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Patient satisfaction towards eye care services at tertiary eye hospitals in Madhesh Province, Nepal

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Abstract

Background: This study aimed to assess the overall patient satisfaction with the eye care services in Madhesh Province, Nepal

Method: This was a cross-sectional study conducted at eye hospitals in Madhesh province between October 2018 to January 2019. Patients who received ophthalmic care were enrolled for client exit interviews, using Likert scale tool. Data on behavior of the service provider and the services and facilities were analyzed in relation to patient satisfaction. The data were entered and analyzed using SPSS-V20. A Pearson's chi-square test was used to examine the relationship between overall satisfaction and the dependent variables.

Result: Out of 1190 patients 46(3.8%) reported visiting the hospital more than four times. The main reasons for attending hospital were the 'quality of services' at affordable costs 635(53.0%) followed by easy access to hospital 468(39%). Level of education, socioeconomic status, waiting time, hospital hours, cleanliness and cost of service were all significantly associated ($p<0.05$) with the overall patient-reported satisfaction. The behavior of the service providers did not play a statistically significant role in overall satisfaction.

Conclusion: The findings indicate that 1131(95.0%) of patients reported being satisfied or highly satisfied with their overall hospital experience. This high level of patient satisfaction suggests that the hospitals are performing well in terms of perceived quality and performance. However, further analysis is recommended to identify specific areas of excellence and potential areas for improvement to ensure sustained high-quality care.

Keywords: Eye Care Service, Madhesh Province, Patient's Satisfaction, Tertiary Eye Hospital

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Introduction

Patient satisfaction refers measures how well the received care, matches the patient's expectations of optimal care.[1] Many healthcare professionals are getting to recognize its value in evaluating hospital performance, quality, and patient outcomes. As a result, the health care sector is rapidly changing to meet the rising demands and needs for improved services, access, and quality care from its patient population.[2,3] Historically, the quality of healthcare has been measured using standards of professional practice and other provider- or hospital-oriented indicators, such as technology. The focus has shifted from objective statistics like mortality and readmission rates to subjective measures such as patient satisfaction surveys and testimonials, especially in developing countries where perceptions of healthcare quality are highly significant.[4]

Patient satisfaction surveys assess various aspects of healthcare, providing valuable insights into service quality and offering an opportunity to engage patients in improving care. These surveys, therefore, serve as a key outcome measure in enhancing the overall quality of patients' lives.[5] Improving communication skills, providing technical assistance, and offering alternative funding options for patients without health insurance are crucial for enhancing patient satisfaction.[6] These strategies have been shown to significantly impact the quality of patient care and overall satisfaction.

Despite the extensive research on patient satisfaction in ophthalmology care globally, relatively few studies have been conducted in Nepal. Thus, this study aims to analyze the overall patient satisfaction with eye care services delivered by the eye hospitals in Madhesh Province, Nepal.

Method

A cross-sectional descriptive study was conducted in RM Kedia Eye Hospital, Bara, Gaur Eye Hospital, Rautahat and Sagarmatha Choudhary Eye Hospital, Siraha in Madhesh Provincial operating under NNJS. The patients attending to ophthalmic care at out- patient department (OPD) and in-patient department (IPD) were enrolled in this study.

Ethical approval for the study was received from the Ethical Review Board (ERB) of Nepal Health Research Council (NHRC). Prior to data collection, permission was obtained from the Nepal Netra Jyoti Sangh (NNJS) central office. Participants were thoroughly briefed on the study's objectives, and informed written consent was obtained before data collection. Their identities were kept confidential throughout the study to ensure privacy.

The study was carried out between October 2018 and January 2019. Those who attended the hospitals during the data collection period were done client exit interview in the hospital premises by three data enumerators recruited for this study. Based on a sample size calculation using appropriate statistical formula for estimating sample size [$n=Z^*P(1-P)/d^{2;}$ P=0.5, Z=1.96 at 95% CI] with 5.0% non-responsive rate, assuming that 50% patients are satisfied with the services of the hospital (P=50%), the estimated sample size was 403 per hospital, totaling 1,209 across the three hospitals.

Among the patients enrolled, 80% were from the OPD, and 20% were from the IPD. A structured questionnaire with a 5-point Likert scale (from 'Highly dissatisfied' to 'Highly satisfied') was used to assess patient satisfaction. Positive responses, including "Satisfied" (SFD) or "Highly Satisfied" (HSFD), are noted alongside negative responses ("Highly Dissatisfied" and "Dissatisfied"). The questionnaire, originally developed in English, was translated into Nepali and then into local languages. It was pilot-tested on 50 patients at a similar setting, NNJS/Kirtipur Eye Hospital, Kathmandu, for validation. Face and content validity of the tool were ensured, and Cronbach's alpha was calculated to assess its internal consistency. It comprised 34 items measuring socio-demographic characteristics and core

dimensions of patient satisfaction, including service provider behavior, and services and facilities in the OPD and IPD departments. Those able to read were given the informed consent form to review themselves, while those unable to read had the form read to them by enumerators in their preferred language. Written consent was obtained via signature or thumbprint. The consent form was also translated into the local languages, Bhojpuri and Maithili. Patients were fully informed about the study's purpose, provided consent to participate, and were assured of their right to withdraw at any time. They provided feedback on their eye care services through both closed and open-ended questions.

The purpose of the data analysis was to examine the distribution of data, detect outliers, and measure associations among the variables. Data entry and analysis were performed using IBM SPSS V20 (Statistical Package for the Social Sciences). The Chi-square test was used in bivariate analysis to evaluate associations between the dependent variable, the overall patient satisfaction with eye care services, and various independent variables. These independent variables were categorized into three groups: socio-demographic factors, service-related factors and infrastructure-related factors. A p-value of <0.05 was considered statistically significant.

Result

Among the respondents (n=1190), the proportion of male and female population in the hospitals were 794(66%) and 396(33.0%) respectively. The mean age was 40 years and 944(79%) of participants were from OPD and 246(21.0%) from the IPD. Among the three hospitals, Gaur Hospital had the highest proportion of neutral or dissatisfied responses compared to the other hospitals.

Regarding educational qualifications, the majority of patients were either illiterate or had minimal literacy skills. Additionally, 798(67.06%) of respondents reported having a main source of income that lasted less than 6 months. Out of the total respondents, 46(3.8%) had visited 4 times or more for eye check up in the hospital and their major reason for hospital visit was for quality of service by modern equipment at low price.

Regarding the behavior of service providers and service and facility-related variables, the majority of respondents expressed satisfaction with the behavior of eye care professionals, registration personnel, and spectacle dispensers. Specifically, a significant portion of patients reported being satisfied or highly satisfied (SFD or HSFD) with these aspects. For instance, the behavior of staff at the registration department and the dispensing unit had high satisfaction rates, with 694(95.5%) and 415(83.8%) positive responses, respectively. Additionally, service-related factors such as opening hours, waiting time, and cleanliness of facilities were also well-regarded, with at least 80% of patients expressing satisfaction or high satisfaction across these categories, Tables 2, Table 3.1 and 3.2.

Patient satisfaction with various hospital services using a 5-point Likert scale. The average waiting time was 57.5 minutes with a standard deviation of 29.2 minutes (minimum 5 and maximum 240). Overall, the table indicates that majority of the patient (approx. 95%) were overall Neutral, SFD OR HFSD of patients were satisfied with the hospital services, including cleanliness, cost, and staff behavior.

Bivariate analysis identified several factors significantly associated with overall patient satisfaction. Education status showed a significant association (p=0.004), with higher education levels correlating with greater satisfaction. Socioeconomic status was also significantly associated with overall satisfaction (p<0.001). Patients who reported having less than six months left on their primary source of income were 14.0% more likely to feel Neutral, satisfied, or highly satisfied with the institution compared to those who could survive longer than one year.

While the behavior of service providers did not have a statistically significant impact on patient satisfaction, several service-related and physical infrastructure factors did. Specifically, waiting time, hospital working hours, impression of the treatment plan, cleanliness, and cost of service were all significantly correlated with overall satisfaction ($p<0.001$).

Table 1. Socio-demographic characteristics and of patient satisfaction for tertiary eye hospitals (n=1190)

Variable	Negative n(%)	Positive n(%)	Total
Gender			
Male	37(4.7)	757(95.3)	794
Female	22(5.6)	374(94.4)	396
Age in years			
Under 18	-	7(100)	7
19 -29	2(2.2)	88(97.8)	90
30-39	13(6)	204(94)	217
40-49	17(4.4)	366(95.6)	383
50-59	9(3.6)	243(96.4)	252
60-69	16(7.2)	206(92.8)	222
70-79	-	25(100)	25
80-89	-	5(100)	5
90-99	-	4(100)	4
Patient type			
Outpatient	43(4.6)	901(95.4)	944
inpatient	16(6.5)	230(93.5)	246
Education level			
Illiterate	24(6.2)	365(93.8)	388
only read and write	26(6.8)	354(93.2)	380
primary level education	5(2.4)	205(97.6)	210
lower secondary level	3(2.9)	99(97.1)	102
secondary level	1(1.1)	89(98.9)	90
higher education or more	-	20(100)	20
Length of survival on main source of income			
Less than 6 months	54(6.8)	744(93.2)	798
6-12 months	4(2.1)	190(97.9)	194
More than 1 year with saving	1(0.5)	197(99.5)	198
Number of visits			
1st time	31(5.3)	556(94.7)	587
2nd time	22(4.6)	460(95.4)	482
3rd time	4(5.3)	71(94.7)	75
4th or more	2(4.3)	44(95.7)	46
Reason for check-up			
Qualified doctors, nurses, examiners, and staff	2(2.7)	71(97.3)	73
Quality services by modern equipment for low price	25(3.9)	610(96.1)	635
Attractive hospital building	1(7.1)	13(92.9)	14
Easy access	31(6.6)	437(93.4)	468

*Positive response only includes those who responded Satisfied “SFD” or Highly Satisfied “HSFD” to question of overall satisfaction

Table 2. Behavior of service providers and patient satisfaction towards tertiary eye hospitals (n=1190)

Variable	Negative n(%)	Positive n(%)	Total
Behavior of the staff at registration department			
Highly dissatisfied	-	1(100)	1
Dissatisfied	-	-	-
Neutral	2(8.7)	21(91.3)	23
Satisfied	33(4.5)	694(95.5)	727
Highly satisfied	24(4.8)	415(83.8)	493
Behavior of eye care professionals			
Highly dissatisfied			
Dissatisfied			
Neutral	54(6.8)	744(93.2)	798
Satisfied	4(2)	190(98)	194
Highly satisfied	1(0.5)	197(99.5)	198
Behavior of staff at pharmacy, spectacle dispensing unit			
Highly dissatisfied	31(5.3)	556(94.7)	587
Dissatisfied	22(4.6)	460(95.4)	482
Neutral	4(5.3)	71(94.7)	75
Satisfied	2(4.3)	44(95.7)	46
Highly satisfied	0	0	0
Attention given by examiners			
Highly dissatisfied	-	-	-
Dissatisfied	1(33)	2(67)	3
Neutral	2(14.3)	12(85.7)	14
Satisfied	23(4.3)	508(95.7)	531
Highly satisfied	33(5.2)	609(94.8)	642

Table 3.1. Patient satisfaction services and facilities of tertiary eye hospitals (n=1190)

Variable	Negative n(%)	Positive n(%)	Total
Opening hours/days of hospital			
Highly dissatisfied	0	0	0
Dissatisfied	3(30.0)	7(70.0)	10
Neutral	2(3.0)	63(97.0)	65
Satisfied	41(5.5)	699(94.5)	740
Highly satisfied	13(3.5)	362(96.5)	375
Examination and treatment			
Highly dissatisfied	0	0	0
Dissatisfied	1(50.0)	1(50.0)	2
Neutral	1(3.3)	29(96.7)	30
Satisfied	24(4.0)	576(96.0)	600
Highly satisfied	33(6.0)	525(94.0)	558
Cleanliness of OPD			
Highly dissatisfied	0	0	0
Dissatisfied	1(20.0)	5(80.0)	6
Neutral	9(5.6)	152(94.4)	161
Satisfied	42(6.0)	655(94.0)	697
Highly satisfied	7(2.2)	319(87.8)	326

Table 3.2. Patient satisfaction services and facilities of tertiary eye hospitals (n=1190)

Variable	Negative n(%)	Positive n(%)	Total
Service related to pharmacy, spectacle dispensing			
Highly dissatisfied	0	0	0
Dissatisfied	0	2(100)	2
Neutral	15(9.3)	146(90.7)	161
Satisfied	37(5.3)	658(94.7)	695
Highly satisfied	7(2.1)	325(97.9)	332
Cost of service			
Highly dissatisfied	0	0	0
Dissatisfied	3(50.0)	3(50.0)	6
Neutral	4(13.8)	29(86.2)	33
Satisfied	38(4.7)	767(95.3)	805
Highly satisfied	14(4.0)	332(96.0)	346
Facilities for visitors			
Highly dissatisfied	0	0	0
Dissatisfied	1(16.6)	5(83.4)	6
Neutral	1(2.6)	37(97.4)	38
Satisfied	14(8.4)	153(91.6)	167
Highly satisfied	0	37(100)	37
Cleanliness of inpatient department (IPD)			
Highly dissatisfied	0	0	0
Dissatisfied	0	0	0
Neutral	2(7.0)	26(93.0)	28
Satisfied	14(8.6)	149(91.4)	163
Highly satisfied	1(1.8)	56(98.2)	57
Behavior of nurses			
Highly dissatisfied	0	1(100)	1
Dissatisfied	0	0	0
Neutral	6(17.0)	29(83.0)	35
Satisfied	10(6.0)	153(94.0)	163
Highly satisfied	0	49(100)	49
Performance of physicians who conducted surgery			
Highly dissatisfied	2(100)	0	2
Dissatisfied	7(20.0)	28(80.0)	35
Neutral	1(3.0)	32(97.0)	33
Satisfied	5(5.4)	86(94.6)	92
Highly satisfied	1(1.1)	85(98.9)	86
Would you recommend this hospital to others?			
Yes	58(4.9)	1,131(95.1)	1,189
No	1(100)	0	1

Discussion

According to the study's findings, 1189(99.0) of the patients would recommend the selected hospital to others. The findings show 95% of patients said they were "SFD" or "HSFD" with their overall experience. When decisions are made concerning service adjustments and improvements, patient satisfaction is vital, enhancing patient's satisfaction may increase

the likelihood that they will recommend a particular provider to friends and family who are looking for a qualified physician. For the most part, individuals trust their friends and family for information, especially when choosing a healthcare practitioner.[7,8] Although patient happiness and referrals are connected metrics, some researchers have found that high patient satisfaction does not always equate to high referral rates, and vice versa. This discrepancy may occur because satisfied patients might not need referrals, or referral patterns may be influenced by factors beyond satisfaction.[9] The interplay of service quality, patient needs, and referral processes can explain these variations. The report primarily focused on patient satisfaction related to quality and the variables influencing it.

The Kano model, developed by researchers in University of Tokyo is useful to analyze patient's satisfaction and quality visually and allows for studying different levels of patient's expectation.[10] The model demonstrates three relationships between satisfaction and quality (expected, performer and delighter). Patients have a set of unspoken, routine expectations about their care that are often overlooked. These expectations are consistent and not usually seen as quality variables, so their absence can be surprising to patients.[11]

The Kano model illustrates how different types of needs affect patient satisfaction. Basic needs, when unmet, lead to significant dissatisfaction, as seen in the sharp drop in satisfaction when care quality declines. Even meeting these fundamental needs may not ensure high satisfaction, as indicated by the line never crossing the "neutral satisfaction" mark. In our study, 96% of respondents were satisfied or highly satisfied with the behavior of medical personnel and hospital staff, suggesting that basic needs are being met. The model also shows that satisfaction increases linearly with the fulfillment of performance needs. Excitement needs, which are unexpected and exceed patient expectations, can significantly enhance satisfaction. For example, 94% of participants were satisfied or highly satisfied with hospital access during operating hours, 87% with cleanliness, and 96% with healthcare costs. Delighting patients through unexpected high-quality services, often due to innovation and personalized care, can provide a substantial competitive advantage.[12]

The focus of NNJS and the institutions in its network has always been patient-centered care. As an illustration, patient counselling is a service provided to patients who may need more help and knowledge. With 85% of patients reporting satisfaction or high satisfaction with the service, it indicates that the service is well-received.

The Kano model is an effective way to explain factors affecting patient satisfaction and service quality, but its limitation is it does not provide actual reason on patient's response regarding different factors. There are many theories that explain patient's satisfaction in health care. Theories provide a framework on people's perception and opinion. The two well-known theories are the healthcare quality theory (HQT) and the expectancy value theory (EVT). According to the EVT, a patient's happiness with care is influenced by their beliefs, values, and prior expectations. The HQT, on the other hand, places a strong emphasis on the importance of the interpersonal aspects of care in promoting patient satisfaction.[13]

The findings reflect respondent's belief and background, such as respondents with greater levels of education (secondary or higher) reported feeling overall happier than respondents without any formal education. The EVT is used to support our argument that a greater education raises health literacy. When these patients attend the hospital, they have more reasonable expectations because they are better able to gather, interpret, and comprehend fundamental health information. Additionally, those with lower education levels tended to be poorer among our sample's participants. In reality, 77.0% of those surveyed who reported being unable to sustain themselves for more than six months on their primary income source had never attended school.

To determine the characteristics of health literacy and to evaluate its effects on patient

satisfaction, preventative services, healthcare utilization, and costs, Stephanie Macleod looked at two populations, "sicker" and "healthier".[14] They concluded that these characteristics were negatively connected with poor health literacy, which is more prevalent in older and less educated people. Although health literacy was not a direct outcome of our study, it is conceivable that it can contribute to an understanding of the patterns in the data.

It is also conceivable that deeply ingrained cultural customs may have an impact on patient satisfaction. The conventional view of disease is that it is an outside force acting as a punishment or an external force that can only be stopped by an all-powerful force. Expectations of contemporary medicine and healthcare professionals in general are shaped by these notions. Understanding the patient population is crucial to address any misconceptions or unrealistic expectations, as a mismatch between patient expectations and the treatment obtained is linked to decreased satisfaction.[15,16] A study exploring trust in patient satisfaction found a positive association between higher trust levels and increased satisfaction.[17]

In our sample population, 91% of those who identified as 'DSFD', 'Neutral', or 'HDSFD' overall belonged to the lowest socioeconomic class. As previously mentioned, this may indicate a lack of health literacy and potentially distorted expectations of traditional versus modern medicine. Although not every member of lowest socioeconomic class gave the same answers, it is important to note that there may be an expectation mismatch and/or a lack of trust among them. But to answer this, further research on these people and a comparison would be necessary. Future research on this association is important because it may shed light on the psychology of satisfaction in rural and low socioeconomic people.

This study included only the eye hospitals operating under NNJS in Madhesh Province, Nepal. Male patients responded to the survey more frequently than female patients (2:1) in our sample set because we did not account for this gap in our data analysis, the satisfaction scores primarily reflect the views of men. However, there was no statistical difference between the sexes. To determine the reason for this disparity and whether survey weighting would be acceptable for further studies, it is worthwhile to review our approach used in the data collection process.

Conclusion

Our research shows that a majority of patients were satisfied with hospital services, including staff conduct, services, and facilities. This indicates high perceived quality and performance. To enhance patient satisfaction, hospital managers should address fundamental and performance needs while incorporating delighters. Demographic factors such as education level and socioeconomic status can influence patient satisfaction and should be considered in quality improvement efforts.

Author contribution

Concept and design- RS; Literature review- AT; Data collection and analysis- RS. All; Draft- RS; Revision- AT; Accountability- All authors have read and agreed to the final version of the manuscript.

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Conflict of interest

None

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Supplementary material

The data and supplementary material that support the findings of this study are available from the corresponding author upon reasonable request.

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