mothers were interviewed when discharged. Consecutive sampling was employed to obtain the required sample size. Trained nurses collected the quantitative data, and the principal investigator collected qualitative data from focus groups. Data were coded, entered, cleaned, and analyzed using binary logistic and multivariable logistic regression analyses to identify predictors of client satisfaction. Qualitative data were analyzed according to themes and triangulated with the quantitative data. **Result**: Overall, 67.9% of clients were satisfied with delivery care in public health facilities in the study zone. Satisfaction varied from 23.4% in the technical dimension to 76.1% in outcomes of care. Predictors of satisfaction were: the presence of an attendant throughout delivery (AOR=2.18; 95% CIs 1.23-3.85), being informed about the baby following neonatal examination (3.22; 1.85-5.62), being prepared for labor and delivery (3.53 1.81-6.89), and care taken to assure privacy (3.07; 1.70-5.52). Qualitative data revealed a range of client satisfaction from perceiving warm, courteous, and respectful care to expressing grievances about being insulted, embarrassed, and even beaten by care providers. **Conclusion and recommendations:** Physical, interpersonal, and technical aspects of care influence client satisfaction with delivery care services. Healthcare providers should address problems related to physical, technical, and intrapersonal aspects of care and develop friendly and courteous relationships with clients and cleaner environments to escalate satisfaction, and hence utilization, of services by clients.
Keywords: Client satisfaction, delivery services, South Ethiopia

Background

There were an estimated 289,000 maternal deaths and 210 maternal deaths per 100,000 live births worldwide in 2013. In spite of a 45% decline in maternal mortality ratio (MMR) between 1990 and 2013 [1] and substantial but variable progress in the reduction of maternal mortality [2], maternal mortality is still unacceptably high in developing countries. The MMR is reported to be 14 times higher in developing than developed regions [1], and sub-Saharan Africa alone accounted for 62% of global maternal deaths. The lifetime risk of maternal death in industrialized countries is 1 in 4,000 vs. 1 in 51 in countries classified as 'least developed', proving that most maternal deaths can be prevented [3].

Over 70% of all maternal deaths are caused by five major complications: hemorrhage, infection, unsafe termination of pregnancy, hypertensive disorders of pregnancy, and obstructed labor [2, 4]. Nearly two-thirds of the eight million infant deaths that occur each year are caused by unskilled and poor maternal management of delivery [1]. The type of assistance a woman receives during childbirth has important health consequences for both mother and child [5-7]. Delivery assisted by skilled providers is the most important proven intervention for reducing maternal mortality and one of the millennium development goal (MDG) indicators to track national efforts in ensuring safe motherhood [8-10]. Nevertheless, while quality delivery care is one reproductive right, women in obstetric care also have the right to information, privacy, informed choices, confidentiality, access to services, safe services, expression of opinion, dignity, comfort, and continuity of care [9, 10]. Clients who have their expectations met and rights kept are more likely to comply with care, since women are more likely to deliberately change their place of birth if their care does not meet their expectations [7, 11-13].

Ethiopia is one of ten countries sharing 58% of the global maternal deaths reported in 2013 [1] and has an MMR of 676/100,000 live births [14]. The Ethiopian government works with international organizations to provide delivery services that are accessible and usable for all pregnant women; however, only 10% of births are managed by a skilled birth attendant, with southern nation attendances at only 6% [12, 14]. This figure is disappointingly low, even for developing countries (59%) and sub-Saharan regions (44%), and clearly far from meeting the MDG target of 90% coverage [15]. One possible reason for this lack of coverage of skilled delivery

in Ethiopia might include an unhappy health institutional delivery experience for the mother that limits their ability to utilize the service in subsequent pregnancies: factors might include gender sensitivity, preservation of dignity, and cultural sensitivity [7, 12, 16]. Together with community-level factors, the maternal experience may help to explain the extremely low utilization of health services for delivery [7, 12].

It is well known that satisfied patients are more likely to utilize health services, comply with medical treatment, and continue to interact with healthcare providers [17, 18]. When patients are satisfied, medical management and outcomes are enhanced. Patient satisfaction is a measure of the quality of care and is indispensable for the assessment of quality and the design and management of healthcare systems [18].

Assessing client satisfaction with respect to service delivery and the healthcare facilities might help guide the development and improvement of service delivery; one way of doing this is by surveying patients who have used health services. There is very little research on maternal satisfaction of delivery care services, especially in South Ethiopia. The aim of this study was to assess women's satisfaction and associated factors in public health facilities in South Ethiopia to help understand the extremely low rates of health service utilization during pregnancy.

Methods and Materials

This cross-sectional, facility-based study was conducted in Southern Nations Nationalities and Peoples' Regional State of Ethiopia. Based on the 2007 census, the region had an estimated population of 18.9 million (20% of the national population) in 2014. It is the third largest administrative region in the country and the most diverse in terms of language, culture, and ethnic background. The administrative capital, Hawassa Town, is located at 270 km from Addis Ababa.

The region is divided into 13 administrative zones. One zone was selected at random (Wolaita Zone), which in turn is administratively divided into 12 woredas (third-level administrative districts) and three town administrations with the total estimated population of 1,788,023 in 2014.

Sample size determination

Quantitative study. The sample size of mothers selected for exit interview was determined using the single population proportion formula based on the following parameters and assumptions: the proportion of mothers satisfied with delivery care in a study conducted in hospitals in north Ethiopia was 61.9% [13], 95% level of confidence, 5% margin of error, (d) =,

$$n = \frac{\left(Z_{\left(\frac{\alpha}{2}\right)}\right)^2 P\,(1-P)}{d^2} = 362$$

With an estimated 5% non-response rate, the sample size was calculated as (362+18) = 380.

Qualitative study. Four focus group discussions (FGDs) involving 7-9 mothers living in the area surrounding the health facilities were conducted for triangulation with the quantitative findings.

Sampling procedures

A two-stage sampling technique was used. For the first stage, one zone was selected.

Quantitative study. From a total of 55 public facilities providing delivery care services, 30% were included in this study (16 facilities). First, all public health facilities were stratified into either hospitals or health centers. A total of 15 health centers were randomly selected from the 55 health centers, and one public hospital was included purposefully (since there is only one public hospital in the study area). Second, the total sample size was proportionally allocated to the expected number of deliveries in the selected health facilities in a given year. Finally, a consecutive sampling technique was employed to select mothers exiting the facilities until the desired sample size was achieved.

Qualitative study. Mothers who had delivered in the public health facilities in the last six months were grouped with 7-9 other mothers in four facility areas for FGDs.

Data collection tools

The data collection tool has previously been used in similar studies across the world [13, 19, 20]. Client satisfaction measurements were adapted from pre-tested instruments used to assess client satisfaction with delivery care in Sri Lanka [19] and included 14 items with high internal consistency (Cronbach's alpha 0.81). These items covered several key dimensions of client satisfaction: accessibility (two questions), interpersonal aspects of care (three questions), the physical environment (three questions), technical aspects of care (four questions), and outcome of care (two questions). The data collection tool was translated from English to the local language and back to English again to check for consistency. The local language version was used for data collection.

Sixteen registered nurses collected the quantitative data using structured questionnaires. Data collectors were trained, and the questionnaire was pre-tested on five percent of mothers in different health facilities prior to conducting the actual study so that necessary modifications could be made.

Mothers were asked to rate their satisfaction as dissatisfied, neither satisfied nor dissatisfied, or satisfied. The qualitative data were collected from FGDs by principal investigators using a tape recorder.

Data analysis

Data from the exit interviews were manually edited, coded, and double entered into Epi Info version 7 and analyzed using SPPS version 20. Descriptive statistics and bivariate analysis were performed. Independent variables significant at the $P < 0.25$ level in bivariate analyses were included in the multivariate analysis. Multivariate logistic regression was carried out to identify independent predictors of client satisfaction. Odds ratios were used for interpretation, and p values < 0.05 were deemed statistically significant.

Qualitative data

Qualitative data were immediately transcribed verbatim then translated, categorized, coded, and analyzed according to themes. The findings of the qualitative results were used to triangulate the quantitative findings.

Ethical considerations

The Jimma University Ethical review board approved the study protocol. All participants were informed about the purpose of the study, and oral consent was obtained from each study participant prior to conducting the interview.

Results

Socio-demographic characteristics of the participants

A total of (96.8%, n=364) mothers who delivered in 16 public health facilities were interviewed. The mean (SD) age of the mothers was 26.9 (±5.36) years. Of the total interviewees, 126 (34.2%) were illiterate and 130 (35.3%) were housewives. The majority (336; 91.7%) of respondents were married, over half (206; 56%) of respondents were protestant Christians, and over two-thirds (69.8%) of mothers lived in rural areas (Table 1).

Obstetric characteristics of the respondents

Most mothers (236; 64.1%) were multiparous with two to four deliveries. One hundred and forty-eight (40.2%) mothers had no previous health facility delivery experience. Spontaneous normal vaginal delivery was the most common mode of delivery (239; 64.9%). Over a fifth of mothers (79; 21.5%) had a self-reported complication immediately after delivery, whereas 14 (3.8%) deliveries resulted in stillbirths. Over two-thirds of mothers (259; 70.4%) had at least one antenatal care intervention. Of the total newborns, 186 (50.5%) were males (Table 2).

Healthcare services provided to clients

Enquiries about the services offered by the health facilities in the post-natal period showed that over three-quarters (77.4%) of respondents had received counseling about family planning, while 341 (92.7%) respondents were offered counseling about HIV testing. Enquires about essential newborn care revealed that 170 (46.2%) and 169 (45.9%) newborns did not have immediate skin-to-skin contact and breastfeeding was not initiated within 30 minutes, respectively.

Clients' perceptions about health care services

Two-hundred and eighty (76.1%) respondents noted the presence of a waiting area in the facility. The reported median waiting time before seeing an attendant was 15 minutes. Slightly over half of respondents (52.7%) regarded the friendliness of front desk and/or other members of staff as good, and most 204 (55.4%) reported that they previously knew the attendant. With respect to care providers taking measures to assure privacy, 271 (73.6%) reported it as good. Over a third (35.6%) of mothers mentioned an absence of attendants throughout labor and delivery, and over half of respondents (51.4%) said that they were not informed about the baby following neonatal examination (Table 3).

Client satisfaction with delivery care services – overall satisfaction

67.9% of mothers were satisfied with delivery care services in the Wolaita zone. 74.7% of mothers would select the same facility for future deliveries, and 72.8% would recommend the facility to others based on their most recent delivery experience. 51(13.9%), 177(48.1%), and 140(38%) described the general quality of delivery care services as poor, fair, and good, respectively.

Client satisfaction with different dimensions of services

Over one third (34%) of respondents reported that they were satisfied with the accessibility of care, i.e., access to the hospital from home (205; 55.7%) and the waiting time at admission (185; 50.3%).

Qualitative results confirmed client satisfaction with the accessibility of the service in terms of distance relative to their previous experiences of accessing health facilities. Some women, however, were dissatisfied with accessibility, especially in relation to emergency care. A 25-year-old woman from Gara-Godo remarked:

"... when you go to the nearby health center to deliver, they claim that it is too complicated to be managed there. So, they sent me to a hospital far away, which was beyond my family's ability to pay."

Notwithstanding women from Sodo, where there are both health centers and a hospital, women in remote areas still felt a need for closer services. With respect to waiting time and the duration of their stay at the facility, clients appreciated being attended to (or at least have a provider check on them intermittently).

One 27-year-old woman from Gamo-Walana appreciated that, while other providers were sleeping, one provider remained with her at night and encouraged her to walk around until delivery. Some women, however, were left unattended during delivery in some health facilities. A 27-year-old woman from Sodo town remarked:

"They were not concerned with me. When you tell them something, they do not listen. They were too busy chatting

and calling each other on the phone and not caring about the patients."

Another 21-year-old woman from Gara-Godo recounted a similar incident of providers neglecting her, being "busy phone calling". Providers sometimes appeared at the woman's side only after she delivered the baby.

In general, women disclosed that they were satisfied with the accessibility of delivery care. Nevertheless, there was still a demand for further care and improvement in health facilities before meeting an attendant, especially at night.

With respect to interpersonal aspects of care, 150 (40.8%), 156 (42.45%), and 69 (26.1%) respondents were unsatisfied with the privacy maintained during care, encouragement during delivery, and politeness, courtesy, and respect from care providers, respectively. Therefore, only 137 (37.2%) mothers were satisfied with the interpersonal aspects of care.

From a qualitative perspective, the majority of women were satisfied with their interactions with providers in the different facilities. Women in labor acknowledged providers' encouragement and when they spoke in a tranquil and gentle manner. A 40-year-old woman from Humbo explained: *"The providers kept calming and encouraging me [so] that I would deliver safely, and that I should not worry but persist trying to push it out."* Another important part of patient-provider interactions that provided satisfaction was being welcomed and greeted warmly.

A 30-year-old women from Humbo elaborated: *"…the receptionist as well as the midwife welcomed people well … the way they receive you makes you satisfied with the facility."* In contrast, many discussants were unsatisfied with the staff. A 33-year-old woman from Soddo said: *"… even though I arrived not too late at night, the guards were too careless to open the door and the facility members were not cooperative to show the appropriate place. Also, some had an unwelcoming face which made me mad in time."*

Another 30-year-old woman from Soddo added the following: *"… from the time I arrived to the time I returned home, I saw "curled" faces entirely during labor and delivery from the attendant without talking and understanding anything and only strong commands which made me unsatisfied and uncomfortable with them."*

Relatively lower satisfaction scores were reported on the technical aspects of care, with only 86 (23.4%) respondents satisfied: 179 (48.6%) mothers were satisfied with the medical facilities on the ward, 283 (76.9%) were satisfied with the competency of care provider, 285 (77.4%) were satisfied on the health advice provided on caring for the newborn, and 149 (40.5%) were satisfied with their opportunity to clarify doubts about their care.

Mothers were satisfied with the care that they received from the facility, especially child care (including information on breast feeding, immunization, family planning, and HIV counseling and testing). A 23-year-old woman from Soddo town said: *"… I appreciate their efforts to provide care comprehensively including HIV testing, which is good for current as well as for the future planning of your life."*

The commonest provider-client encounter mentioned was "insulting" and "slapping of the thigh during delivery" by attendants, which was not always perceived as bad behavior but as normal behavior.

A 26-year-old from Gara-Godo described the following: *"… during labor pain unconsciously we squeeze ourselves and can be in an abnormal position because of the pain. During that time, the care provider could also be emotionally upset not to hurt us, rather in order to help us and our baby."*

Contrary to this, another 19-year-old woman from Soddo town expressed her dissatisfaction with such acts: *"… when I was shouting and yelling the nurse come with fellows and made fun of me saying 'it would have been better if you shouted during the conceiving processes and others there laughed at me."* Another 26-year-old from Soddo also complained that: *"… the providers in the operating theatre of the public hospital were always in a hurry and were harsh and look careless to anyone."*

A number of women mentioned that women who screamed with pain were more likely to be insulted and beaten by providers. Another woman admitted that she was beaten because she pressed her legs together to lessen her pain when the provider had told her to push.

According to respondents, these patient-provider interactions were influenced by providers' responses to women's behavior and provider-related issues. A 22-year-old woman from Humbo expressed her dissatisfaction with care providers' demands for stoical behavior as: *"…they demand from us what we can't offer, that is, staying indifferent in the vicissitudes of pain than can never be maintained."*

Another main dimension of satisfaction of woman during labor and delivery was being treated in private. A number of mothers stated that care providers need to be more cautious about maintaining privacy during care. A 33-year-old woman from Soddo phrased this as: *"… whatever had been done to me resulted in no satisfaction when the door was left open by an assistant, and some individuals suddenly entered the delivery room in search of the attendant for their [own] issue."*

Generally, women were satisfied when they were treated politely and with respect,, courtesy, and privacy at any time during delivery, rather than providers demanding stoical behavior during labor and delivery.

Satisfaction with the physical ward environment was low, with only 95 (25.8%) women satisfied. When asked about their satisfaction with the sanitation of the facility, women were seldom fully satisfied with cleanliness and sanitation. In particular, women were dissatisfied with floor and couch cleanliness.

One woman criticized the hospital for having dirty bathrooms with insufficient water; she felt that the situation

was unacceptable. Other women condemned ward cleanliness. A 33-year-old woman from Soddo said: *"... though I was very satisfied with the care all the way through, I felt embarrassed when I had to sleep on a couch which was left unclean from a previous birth, with some blood and secretions visible on top of the bed. "*

A shortage of water and dirty toilets was the main source of dissatisfaction for several women. This was particularly exacerbated by a disaster that took place in the area during the data collection period that left the power supply to the area interrupted for several days. A 41-year-old women from Sodo explained: *"...as we all know, there has been sudden explosion of the power supply in our area. Due to this disaster, we knew we would face different problems. However, as this is the place where we expect to have cleanliness and hygiene, it was shame to have unclean bathrooms and beds."*

The bed shortage was problem in the public hospital. According to the women surveyed, they were discharged as quickly as possible due to a lack of beds or broken beds.

A relatively higher proportion of mothers were satisfied with care outcomes than any other care components 280 (76.1%), i.e., satisfaction with health outcome of the newborn as well as the mother.

Factors associated with overall satisfaction - Perceived client factors

All the perceived client factors: perceived availability of a waiting area, waiting time before seeing a birth attendant, friendliness of front desk staff, presence of attendant throughout labor and delivery, care providers take measures to assure privacy, mother informed about the baby following examination, and previous knowledge of care provider were significantly associated with satisfaction of mothers with delivery care services in bivariate analysis (Table 4).

Multivariable analysis

Clients who reported the presence of an attendant throughout labor and delivery were twice as likely to be satisfied than those who were not (AOR=2.18; 95% CIs 1.23-3.85), and those who reported that care providers took measures to assure privacy were three times more likely to be satisfied than their counterparts (AOR 3.07; 95% CIs 1.70-5.52). Clients informed about the baby following neonatal examination were three times more likely to be satisfied compared to those who were uninformed (AOR=3.22; 95% CIs 1.85-5.62), where as those mothers prepared for labor and delivery were over three times more likely to be satisfied than those who were not (AOR 3.53; 95% CIs 1.81-6.89; Table 5).

Discussion

Overall, the 67.9% of mothers were satisfied by delivery care in this study, which is low compared to some other studies conducted in developing countries (92.5% in [21]), but relatively higher than the study conducted in northern Ethiopia (61.9% [13]), Nairobi, Kenya (56% [22]), and Sri Lanka (48% [19]). These differences may be due to the quality of services provided, expectations of mothers, or the types of health facilities studied.

With respect to the components of satisfaction, the lowest satisfaction was with the technical aspects of care (23.4%), with higher satisfaction reported for care outcomes than any other component. Lower satisfaction with the technical aspects of care is consistent with the study conducted in Sri Lanka [19], in which a relatively higher proportions of mothers were satisfied with care outcomes than any other component. This was primarily attributed to the lower proportion of mothers satisfied with the opportunity given to clarify their doubts during labor and delivery.

Clients also expressed dissatisfaction with some of the interpersonal aspects of care. The not uncommon provider-client encounter mentioned was "insulting" and "sometimes slapping the thigh" during delivery by attendants, which was usually not perceived as inappropriate by mothers, who though it normal. Clients were least satisfied by ward cleanliness (37.2%), which differs from the Sri Lankan study in which 70.4% of mothers were satisfied with ward cleanliness [19].

Predictors of satisfaction

With respect to the measures taken to assure privacy by care providers, clients in whom privacy was maintained were more likely be satisfied (AOR 3.07; 95% CIs 1.70-5.52). Another study on client satisfaction with institutional delivery in the Amhara regional state also showed that this was an important determinant of satisfaction [13], and other studies in different parts of Ethiopia have shown similar dissatisfaction when privacy is compromised [7]. Higher satisfaction with efforts made by care providers to preserve privacy may be due to the assumption that the care provider is respecting local culture and norms and is preserving and respecting the mother's dignity.

Clients being informed about the baby's condition following neonatal examination was an important predictor of satisfaction (AOR 3.22; 95% CIs 1.85-5.62). This finding is consistent with studies of client satisfaction on delivery care in Sri Lanka and Ghana [19, 23], where informed mothers were more likely to be satisfied with childbirth services. This is also consistent with previous studies that reported effective communication and provision of adequate information as predictors of satisfaction with childbirth services [24, 25]. This implies that women place great valued on the provision of information about their newborn's condition and treatment.

Being prepared for labor and delivery is one predictor of client satisfaction (AOR 3.53; 95% CIs 1.81-6.89). This might be due to women who are prepared for labor and delivery being more informed, having previous exposure to health facilities, or more realistic expectations about the facility than women who were unprepared for labor and delivery.

Although short waiting times before seeing a care provider was not a predictor of satisfaction, it was significantly associated in bivariate analysis. The finding is consistent with Egyptian and Ethiopian studies of client satisfaction with delivery care, which both revealed long waiting times as significantly associated with client dissatisfaction [13, 16]. The reason for their satisfaction with short waiting times could be attributed to the readiness of the medical and non-medical staff to provide care throughout the day and night, since many deliveries took place over night when clients may have expected difficulties in service provision.

Women's suggestions for improvements

i. Decrease waiting times and increase the friendliness of staff (including the guardian) in the facility.

ii. Providers should talk to patients nicely and "…stop maltreating clients". In general, women appreciated when providers talked to them in a soothing and calm manner, encouraged women to persevere, and were polite.

iii. Facilities could be improved by maintaining cleanliness, providing a continuous water supply, and maintaining warmth. As one woman explained, *"the health facility should be hygienic. The floor, beds, and all other stuff [should be clean] and the place should be warm because of the baby. This prevents the baby from contracting other diseases like malaria, pneumonia and coughs."*

iv. When women were asked who should be involved in making improvements to the health facilities, women mentioned a variety of stakeholders including the government, the Minister of Health, the Zonal Health Department, Woreda Health Offices, and researchers from universities, NGOs, and donor organizations.

Limitations

This study has some limitations: the information on satisfaction may not fully reflect differing situations during different seasons, which could be addressed in a follow-up study. This study focused on the demand-side point of view (point of view of the expectant mother), and the supply-side view was not considered, therefore the data may not accurately represent actual service utilization. The study used an interviewer-administrated questionnaire that might result in social desirability bias.

Conclusions

Overall, satisfaction with delivery care in the Wolaita Zone in Ethiopia is suboptimal. Childbirth satisfaction is multidimensional, with various dimensions of service and care contributing to the experience: accessibility, interpersonal aspects of care, medical facilities on the ward, the physical environment, and care outcomes. Clients were least satisfied with the technical aspects of care including the medical facilities, competency of the care provider, opportunity to clarify doubts about care, and health advice on caring for newborns. Clients were reasonably satisfied with the interpersonal aspect of care: privacy maintained during care, encouragement and politeness, courtesy, and respect by care providers during delivery. However, respondents found ward cleanliness unacceptable. Finally, being informed about the baby following examination, measures taken by care providers to assure privacy, being prepared for labor and delivery, and presence of an attendant throughout labor and delivery were the main predictors of client satisfaction. The most important determinants of client satisfaction with institutional delivery in public health facilities in South Ethiopia are related to health facility service factors, in particular the approach taken by care providers towards clients.

Competing interests

We declare that we have no competing interests.

Authors' contributions

TD conceived the study, designed and involved conduct of the study, MA and MA consulted the overall process of the study. TM involved in the analysis and interpretation of the findings. All the authors read and approved the final content of the manuscript

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Table 1. Sociodemographic characteristics of mothers attending delivery service at public health facilities in South Ethiopia, 2014

Variables	Frequency	Percentage (%)
Age in years		
<=20	48	13.0%
21-34	275	74.8%
35-49	45	12.2%
Marital status		
Married	336	91.3%
Widowed	13	3.5%
Divorced	11	3.0%
Single	8	2.2%
Ethnicity		
Wolaita	284	77.2%
Amhara	36	9.8%
Gurage	23	6.2%
Kambata	17	4.6%
Others	8	2.2%
Religion		
Protestant	206	56.0%
Orthodox	113	30.7%
Muslim	26	7.1%
Catholic	23	6.2%
Educational Status		
Illiterate	126	34.2%
Grade1-6	98	17.1%
Grade7-12	63	22.1%
Above-12	81	26.6%
Occupation		
House wife	130	35.3%
Farmer	78	21.2%
Government employee	64	17.4%
Merchant	53	14.4%
Student	26	7.1%
Others	17	4.6%
Residence		
Rural	257	30.2%
Urban	111	69.8%
Place of delivery		
Hospital	64	17.4%
Health center	304	82.6%

Table 2. Obstetric characteristics of mothers attending delivery service at public health facilities in South Ethiopia, 2014

Variable	Frequency	Percent
Parity		
1	82	22.3%
2-4	236	64.1%
>=5	50	13.6%
Ever delivered in health facility		
Yes	138	48.3%
No	148	51.7%
Prepared for labor and delivery		
Yes	292	79.3%
No	76	20.7%
Mode of delivery		
Spontaneous vaginal delivery	239	64.9%
Assisted vaginal delivery	112	30.4%
Cesarean section	17	4.6%
Maternal complication immediately		
Yes	79	21.5%
No	289	78.5%
Fetal outcome		
Live birth	354	96.2%
Still birth	14	3.8%
Antenatal care follow-up		
Yes	259	70.4%
No	109	29.65

Table 3. Perception of health facility care of mothers attending delivery at public health facilities in South Ethiopia, 2014

Variable	Frequency	Percentage
Perceived presence of waiting area		
Yes	280	76.1%
No	88	23.9%
Friendliness of front desk staff		
Good	194	52.7%
Bad	174	47.3%
Previous knowledge of attendant		
Yes	204	55.4%
No	164	44.6%
Care providers measures taken to assure privacy		
Good	271	73.6%
Bad	97	26.4%
Presence of attendant throughout delivery		
Yes	237	64.4%
No	131	35.6%
Mother informed about the baby following examination		
Yes	179	48.6%
No	189	51.4%

Table 4. Client's perception of health care services associated with client satisfaction among women attending delivery service at public health facilities in South Ethiopia, 2014

Variables	Unsatisfied			
	Satisfied	Unsatisfied	OR	P value
Perceived availability of waiting area				
Yes*	206(73.6%)	74(26.4%)	1	
No	44(50%)	44(50%)	.359	0.000
Waiting time before seeing an attendant				
<=15 min*	161(77%)	48(23%)	1	
>=15 min	89(56%)	70(44%)	.379	0.000
Friendliness of front desk staff and other staff members				
Good *	143(73.7%)	51(26.1%)	1	
Not good	107(61.5%)	67(38.5%)	.57	0.013
Presence of attendant throughout labor				
Yes *	187(78.9%)	50(21.1%)	1	
No	63(48.1%)	68(51.9%)	.248	0.000
Care providers measures taken to assure privacy during examinations				
Good *	206(76%)	65(24%)	1	
Not good	44(45.4%)	53(54.6)	.262	0.000
Mother informed about the baby following examination				
Yes	150(83.8%)	29(16.2%)	4.603	
No *	100(52.9%)	89(47.1%)	1	0.000
Previous knowledge of care provider				
Yes *	160(78.4%)	44(21.6%)	1	
No	90(54.9%)	74(45.1%)	.334	0.000

* Reference group

Table 5. Predictors of client satisfaction with delivery care services among women attending delivery at public health facilities in South Ethiopia 2014

Variables	Satisfaction		COR	AOR (95% CIs)
	Satisfied	Unsatisfied		
Presence of attendant throughout labor and delivery				2.18(1.23,3.85)
Yes	187(78.9%)	50(21.1%)	4.03	
No *	63(48.1%)	68(51.9%)	1	
Care providers measures taken to assure privacy during examinations				3.07(1.70,5.52)
Good	206(76%)	65(24.0%)	3.81	
Not good *	44(45.4%)	53(54.6)	1	
Mother informed about the baby following examination		29(16.2%)		3.22(1.85,5.62)
Yes	150(83.8%)	89(47.1%)	4.603	
No *	100(52.9%)		1	
Prepared for labor and delivery				3.53(1.81,6.89)
Yes	225(77.1%)	67(22.9%)	6.84	
No *	25(32.9%)	51(67.1%)	1	

* Reference group