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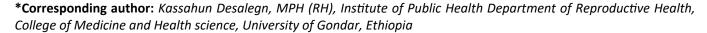# Women's Health and Wellness

RESEARCH ARTICLE

Client Satisfaction and Associated Factors among Clients Admitted to Obstetrics Wards of Public Hospitals in Central Gondar Zone, Northwest Ethiopia, 2020

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Abstract

Introduction: Client satisfaction has become a substantial indicator to measure the quality of care provided to clients in hospitals. Increasing satisfaction of services has long-term benefits for both the community and patients. Therefore, the aim of this study was to assess clients' satisfaction and associated factors among admitted mothers in obstetrics wards of central Gondar zone public hospitals.

Method: An institution based cross sectional study was conducted on 435 participants from February to April 2020 using a systematic sampling technique to select the study participants. A structured pretested interviewer - administered questionnaire was used for data collection. Epi info and Statistical package for social sciences were used for data entry and analysis respectively. A binary logistic regression analysis model was used to test the association between dependent and independent variables. Factors statistically significant at a P- value of 0.2 and less at bivariable logistic regression were taken in to multivariable logistic regression at P- value of less than 0.05 and adjusted odds ratio with 95% confidence interval.

Results: Of all the 435 Study participants, the overall rate of satisfaction was 78.5% at 95% Confidence interval (74.6%, 82.4%). Participants who came from the rural areas, admitted for the first time, whose privacy was assured, whose pregnancy was planned, delivered via spontaneous vaginal delivery, whose fetal outcome was healthy soon after delivery were more satisfied at (AOR = 3.93 at 95% CI = (1.96, 7.89)), (AOR = 7.93 at 95% CI = (3.86, 16.2.9)), (AOR = 4.21 at 95% CI (1.41, 12.56)), (AOR = 7.23 at 95% CI = (3.40, 15.38), (AOR 2.20 at 95% CI = (0.59, 8.21), (AOR = 8.33 at 95% CI = (2.23, 31.09)) and (AOR = 5.70 at 95% CI = (2.62, 12.40)) respectively.

Conclusion: The level of satisfaction was relatively good. The participant's place of residence, admission frequency, privacy, pregnancy plan, mode of delivery, fetal and maternal outcome were the factors associated with study participant's satisfaction. The hospital administration system was able to improve the health care services provided and health care providers' interaction with the clients in the study institution.

Keywords

Obstetrics, Central Gondar, Admitted, Satisfaction, Clients

Summary

Obstetric care is one of the essential components of maternal care services. Client satisfaction is one of the indicators of the quality of health services. Poor maternal satisfaction with obstetric care services has negative outcomes. Currently, women's satisfaction with obstetric care services in low-income countries is below standard. Therefore, this study aimed to assess women's satisfaction and its associated factors with obstetric care services.

Client satisfaction has a positive effect on health care improvement, patient adherence and retention, job satisfaction and appropriate care by health care providers thereby reducing morbidity and mortality rates. Studies confirmed that client satisfaction survey has an impact on quality improvement of care. Scholars stated that clients' assessment of care is realistic, enhances strategic decision making, reduces cost, meet clients' expectation, devise strategies for effective

management, monitors health care performance plans and provides benchmarking across the health care institution. This study found that women's satisfaction with obstetric care is typically improved through reduction of admission frequency, reducing hospital admission time, improve fetal and maternal outcome and by keeping the clients privacy. These findings will serve as a baseline for measuring and monitoring change in women's satisfaction with obstetric care services.

Introduction

Quality of care is the extent to which the maternal health services for a client increases the probability (likelihood) of getting timely and appropriate treatment for the purpose of achieving the desired outcome [1]. Client satisfaction is the perception of care an individual received as compared to the care expected and thereby the individual evaluates the health care services delivered and the providers's performances from their own point of view [2].

The client satisfaction has positive effect in health care improvement, patient adherence and retention, job satisfaction and appropriate care by the health care provider [3] thereby, reducing morbidity and mortality. The world health organization (WHO) recommends monitoring and evaluation of maternal satisfaction in public health care sectors to improve the quality and efficiency of health care during pregnancy, childbirth and puerperium essential [4]. The client satisfaction assessment becomes valuable and significant source of information to identify gaps and develop an effective action plan for quality improvement for health care organization [5].

The quality of care given to mothers and babies in developing countries is mostly reported as poor [6]. Assessment of client satisfaction is vital to improve the service given to client at any stage/level of care since it insight the quality of health care, the gap between what the care provider endeavors and service users demand as well as in which type of service the clients dissatisfied. The best indicators of overall rating of care are items measuring patient's satisfaction with the helpfulness of the service and patient's opinion on the treatment given to them [7].

The study conducted in Bheri zonal hospital Nepal reported that the maternal satisfaction on interpersonal aspect was higher in dignity and respect 90.5% and the delivery services 89.88% [1] and the average satisfaction level of outpatients in Konya university hospital, turkey was 74.5% [8]. Studies done in Africa showed a considerable difference between countries, the mean satisfaction level for intrapartum service in Asmara public hospitals, Eritrea and the satisfaction level of clients in delivery care in Nairobi, Kenya were 72.36% and 56% respectively [9,10].

In other ways the study conducted in Mekele public hospitals obstetrics and gynecology in patient wards showed that an overall client satisfaction was 79.7% [11]. In addition, the studies conducted in Amhara Region referral hospitals and Jimma public health facilities, the overall client satisfaction on the delivery service was 61.9% and 65.2% respectively [9,12].

The aforementioned information indicates that, there is a difference in level of client satisfaction from place to place (institution) which in turn implies a variation in quality of service provided to clients. In addition, health care service and provider quality concerning the clients admitted in obstetrics wards in terms of the satisfaction level of clients in Ethiopia at large and specifically in North West Ethiopia has not yet exhaustively studied as per the researcher knowledge. Therefore, this study is aimed at assessing the clients' perception on service given and related factors in central Gondar zone public hospitals.

Methods and Materials

Study design and study setting

An institution based cross-sectional study design was conducted among clients admitted to obstetrics wards in public hospitals of Central Gondar zone from February to March 2020. The central Gondar zone is found 730km far from Addis Ababa and 180km far from Bahirdar, the Amhara Regional State city. The total population was two million two hundred eighty-eight thousand four hundred forty (2288440) during 2012, of which 50% were females and the reproductive age women were about five hundred thirty-nine thousand six hundred fourteen (539,614) (Central Gondar Zone Health Office, 2012). There were nine hospitals and seventy-seven public health centers in central Gondar zone during the study period.

Source and study population

All reproductive aged women admitted in obstetrics wards of central Gondar zone public hospitals were considered as the source of population whereas all reproductive aged women admitted in the obstetrics wards of central Gondar zone public hospitals existing during the data collection period were considered as the study population.

Inclusion and exclusion criteria

All women admitted in obstetrics wards of central Gondar zone public hospitals during the study period were included. But clients who stayed less than twenty-four hours after admission, who were transferred to other institution with unsuccessful procedure, if they were unable to respond well (sever cases, mental problems) were excluded.

Sample size determination

The sample size calculation for the first objective was

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done by using a single population proportion formula by considering the following assumptions. From the previous study, overall satisfaction level was 79.7% [11], 95% CI, 80% power and 5% marginal error.

N = Zα/22 P(1-P)/d2

Where Zα/2 = 1.96

P = 79.7% (level of satisfaction) [11].

d = 5%, = (1.96)2 0.797(1-0.797)/(0.05)2 = 249

Taking 10% non- response rate the sample size was 274.

For the second objective, sample size calculation was done by using open EPI info software. The first two factors which have strong association with client satisfaction which were identified from the previous study were: Client's residence (AOR=2.39, at 95% CI (1.16, 4.92) and Hospital stay (AOR = 0.44, 95% CI (0.22, 0.88) [11] (Table 1).

The second objectives were to identify associated factors of client satisfaction among admitted mothers in obstetric wards of central Gondar zone in public hospitals as showed in Table 1.

By taking the above information, the sample size for the first and the second factors become 478 and 255 respectively with the consideration of 10% non-response rate. The sample size for the second objective was large as compared to the first objective; therefore, using the design effect the sample size was 2*478 = 956.

However, the population is less than ten thousand, so the correction factor was applied and the final sample size was nf = n0/(1+n0/N) = 956/1+956/798 = 435

n0 = The initial sample size, nf= The final sample size and N = the population

Sampling technique

Multistage sampling technique was used and first five hospitals were selected out of nine central Gondar Zone Public Hospitals by using simple random sampling, and then a systematic sampling technique was applied to select study participants. The total sample size determined for the study was distributed to the wards in five public hospitals of central Gondar zone using proportional allocation based on the number of estimated clients admitted in each hospital. The first client to be included in the study was selected by lottery method from the first two intervals and then, every two intervals were included in the study.

Study variables

Dependent variable of the study	Independent variables of the study
Client satisfaction level	**Socio-demographic characteristics**: Age, sex, education, marital status, occupation, residence, religion and income status.
	Clients obstetrics characteristics: Parity, ANC visit, pregnancy plan, mode of delivery
	Relationship factors: Health care provider to client attitude, communication, counseling, welcoming, provider
	Health care provider related factors: Number of health care providers in each hospital segregated by sex, age, service year, profession, educational status and competency
	Service related factors: Waiting time, time allocation during service provision, availability of ambulance, availability of the referral system, cost, distance, accessibility, admission time, bed occupancy rate) were independent variables of the study.
	Health facility related factors: Availability of instrument like BP apparatus, weight scale, thermometer, bed number, room quality, waiting room, availability of drugs, washing facility, toilet, access to drinking water, ward accommodation and cleanliness

Operational definition

Overall satisfaction: The overall satisfaction of mothers was measured based on the answer they gave for the questions related to satisfaction if their response is satisfied and strongly satisfied for 75% of questions and more they were classified as satisfied and otherwise they were classified as "unsatisfied" [13].

Physical environment: The hospital environment including washing facility, toilet, drinking water accessibility, wards accommodation and cleanliness.

Time of hospitalization: It is the time the client arrived at the hospital which can be in the morning, afternoon, evening or night.

Table 1: Sample size determination for the Second objective.

Factors	P1 and p2	AOR(95% CI)	None response rate	Total
Residence	P1 (urban) = 76.04%	2.39 (1.16-4.92)	10%	478
	P2 (rural) = 88%			
Duration of stay	P1 (1-3 days) = 87.5%	0.44 (0.22-0.88)	10%	255
	P2 (4-7 days) = 71.7%			

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Duration for admission (days): It is the number of days; it takes the client to be admitted or get a bed.

Data Collection instrument and procedure

A structured pre tested interviewer administered questionnaire was used for data collection which was developed by reviewing national and international literatures, were used as a standard tool. The data collection instrument was prepared in English. The English version of the questionnaire was translated first to Amharic and back to English in order to ensure its consistency.

The data about socio-demographic characteristics contains (nine items), client characteristics (four items), hospital characteristics and level of client satisfaction about health care provider (tewenty items) and client, attitude and communication (eight items), health problem diagnosis and management (eight items) and physical environment of hospitals (four items) was collected.

The measure of satisfaction level in each tool involved a 5 point Likert scale response (1 = strongly dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied and 5 = strongly satisfied).

Data quality assurance

The quality of data was assured via careful design, translation and retranslation of the questionnaire and pretesting on 5% [14] of the sample was done in similar hospital out of the researchable hospitals for relevant modification of the questionnaire. Training also was given to data collectors and supervisors before the pretest was done. The supervisor and principal investigator were closely following the day to day data collection process and ensured completeness and consistency of the data.

Data management and analysis

All the collected data were checked for completeness and consistency, then coded and entered to Epi-data by the researcher and then exported to statistical package for social sciences (SPSS version 20). Descriptive statistics was used to describe the socio demographic characteristics of clients, characteristics of the clients, reproductive characteristics of clients, the hospitalization characteristics and client's satisfaction level.

A 5-point Likert scale satisfaction tool responses were transformed to "satisfied" or "dissatisfied." Accordingly, the responses of "strongly satisfied" and "satisfied" were merged as "satisfied," and the responses of "strongly dissatisfied," "dissatisfied," and "neutral" were transformed into "dissatisfied." Neutral responses were classified as dissatisfied considering that respondents might represent a fearful way of expressing dissatisfaction. To compute the overall satisfaction rate, mothers who were scored greater or equal to 75% of the 20 tools were considered as "satisfied."

Binary logistic regression model was used to test whether there was an association between dependent variable and each independent variables. Hosmer-lemeshow model fitness checked was 0.321. Factors statistically significant at P-value of 0.2 and less at bivariable logistic regression were taken to multivariable logistic regression. P-value of less than 0.05 and adjusted odds ratio with 95% confidence interval (CI) was used to assure the presence and strength of association between dependent and each independent variable.

Results

Socio-demographic and economic characteristics

Among the total 435 study participants 427 (98.1%) admitted in the obstetrics wards of public hospitals were interviewed making a response rate of 98%. More than half 250 (58.5%) of the study population were within an age group of 20-29 years with a median age of 28, ranging from 18 years to 45-years-old. Most of the respondents 396 (92.7%) were married followed by single 22 (5.2%). Majority of the interviewed mothers 386 (90.4%) were orthodox and the remaining 39 (9.1%) & 2 (0.5%) were Muslim and protestant respectively. More than half 235 (55.04%) of participants came from rural residence and one third of the participants 141 (33%) were housewife.

The educational status of the participants were152 (35.6%) no formal education, followed by 128 (30%) were grade 7-12. Regarding income of the participants 174 (40.7%) obtain 1000-2000birr per month followed by 100 (23.4%) less than 1000 birr per month (Table 2).

Reproductive characteristics of the participants

Among four hundred twenty-seven (427) participants one third of them 142 (33.3%) were primipara and two third of them 285 (66.7%) were multipara. Most of the participant's pregnancy status 353 (82.7%) were planned and 364 (85.2%) were wanted with 391 (91.6%) had at least one Ante Natal Care (ANC) visit. The mode of delivery was dominated by normal vaginal delivery 299 (70.00%) and 100 (23.4%) cesarean section and 28 (6.6%) assisted by instrument (forceps & vacuum). Most of the study clients 300 (70.3%) had 1-3 children followed by 77 (18%) had 4-5 children and the remaining 50 (11.7%) had 6 and above with the mean number of children 2.75 per a mother. The fetal outcome was 397 (93%) healthy and 30 (7.00%) unhealthy (abortion, still birth and died), similarly 379 (88.8%) of the maternal health status soon after delivery were healthy (Table 3).

Hospitalization characteristics

More than half of the study population 265 (62.1%) were admitted through emergency. The large majority of respondents 333 (78.00%) were admitted in the hospital for one to three days. Concerning the admission frequency 275 (64.4%) of the interviewed mothers were admitted for the first time and 152 (35.6%) were

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Table 2: Socio-demographic characteristic of participants admitted to obstetrics wards of central Gondar zone public hospitals.

Components	Category	Frequency	Percent
Age (in years)	15-19	22	5.2
	20-24	103	24.1
	25-29	147	34.4
	30-34	96	22.5
	35-39	49	11.5
	40 and above	10	2.3
Marital status	Married	396	
	Single	22	5.2
	Divorced	7	1.6
	Living together	2	0.5
Religion	Orthodox	386	90.4
	Muslim	39	9.1
	Protestant	2	0.5
Residence	Rural	231	54.1
	Urban	196	45.9
Occupation	Housewife	141	33.0
	Civil servant	78	18.3
	Farmer	127	29.7
	Business man	57	
	Others	24	
Education level	No formal education	152	
	Grade 1-6	66	
	Grade 7-12	128	
	College or university	81	
Income per month (in birr)	< 1000 birr	100	
	1000-2000	174	
	2000-3000	91	
	3000-4000	29	
	> 4000	33	

Table 3: Reproductive characteristics of participants admitted to obstetrics wards of central Gondar zone public hospitals, 2020.

Items		Frequency	Percent
Parity	primipara	142	33.3
	multipara	285	66.7
No of children	1- 3	300	70.3
	4-5	77	18.0
	6 and above	50	11.7
Pregnancy status	Planned	353	82.7
	Unplanned	74	17.3
Interest of pregnancy	Wanted	364	85.2
	Unwanted	63	14.8
ANC visit	attended	391	91.6
	Not attended	36	8.4
Mode of delivery	Vaginal	299	70.0
	Forceps or vacuum	28	6.6
	CS	100	23.4
Fetal outcome	Healthy	397	93.0
	unhealthy	30	7.0
Maternal outcome	Healthy	379	88.8
	unhealthy	48	11.2

Table 4: Hospitalization characteristics of participants admitted to obstetrics wards of central Gondar zone public hospitals.

Items		Frequency	Percent
Admission mode	Emergency,	265	62.1
	planed	162	37.9
Duration in hospital	1-3 days	333	78.0
	4-5 days	54	12.6
	6 and above	40	9.4
Admission frequency	First time	275	64.4
	repeat	152	35.6
Waiting for admission	< 1 day	419	98.1
	1-3 days	8	1.9
Time of hospitalization	morning	237	55.5
	evening	119	27.9
	night	71	16.6
Privacy feeling	yes	387	90.6
	no	40	9.4

Table 5: Satisfaction measure of each tool used to measure overall satisfaction rate of participants admitted to obstetrics wards of central Gondar zone public hospitals.

Components	Satisfied, n (%)	Dissatisfied n (%)	Mean + SD
Nurses/midwives politeness and respect	375 (87.8)	52 (12.2)	6.13 ± 0.34
Doctors treatment and respect	375 (87.8)	52 (12.2)	6.12 ± 0.33
Nurses/midwives explanation and listening to	360 (84.3)	67 (15.7)	6.16 ± 0.36
Doctors attention to listen carefully	362 (84.8)	65 (15.2)	6.15 ± 0.36
The way Doctors explain things for	360 (84.3)	67 (15.7)	6.16 ± 0.36
Nurse/midwives visits and responding to calls	363 (85.0)	64 (15.0)	6.15 ± 0.36
Counseling	379 (88.8)	48 (11.2)	6.11 ± 0.32
Competency of doctors	371 (86.9)	56 (13.1)	6.13 ± 0.34
Nurse/midwives on-time medication	381 (89.2)	46 (10.8)	6.11 ± 0.31
Competency of nurses/midwives	378 (88.5)	49 (11.5)	6.11 ± 0.32
Information given to you about procedure	341 (79.9)	86 (20.1)	6.2 ± 0.40
Effort/capacity to control your pain	348 (81.5)	79 (18.5)	6.19 ± 0.39
Access to prescribed medication in the hospital	372 (87.1)	55 (12.9)	6.14 ± 0.34
Telling what the medicine is before	276 (64.6)	151 (35.4)	6.35 ± 0.48
Possible side effects	261 (61.1)	166 (38.9)	6.39 ± 0.49
Time allocated during the service provision	376 (88.1)	51 (11.90	6.12 ± 0.33
Availability of instruments	379 (88.8)	48 (11.2)	6.11 ± 0.32
Admission procedure	411 (96.3)	16 (3.7)	6.04 ± 0.19
Accommodation of the room	378 (88.5)	49 (11.5)	6.11 ± 0.32
Cleanness of room and bed	294 (68.9)	133 (31.1)	6.31 ± 0.46
Cleanness of toilet and washroom	234 (54.8)	193 (45.2)	6.45 ± 0.50
Access to drinking water, latrine, and hand	251 (58.8)	176 (41.2)	6.41 ± 0.49
Admission time	412 (96.5)	15 (3.5)	6.04 ± 0.18
Bed occupancy rate	392 (91.8)	35 (8.2)	6.08 ± 0.28
Room quality	349 (81.7)	78 (18.3)	6.18 ± 0.39
Availability of ambulance	237 (55.5)	190 (44.5)	6.44 ± 0.50
Referral system	221 (51.8)	221 (51.8)	6.48 ± 0.50
Staff composition and number	327 (76.6)	100 (23.4)	6.23 ± 0.42

repeated. Among the interviewed participants 419 (98.1%) of them stayed less than one day for admission. About 237 (55.5%) of the participants were come the hospitals in the morning. Most of the participants 387 (90.6%) reported that their privacy were kept (Table 4).

Overall patient satisfaction

The overall clients' rate of satisfaction admitted to obstetrics wards in central Gondar zone public hospitals was 78.5% at 95% CI (74.6, 82.4). Regarding the satisfaction measure of each tool, it ranges from51.8% in referral system of the hospitals to 96.5% the time clients wait to be admitted (Table 5).

Factors associated to clients' (maternal) satisfaction

Out of the variables included in binary logistic regression for bivariable analysis residence, admission frequency, mode of delivery, privacy assurance, fetal outcome, pregnancy plan, maternal outcome and duration in hospital were variables taken into consideration for multivariable logistic regression analysis with P value ≤ 0.2. Under multivariable logistic regression analysis residence, admission frequency, privacy assurance, fetal outcome, pregnancy plan, maternal outcome and duration in hospital were variables significant under multivariable logistic regression analysis.

The study participants who lived in the rural areas were nearly four (3.93) times more satisfied as compared to study participants who lived in the urban areas. (AOR = 3.93 at 95% CI = (1.96, 7.89)). Participants who were admitted for the first time in the study hospitals were almost eight (7.93) times more satisfied as compared to participants who were previously admitted in the study hospitals (AOR = 7.93 at 95% CI = (3.86, 16.2.9)). Likewise, participants who stayed in the hospital for 4-5 days were three times more satisfied as compared to participants who stayed for six and above days (AOR = 3.01 at 95% CI = (1.27, 7.14) and participants who stayed for 1-3 days were almost four (3.94) times more satisfied as compared to participants who stayed for 6 and above days (AOR = 3.94 at 95% CI (1.39, 11.13). participants who reported that their privacy was assured were more than four (4.21) times more satisfied as compared to participants who reported that their privacy was not assured (AOR = 4.21 at 95% CI (1.41, 12.56)). Participants whose pregnancy was planned were more than seven (7.23) times more satisfied as compared to participants whose pregnancy was not planed (AOR = 7.23 at 95% CI = (3.40, 15.38). Participants who were healthy soon after delivery were nearly six (5.7) times more satisfied as compared to participants who were not healthy soon after delivery (AOR = 5.70 at 95% CI = (2.62, 12.40)). Participants whose fetal were healthy were more than eight (8.33) times more satisfied as compared to participants whose fetal were unhealthy (AOR = 8.33 at 95% CI = (2.23, 31.09)) (Table 6).

Table 6: Factors associated with client satisfaction level admitted to obstetrics wards of central Gondar zone public hospitals.

Variables	Overall satisfaction	COR (95%CI)	AOR (95%CI)
Residence			
Rural	87.795	4.82 (2.61, 6.88)	3.93 (1.96, 7.89)**
Urban	64.58%	1.00`	1.00
Admission frequency			
First	87.36%	4.24 (2.69, 7.10)	7.93 (3.86, 16.29)**
Repeat	62.00%	1.00	1.00
Duration in Hospital			
1-3 days	85.37%	4.82 (2.44, 9.52)	3.94 (1.39, 11.13)*
4-5 days	56.14%	4.56 (2.49, 8.34)	3.01 (1.27, 7.14)*
6 and above	52.38%	1.00	1.00
Privacy assured			
Yes	82.60%	9.50 (4.53, 19.92)	4.21 (1.41, 12.56)*
No	33.33	1.00	1.00
Pregnancy plan			
Planed	83.85%	4.66 (2.72, 7.98)**	7.23 (3.40, 15.38)**
Unplanned	52.70%	1.00	1.00
Maternal outcome soon after delivery			
Healthy	86.15%	10.89 (6.07, 19.51)	5.70 (2.62, 12.40)**
Unhealthy	36.36%	1.00	1.00
Fetal outcome			
Healthy	80.25%	4.88 (2.03, 11.68)	8.33 (2.23, 31.09)**
Unhealthy	45.45%	1.00	1.00

Significant at p value < 0.05, **significant at p value < 0.01

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Discussion

In this study the overall level of satisfaction rate was 78.5%, with 95% CI (74.6, 82.4%). The study conducted among patients' satisfaction with the health care-service at north central Nigerian tertiary hospital was 78.5% [15] and it was comparable with the study done in Germany, India and other studies in Ethiopia. The rate of patient satisfaction among 39 hospitals in Germany was 80%, the cross sectional survey among postnatal women in Chhattisgarh, India the satisfaction rate with childbirth service provided in public health facilities was 79.2% for cesarean delivery and in Ethiopia, the finding in Gamo Gofa Zone public facilities for inpatient nursing service was 79.1%, patient satisfaction for client admitted to obstetrics and gynecology wards in Mekele town public hospitals was 79.7% and maternal satisfaction with delivery service in Assela hospital was 80.7% [2,11,16,17]. The possible explanation might be the similarity in study design and measurement scale all of the above studies used which was Likert scale, similar study design that was cross sectional and the study subjects were admitted patients.

It was higher than the studies conducted in Uganda, Turkey, Zambia, Iraq and some Ethiopian hospitals. The clients' satisfaction rate on quality of intrapartum care at Mulago national referral hospital in Uganda was (49.4%), Patient satisfaction with obstetrics and gynecology clinics Konya university teaching hospital Turkey was 74.5%, a cross-sectional study done in national exit survey in Zambia the rate of satisfaction was 69% for HIV service users and 73% for non HIV service users, inpatient satisfaction towards nursing services in the medical and surgical wards of Rizgary teaching Hospital, Iraq was 40.5%, and in Ethiopian hospital, the rate of women's satisfaction with child birth care a cross sectional study in Felege Hiwot Hospital was (74.9%), patients satisfaction admitted in medical, surgical obstetrics & gynecology wards of Mizan Aman Hospital was (63%), the rate of mothers satisfaction in institutional delivery in Omo nada district public health facilities Jimma zone was (62.8%) (67.1%) [8,18-22].

However, the result was lower than studies conducted in Nepal, Gandi Memorial Maternity Hospital and Black Lion Referral Hospital in Ethiopia. The maternal satisfaction on delivery service among postnatal mothers in government hospital mid-western Nepal was 89.88%, adult patients' satisfaction in black lion hospital Ethiopia was 90.1% and client satisfaction rate in labor and delivery service in Gandi Memorial Hospital Addis Ababa, Ethiopia was 88.2% [1,23,24]. The possible explanation for lower satisfaction in the present study might be having special attention for the above two referral hospital since they are serving for all severe cases across the country and being the earliest could made them able to fulfill the required supplies as well as well experienced health care providers as

compared to the hospitals in which the present study conducted. Regarding the difference between the two countries could be due to institutional variations, clients' expectation and ranking to the service given could be varied because of the difference in their health service desire, socio-cultural and health care provider's variation in politeness and respecting the clients.

Generally speaking the difference in the different countries as well as different study areas within the country could be explained by a difference in the quality of service provided since the quality of service influenced by competency of health care provider, the relationship between clients and health care provider, institution supply and it's caring capacity, expectation and knowledge of users because some of the service users may consider the service given as an ideal due to limited knowledge about the service that should be provided for clients from admission to discharge. The quality of care depends primarily on access to care, performance of practitioner's case finding, diagnosis & treatment and then the performance of patient involvement in the health care given to them [25].

In the present study participants who were from rural area were four times more satisfied as compared to participants who were from the urban. It is supported by the study done in Uganda, at Mulago National Referral Hospital mothers from rural were 5.67 times more likely to satisfied [19]. It was also in line with the previous studies done in Ethiopia (2.39, 2.0 & 1.1), in Mekele town hospitals, Gandi Memorial hospital Addis Ababa and Arbaminchi hospital respectively [2,11,23]. This might be because of less expectation of the rural participants due to their previous experience around their village in which the health care facilities might not be of a good standard of as the urban one and urban resident participants might have previous experience of better health facilities than lower level rural clinics.

In the contrary way the cross sectional exit survey in Zambia, patients who were from the urban were 53% times more likely to satisfied as compared to participants who were from the rural [20]. This could be due to the clients' socio-cultural difference in health service demand, what they expect from the institution and their knowledge about the service that should be given as well as the sample size and study facilities in which most of Zambia's studies carried out at health centers.

In this study participants who were not previously admitted were eight times more satisfied as compared to participants who were admitted repeatedly. The result was in line with the findings reported from Arbaminchi hospital, patients who were not admitted previously were 36.4% times more satisfied as compared to patients admitted several times and Mekele town patients who did not have previous admission were 5.67 time more satisfied as compared to participants who had previous

admission and also study done in Canada, University of Toronto showed that being hospitalized more than once had a negative effect on overall experience and patient – nurse relationship [2,11,26]. This might be because of previously admitted participants might have more expectation than this service or might be due to hospital readmission tiredness.

The study Participants who stayed in the hospital for 4-5 days were three times more likely to satisfied as compared to participants who stayed for 6 and above days and participants who stayed for 1-3 days were four times more likely to satisfied as compared to participants who stayed for 6 and above days. It is supported by the study done in Canada, University of Toronto which reported that the longer the patients stayed in the hospital the lower level of satisfaction with the nursing assistance and communication, the patients stayed less than six days in the hospital were 5.7 times more likely to satisfied as compared to participants stayed more than six days [26]. The present study is consistent also with the study done in Black Lion Hospital, patients who stayed less than ten nights were 26% more likely to satisfied as compared to participants who were stayed for 11 to 21nights and similarly study in Arba Minchi hospital showed that patients who stayed 1-5 days in the hospital were 23.6% more likely to satisfied as compared to participants who were stayed more than 15 days and the study done in Kenya also reported that the number of days the patient stayed in the hospital has a significant association with the level of patient satisfaction [2,27]. The reason might be due to those clients who stayed more days in the hospital might have been given less attention by the health care provider since they would have been in good progress to recover and they were very tired of hospital atmosphere.

In this study Participants whose privacy was assured were more than four times more satisfied as compared to participants who reported that their privacy was not assured. It is supported by the study done in Assela Hospital which reported that there were significant association between privacy assurance and patient satisfaction, participants whose privacy was assured were 7 times more likely to satisfied as compared to participants to whom measure were not taken to keep their privacy and in Mekele town Hospitals participants who reported that their privacy were assured were 6.32 times more satisfied as compared to participants to whom measure was not applied to keep privacy. Similarly, study done in Chhattisgarh, India reported that being able to maintain privacy had a positive influence on overall satisfaction level of clients [11,16,17]. This might be due to sensitiveness of the reproductive organ related issues which made a feeling of shame that resulted in degradation of the client's satisfaction if privacy were not assured while physical examination undertaken.

Participants whose pregnancy was planned were more than seven times more satisfied as compared to participants whose pregnancy had not been planned. The present study was consistent with the study done in Omo Nada district public health facilities, Jimma Zone, which reported that there was a significant association between plan of pregnancy and level of satisfaction while delivery in institution those who planned their pregnancy were 2.85 times more likely to satisfied as compared to those who had unplanned pregnancy and the study conducted in Amhara region reported that participants whose pregnancy was planned were 2.2 times more satisfied as compared to participants whose pregnancy were not planned [12,21]. This might be due to having a plan to have a child would make the mothers egger to see their child so they might have been more happy in the process of health care deliveries during hospitalization as compared to those mother who were had a child without their plan.

Participants who were healthy soon after delivery were almost six times more satisfied as compared to participants who were not healthy soon after delivery. It was in line with the finding in Assela hospital which was participants who were normal soon after delivery were 2.34 times more satisfied as compared to participants who were not normal soon after delivery and the study carried out in Amhara region reported that participants who were in favorable condition soon after delivery were 2.1 times more satisfied as compared to participants who had experienced complication [12,17]. It might be due to an assumption that those mothers who were not healthy upon delivery might thought, that they have been unhealthy because of poor health care service provision in the institution.

Participants whose fetal were healthy were more than eight times more satisfied as compared to participants whose fetal were unhealthy. It is supported by the study done in Assela Hospital which showed that participants whose fetal were healthy were more satisfied than participants whose fetal were not healthy [17]. This could be because of an assumption that if the health care service given to them was appropriate their baby would have been healthy.

Limitation of the Study

The first limitation of the study was the study subjects interviewed were still in the ward Social Desirability bias might have affected the quality of data collected.

The second limitation also health care providers might increase their care during care measurement which resulted in inflating the finding of the study.

Conclusion

The conclusion of the study is the overall level of satisfaction on the health care service given to clients admitted in obstetrics wards was good. Clients'

residence, admission frequency, duration in the hospital, mode of delivery, fetal outcome, maternal outcome and privacy were the factors which influence clients' satisfaction.

Ethical Clearance and Concept to Publication

Ethical clearance was obtained from institutional review board of University of Gondar, College of Medicine and Health sciences, Institute of Public health. Support letter and permission was Obtained from Amhara public health research institute and director of the hospitals respectively. On the data collecting tool itself, the first page of the questionnaire was provided full information to the study participants regarding the purpose and nature of the research then written informed consent was obtained from each participant and the right to withdraw or not to answer questions whenever they felt uncomfortable and who to contact at any time if they have any question were clearly informed to the participants. In addition, confidentiality of the information was assured by using anonymous questionnaire.

Availability of Data and Material

All the required data is available in the main document and able to submitted based on reasonable request from the corresponding author.

Competing Interest

All authors declare that they have no computing interest.

Authors Contribution

KD designed the study, developed data collection tools, performed the analysis and interpretation of data. YA and WK participated in the development of the study proposal, analysis, interpretation, and revised drafts of the paper. All authors read and approved the final manuscript.

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