

Satisfaction with Childbirth Services Given in Public Health Facilities: A Cross-Sectional Survey in Ethiopia

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ABSTRACT

Background: Service satisfaction encourages mothers to continuously utilize and consume the maternal health care package. But no alike work in the current research area reported so far which this research committed to delivering evidence about the contentment of women in delivery care service provision.

Objective: To assess mother's satisfaction and determinants toward childbirth service in Mana District, Jimma Zone, Ethiopia, 2018.

Methods: A facility-based cross-sectional study was conducted on 674 women who delivered at the health centers in the last one-year prior study. Data were entered into EPI info version 7, exported to SPSS version 21 then descriptive and multiple regression analysis performed.

Result: Mothers' delivery service satisfaction in this study was 45 percent. Supplies, perceived average monthly income, numbers of health facility delivery, being a housewife, and the age of women were found as the independent predictors of delivery service satisfaction.

Conclusion and recommendation: Poor cleanliness of the delivery room, inadequacy of water during delivery, and not being asked for accord were major sources of dissatisfaction. Older age, low income, being a non- housewife, and delivering only once at a health facility had better chances of satisfaction. Hence health facilities should resolve problems of physical aspects like poor hygiene and water shortage. Care providers better are vigilant of the apprehension of delivering mothers during the care process with consensus.

Keywords: Delivery service, Satisfaction, Mother health, Ethiopia

Abbreviations: ANC: Antenatal Care; EDHS: Ethiopia Demographic Health Service; HC: Health Center, HAD: Health Development; HF: Health Facility; HSDP: Health Sector Development Program; MMR: Maternal Mortality Ratio; SBA: Skilled Birth Attendant

INTRODUCTION

Ethiopia is one of the countries which showed a remarkable improvement in achieving maternal health service though there are unfinished tasks that the country expected to meet by the year 2030 [1-3]. Skilled birth attendance is a strategy to decrease maternal morbidity and mortality and comprised as indicator. Globally in the last two decades coverage of skilled birth attendants rose considerably [3,4]. Improving the quality of health service that incorporates client satisfaction is important and it plays a role in increased service utilization by increasing maternal satisfaction [4-6].

Patient satisfaction has been defined as the degree of agreement between a patient's expectations of ideal care and perception of real care [7]. From various dimensions of patient satisfaction identified, the interpersonal aspect, the technical aspect of health care, and the physical aspect care were used in patient assessment of health facility care [8]. Patient satisfaction has become an important measurement of health care performance. The patient accurately assesses and provides inputs that can help in the overall improvement of quality health care provision [9,10].

Women's memory of childbirth experiences stay with them for a lifetime and are often shared with other women. Hence, the

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negative experiences during childbirth affect mothers' attitudes on the future pregnancy negatively and choice of place of delivery. This is because the health-seeking behavior of a client is affected by dissatisfaction and this leads to poor utilization of health service [11,12]. The other reasons of decreased satisfaction includes communication barriers, failure to take into account the patient's concerns and expectations, lack of a clear cut explanation concerning diagnosis, and causation of illness [10].

Studies show that so many factors are related to maternal service satisfaction in health facility delivery [13-17]. It is an important tool both for evaluation and improvement of healthcare services and the availing systematic information to decision-makers and programmers and has a substantial value in enhancing the implementation of quality health service provision. However, to the knowledge of the authors there is no sufficient information in the study area. Hence, the aim of this study is also to assess the level of women's satisfaction with childbirth services and determinants from their experience of care in health facilities in the Mana District of Jima Zone, Oromia, Ethiopia.

METHODS AND MATERIALS

Study Design and Period

A facility-based cross-sectional study design using a quantitative supplemented by the qualitative method was conducted from the 15th of March to the 25th of May 2018.

Study Setting

The study was conducted in the Mana District of Jima Zone in three selected Health Centers, (Yebu, Kore, and Haro). Manna District is found in the southwest part of Jima Zone at 22Kms from the capital town, Jimma. Based on CSA's estimation, the total population of the district is projected to be 196718. The total number of females is estimated to be 100326 while the estimated total number of pregnant women is 6826 during the study period. The district has 7 health centers and 26 health posts [18].

Source population: All mothers who delivered at public health centers in the district.

Study population: All mothers who delivered at the selected health centers in the last 12 months and registered on that specific facility delivery log-book and included in the study.

Inclusion criteria: - Mothers who delivered at health centers and who registered on delivery registration log-book of selected health centers in the district within the last one year.

Exclusion criteria: Mothers who were ill and not communicative during data collection.

Sample Size Determination

The sample size was determined by using the single population proportion formula. From a previous study, the proportion of mothers' expected satisfaction with institutional birth service in public health facilities was 65.2% [17]. By considering a 5% margin of error, a 10% non-response rate, and a design effect of 2, the final sample of mothers was 674. Purposive sampling method was used to select participants for qualitative study by the FGD method.

Sampling Procedure

Three health centers were selected from the total seven health centers in the district by using the lottery method. Then the

study sample was proportionally allocated to the three HCs. Then the sample of mothers allocated to one facility divided by the total registered deliveries attended in the last year at all three health centers to get a fraction (f). Finally, every size of the basic sampling unit needed from each health center was determined as a product of, the total annual number of deliveries at each health center multiplied by the already derived fraction. For data collection, a systematic sampling technique was used to draw the study subjects from each HCs. The sampling interval was derived using a sample of each facility and the number of registered deliveries on the log-book of the respective facility in the study period. The address of the selected mother was obtained from the log-book and/or the treatment/reception file. This address was used to trace each mother for data collection.

Variables of the Study

Dependent Variable: Maternal Service Satisfaction

Independent variables: Socio-demographic characteristics (age, ethnicity, religion, marital status, educational status, occupation, average monthly income), obstetric characteristics (total number of children alive, number of children delivered at the health facility, history of stillbirth, duration of labor, mode of delivery, mother condition, time of delivery, planned status), option for birth accompany, communication, supportiveness, respect, water, electricity, cleanliness and drug, and medical supply.

Operational Definitions

Satisfaction: - It was measured based on five-point Likert scale measurement (adopted) 1=dissatisfied strongly, 2=dissatisfied, 3=neutral, 4=satisfied and 5=satisfied strongly [19,20].

Overall satisfaction:- Those who were satisfied in greater or equal to 75% of the item would be categorized as "satisfied" and those who were satisfied in less than 75% of the item would be categorized as "unsatisfied" [19,21].

Key respondents: -Those mothers included in the study and who serves as a role model or figure for the community by their different activities like women health development army were considered as a key informant of the study.

Data collection procedures (instruments, personnel, measurements)

Quantitative part: Data was collected by using a structured questionnaire that was adapted from previous similar studies in the English language and then translated to the local language Afan Oromo. One supervisor of BSC Degree holders and three diploma nurses who were not an employee of the district health office were used to collecting data.

Qualitative part: Focus group discussion guide themes were prepared in English and then translated to local language Afan Oromo. The discussion was led by the principal investigator and sound recording tape was used for the backup besides notes.

Data quality was assured by giving one-day training for supervisors and data collectors. Before starting the main study tool pretest study was performed in nearby Gembe Health Center of Goma District. Participants' privacy and confidentiality were given emphases during and post data collection. The collected data were checked for completeness and daily by the supervisor to take immediate corrective measures.

Data Analysis

The collected data edited, coded, entered into the premade template of epi info version 7, and exported to SPSS version 21

for analysis. Initially, the dependent variable was derived from the five-point Likert scale of 14 satisfaction items ranging from strongly satisfied to strongly not satisfy. The demarcation threshold formula was used to compute the threshold score for satisfaction $[(\text{total highest score} - \text{total lowest score}) / 2 + \text{total lowest score}]$ [19,21]. Then mothers' satisfaction dichotomized into "satisfied" and "unsatisfied". Bivariate analysis was done and those variables with p-value less than 0.25 were taken as candidates for multivariable model analysis. The final statistical association and its strength were judged based on AOR and its 95 % confidence interval.

Qualitative data were analyzed thematically by transcribing audio recordings from the FGD and notes were taken during the discussion. The audio recordings were first transcribed word by word and translated into English by the principal investigator. The transcribed data were coded manually based on thematic areas of the study. Ideas related to the objective of the study and commonly indicated by informants were taken to triangulate the quantitative data and included in the report.

Ethical Issue

Ethical and study protocol approved by College of Health Sciences Ethical Review Committee. Prior to the interview informed written consent obtained from each participants. Privacy, confidentiality and anonymity kept throughout the study.

RESULTS

Socio-demographic Characteristics of Participants

A total of 660 mothers were involved in the study with a response rate of 98 percent. The mean age of respondents was 26.7 with a standard deviation (SD) \pm 5.2, and 485(73.5%) respondents were between 19 and 24 years of age. The majority of them were Oromo

in ethnicity and most of them were Muslim in their religion, nearly ninety-six out of hundreds of them were married (Table 1).

Obstetric Characteristics of Respondents

The mean parity of respondents was 1.9 with SD of \pm .64, and 224 (33.9%) of mothers have 1 child and 54.2% of them have two to four children. Three hundred ninety-seven (60%) mothers had delivered only one child at a health facility in their lifetime and 84.1 % of the deliveries were planned, 99.1 % of the babies were delivered alive (Table 2)

Mothers' Level of Satisfaction Qualitative Study Result

The qualitative part indicates the majority of mothers were satisfied with their interactions with skilled birth attendants in the facility. Laboring mothers got excited and happy when given the care with respect and support from the health care provider. Twenty-five years old and a district 1-5 woman development army leaders from Yabu explained: "...it was my first pregnancy when I start to feel pain related with labor I went to a health center and the health personnel in charge of the time-ordered me to inside the room and I had a bed. My labor pain was progressed and the birth attendant said to me "your baby was fine you need to push down during contraction and you would give birth at 2:00 local time". My husband asked the midwife if there was a problem related to labor and the midwife reassured him there was no problem at all and she told him that I could give birth at 2:00 local time here. And finally, I gave birth at 2:00 local time she assisted me a lot. So, she was very much comfortable for me!" this was supported by the majority of mothers in the discussion.

Another 30 years old woman added: "...when I reached the Health Facility they assisted me a lot and they stay with me while I feel pain and finally I gave birth". In another way, many mothers were

Table 1: Maternal characteristics by newborn gestation (N=811).

	Total N=811 Mothers	NTB		
		PTB <37 weeks (N=86) *10 Twins	\geq 37weeks (N=725) *8 Twins	
Age	32.2 (SD: 4.6; Range: 20-49)	33.6 (SD: 4.7; Range 24-45)	32.0 (SD: 4.6; Range 20-49)	0.11
Minority Race	390 (48%)	47 (55%)	343 (48%)	0.21
Married Yes	543 (67%)	55 (68%)	488 (71%)	0.61
OEF/OIF/OND Yes	796 (98%)	85 (99%)	711 (98%)	0.62
Deployed (ever) Yes	488 (60%)	48 (57%)	440 (62%)	0.43
Service Connected** Yes	445 (55%)	42 (86%)	403 (83%)	0.66
First pregnancy? Yes	273 (34%)	26 (31%)	247 (35%)	0.46
Prenatal care early as wanted Yes	576 (71%)	60 (71%)	516 (72%)	0.85
VA Maternity Benefit* Yes	776 (96%)	83 (98%)	693 (96%)	0.55
Maternity Care Coordinator Yes	679 (84%)	70 (83%)	609 (85%)	0.66
LBW	71 (9%)	48 (56%)	23 (3%)	p<0.001
Problem or Illness since birth Yes	337 (42%)	42 (49%)	295 (41%)	0.35
Diagnosis of MH Depression/Anxiety	513 (63%)	56 (65%)	457 (63%)	0.71
PTSD*	314 (39%)	40 (47%)	274 (38%)	0.12
MST Harassment/Rape	439 (54%)	53 (62%)	386 (55%)	0.18
Gestational Comorbidity	64 (8%)	19 (23%)	45 (7%)	P<0.001
Newborn Health Status Excellent/Very Good	763 (94%)	76 (88%)	687 (95%)	0.006
Health Care Satisfaction Very Satisfied/Satisfied	724 (89%)	79 (92%)	645 (91%)	0.73
Newborn LOS \geq 8 days	87 (11%)	15 (17%)	72 (10%)	0.003
Newborn Health Insurance Yes	723 (89%)	80 (93%)	643 (90%)	0.53

dissatisfied with the health workers there. A 32 years old mother from Kore explained: "before I gave birth, when I was in labor pain I asked the midwife to see me but, she refused when I approach to deliver, I asked her to hold me to lift on the coach but, she refused me to assist. You know this time I felt that my baby would land on the ground. During all this process started to feel weakness".

Mothers in labor and maternity ward need privacy and appropriate information for their health and the newly borne baby. This was supported by the majority of the qualitative study participant. A mother with age 28 explained: "...during labor I admitted to labor ward and the midwife kept me there and gave me care I still remember the information that she teaches me on the function of breastfeeding it was a good time for me." Even though the majority supports this idea some women are still dissatisfied with the care of the skilled birth attendant. A 24 years woman explained: "...I

gave birth a year back. When I arrived at the health center at 7:00 pm the SBA was not in the labor ward, they live far away from the night duty room and they couldn't wake up timely and so that they disappointed us. Because of this, I told my family to take me back I didn't want to stay there. Meanwhile, I was admitted to the labor ward at 9:00 pm local time and gave birth.

From qualitative data, the majority of women were dissatisfied with the cleanliness of the delivery room. A 29 years old mother explained: "After I gave birth the SBA transferred me to maternity ward the cleanliness of the room was good, but what I saw badly was the blanket. It was worn out and coated with blood and this made me a little bit disappointing." One of the participants, a 30 years mother added, "during my stay at the health center there was no cleaner and the condition (the cleanliness) of the delivery room was disappointing". Another important part of the Health Facility

Table 2: Maternal characteristics by newborn birthweight (N=811).

		Total N=811 Mothers	LBW 9 twin births (71)	NBW 9 twin births (740)	
Age		32.2 (SD: 4.6; Range- 20-49)	33.6 (SD: 4.9; Range 23-43)	32.0 (SD: 4.6; Range 20-49)	0.02
Minority Race	Yes	390 (48%)	48 (68%)	342 (46%)	<0.001
Married**	Yes	543 (67%)	41 (60%)	502 (71%)	0.58
OEF/OIF/OND	Yes	796 (98%)	71 (100%)	725 (98%)	0.23
Deployed (ever)	Yes	488 (60%)	41 (59%)	447 (61%)	0.65
Service Connected **	Yes	445 (55%)	37 (82%)	408 (84%)	0.81
First pregnancy? **	Yes	273 (34%)	23 (33%)	250 (34%)	0.81
Prenatal care early as wanted	Yes	576 (71%)	51 (73%)	525 (72%)	0.90
VA Maternity Benefit*	Yes	776 (96%)	67 (96%)	709 (97%)	0.70
Maternity Care Coordinator	Yes	679 (84%)	56 (82%)	623 (85%)	0.53
Problem or Illness since birth	Yes	337 (42%)	29 (41%)	308 (42%)	0.94
Diagnosis of MH Depression/Anxiety		513 (63%)	51 (72%)	462 (62%)	0.12
	PTSD	314 (39%)	39 (55%)	275 (37%)	0.003
MST Harassment/ Rape*		439 (54%)	43 (61%)	396 (55%)	0.38
Gestational Comorbidity*		64 (8%)	12 (18%)	52 (7%)	0.004
Newborn Health Status	Excellent/Very Good	763 (94%)	63 (89%)	700 (95%)	0.02
Health Care Satisfaction	Very Satisfied/Satisfied	724 (89%)	63 (90%)	661 (91%)	0.80
Newborn LO \geq 8 days		87 (11%)	13 (19%)	74 (10%)	0.009
Newborn Health Insurance		723 (89%)	63 (89%)	660 (90%)	0.85

Table 3: Predictors of Newborn outcomes among 811 Newborns of Women Veterans.

	Low birthweight <5.8 pounds RR	PTB < 37 Weeks gestation at birth RR
Age	1.1 (95% CI: 1.0-1.1; p=0.3)	1.1 (95% CI: 1.0-1.1; p=0.02)
Race Non-White, minority race or ethnicity	2.3 (95% CI: 1.3-4.0; p=0.003)	1.1 (95% CI: 0.7-1.8; p=0.73)
PTSD Yes	2.2 (95% CI: 1.3-3.6; p=0.003)	1.4 (95% CI: 0.9-2.3; p=0.14)
Gestational Comorbidity Yes	1.8 (95% CI: 0.9-3.7; p=0.12)	3.5 (95% CI: 1.8-6.5; p<0.001)
Infant Complications	0.9 (95% CI: 0.5-1.5; p=0.63)	1.3 (95% CI: 0.8-2.1; p=0.34)

physical resource-related care was a drug and medical supply related satisfaction. A 32 years mother said: "The service given in the delivery room was good. Unfortunately, after I gave birth and stayed in the maternity ward I started to feel abdominal pain and I told this to the midwife and she gave an injection."

Satisfaction with Different Aspects of Facility Service

Mothers' level of satisfaction with different aspects of institutional delivery service: interpersonal aspect related satisfaction, service and care process related satisfaction and health facility physical resource-related satisfaction were assessed using 14 satisfaction items that have a five Point Likert Scale (Table 3).

Sat- Satisfaction

Maternal Satisfaction on Three Dimensions

The study findings in the three dimensions of care with interpersonal aspect, with service and care process aspect and with the physical aspect of care shown below (Table 4).

Factors Associated With Mothers' Satisfaction

Mothers whose income less than five hundred Ethiopian Birr were less likely satisfied as compared to mothers whose income was greater than 1000 Ethiopian Birr. Mothers of younger age groups were more likely to be satisfied as compared to those mothers between the ages group of 35 -49 years old (Table 5).

DISCUSSION

This paper presented a study done on the level of mothers' satisfaction with institutional delivery service in a year preceding the data collection period in health facilities in Mana District, Jima Zone, and South-west Ethiopia. The overall satisfaction of mothers with delivery care in this study was 45%, which is very low compared to other findings of similar studies conducted in Omo Nada 65.2% [17], Amhara region 61.9% [21], South Ethiopia 67.9% [22] Kenya 54.5% [23] but comparable to a study in Sri Lanka 48% [24] and greater than a study in Asmara [25]. This discrepancy may be due to a real difference in the quality of services provided, satisfaction items, or the techniques used to compute overall satisfaction, the type of health facilities, and the difference in awareness about the service they obtained. Moreover, studies conducted in Sri Lanka [24] and Asmara [25] limited to the services dealing with referred cases alone.

Regarding components of satisfaction; the highest satisfaction was with the interpersonal aspects of care (65%); whereas, the lowest satisfaction reported for childbirth service care than health facility physical resource component of care (37%). This is supported by qualitative finding that showed cleanliness and medical supply was not adequate. The service and care process was in between the two (43.5%). Higher satisfaction with the interpersonal aspect of the care component is lower compared to a study conducted in Nepal (93%), in which a lower proportion of mothers were dissatisfied [26]. The discrepancy might be from the difference of the study setting.

From the statements related to interpersonal aspects of care, 48% were satisfied with the behavior of skilled birth attendants, 51% with the communication of skilled birth attendants, 57% with the respect provided by the skilled birth attendants, and 60% with the supportiveness of the skilled birth attendants, these are more than a half satisfaction that the qualitative showed the complaint was there on service provision. Consistent with the current study,

a study conducted in Omo Nada [17] showed that 73.4 were satisfied with the behavior of skilled birth attendants, 68.8% with the communication of skilled birth attendants, and 59% with the supportiveness of the skilled birth attendants. In current study delivering mothers, satisfaction was associated with the number of the child delivered at the health facility, age, income, and occupational status of mothers. This finding was inconsistent with studies done in [17,19,27,28]. The difference might happen from the study methods or sociodemographic variation.

The number of children delivered at health facilities was one predictor of mothers' satisfaction. Mothers who gave birth at a health facility only one child were less likely to be found satisfied than those mothers who delivered three and more children at a health facility. This may be due to mothers who gave birth at a health facility for the first time expect more and lack experience as compared to mothers who experienced giving birth at a health facility. Housewives were 2.43 times more likely to be detected satisfied than those who were merchants [AOR 2.43, CI (1.33, 4.41)]. This might be due to housewives were not accessible to information about their rights during giving birth and/or they refrain from responding intentionally. This finding was similar to studies were done in Amhara Region and Hawasa City [21,22] and the study did in Nepal [26].

The age of the women was a statistically significant predictor of women's childbirth care satisfaction. Different Studies show younger age mothers were less satisfied than older mothers. On the contrary, this study result showed that younger mothers were more likely satisfied than older age mothers. Mothers 19-24, 25-29, and 30-34 years old were more likely satisfied as compared to those mothers between the age group of 35-49 years old, [AOR 2.54, CI (1.35, 4.77)], [AOR 3.43, CI (1.88, 6.27)] and [AOR 1.95, CI (1.0, 3.669)] respectively. This finding was similar to the results of three studies conducted in Ethiopia Omo Nada, Hawasa, and Asela where women of lower age group were more likely to satisfy with the health care service they received [17,22,28]. The probable reason may be younger age group mothers were more informed about the care and had higher health-seeking behavior than the older age group of mothers.

Regarding mothers income level different study shows mothers from higher income were less likely satisfied than mothers from low income [21,22,28]. This study result shows that mothers from low economic status were less likely satisfied as compared to mothers from higher-income groups. This may be due to the exempted health service protocol of the Ministry of Health of Ethiopia were not properly applied as all delivering mothers were expecting that maternity service was free of charge. More probable interpretation is the shortage of resources where clients are expected to purchase incase needed.

It was a triangulated study design and Primary data was used with a high response rate. But there may be recall bias of the respondent. Five-point Likert scale item was difficult for the respondent to differentiate the gap may not fully represent different situations of a different season. The study used an interviewer-administrated questionnaire that might result in social desirability bias.

CONCLUSION AND RECOMMENDATIONS

This study concludes low mothers' satisfaction with institutional delivery services provided in public health centers of the district. Poor cleanliness of the delivery room, scarcity of water during delivery, and not asking informed consent by the SBA were major

sources of dissatisfaction. Older age group, low-income level, being other than a housewife, and delivering only once at Health Facility were statistically associated with mothers' overall satisfaction. The study recommends that the health facilities should consider resolving problems of physical aspect related care like poor hygiene of the delivery room and shortage of water and care providers should meet the apprehension of delivering mothers during the care process.

Declarations

Ethical Approval and Consent to Participate

Ethical and study protocol approved by College of Health Sciences Ethical Review Committee /ERC/ of Arsi University. Based on the prepared written information sheet and consent was taken during the data collection after clarifying the purpose of the study. After fully volunteer agreement to participation was gained, the participants told freedom to quit at any stage of the interview. Anonymity, privacy and confidentiality were assured throughout for the study participants.

Consent for publication

Not applicable.

Availability of data and materials

Our data will not be shared to protect the participant's anonymity but secured in the investigators' database as per the Arsi University research regulations.

Competing interests

Authors declare there is neither financial nor non-financial conflict of interest.

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Contribution of the authors:

All authors contributed equally to the study conception, design, data collection, analysis, and manuscript writing. All the authors read and approved the final manuscript for publication.

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