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# Assessment of Client Satisfaction in Labour and Delivery Services in a Tertiary Hospital in Western Nepal

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## ABSTRACT

**Background:** Patient satisfaction is an individual's positive evaluation of a distinct dimension of health care. This study aimed to assess client satisfaction with maternity care in a tertiary hospital in the western region of Nepal.

**Methods:** This cross-sectional study was conducted among 405 delivered women. A structured questionnaire of 21 items was used as a tool during exit interviews at their discharge. Each item was assessed on 5 points Likert scale. Student's t-test and one-way ANOVA tests were applied to analyse parametric data. Binary logistic regression analysis was applied to identify the association of predictors with the satisfaction level. Strength of association was interpreted using odds ratio and 95% confidence interval.

**Results:** The mean waiting time was  $16.94 \pm 5.57$  minutes. Education level of the clients was statistically significant with the mean satisfaction score ( $p < 0.001$ ). Women with unwanted pregnancies were more satisfied than those with wanted pregnancies ( $p < 0.001$ ). Lower complete satisfaction rates were observed for pain control (6.4%), information at discharge (14.6%) and the degree of privacy in the ward (13.6%). Mothers who underwent instrumental delivery were less satisfied with health worker's attitudes than those having vaginal deliveries (odds ratio 0.20, 95% confidence interval: 0.05-0.84). Those having uncomplicated deliveries were 3.5 times more likely to be satisfied (odds ratio 3.50, 95% confidence interval: 1.1-11.5) with health workers communication. Mothers with waiting time less than 15 minutes were more satisfied.

**Conclusions:** Lower educational level, unwanted pregnancy and shorter waiting time were associated with higher maternal satisfaction.

**Keywords:** Client satisfaction; delivery; labour services; maternal satisfaction; Nepal

## INTRODUCTION

Patient satisfaction reflects an individual's positive evaluation of a distinct dimension of health care.<sup>1</sup> It is a multidimensional construct involving interpersonal manner, quality of care, accessibility, finance of care, consistency, physical environment, and service availability.<sup>2-4</sup> Demographic characteristics such as age, educational attainment, and socio-economic status are factors that influence measured satisfaction ratings.<sup>2,5</sup>

The reasons for assessing client satisfaction include describing health care service from the client's perspective, measuring the process of care and evaluating care as a function of client satisfaction.<sup>6</sup> Clients with higher satisfaction are more likely to adhere to medical recommendations.<sup>7</sup>

In modern scenario, maternity care requires to be

client-oriented. However, despite increased institutional deliveries in Nepal, the impact of the increase in service utilization on quality of care, women's experience, and client satisfaction is less explored.<sup>8</sup> This study aimed to assess maternal satisfaction in a tertiary centre providing maternity care in Western Nepal.

## METHODS

This was a facility-based cross-sectional study conducted over two months and 24 days from 11<sup>th</sup> March 2019 to 5<sup>th</sup> June 2019. It was carried out in the maternity ward of the department of Obstetrics and Gynaecology, Lumbini Medical College and Teaching Hospital (LMCTH). The hospital is a 500-bed tertiary referral centre providing free delivery services under the Safe Motherhood Program of the Government of Nepal. It caters to the maternity services of the Palpa district along with the neighbouring five districts.

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All the clients who delivered vaginally or by caesarean section were included in the study. Those who delivered on the way to the facility were excluded. The clients scheduled to be discharged from the ward were identified from the discharge register on the given day.

The required sample size was calculated using the formula  $N = Z^2 p q / L^2$ , where  $Z_{5\%} = 1.96$ . To get the maximum sample size, a 50% satisfaction rate (p) was assumed with a 5% level of significance ( $\alpha$ ) and a 5% margin of error (L). To compensate for non-response, 10% of the calculated sample size was added. The sample size thus calculated was 405.

All the data were taken in preformed proforma of a structured questionnaire which consisted of two aspects i) socio-demographic, and ii) satisfaction assessment.

The questionnaire was first prepared in English, which was then translated into the Nepali language. It was then translated back to English to check for consistency. The questionnaire comprised of 21 items/variables grouped into four categories: i) health care (seven questions), ii) health workers communication (six questions), iii) health workers attitude (four questions), and iv) environment (four questions). Each item was assessed on a five points-based Likert scale (1=completely dissatisfied; 2=dissatisfied; 3=neutral; 4=satisfied and 5=completely satisfied).

Taking references of previous study<sup>8</sup>, clients with no formal education were labelled 'illiterate', those with formal education up to class five as 'primary level', above class five up to ten as 'secondary level' and those above class ten as 'above secondary'. According to the client's self-perception, family income was broadly classified into 'sufficient' or 'insufficient'. For instance, clients were asked whether monthly income was adequate to fulfil the needs of family, then it was classified as sufficient income, otherwise insufficient. Waiting time in the study was defined as the time between the arrival of the client to hospital and the first check-up by a service care provider. It was categorized into two groups; waiting time  $\leq 15$  minutes and waiting time  $> 15$  minutes. The distance of hospital was measured in terms of approximate hours taken to reach the hospital in a public transport vehicle. All the scores for the given item were summed and the mean ( $\pm$ SD) calculated.

The outcome variables were the client satisfaction scores marked on 5 points based Likert scale. Five points Likert scale is used in previous study to assess the client satisfaction of maternity care in other settings similar to Nepal.<sup>5,6</sup> The scores were dichotomized: scores of four

and five being merged as 'satisfied' and those of one to three being categorized as 'not satisfied'. Neutral responses were classified as dissatisfied, considering that they may represent a fearful way of expressing dissatisfaction. This is likely because the interview was undertaken within the hospital, and mothers may have been reluctant to express their dissatisfaction with the services they received.

We conducted an exit interview of the clients in a separate room by designated personnel (two interns) in a casual dress who were not involved in the delivery or care of the client. All the proforma thus obtained were coded numerically to maintain confidentiality. The socio-demographic portion was collected from the hospital records while the interviewer filled up the satisfaction questionnaire during the interview. A pretesting in 10% of the sample size was done, which was not included in the actual study.

The data collected were checked for completeness, coded and entered in a master data sheet in Statistical Package for Social Sciences (SPSS) software version 20. The reliability of the questionnaire was checked using Cronbach's Alpha test, which showed a high internal consistency with reliability coefficient (on standardized items) of 0.597 (0.592), 0.838 (0.841), 0.833 (0.838), and 0.762 (0.770) on the four categories respectively.

Categorical data were presented in frequencies and percentages. Quantitative data were expressed in mean with standard deviations. Student's t-test and one-way ANOVA were employed to compare the means. Binary and multivariate logistic regression analyses were applied to identify the association of predictors with the satisfaction level. The outcome variable was satisfaction with health service delivery, while the explanatory variables were socio-demographic and health care-related variables. Strength of association was interpreted using odds ratio (OR) and 95% confidence interval. A p-value  $< 0.05$  was considered for statistical significance.

Ethical clearance was obtained from the Institutional Review Committee of the institute (IRC-LMC) prior to the commencement of the study. The clients were detailed about the study, and informed consent was obtained. In case the client denied participation, the subsequent client was enrolled on the study.

## RESULTS

There was a total of 720 admissions and 685 deliveries in the hospital during the study period. Four hundred and five mothers were enrolled on the study. Table 1

represents the socio-demographic parameters of the study population. The mean age of the clients was 23.58±4.56 years. One hundred and eighty-three (45.2%) clients belonged to 20-24 years age group, and 244 (60.2%) were educated up to the secondary level. The majority (n=187, 46.2%) belonged to the Janajati ethnicity.

One-way ANOVA test showed that the education level of the clients was statistically significant with a mean satisfaction score (p<0.001). On post hoc analysis, we found the group with above secondary education level was less satisfied than those with no or low education, which was statistically significant.

Table 2 presents the maternity care-related parameters of the study population. Nurses were the service provider in 275 (67.9%) of the deliveries. Most of the clients were from remote areas, 95 women (23.5%) from 1-2 hours and 111 (27.4%) from a distance of 2-3 hours. The mean waiting time was 16.94 ±5.57 minutes (range: 6-45 minutes). The outcome was male in 52.3% of the deliveries. Four babies were born dead. Normal deliveries accounted for 77% of total deliveries, while 18.8% were cesareans. Two hundred and twenty-nine (56.5%) were primipara. Hospital stay was mostly for 2-3 days (n=176, 43.5%).

It was noted that the state of pregnancy was the only parameter statistically significantly associated with mean satisfaction level (p<0.001). Women with an unwanted pregnancy were more likely to be satisfied than those with wanted pregnancies.

Table 3 presents the proportion of clients satisfied with various aspects of maternity care based on the questionnaire. The proportion of patients for complete satisfaction above 50% was recorded for three items: time spent with providers (60.2%), courtesy and respect by doctors (70.9%) and courtesy and respect by nurses (55.1%). There were 11 parameters that had more than 25% of complete satisfaction rates.

Lower complete satisfaction rates were obtained for pain control (6.4%), information at discharge (14.6%) and the amount of privacy in the ward (13.6%). The mean satisfaction score was highest for courtesy and respect by doctors (4.69±0.49), while the lowest mean satisfaction score was for pain control (3.47±0.67). The range of mean satisfaction scores were 3.47-4.57 for health care-related variables, 3.90-4.40 for health workers communication variables, 4.08-4.69 for health workers' attitude variables and 3.82-4.32 for environmental factors.

Table 1. Socio-demographic profile of the study population and mean satisfaction level (N=405).

Variables	Frequency (%)	Mean satisfaction score	p-value
Age (years)	< 20	74 (18.3%)	4.19±0.35
	20-24	183 (45.2%)	4.17±0.38
	25-29	101 (24.5%)	4.13±0.37
	30-34	34 (8.4%)	4.12±0.25
	35-39	11 (2.7%)	4.21±0.31
	40 and above	2 (0.5%)	4.62±0.01
Education	Illiterate	13 (3.2%)	4.42±0.28
	Primary	26 (6.4%)	4.25±0.29
	Secondary	244 (60.2%)	4.23±0.33
	Above secondary	122 (30.1%)	3.97±0.37
Monthly income	Sufficient	389 (96%)	4.17±0.36
	Insufficient	16 (4%)	4.20±0.36
Occupation	Homemaker	368 (90.9%)	4.16±0.35
	Job holder	37 (9.1%)	4.21±0.43
	Brahmin	91 (22.5%)	4.20±0.39
Ethnicity	Chhetri	42 (10.4%)	4.19±0.41
	Janajati	187 (46.2%)	4.13±0.32
	Dalit	82 (20.2%)	4.20±0.40
	Muslim	3 (0.7%)	4.42±0.05

\* One-way ANOVA test, †independent t test

Table 2. Comparison of satisfaction level based on maternity care-related parameters (N=405).

Variables		Frequency (%)	Mean satisfaction score	p value
Service provider	Doctor	115 (28.4)	4.11±0.37	p=0.230*
	Nurse	275 (67.9)	4.18±0.36	
	Medical intern/nursing student	15 (3.7)	4.17±0.35	
Distance from hospital (hours)	Upto 1	70 (17.3)	4.20±0.33	p=0.706*
	1-2	95 (23.5)	4.15±0.41	
	2-3	111 (27.4)	4.18±0.33	
	3-4	63 (15.6)	4.15±0.37	
	Above 4	66 (16.3)	4.13±0.37	
State of pregnancy	Wanted	385 (95.1)	4.15±0.35	p<0.001†
	Unwanted	20 (4.9)	4.48±0.37	
Outcome	Live	401 (99)	4.16±0.36	p=0.257†
	Dead	4 (1)	3.96±0.43	
Baby	Male	212 (52.3)	4.17±0.37	p=0.864†
	Female	193 (47.7)	4.16±0.35	
Parity	Primipara	356 (87.9)	4.16±0.35	p=0.369†
	Multipara	49 (12.1)	4.21±0.42	
Maternal condition	Normal	379 (93.6)	4.17±0.37	p=0.187†
	Complicated	26 (6.4)	4.07±0.29	
Mode of delivery	Vaginal	312 (77)	4.17±0.37	p=0.853*
	Instrumental	17 (4.2)	4.19±0.33	
	Cesarean section	76 (18.8)	4.14±0.35	
NICU admission	Yes	36 (8.9)	4.05±0.35	p=0.04†
	No	369 (91.1)	4.17±0.36	
Hospital stay (days)	≤1	118 (29.1)	4.20±0.35	p=0.497*
	2-3	176 (43.5)	4.16±0.37	
	4-5	41 (10.2)	4.12±0.35	
	> 5	70 (17.2)	4.13±0.34	

\* One-way ANOVA test, † independent t test

Table 3. Maternity care-related characteristics and mean satisfaction scores (N=405).

Variables	Completely satisfied (%)	Satisfied (%)	Mean satisfaction score (±SD)
Time spent with provider	244 (60.2)	152 (37.5)	4.57±0.56
Medical care received	130 (32.1)	262 (64.7)	4.28±0.54
Care received from nurse	74 (18.3)	304 (75.1)	4.10±0.52
Waiting time to see provider	166 (41)	215 (53.1)	4.35±0.59
Privacy during vaginal examinations and delivery	88 (21.7)	149 (36.8)	3.77±0.82
Pain control	26 (6.4)	152 (37.5)	3.47±0.67
Adequacy of health staffs	146 (36)	245 (60.5)	4.32±0.54

Health workers communication	Provider explained your condition	181 (44.7)	211 (52.1)	4.40±0.58
	Provider explained about drug	127 (31.4)	224 (55.3)	4.16 ±0.68
	Provider listens to your worries	76 (18.8)	258 (63.7)	3.99 ±0.64
	Nurse listens to your worries	68 (16.8)	238 (58.8)	3.90 ±0.68
	Information about procedure and exam	63 (15.6)	283 (69.9)	4.0 ±0.58
	Information at discharge	59 (14.6)	334 (82.5)	4.11 ±0.41
Health workers attitude	Courtesy, respect by doctor	287 (70.9)	111 (27.4)	4.69 ±0.49
	Courtesy, respect by nurse	223 (55.1)	144 (35.6)	4.44 ±0.70
	The way staff treated you	124 (30.6)	193 (47.7)	4.08 ±0.72
	The way staff treated family or companion	120 (29.6)	235 (58)	4.16 ±0.64
Environment	Amount of freedom in the ward	147 (36.3)	245 (60.5)	4.32±0.54
	Amount of privacy in the ward	55 (13.6)	228 (56.3)	3.82±0.66
	Provision of clean drinking water, hand washing facilities and toilets for women	70 (17.3)	294(72.6)	4.06±0.52
	Facility cleanliness	88 (21.7)	299 (73.8)	4.17±0.49

Table 4. Factors significantly associated with client satisfaction level: binary logistic regression analysis.

Variables		Health care	Communication	Environment	Attitude
		OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Mode of delivery	Vaginal				1
	Instrumental				0.20 (0.05-0.84)*
	Caesarean				0.34 (0.06-1.92)
Maternal condition	Normal		3.50 (1.06-11.51)*		
	Complicated		1		
Waiting time	≤15 mins	14.43 (4.81-43.28)*	4.49 (1.91-10.59)*	7.39 (2.85-19.11)*	6.47 (2.73-15.34)*
	>15 mins	1	1	1	1

1=reference category, \* statistically significant

Table 4 presents the binary logistic regression analysis results of the factors significantly associated with maternal satisfaction level. In the present study, mode of delivery, maternal condition and waiting time were the only three factors with statistically significant association with different categories of maternal satisfaction.

Mothers who underwent instrumental delivery were less satisfied with health worker's attitudes than those having vaginal deliveries (OR 0.20, 95% CI:0.05-0.84). Similarly, those having uncomplicated deliveries were 3.5 times more satisfied (OR 3.50, 95% CI: 1.1-11.5) with health workers' communication than those with complicated deliveries. Mothers who had to wait for less than 15 minutes to see the service provider were more satisfied in all aspects of satisfaction measurement.

## DISCUSSION

Knowledge about women's satisfaction with labour and delivery care services in the local context plays a crucial role in increasing delivery service utilization, formulating new intervention strategies, and strengthening the existing ones to reduce maternal morbidity and mortality.<sup>9</sup> With an increasing number of institutional deliveries, the Nepalese health system faces a challenge to ensure quality service provision.<sup>10</sup> This paper aimed to assess the level of client satisfaction with labour and delivery services and identify its determinants.

Client satisfaction with health care has been argued as a subjective as well as the dynamic perception of the extent to which expected health care is received.<sup>7,11,12</sup> Administrators and managers can use such information

to improve quality scores cost-effectively in tertiary referral centres like ours.

In this study, 18% of the clients were teenagers. There is a higher tendency of girls being married off early in our part of the world. Though statistically not significant, women of higher age were more likely to be satisfied with the services than younger mothers. The lack of experiences on childbirth and service delivery of existing hospitals on younger mothers' part might have led them to have high expectations on the quality of delivery care service.

In this study, more than 50% of clients were completely satisfied in three items: time spent with provider, courtesy and respect by doctors, and courtesy and respect by nurses. Satisfied clients will be more likely to return in the future and recommend the institution to their relatives/friends.<sup>13,14</sup>

The study showed women with no formal education were more satisfied with the delivery services. However, those above secondary level education were less satisfied than those with no or lower education level ( $p < 0.001$ ). This is probably because people with higher education have more awareness and hence higher expectations in delivery services. They are therefore more likely to be dissatisfied even with minor compromises in the service delivery. This finding is similar to the studies done in Ethiopia.<sup>9,15,16</sup> Contrary to our study, clients with secondary level education, were more likely to be satisfied with the attitude of the provider (OR=2.08) and providers communication (OR= 3.2) in the study by Malese T et al.<sup>6</sup> This was attributed to the better understanding between the secondary school level clients and the care providers. Education level was not found to be associated with client satisfaction in a study conducted in Kenya.<sup>17</sup> This difference could be probably due to the study setting as the study was conducted in informal settlements.

Because all the maternity services are free under the Safe Motherhood Program of the Nepal government in our centre, the satisfaction level could have been relatively higher. Other studies have shown that the satisfaction level is high when the clients do not have to pay for the services.<sup>9,17</sup> This may be related to the fact that those paying for the services have higher expectations from the centre. While on the other hand, the clients receiving free of cost services have less or no worries about the economic burden, which may increase the satisfaction level.

Another consistent factor responsible for increased

satisfaction level was the waiting time to see the provider. The clients who had to wait for less than 15 minutes were more satisfied than those having to wait for a longer time with all the four parameters of satisfaction level measurement. This finding agrees with other studies conducted in Ethiopia, Uganda and Bangladesh.<sup>9,16,18,19</sup> Because of the nature of the obstetric condition itself, most of the women arrive in labour and hence are attended to immediately. The time interval from arrival to service delivery is, therefore, mostly less in contrast to other conditions.

Most of the nurses in our centre have undergone skilled birth attendant (SBA) training, a government-sponsored rigorous three-month training aimed to better equip health care providers in knowledge and skills in childbirth. Properly trained nurses are more likely to discharge their responsibilities in a better and more satisfactory manner.

Poor pain control was the most significant factor for client dissatisfaction in our study. The mean satisfaction score for pain control was  $3.47 \pm 0.67$ , and only 6.4% were completely satisfied with their pain control. Two clients were completely dissatisfied, and eight were dissatisfied. As per the hospital protocol, we use diclofenac injection every eight hours with opioid analgesics as a required basis for pain management in post-caesarean cases and oral analgesics (combination of paracetamol and ibuprofen) for vaginally delivered cases. Another study has also identified poor pain control as the least satisfied parameter.<sup>6</sup> This finding suggests reconsidering our pain management protocol for post-delivery mothers, especially after caesarean section.

Clients in our study were generally satisfied with the health workers' communication. The maximum complete satisfaction level was for the providers explaining the condition (44.7%), while the minimum was for information at discharge (14.6%). The satisfaction rate of most of the parameters is similar to other studies.<sup>6,20</sup> The lowest mean satisfaction score was for nurses listening to the clients' worries ( $3.90 \pm 0.68$ ). This is probably because the nurse to patient's ratio in our part of the world is very low. A single nurse provides care to many patients. The limited staff available have difficulty coping with the heavy workload while still maintaining the quality of service provided. This may partly explain the poor interpersonal performance.

We found a relatively higher satisfaction score level to health worker's attitudes. There was a more than 50% complete satisfaction rate to two items: courtesy, respect by doctors (70.9%), and courtesy by nurses (55.1%).



Respectful and courteous maternity care is an important factor for overall satisfaction towards maternity service. This finding is higher in comparison to the studies done in Ethiopia and Srilanka.<sup>6,21</sup> However, the staff treated the companion or family showed a comparatively very low complete satisfaction rate (29.6%). Although it is still higher, the decrease in the satisfaction level in this parameter agrees with another study.<sup>6</sup> Such a lower satisfaction rate in terms of treatment to the client's companion may eventually hamper client compliance and overall satisfaction. Therefore, this finding indicates asserting satisfactory behaviour by the staff to the family and companion too.

In our study, the amount of privacy in the ward yielded the lowest mean satisfaction score (3.82±0.66) among all the parameters in the environmental domain. It had the lowest complete satisfaction rate (13.6%). This is probably because we keep our post-natal mothers in a big ward without partitions. The procedures or examinations done with placing curtains might not have assured complete privacy to the clients. This finding is similar to the studies done by Malese T et al. (9.2%) and Serenath U et al. (10.8%).<sup>6,21</sup>

Binary logistic regression analysis showed that clients with instrumental delivery were less satisfied with reference to vaginal deliveries (OR: 0.20, 95% CI: 0.05-0.84). This might be because those clients generally had poor pain control and their babies were mostly admitted to NICU as well.

Similarly, clients with uncomplicated deliveries were 3.5 times more satisfied with health workers' communication than complicated deliveries. Though widely practised, counselling to clients is still very unsatisfactory in countries like ours. Moreover, a low educational level also hinders clients from adequately understanding the counselling regarding complicated procedures and outcomes.

The present study did not consider the number of ANC visits as a factor for determining the satisfaction level. There is a general tendency for courtesy bias from respondents to evaluate quality from the user's perspective, especially in exit interviews. Finally, the quantitative nature of the survey methodology has potential shortcomings because women may hold a complex set of experiences in labour and childbirth that could not be explained using a structured instrument alone. Some qualitative exploration might provide additional information to supplement the observed perceptions of quality.

## CONCLUSIONS

The educational level of the clients was the only socio-demographic parameter significantly associated with the client satisfaction level. Similarly, women with an unwanted pregnancy were more likely to be satisfied with maternity care-related parameters. On the other hand, lower satisfaction rates were obtained for pain control, information at discharge and degree of privacy in the ward. Better management of post-delivery pain, dispensing adequate information to the client/families at discharge from hospital, and ensuring more privacy to the clients in the ward will surely help increase clients' satisfaction level.

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