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Satisfaction and Associated Factors among Mothers Delivered at Abrade Swede Memorial Primary Hospital, Bore, and West Gojjam, Amharic, Ethiopia: A Cross Sectional Study

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Keywords: maternal satisfaction, associated factors, delivery, west gojjam zone, ethiopia.

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Satisfaction and Associated Factors among Mothers Delivered at Abrade Swede Memorial Primary Hospital, Bore, and West Gojjam, Amharic, Ethiopia: A Cross Sectional Study

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Result: The study revealed that level of satisfaction among delivering mothers was 88%. Educational level (AOR = 2.15, 95% CI = [1.02-3.71], access to ambulance service (AOR=3.15, 95% CI=[1.02-3.78], respect full delivery service (AOR=6.85, 95%CI=[4.35-6.95], welcoming hospital environment (AOR=3.09, 95% CI = [2.30-2.69], proper labor pain management (AOR=4.51, (95% CI=(3.12-5.01) and listening to their questions [AOR=3.95, 95%CI [2.35-4.36] were independent predictors for maternal satisfaction.

Conclusion and Recommendation: Even though most of the participants were satisfied, they still had unmet needs and expectations in the delivery service provider. The identified main determinants were level of education, access to ambulance service, welcoming Hospital environment, proper pain management and listening to their questions. Therefore, there is a need to improve the care given to maternity and appropriate strategy should be designed to address the unmet needs of mothers delivered in the hospital.

Keywords: maternal satisfaction, associated factors, delivery, west gojjam zone, ethiopia.

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I. INTRODUCTION

Globally, about 800 women die from pregnancy or labor related complications around the world every day. Two hundred eighty-seven thousand women died during pregnancy and childbirth in 2010; more than half of these deaths occur in Africa. The ratio of maternal mortality in the Sub-Saharan Africa region is one of the highest, reaching 686 per 100,000 live births [1]. In Ethiopia, according to 2016EDHS, the estimated maternal mortality ratio was found to be 412 per 100,000 live births [2].

The existence of maternal health service alone does not guarantee their use by women [3]. The World Health Organization promotes skilled attendance at every birth to reduce maternal mortality and recommends that women's satisfaction be assessed to improve the quality and effectiveness of health care [4]. Client satisfaction is a subjective and dynamic perception of the extent to which the expected health care is received [5]. It is not important whether the patient is right or wrong, but what is important is how the patient feels [6].

Studies done in Dhaka, Bangladesh, and South Australia showed that the level of maternal satisfaction with delivery care was 92.3% and 86.1%, respectively [7,8]. However, the level of satisfaction among laboring mothers in African countries is not enough; only 51.9% and 56% of mothers were satisfied with delivery services in South Africa and Kenya, respectively [9,10]. Ethiopian studies done in Amharic Referral Hospitals and Azuela Hospital revealed 61.9% and 80.7% satisfaction of mothers on delivery services, respectively [11,12].

Satisfaction with delivery service is a multidimensional construct embracing satisfaction with self (personal control), and with the physical environment of delivery ward and quality of care [13]. The mother's satisfaction during the birthing process is the most frequently reported indicators in the evaluation of the quality of maternity services [14]. Dimensions of care that may influence client satisfaction include: Health care Provider client interaction, Service provision,

physical environment, access, bureaucracy and attention to psychosocial problems.

Many factors influence women's satisfaction during delivery; certain demographic characteristics have been predominantly studied in relation to satisfaction during delivery services. For example, a study done in Sweden (n=2762) reported that younger women had more negative expectations related to childbirth and they experienced more pain and lack of control during labor compared with older women [15], while another study done in Brazil (n = 15,688) showed no age related difference in women's satisfaction with childbirth services [16]. Studies from developing countries show that satisfaction with services had a negative association with the amount of time women spent at the health facility before childbirth [17]. The educational level of women in different studies and settings has demonstrated positive, negative or nil association with satisfaction during delivery services [18, 19]. Other identified factors that influenced satisfaction with childbirth services are: having clean and orderly labor rooms and women-friendly delivery processes, such as having been prepared in advance for what to expect during the labor/postpartum/breast feeding period; involvement in the decision-making process; having a birth plan and being able to follow it; having pain relief during labor; having a birth companion and respectful care providers; receiving help from care providers in performing self and neonate 'scare'; and experiencing less symptoms in the postpartum period [20–25]. A woman's obstetric history, mode of delivery, and her feelings towards recent childbirth can also affect maternal satisfaction. For example: being multifarious, preferring a spontaneous vaginal delivery and being able to have a spontaneous vaginal birth [26, 27] enhances the women's satisfaction with giving birth.

Qualitative studies on Indian women's experiences and opinions on giving birth at a health facility reveal that they are not fully satisfied during delivery service, primarily due to the long waiting time before they meet a healthcare provider, having few opportunities to communicate with providers, not being involved in decision-making, and having stern care providers [28-32]; however, they settle for childbirth services perceived as 'essential' for safe childbirth rather than 'desirable' for a pleasant experience [33-36]. While the community's access to institutional delivery has improved, the assumption that accessibility is synonymous with quality of care, especially among policymakers, gives concern. This study aimed to assess women's satisfaction with an institutional delivery service using a standardized scale with intent to potentially use the findings in advocacy for service improvement.

Studying the quality of institutional delivery service from client perspective will provide systematic information for service providers, decision makers, local

planners and other stakeholders help understand to what extent the service is functioning according to clients' perception, and what changes might be required to meet clients' need as well as to increase utilization of the service by the target population. This study serves both knowledge generation and delivery service quality improvement purpose. The findings of this study can be used by local planners and decision makers to improve the quality of institutional delivery service.

II. METHODS

a) Study Design and Period

Cross-sectional study was conducted at Abrade Swede Memorial Primary hospital, from February 8, 2017 to September 25, 2017.

b) Study Area

Abrade Swede Memorial primary Hospital is found in Brevity administration 410 kilometers away from Addis Ababa and 155kilometers away from Bahia Dar the capital city of Amharic regional state. The hospital primarily serves for four worked as: Bore, Bore city, Shindig and Shekel.

c) Population

i. Source Population

All mothers delivered at Abrade Swede Memorial Primary Hospital from February 8,2017 to September 25,2017.

ii. Study Population

Those systematically selected mothers who delivered at Abrade Swede Memorial Primary Hospital from February 8, 2017 to September 25, 2017.

d) Inclusion & Exclusion Criteria

i. Inclusion Criteria

Mothers who delivered at Abrade Swede Memorial Primary Hospital from February 8, 2017 to September 25, 2017 before discharge.

ii. Exclusion Criteria

Mothers who delivered at Abrade Swede Memorial Primary Hospital and came for postnatal care were excluded to avoid recall bias.

e) Variables

i. Dependent Variable

Satisfaction

ii. Independent Variables

Socio Demographic Characteristics of the Respondents
Interaction with Healthcare Provider
Physical facilities
Service provision

iii. Sample Size Determination and Sampling Procedure

Targeted groups of clients in this study were delivery attendants. The sample size was determined by

using a single population proportion formula, which took the proportion of overall satisfaction at 65.2% [6], with a margin of error of 0.05 at the 95% confidence interval (CI). Adding 10% non-response rate, the final sample size was calculated to be 420 patients. From the hospital previous report about delivery, average number of clients who delivered in the hospital was 110 per month. Therefore the number of participants who visited the hospital was estimated for the study period; then sampling fraction for selecting the study participants was determined by dividing with the total estimated number of patients during the data collection period to the total sample size which was calculated to be two. The first study participant was selected by lottery method among the list from one to five; the next study participant was identified systematically in every two intervals until the required sample size was achieved.

f) Data Collection Procedure and Quality Assurance

A validated structured questionnaire prepared by the Ethiopian Ministry of Health to assess maternal satisfaction was used according to the objectives of the study and the local situation of the study area in Amharic language. Then the questionnaire was translated to English to assure consistency of the tool. Pre-testing was conducted on 20 respondents at Bore Health center delivery attendants.

g) Data Management and Data Analysis

The collected data were checked for completeness and consistency before being coded,

entered and analyzed using SPSS version 16. Summary statistics of socio demographic variables were presented using frequency tables. Bi-variable analysis was done and variables with p-value less than 0.2 were included in the multiple variable analysis of logistic regression. The odds ratio and 95% confidence intervals were also computed at p-value of 0.05.

h) Ethical Consideration

The research was approved by AsradeZewude Memorial Primary Hospital Senior Management Committee. Permission to conduct the study was also obtained from AsradeZewude Memorial hospital maternity case team. During data collection, the purpose of the study was clearly explained to the participants, and informed oral consent was obtained. To ensure confidentiality and privacy no identity was linked to the questionnaire.

III. RESULT

a) Socio Demographic Characteristics of the Respondents

A total of 420 clients after delivery were involved in this study. As shown in **Table 1**, 60% of the respondents were between 15-24 years of age, 90% were married, 70% of the delivery was spontaneous, and 70% of clients came to hospital by ambulance.

Table 1: Socio demographic characteristics of respondents at AsradeZewude Memorial Primary Hospital, Bore, West Go jam, Amharic, Ethiopia, from February 8,2017 to September 25,2017 (N=420)

Variables	Categories	N	%
Age	15 - 24	252	60
	25 - 34	84	20
	35 - 44	63	15
	45-50	21	5
Marital status	Single	8	2
	Married	378	90
	Widowed	4	1
	Divorced/Separated	29	7
Education	Never attended school	168	40
	Primary and junior education	168	40
	High school education	42	10
	Diploma and above	42	10
Gravid(pregnancies)	1-3	374	89
	4-6	42	10
	7-9	4	1
	10-12	0	0
Previous Institutional delivery	Yes	126	30
	No	294	70
Means of delivery	Spontaneous vaginal delivery	294	70
	Caesarian section	84	20
	Instrumental	42	10

Referral condition	Self referral	168	40
	Referred from health facility	252	60
b) Transport type	c) Ambulance	d) 294	e) 70
	Public transport	84	20
	Private	4	1
	On foot	38	9

b) *Health care Provider-client interaction*

The majority of participants (Table 2) agrees and strongly agrees to provider client interaction questionnaires.

Table 2: Maternal Satisfaction with interaction of health care provider at AsradeZewude Memorial Primary Hospital, Bore, West Go jam, Amharic, Ethiopia, from February 8,2017 to September 25,2017 (N=420)

Variables	Level of agreement				
	5 = SAG	4 = AG	3 = NAG	2 = DAG	1 = SDAG
The hospital is welcoming, starting from the gate	90%	10%	0	0	0
The care providers listen and answer all my questions during delivery	50%	20%	0	10%	20%
All the care given to me was with my consent during labor	90%	10%	0	0	0
The care I received was respect full	90%	10%	0	0	0
I was counseled about breast feeding, vaccination and others after delivery	60%	20%	10%	10%	0
The health care providers introduced themselves to me	70%	0	20%	10%	0
During labor and delivery my pain was properly managed	80%	14%	0%	0	6%

SAG =strongly agree, AG=agree, NAG =Not agree, DAG= disagree and SDAG=strongly disagree

c) *Maternal satisfaction with physical facilities*

Only 50% strongly agreed and 20% agreed that there was a functional Maternity ward toilet, hand

washing and shower during their labor and delivery time (Table 3).

Table 3: Maternal Satisfaction with physical facilities at AsradeZewude Memorial Primary Hospital, Bore, West Go jam, Amharic, Ethiopia, from February 8,2017 to September 25,2017(N=420)

Variables	Level of agreement				
	5 = SAG	4 = AG	3 = NAG	2 = DAG	1 = SDAG
Getting the maternity unit is easy starting from the gate	90%	10%	0	0	0
Maternity ward toilets, hand washing and shower were functional during my labor and delivery	50%	20%	0	10%	20%
Cleanness of the ward was good during my labor and delivery	90%	10%	0	0	0
My privacy was secured during my labor and delivery	90%	10%	0	0	0
I used my preferred position during my labor and delivery	60%	20%	10%	10%	0
I was allowed to have my families on my side during my labor and delivery	70%	0	20%	10%	0

d) *Maternal satisfaction with Service provision*

The majority of participants (60% strongly agreed and 40% agreed) responds positively to the questionnaire 'I have got a bed immediately' (Table 4).

Table 4: Maternal Satisfaction with Service provision at AsradZewude Memorial Primary Hospital, Bore, West Go jam, Amphora, Ethiopia, from February 8,2017 to September 25,2017 (N=420)

Variables	Level of agreement				
	5 = SAG	4 = AG	3 = NAG	2 = DAG	1 = SDAG
I was directed to the maternity ward immediately without recording and other procedures	90%	0	10%	0	0
I was seen by the care provider immediately I have got the maternity ward	90%	10%	0	0	0
I have got a bed immediately	60%	40%	0	0	0
All those diagnostic tests prescribed for me were available in the hospital	90%	10%	0	0	0
All those drugs and supplies needed were available in the hospital	90%	10%	0	0	0

e) *Overall satisfaction*

Overall satisfaction was measured on 10 scales, 1 worst and 10 the best. Those who scored 6 and above

was considered 'yes' for satisfaction. Their intention to recommend others to the hospital was measured using yes (87%) and No (13%) options (Table 5).

Table 5: Overall Maternal Satisfaction at AsradeZewude Memorial Primary Hospital, Bore, West Go jam, Amharic, Ethiopia, from February 8,2017 to September 25,2017 (N=420)

	Yes	No
Those satisfied with the overall hospital service	88%	12%
Those who recommend others to this hospital	87%	13%

The regression output of factors for maternal satisfaction showed that mothers who think of the welcoming hospital environment was 3.09(2.30-2.69)

times more likely to satisfy than those who perceive the hospital environment was not welcoming (Table 6).

Table 6: Maternal Satisfaction and associated factors at AsradeZewude Memorial Primary Hospital, Bore, West Go jam, Amphora, Ethiopia, from February 8,2017 to September 25,2017 (N=420)

Variables		Maternal satisfaction		COR(95%CI)	AOR(95%CI)
		Satisfied	Not satisfied		
level of Education	never educated	148(35%)	20(5%)	3.09 (1.34-7.14)	2.15(1.02-3.71)
	first level	148(35%)	20(5%)	2.01(1.00-3.02)	2.01(0.99-3.10)
	high school	37(9%)	5(1%)	1.99(1.00-2.03)	1.56(0.85-2.96)
	diploma and above	37(9%)	5(1%)	1	1
means of delivery	Natural	259(62%)	36(9%)	2.60 (1.15-5.89)	
	C/S	73(17%)	10(2%)	1.29 (0.53-3.10)	
	Instrumental	37(9%)	5(1%)	1	
Means of transportation	Ambulance	259(62%)	36(9%)	2.99(2.50-3.66)	3.15(1.02-3.78)
	Public transport	74(18%)	10(2%)	1.40(1.01-1.95)	2.01(0.99-3.19)
	Private or Contract	4(1%)	0	0.21 (0.05-0.90)	1.53(0.81-2.91)
	On foot	32(7%)	5(1%)	1	1
Previous institutional delivery	Yes	111(26%)	15(4%)	2.05(1.02-2.03)	
	No	259(62%)	35(8%)	1	
The hospital is welcoming starting from the gate	Yes	328(78%)	45(11%)	3.31(2.32-2.66)	3.09(2.30-2.69)**
	No	41(10%)	6(1%)	1	1
I was directed to the maternity ward immediately without recording and other procedures	Yes	331(80%)	45(11%)	1.99(0.99-1.05)	
	No	39(8%)	5(1%)	1	
The care I received was respect full	Yes	328(78%)	45(11%)	6.02(4.01-6.65)	6.85(4.35-6.95)**
	No	41(10%)	6(1%)	1	1
I was allowed to have my families on my side during my labor and delivery	Yes	328(78%)	45(11%)	0.95(0.52-0.99)	
	No	41(10%)	6(1%)	1	
I used my preferred position during my labor and delivery	Yes	328(78%)	45(11%)	0.58(0.15-0.60)	
	No	41(10%)	6(1%)	1	
Cleanness of the ward was good during my labor and delivery	Yes	328(78%)	46(11%)	4.01(3.02-4.99)	
	No	41(10%)	6(1%)	1	
Maternity ward toilet, hand washing and shower was functional during my labor and delivery	Yes	207(49%)	28(7%)	3.21(2.20-3.52)	3.21(2.20-3.52)
	No	163(39%)	22(5%)	1	1
During labor and delivery my pain was properly managed	Yes	328(78%)	45(11%)	5.51(3.56-5.91)	4.51(3.12-5.01)**
	No	41(10%)	6(1%)	1	1

I was advised about breast feeding, vaccination and others after delivery	Yes	287(68%)	39(9%)	0.30(0.12-0.25)	
	No	83(20%)	11(3%)	1	
The health care providers introduced themselves to me	Yes	127(30%)	17(4%)	0.31(0.25-0.39)	
	No	242(58%)	34(8%)	1	
The care providers listen and answer all my questions during delivery	Yes	328(78%)	45(11%)	3.61(2.95-4.62)	3.95(2.35-4.36)
	No	41(10%)	6(1%)	1	1

****p-value less than 0.001.**

IV. DISCUSSION

In this study, the overall satisfaction of mothers on delivery service was found to be 88%, which was comparable to the study conducted in Wolayita Zone (82.9%), Debre markos town (81.7%) and Azuela Hospital (80.7%) [9, 11, 17]. However, it was higher than the study, which was conducted in Jimmy (77%) [19] and Amphora Referral Hospitals (61.9%) [12] In Ethiopia and South Africa (51.9%) and Kenya (56%) in Africa [9,10]. The difference with the above finding may be because of a real difference in the quality of services provided, expectation of mothers or the type of health facilities.

Maternal educational status was significantly and inversely associated with their level of satisfaction with delivery services. Those respondents who were never educated were 2.15 more likely to satisfy with delivery service than whose educational level is diploma and above. This finding supports the study conducted in Azuela Hospital and other foreign literatures. The literatures showed that clients had various expectations about hospital delivery that influenced their perception of care [11, 18].

This study revealed that those who came to the hospital by ambulance were 3.15 times more likely to satisfy than those who came on foot. This finding was related to accessibility as explained by other similar studies [12, 24].

Maternal level of satisfaction was also related to creating welcoming environment hospital to laboring mothers. Those clients who consider the hospital as welcoming environment were 3.09 times more likely to satisfy with maternal service.

There was a strong association between maternal levels of satisfaction and respectful delivery care providers. Those participants who thought that care providers were respectful were 6.85 times more likely to satisfy with the delivery service. Perception of respondents of labor pain management was associated with level of maternal satisfaction. Those who answered yes were 4.51 times more likely to satisfy than who answered no to proper labor pain management, according to their perception. Attention to laboring mother's concern was also related to the maternal level of satisfaction. Those who thought their questions and

concerns were answered during labor were 3.61 times more likely to satisfy than who thought not.

V. CONCLUSION

The aim of this study was to assess levels of maternal satisfaction and associated factors with delivery service at the AsradeZewude Memorial primary hospital. The overall maternal satisfaction with the delivery service was found to be 88%. Even though the result was slightly higher than the previous studies conducted in Ethiopia, there are still unmet needs and expectations of mothers during labor and delivery that the hospital should focus as delivery service quality improvement area. The identified associated factors were access to ambulance service, welcoming hospital environment, proper labor pain management, respectful care and listening to their questions.

VI. RECOMMENDATIONS

a) Recommendation to AsradeZewude Memorial primary Hospital

The hospital shall better consider physical barriers to create a welcoming hospital environment for maternal service.

The hospital should facilitate ambulance access for delivering mothers.

b) Recommendation to health care providers

The care providers should manage labor pain properly when providing service; it should be with compassionate and respectful.

The care provider should meet the social and psychological concerns of the delivering mothers.

c) Limitation

The feelings associated with childbirth itself, due to limited opportunities of exploration in quantitative studies, pose some confounders like the 'halo effect' a positive attitude towards successfully give birth makes it difficult to separate childbirth satisfaction from satisfaction with childbirth services. Participants' tendencies to rate services more positive in general are another known confounder. Participants' subjectivity being pleased with services that are not necessarily evidence based poses another confounder for quantitative studies measuring satisfaction.

d) Funding

This study was not funded by any agency, but the motivation came from AsradeZewude Primary Hospital quality improvement unit as part of maternal service quality improvement.

The quality improvement unit had no involvement in the design, data collection and analysis, write-up, and decision for the results to be published, but it needed only the report or result to design delivery service quality improvement plan accordingly.

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Contributors: GDA generates the idea of the study, design the study, wrote the proposal, collected the data, organized and analyzed, finally wrote the result of the study.

Competing interests: None declared.

Patient consent: Verbal consent obtained.

Data sharing Statement: The data collected for this study can be obtained from the author upon a reasonable request.

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