

Maternal Satisfaction and Associated Factors towards Delivery Service among Mothers Who Gave Birth at Nekemte Specialized Hospital, Nekemte Town, East Wollega Zone, Oromia Regional State, Western Ethiopia, 2019: A Cross-sectional Study Design

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ABSTRACT

Background: It was stated that maternal satisfaction with delivery care service is used to measure the ability of services provided to meet the client expectation. In Nekemte Specialized Hospital there is lack of empirical evidences on the level of maternal satisfaction who attend maternity ward to gate delivery care services.

Objectives: To assess the level of maternal satisfaction and associated factors towards delivery service among mothers who gave birth at Nekemte Specialized Hospital, 2019.

Methods: A facility based quantitative cross-sectional study was conducted from April-01 to April-30, 2019 in Maternity ward of the Hospital. The data was collected using a structured interview-based questionnaire, and a total of 260 mothers were interviewed using consecutive sampling technique. Data was entered into Epidata 3.1 and transported to SPSS for windows program version 20. Odds ratio and 95% confidence interval (CI) was calculated and P-value<0.05 was considered statistically significant.

Results: The overall satisfaction of mothers with delivery service was 82% (95% CI:75.8, 84.00). Mothers who delivered through cesarean section (Adjusted odd ratio (AOR)=2.80, 95% CI:1.335.89)), privacy assured (AOR=2.63, 95% CI:1.42-4.85), short duration of labor persist <12 hours. (AOR=1.98, 95% CI:1.12-3.50), waiting time<15 min (AOR=3.23, 95 %CI: 1.83-5.71) and normal fetal condition (AOR=4.33, 95% CI:1.94-9.66) were associated with mother's satisfaction with delivery services.

Conclusions: The overall maternal satisfaction with delivery care services provided in the hospital was good. Mode of delivery, assured privacy, duration of labor persists <12 hours, waiting time<15 min and normal fetal condition were factors associated with mother's satisfaction with delivery services. Therefore, health workers should work together on identified factors to improve maternal satisfaction.

Keywords: Satisfaction; Nekemte; Hospital; Delivery service; Wollega

INTRODUCTION

Satisfaction is a person's feelings of happiness or displeasure as a result of comparing a product's outcome in relation to his or her expectations [1]. Measuring client satisfaction has become an integral part of hospital or clinic management strategies across the globe [2].

Over the past two decades, client or patient-centered care has become internationally recognized as a dimension of the broader concept of high-quality health care [3]. In 2001, Institute of Medicine's (IOM) defined good quality care as: safe, effective, client or patient-centered, timely, efficient and equitable. It defined client or patient-centered care as 'care that is respectful of and responsive to individual client or patient preferences,

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needs and values, and ensuring that client's or patient's values guide all clinical decisions' [4].

To achieve health for all, the primary health care (PHC) values the health systems that "put people at the center of health care" which considers the citizens' "expectations about health and health care" and ensuring "that their voice and choice decisively influence the way in which health services are designed and operate" [5].

Users of health services want safe, appropriate interventions, treatment, and care that consider their dignity and respect. Besides, they want information that is accurate, timely, and relevant. Consumers believe that if this is to happen, then consumers of health services must be involved and consulted, not only in relation to their own healthcare, but also about service planning and delivery, health evaluation and research [6]. In any service delivery organization, measuring client satisfaction is desirable; because it provides invaluable insight into clients' intentions to revisit a service [7].

It was stated that maternal satisfaction with delivery care service is used to measure the ability of services provided to meet their expectation which is an important factor for the choice of health facility, comply with services and follow ups and continue with the health care [8]. In health service organization, it was reported by different studies as: satisfied client or patient has complied with the medical treatment prescribed, provider recommendation delivered, and continually using medical services at a specific health provider, which might result with, enhanced disease healing process, healthier and happier clients, whom contributing to the development of the country [9-11].

The World Health Organization (WHO) states that obstetric care should be: safe; effective; timely; efficient, equitable; and client-centered [12]. WHO envisions a world in which "every pregnant woman and newborn receives quality care throughout pregnancy, childbirth and the immediate postnatal period" [13]. Perceptions surrounding the quality of care that will be received in a facility impact a woman's initial decision to deliver in a facility, in addition to whether she will access institutional delivery for subsequent births [14-16].

The world has made impressive progress in reducing maternal mortality (MM) by nearly half over the past two and half decades. Access to affordable, high quality respectful maternal healthcare is fundamental to the survival of pregnant and child bearing women and girls as well as new born. Ninety-nine percent (99%) of preventable maternal deaths occur in low and middle income countries. Ethiopia is one of the sixteen countries in Africa where seventy percent (70%) of maternal deaths occurred worldwide [17].

Increasing the proportion of deliveries attended by skilled providers is essential to reduce life threatening risks to women and their newborns during child birth. The coverage for institutional delivery has been improving in Ethiopia in recent years reaching 26% in 2016 compared to 10% in 2011, and only 19% in Oromia regional state. However, this figure indicated that still around 74% and 81% of mothers gave birth at home in Ethiopia, and Oromia regional state respectively. It was also reported that; the maternal mortality ratio of Ethiopia in the

year 2016 was 412 per 100,000 live births [18]. Therefore, understanding women's satisfaction with their childbirth experience is relevant to health care providers, administrators and policymakers as an indicator of the quality of maternity care. In Nekemte Specialized Hospital, there is lack of empirical evidences on the level of maternal satisfaction who attend maternity ward to gate delivery care services. So, the aim of this study was to assess the maternal satisfaction and associated factors towards delivery service among mothers who gave live birth at Nekemte Specialized Hospital from April 01 to April 30, 2019.

Globally, approximately 800 women die from preventable causes related to pregnancy and child birth every day, and ninety-nine percent of all maternal deaths occur in developing countries. Skilled care before, during and after child birth can save the lives of women and new born babies [19]. Despite concentrated global efforts to decrease the incidence of maternal mortality in low resource settings, the maternal mortality ratio (MMR) remains unacceptably high. In 2015, the MMR for low and middle income countries (LMICs) persisted at 239 deaths per 100,000 live births, as compared to just 12 deaths per 100,000 live births in developed countries [20].

Despite all the efforts by Ethiopian federal ministry of health, the central government, donor funding agencies and all other stake holders to improve maternal, neonatal and child health care services in Ethiopia, still around 74% and 81% of mothers gave birth at home in Ethiopia and Oromia regional state respectively. It was also reported that; the maternal mortality ratio of Ethiopia in the year 2016 was 412 per 100,000 live births [18]. The quality of care received by mothers and babies in developing countries is often reported as poor [21]. Among the key elements of high quality of care giving people-centered which is providing care which considers the preferences and aspirations of individual service users and the cultures of their communities is very important [4].

Respectful maternity care (RMC) is a human right and an integral component of comprehensive health services. Components of RMC include privacy, education about rights and choices, freedom from abuse, and treatment with dignity. Receiving RMC has direct health outcomes, and is a key determinant for whether women seek to deliver their baby with a skilled birth attendant in the future. However, disrespect and abuse during pregnancy and delivery are a well-documented phenomenon [22].

Increasing access to and utilization of health care services is not sufficient for improving maternal health outcomes. The quality of care a woman receives during pregnancy, delivery and postpartum affects her health, the health of her child and the likelihood that she will seek care in the future [23]. Poor quality care in institutional births is recognized to be a major contributing factor to childbirth-related harm [24]. Provision of high-quality obstetric care depends on a wide range of structural inputs and effective processes being performed. But deliveries happen in the context of social cultural norms, so it is important to understand the expectations and experiences of both women and providers, as they can impact maternal health outcomes [25-26].

Client satisfaction measures provide healthcare managers with useful information about the structures, process, and outcomes of care. They alert administrators of the positive and negative aspects of their institutions. To the clients', the appearance of the environment and employees, reliability, dependability of the service delivery, responsiveness, competence, understanding of the patients, access, courtesy, communication, credibility, and security, all indicate quality care. Client's satisfaction also hinges on whether the service experiences meet consumer expectations [27].

The reasons for measuring client satisfaction include describing health care service from the client's perspective, measurement of the process of care and evaluation of care as a function of client satisfaction [28]. Besides, ensuring client satisfaction is an important means of secondary prevention of maternal mortality [29].

A maternal satisfaction with the delivery service may have both immediate and remote effects on health of the mothers and their new born. Negative feedback of childbirth process, immediately: increases the risk of postpartum depression and dissatisfaction and remotely: change the maternal attitudes towards future pregnancies and future choice of mode of delivery. However, some identified negative impacts were reflected in a number of health outcomes, including maternal and infant mortality rate, perinatal infections, perceived health status, and hygiene compliance. Feelings of satisfaction are essential to maintaining maternal health, as well as providing continuous quality care of maternal and child health [30].

Client satisfaction is a key determinant of quality of care and an important component in measuring performance [31]. In addition, it is important that the hospitals promoting client-oriented health services should carry out in-depth research on factors determining satisfaction in the respective culture [32].

Currently, many clients including mothers who gate health care and delivery services from the public health institutions including hospitals complain about the perceived quality of health care deliveries and they are less satisfied to the services provided to them. Nekemte Specialized Hospital is also not unique from this. To identify specifically which factor causes mothers dissatisfaction requires an investigation. Therefore, this study was aimed to assess maternal satisfaction and associated factors among mothers who gave live birth at Nekemte Specialized Hospital, Western Ethiopia. The result of this study was provided scientific evidence regarding maternal satisfaction with delivery care.

Although the literature pertaining to maternal satisfaction in the maternity ward may be extensive, there is a paucity of data on maternal satisfaction and its associated factors pertaining to maternity ward delivery services in Nekemte specialized hospital. The result from this study will give useful information about targeted areas of intervention for the board managers, decision makers, planners, business partners and other related staffs in the Nekemte Specialized Hospital to improve delivery care service given in the hospital in general, and maternity ward in particular. Besides, understanding of the factors influencing maternal satisfaction on delivery care services provided in this

hospital could help policy and decision makers to devise effective health care strategy and operational plan for the overall betterment of obstetrics services which have significant positive impact on the lives of mothers and newborns. Moreover, it will also become an initiating document or spring board for other researchers to further study and improve the status of delivery care services in the hospital. This study will also help hospitals in determining what clients' value in any health care's delivery (Figure 1).

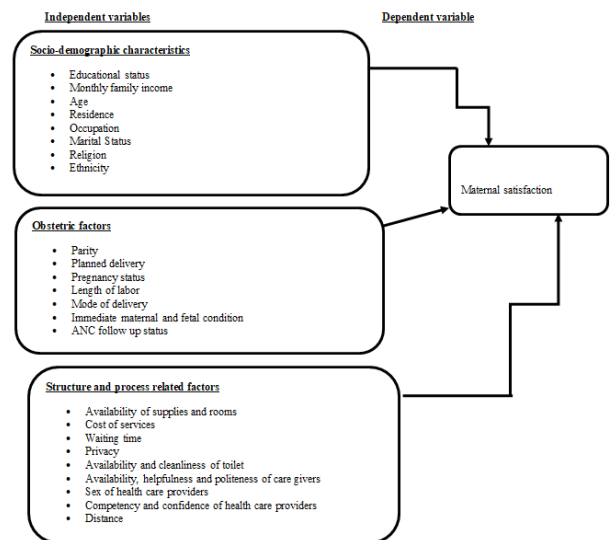


Figure 1: An adopted conceptual framework for the study of maternal satisfaction and its associated factors towards delivery service among mothers who gave birth at Nekemte Specialized Hospital Oromia regional state, Western Ethiopia from April 01 to April 30 2019.

MATERIALS AND METHODS

Study area and period

The study was conducted in Nekemte Specialized Hospital from April-01 to April-30 2019. This Hospital is one of the governments run hospital which was established in 1932 by Swedish Missionaries. It is located in out skirt of the Nekemte town of East Wollega zone, Oromia regional state, and found at a distance of 331 kilometers, west of the nation's capital, Addis Ababa. It is upgrade to referral hospital in 2004. It is the only hospital serving as a specialized center in western part of the region for more than 2.5 million populations. This hospital currently staffed with technical staff of 196 and non-technical staff of 117, a total human power of 313.

The maternity ward has 8 rooms operated by 2 gynecologists, 2 integrated emergency surgical officers (IESO), 5 nurses, and 18 midwives. Currently maternity ward has 28 beds. The average monthly delivery care services conducted within this ward in the year 2019 is 310.

Study design

A facility based quantitative cross-sectional study design was employed.

Source population

All reproductive age group women who were visited Nekemte specialized hospital for the delivery service from April-01 to April-30 2019.

Study population

All pregnant mothers' who gave live birth at Nekemte specialized hospital and discharged from the hospital and fulfilled the selection criteria during the study period were taken as the study population.

Study unit

An individual mother was taken as the study unit.

Inclusion criteria

Mothers who were attended delivery services in the study hospital and willing to participate in the study.

Exclusion criteria

Mothers with still birth because might give misrepresented view and might affect the result of the study of this nature, and those severely ill and not willing to participate in the study were excluded.

Sample size and Sampling procedure

Sample size determination

The required sample size for study participants was determined by using the single population proportion formula based on the assumptions that α (level of significance, 5%=1.96); P (the proportion of satisfied mothers with delivery care services: P=0.81(35); d (marginal error, 5%=0.05), and 10% of the calculated sample size was added to compensate non-responses. Then, the sample size based on the above assumptions is:

$$n = [(z \alpha / 2)^2 p(1-p)] / d^2$$

$$n = [(1.96)^2 0.81(0.19)] / (0.05)^2 = 236$$

and, adding 10% for non-response rate during the actual study; 260(two hundred and sixty) mothers who give live births was included in the study subjects.

Sampling procedures

Nekemte specialized hospital is purposefully selected based on service provision to the public and provision of basic obstetrics and new born care. The non-probability consecutive sampling technique was used; by using exit interview to cover the maximum possible postnatal period during the hospital stay to assess overall maternal satisfaction on delivery service. The study unit was selected from postnatal ward of the hospital until the required sample size was obtained. This was the most appropriate method of sampling as the judgment and deliberate effort was used to select postnatal mothers giving live birth at the hospital and who were about to discharged from the hospital.

Data collection procedures

Data collection tool

The data was collected by using the structured questionnaire which is developed for the purpose of data collection after intensive reviewing of relevant literatures [8, 15-16, 29, 32-38] and consultation with experts. The questionnaire in the beginning was prepared in English and then translated into Afaan Oromo and back to English to ensure consistency, but finally administered in Afaan Oromo.

Fifty-two (29 questions and 23 Likert type items) was used to attain the objective of the study. The study tool was comprised of four parts. Part one mainly focusing on the demographic information of delivering mothers (10 questions). Part two was about the obstetric characteristics of postnatal mothers (10 questions), part three was about health facility or structure related respondents' satisfaction (11 questions), part four was about process related respondents' satisfaction (19 questions) and part five was (2 open-ended questions). Part three and four was a five-point Likert scale used to access maternal satisfaction on delivery services (23 Likert type items) and part five was about the reason for visit, and maternal recommendation on the delivery services of the hospital. The responses for Likert type items was scored on a 5-point Likert scale in the questionnaire which was ranging from 1 ("Strongly disagree") up to 5("Strongly agree").

Data collection procedures

The data was collected by two diploma midwives; under the supervision of one BSc midwife from Nekemte and Celeleki health centers, which were capable of speaking Afaan Oromo. An exit, face-to-face interview was administered to mothers on leaving the post-natal ward; that received services and completed their visit from the respective units.

Study Variables

Dependent variable

Maternal satisfaction with delivery service

Independent variable

Socio-demographic characteristics of delivering mothers [Age, marital status, educational status, Occupation, monthly family income, residence, religion, ethnicity, type of visit]

Obstetric characteristics of delivering mothers [number of deliveries, mode of present delivery, maternal and fetal outcome, duration of labor, pregnancy status, ANC follow-ups, cost of services, having previous delivery experience]

Perceived client satisfaction towards [health facility or structure, and process with in the hospital]

Reason for visit and mother's recommendation

Operational definitions

Waiting time: The interval between arrival at maternity ward and seen by a physician (that is at waiting station of the maternity ward).

For satisfaction scale of each item, the level of mother’s satisfaction was taken as:

Mother’s perception: Mothers’ reported opinion or view about delivery care services process of maternity ward

Overall maternal satisfaction: was measured by the percentage of maximum scale score which was computed using the formula:

$$\text{Percentage mean score} = \frac{(\text{Actual score} - \text{potential minimum score})}{(\text{Potential maximum score} - \text{Potential minimum score})} * 100$$

Since this formula gave individual percentage mean score, we took the average of this score to know the overall level of maternal satisfaction.

Mother who completes entire process: Mother who gets all services delivered at maternity ward for which she is coming that day.

Satisfied: Above average percentage mean score or just one’s expectation

Unsatisfied: Less than or equal average percentage mean score or below one’s expectation.

Data processing and analysis procedures

The data obtained was entered to Epidata 3.1 and transported to SPSS windows version 20 for the analysis. Before final analysis the principal investigators’ performed data cleaning by looking at the distribution of the data, identifying outliers and checking back against the original data and analysis of descriptive statistics was carried out first.

Binary logistic regression analysis was done, and also Variables having p value less than or equal to 0.25 in binary logistic regression analysis was entered to back ward step wise multivariate logistic regression analysis for identifying determinants of maternal satisfaction on delivery services. A

significance level of 0.05 was used in all cases. A 95 % confidence interval was computed along with the corresponding p-value for selected variables to check associations.

The responses for item was scored on a 5-point Likert scale in the questionnaire which is ranging from 1(“strongly disagree”), 2(“dissatisfied”), 3(“neutral”), 4(“agree”) and 5(“strongly agree”). Overall maternal satisfaction was measured by taking the average individual percentage mean score which gave as the percentage mean score of overall satisfaction of mothers towards delivery care services of the hospital.

Data quality control

Training was given for two data collectors and one supervisor by the principal investigators for one day on the purpose of the study and procedures of data collection. A week prior to the actual data collection the questionnaire was pre- tested in Wollega university teaching hospital on 13 post-natal mothers (accounts 5% of the sample size) that was not included in the actual study to ensure the acceptability, comprehensibility and understandability of questionnaire by the participants; so that modifications was made to the questionnaires accordingly. Data collectors were instructed to check the completeness of each questionnaire at the end of each interview. Regular supervision, spot checking and reviewing the completed questionnaire was carried out by supervisor and then principal investigators’ daily to maintain data quality.

RESULTS

Socio-demographic characteristics

In this study, a total of 257 study participants were involved, making a response rate of 98.8%. The mean (±SD) age of the participants was 25.97(±5.399 SD) years. More than two third, 171 of the participants were found within the age group of 21-34 years. Majority of them, 200 of the study participants were Oromo by ethnicity and 167(65%) were protestant by religion. All of them (100%) were married while 113(44%) were housewives. More than two third, 170(66 %) of the respondents were from urban (for detail information see Table 1 below).

Table 1: Socio-demographic characteristics of mothers who gave birth at Nekemte Specialized Hospital in Nekemte town, Western Ethiopia, 2019.

Variables	Categories	Frequency(n=257)	Percentage (%)
Maternal age	<20 years	9	4
	21-34 years	171	67
	35-49 years	77	30
Marital status	Married	257	100
Level of Education	In or completed 1st to 4th grade	10	4
	In or completed 5th to 8th grade	15	6

	In or completed 9th to 10th grade	87	34
	In or completed 11th to 12th grade	5	2
	In or completed college or university	140	54
Occupation	Government Employee	35	14
	Private Employee	73	28
	Farmer	11	4
	Merchant	19	7
	House wife	113	44
	Daily laborer	6	2
Religion	Orthodox Christian	61	24
	Protestant	167	65
	Muslim	29	11
Ethnicity	Oromo	200	78
	Amhara	49	19
	Tigrie	3	1
	Gurage	5	2
Residence	Urban	170	66
	Rural	87	34
Monthly income (ETB)	≤ 1500	68	26
	> 1500	189	74
How they visit the hospital	Came after referral	37	14
	Came upon recommendation from friend or relative	64	25
	Came upon personal decision	156	61
Type of visit	New	59	23
	Repeat	198	77

Obstetrics characteristics of the respondents

Of the respondents nearly half, 126(48%) were primiparous. One hundred eighteen (46%) were preferred to give birth in this hospital. Majority, 244(95%) of the respondents replied their

current pregnancy is wanted. Labor persist<12 hours among 208(81%) of the respondents. Regarding mode of delivery, 177(69%) were spontaneous vaginal delivery (for detail information see Table 2 below).

Table 2: Obstetrics characteristics of mothers who gave birth at Nekemte Specialized Hospital in Nekemte town, Western Ethiopia, 2019.

Variables	Categories	Frequency(n=257)	Percentage (%)
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Parity	One	126	49
	Two-five	117	46
	More than five	14	5
Reason for visit of this hospital	Planned for delivery	118	46
	Referred for delivery	139	54
Status of current pregnancy	Wanted	244	95
	Unwanted	13	5
Duration of labour persist (in hours)	<12 hours	208	81
	>12 hours	49	19
Mode of delivery	Spontaneous vaginal delivery (SVD)	177	69
	Instrumental delivery/Assisted delivery	20	8
	Caesarian section	60	23
Maternal outcome	Normal	248	96
	With complication	9	4
Fetal condition	Lived	223	87
	With complication	34	13
ANC follows up	Yes	212	82
	No	45	18
Number of ANC visits	One	95	37
	Two	119	46
	Three	36	14
	Four and above	7	3
History of giving birth in this hospital	Yes	205	80
	No	52	20

Maternal satisfaction with delivery services

Availability and adequacy of medical supply and drugs related satisfaction 174(68%), availability of laboratory services related satisfaction 189(74%), overall care given related satisfaction 211(82%), verbal encouraged and reassurance during labor related satisfaction 139(54%) and satisfaction related to sex of health care providers 236(92%) (for more detail information see the Figure 2 below).

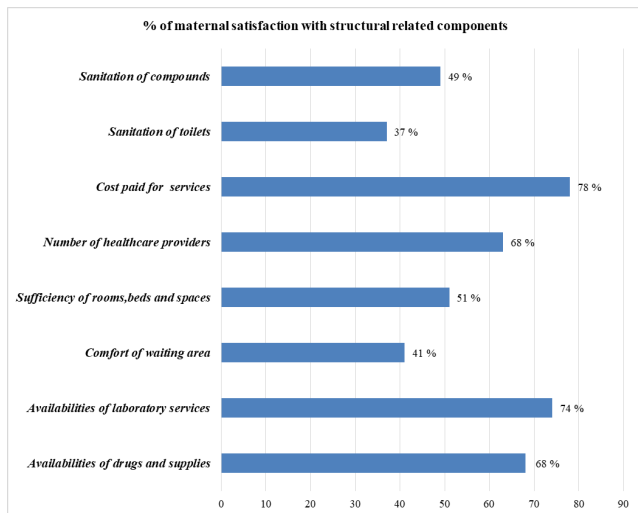


Figure 2: Mother’s satisfaction proportion with component of structure related satisfaction of mothers in Nekemte Specialized Hospital in Nekemte town, Western Ethiopia, 2019 (n=257).

In this study the overall satisfaction level of mothers with delivery service was 82% (95% CI:75.67, 84.00). The structure related and process related satisfaction of mothers were 61% (95% CI:57.3, 67.2) and 58% (95% CI:77.8, 84.8) respectively (see Figure 3 below).

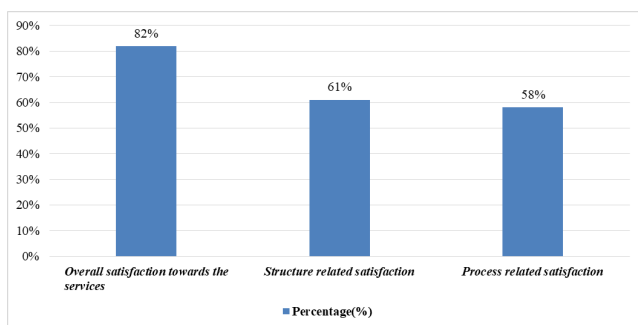


Figure 3: Maternal satisfaction with delivery service in Nekemte Specialized Hospital, Nekemte town, Western Ethiopia, 2019 (n=257).

Table 3: Factors associated with mother’s satisfaction with delivery services in Nekemte Specialized Hospital, Nekemte town, Western Ethiopia, 2019.

Variables	Categories	Satisfied N (%)	Unsatisfied N (%)	COR (95% CI)	AOR (95% CI)
Level of Education	In or completed 1st to 4th grade	8(79)	2(21)	0.23(1.04-3.15)	0.43(0.71-5.10)
	In or completed 5th to 8th grade	13(89)	2(11)	2.56(1.06-6.18)	2.45(0.90-6.72)
	In or completed 9th to 10th grade	64(73)	23(27)	2.32(1.05-5.11)	1.70(0.59-4.85)
	In or completed 11th to 12th grade	4(81)	1(19)	1.41(0.61-3.28)	0.97(0.36-2.61)
	In or completed college or university	80(57)	60(43)	1	1
Residence	Urban	150(88)	20(12)	2.19(1.22-3.92)	1.59(0.62-4.06)

Factors associated with maternal satisfaction

In bivariate analysis, mother’s education level, maternal age, place of residence, pregnancy status, mode of delivery, ANC visit, assured privacy, duration of labor persists, waiting time and fetal condition were associated with outcome variables and moved to multivariable model. In multivariable model mode of delivery, assured privacy, duration of labor persists; waiting time and fetal condition were associated with mother’s satisfaction in delivery services.

Mothers who delivered through Cesarean section were 2.8 times more likely to be satisfied than those who delivered through spontaneous vaginal delivery (AOR=2.80, 95% CI:1.33-5.89).

Mothers whose privacy assured were 2.63 times more likely to be satisfied than those mothers whose privacy was not assured (AOR=2.63, 95% CI:1.42-4.85). Regarding duration of labor persist, those mothers whose labor persist for less than 12 hours and less were 1.98 times more likely satisfied compared to women whose labor persist more than 12 hours (AOR=1.98, 95% CI:1.12-3.50).

Those participants who waited 15 minutes and less to be seen by the health care provider were 3.23 times more likely satisfied compared to women who were waited more than 15 minutes (AOR=3.23, 95% CI:1.83-5.71).

Those respondents whose fetal condition normal were 4.33 times more likely satisfied compared to women whose fetus delivered with complication (AOR=4.33, 95% CI:1.94-9.66) (for detail information see Table 3 below).

	Rural	66(76)	21(24)	1	1
Maternal age	<20 years	6(65)	3(35)	0.45(0.71-3.11)	0.62(0.23-2.61)
	21-34 years	140(82)	31(18)	1.37(0.63-2.98)	1.80(0.67-4.81)
	35-49 years	56(73)	21(27)	1	1
Duration of labor persist	<12 hours	179(86)	29(14)	1.98(1.12-3.50)	3.03(1.50-6.14) *
	≥ 12 hours	26(52)	23(48)	1	1
Waiting times (in minutes)	<15 minutes	56(83)	12(17)	3.23(1.83-5.71)	4.31(2.24-8.29) **
	≥ 15 minutes	91(48)	98(52)	1	1
Condition of fetus	Lived	192(86)	31(14)	2.53(1.36-4.73)	4.33(1.94-9.66) **
	With complication	13(37)	21(63)	1	1
	Died	0	0	0	0
Assurance of privacy	Yes	140(70)	60(30)	2.63(1.42-4.85)	3.73(1.79-7.75) **
	No	10(18)	47(82)	1	1
ANC follow up	Yes	165(78)	47(22)	1	1
	No	39(87)	6(13)	1.70(0.91-3.19)	2.13(0.89-5.10)
Mode of delivery	Spontaneous vaginal delivery (SVD)	136(77)	41(33)	1	1
	Instrumental delivery/Assisted delivery	12(60)	8(40)	0.85(0.36-2.00)	0.70(0.26-1.92)
	Caesarian section	49(81)	11(19)	2.80(1.33-5.89)	2.85(1.21-6.72) ***
Current pregnancy status	Wanted	193(79)	51(21)	2.00(1.03-3.91)	2.28(0.98-5.25)
	Unwanted	8(65)	5(35)	1	1

Significant at: *P=0.002, **P<0.001, ***P=0.017, 1= reference.

DISCUSSION

This study revealed that, the overall satisfaction level of mothers with delivery service was 82% (95% CI:75.67, 84.00). The structure related and process related satisfaction of mothers were 61% (95% CI:57.3, 67.2) and 58% (95% CI:77.8, 84.8) respectively. Mode of delivery, assured privacy, duration of labor persists, waiting time and fetal condition were factors associated with mother's satisfaction with delivery services.

The overall mother's satisfaction with delivery service was in consistent with previous studies conducted in Debre Markos town (81.7%), Assella Hospital (80.7%), Mekelle Ethiopia (79.7%), Wolaita Zone (82.9%) and Jimma University Specialized Hospital (77%) [28-36].

The finding was higher than the study conducted in Felege Hiwot Referral Hospital Northwest Ethiopia (74.9%) and Nairobi Kenya (56%) [37-38]. It was lower than the study

conducted in Arbaminch District Southern Ethiopia (90.2%) [29]. The possible difference may be due to improvement of health service delivery for mothers because of high government concern for maternal health service in terms of qualified human power such as nurses, midwives and obstetricians and involvement of different stakeholders to reduce maternal and child mortality. High maternal satisfaction results in return visit of facilities for the second time which in turn reduces home delivery and its consequences. It might also because a real difference in quality of services provided expectation of mothers or the type of health facilities.

Mothers who delivered through Caesarean section were almost three times more likely to be satisfied with delivery service than those mothers who delivered through spontaneous vaginal delivery [SVD]. This was in line with the study conducted in Debre Markos, and Gamo Gofa Zone [29,35]. This might be due to mostly in Ethiopia most of cesarean section deliveries were conducted at emergency situation, saving their baby and

the mother life in that situation may change their perception towards the facility and result in satisfaction.

Mothers whose privacy assured were 3.7 times more likely to be satisfied than those mothers whose privacy was not assured. This was in line with the study conducted in referral hospitals of Amhara region Ethiopia, Assella Hospital, Mekelle [28,34,36]. This could be due to even though mothers were admitted for reproductive organ related issue which is sensitive organ by keeping privacy there was no sense of shame and guiltiness attached to the process of physical examination which result in better satisfaction.

Regarding duration of labor persist, those mothers whose labor persist for less than 12 hours and less were three times more likely satisfied compared to women whose labor persist more than 12 hours. This was in line with the study conducted in Debre Markos and Wolaita zone [29,35]. This might be due to if mothers stayed for short duration there will not breach in privacy due to few vaginal examinations, asked low cost for services and friendly attitude of care providers for them which results in higher satisfaction of mothers for delivery services. Similarly, in this study the researcher found assured privacy to be associated with mothers' satisfaction.

Those participants who waited 15 minutes and less to be seen by the health care provider were 4.3 times more likely satisfied compared to women who were waited more than 15 minutes. This was similar with the study conducted in referral hospitals of Amhara region Ethiopia and Assella Hospital [34,36]. This might be because short waiting time resulted in good satisfaction due to low exposure to uncleaned toilet, low cost paid to service and low exposure to poor cleanliness and comfort of waiting area.

Those respondents whose fetal condition normal were 4.3 times more likely to be satisfied compared to women whose fetus delivered with complication. This was similar with the study done in Amhara Region referral hospitals [36]. This might be due to the fact that pregnant mothers and family members wanted to have normal baby, so if they had baby without complication mother perception towards satisfaction changed and they become more satisfied.

CONCLUSION

Generally, more than two third of mothers were satisfied with the overall care provided in the hospitals. Mode of delivery, assured privacy, duration of labor persists <12 hour, waiting time <15min and normal fetal condition were factors associated with mother's satisfaction with delivery services.

LIMITATION OF THE STUDY

Potential response biases often present in patient satisfaction studies related to social desirability and we had tried to minimize this bias by interviewing mothers in a separate room by trained midwives who are not affiliated with the facilities studied.

RECOMMENDATIONS

Health care providers

Should provide patient centered care; by keeping their privacy during physical examination, delivery and respecting their culture of not exposing their body part.

Should give due respect for mothers by keeping privacy, explaining the procedure done for them and informing the condition of the fetus.

Should avoid staying longer waiting time to see delivering mothers.

Have to follow progress of labor using partograph to prevent prolonged labor and bad fetal outcome after delivery.

Hospital administrators

Must work to make the hospital more comfortable and suitable by fulfilling the need of the mothers.

Should supervise the delivery service given for mothers in order to provide compassionate and respectful patient care to improve their entrance for the second time.

Hospitals

Should work in collaboration with regional health beaurauou, ministry of health and other stakeholders who involved directly or indirectly on maternal and child health to fulfill the necessary drugs and supplies used for labor and delivery services.

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ETHICAL CONSIDERATIONS

Before any attempt to collect the data, permission letter was obtained from Nekemte Specialized Hospital, and an informed verbal consent was obtained from each respondent after providing sufficient information on the purpose of study. Anyone who was not willing to participate in the study had a full right to do so. To ensure the confidentiality of respondents their names was not written on the questionnaire.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

AUTHOR CONTRIBUTIONS

All authors' responsibilities were as follows: ZK participated in the design of the study, performed the data collection and the statistical analysis and served as the lead author of the

manuscript. Jiru Fekadu Assefa and Tesfaye Dagne Weldemariam supervised the study, ensured quality of the data; they assisted in the analysis and interpretation of the data. All authors read and approved the final manuscript.

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