## Satisfaction among the Patients Attending Himalaya Eye Hospital, Pokhara Nepal

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#### **ABSTRACT**

Introduction: Patient satisfaction is one of the key elements for the overall improvement of health service management. Patient satisfaction in the health care organization is popularly used for benchmark and accreditation purposes.

Methods: A quantitative cross-sectional study was conducted among the 164 patients who got their at least one type of eye surgery done following at least three OPD visits at Himalaya Eye Hospital from January 2019 to July 2019. A systematic random sampling technique was used to enroll the study subjects. Face to face interview was done with a semi-structured interview schedule to gather the data from the subject. Data were entered into Epi-Data and transfered to SPSS 20 for analysis. A Chi-square test was applied to find out the association between dependent and independent variables.

Results: The average satisfaction score was  $(4.061\pm0.26)$ . Overall 48.2% of respondents were satisfied with the physical environment, 59.1% were satisfied with eye care service, 67.1% were satisfied with a health care provider, and 59.1% satisfied with a financial cost, and 88.4% respondents were satisfied with the outcome of care.

Conclusion: The majority of respondents were satisfied with the cleanliness and health care providers of the hospital. The main dissatisfaction was on the lack of provision of safe drinking water, insufficient space for caretakers, lengthy time for ticketing system, long waiting time, and waiting area. Concerned authorities are recommended for considering the need of people in the community which may further increase their satisfaction towards services and institutions.

**Keywords:** Eye-health service, Patient satisfaction, Ophthalmic service

#### **INTRODUCTION**

Patient satisfaction is an important and commonly used indicator for measuring the quality of health care.<sup>1</sup> Patient satisfaction has been an area of interest for health system research.<sup>2</sup> In the past three decades, patient satisfaction in the health care organization is popularly used for benchmark and accreditation purposes.<sup>3,4</sup> At the present, quality of the medical profession is usually judged not only by measuring clinical health service quality but also by measuring the consumer perception regarding health care service quality.<sup>5,6,7</sup>

Due to advancements in information technology and an increase in patient awareness level, the significance of patient satisfaction is increasing more.<sup>8</sup> Instead, today's health institutions are more dependent on technology and more focused on financial matters as a result of which they were losing aspects of their patient's satisfaction.<sup>9</sup> Patient satisfaction are influenced by the socio-demographic background of patients.<sup>2,10</sup> Limited studies were found regarding patient satisfaction in eye health services and only limited to the OPD department. This study incorporates almost all of the factors which affect the

patient's satisfaction in eye hospital following OPD to surgical department with at least 3 visits in the hospital. The main aim of this study was to assess the patient's satisfaction levels of Himalaya Eye Hospital in Pokhara, which is only one of the tertiary level hospitals of eye care service covering most of the patients of Gandaki and Dhaulagiri zone. In this regard, eye health service is the priority program of the government of Nepal. Likewise, eye health service is also one of the vital areas of the Nepal Health Research Council.<sup>11</sup> Now a days, there is increasing number of eye health services/hospitals/clinics but ensuring the quality of service is a challenge which is also the main component of patient satisfaction.

#### **METHODS**

A cross-sectional study was conducted among 164 patients above 18 years at Himalaya Eye Hospital, Nepal using systematic random sampling from January 2019

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to July 2019. The sample size was determined based on the average number of hospital visits per month. Face to face interview was taken among respondent using semistructured interview schedules. The study populations were those patients who had undergone at least one eye surgery (laser, cataract, glaucoma, and corneal) and had at least three follow-up visits in the hospital during the data collection periods. However, those who were unable to answer due to unconscious through surgery were excluded. After taking ethical approval from PUIRC and Himalaya Eye Hospital, verbal and written informed consent was obtained from the respondents. The used variables of study are sociodemographic variable, physical environments, quality of eye care services, health care providers, and financial cost. Those variables were measured using a 5-point likert scale. After the data collection, data was checked, coded, and entered into Epi-Data (version 3.1) and transfer to SPSS 20 for analysis. A chi-square test was applied to find out the association between dependent and independent variables.

## **RESULTS**

# Socio-demographic information

More than two-thirds (67.1%) of respondents had attended cataract surgery; about two-thirds of respondents visited the hospital more than fourth times. The median age of the respondents was 68 years with SD=15, minimum age=18 years, and maximum age=95. More than half of the respondents were female and less rest were male. About 74% of respondents reported that they follow Hinduism. More than half of the respondents were illiterate. Regarding occupation majority of respondents have agriculture as their main source of income.

## Patient satisfaction with the physical environment

Concerning the satisfaction of respondents with the physical environment, the cut-off point is 4 out of 5. The higher satisfaction score was found to have in a peaceful environment of the hospital  $(4.34\pm0.58)$ , lighting in operation ward  $(4.28\pm0.58)$ , and adequate ventilation in operation ward  $(4.26\pm0.53)$  and the lower satisfaction score is in the proper sitting arrangement for the patient caretaker  $(2.87\pm0.86)$ , likewise unavailability of safe drinking water at the operation ward  $(3.29\pm0.72)$ .

# Patient satisfaction with eye care services

The higher satisfaction score was observed inadequate explanation of treatment cost at the hospital  $(4.23\pm0.52)$  as well as quick and effective treatment procedure of doctor  $(4.23\pm0.52)$ . Relatively lower satisfaction was observed in the drinking water and sitting facility at the outpatient

department (2.54 $\pm$ 0.93) during waiting time. Likewise, lower satisfaction (2.97 $\pm$ 1.21) was observed in time to reach the hospital. Furthermore, the satisfaction is lower in the waiting time in OPD (3.18 $\pm$ 0.18) due to the lengthy queue for obtaining tickets in the outpatient department.

## Patient satisfaction with health care providers

The higher satisfaction is observed with health workers who took verbal and written informed consent with the patient before surgery  $(4.3\pm0.46)$ . Similarly, health workers instruct the dose and time of medicine to the patient before they leave the hospital  $(4.07\pm0.50)$ . Likewise higher satisfaction was in health workers answering patient queries  $(4.04\pm0.63)$ . A relatively lower satisfaction score was observed in health workers explain side effects of the medicine  $(3.31\pm0.70)$ , and health worker explains the reason for each test done at respondents  $(3.39\pm0.72)$  and similar lower satisfaction was observed in health care provider act too business-like impersonal with respondents  $(3.76\pm0.74)$ .

### Patient satisfaction with financial cost

Comparatively satisfaction score was less in the financial aspect of hospital i.e. (2.54±0.78). Patients were worried to pay a medical bill (2.56±0.92), patient had a problem covering their medical bill (2.89±1.23) patient don't ask for a discount for their medical bill and had to wait on queue for bill payment (2.94±1.02) and all other variable scores greater than three.

## Patient satisfaction with health care outcomes

The mean satisfaction score lies between (3.89±4.06) in health care outcomes from Himalaya Eye Hospital.

Table 1: Level of patient satisfaction in different variables (n = 164)

| Satisfaction                         | Frequency | Percent |  |  |  |
|--------------------------------------|-----------|---------|--|--|--|
| Satisfaction in physical environment |           |         |  |  |  |
| Satisfied                            | 79        | 48.2    |  |  |  |
| Unsatisfied                          | 85        | 51.8    |  |  |  |
| Satisfaction on eye care service     |           |         |  |  |  |
| Satisfied                            | 97        | 59.1    |  |  |  |
| Unsatisfied                          | 67        | 40.9    |  |  |  |
| Satisfaction on health care provider |           |         |  |  |  |
| Satisfied                            | 110       | 67.1    |  |  |  |
| Unsatisfied                          | 54        | 32.9    |  |  |  |
| Satisfaction on financial cost       |           |         |  |  |  |
| Satisfied                            | 97        | 59.1    |  |  |  |
| Unsatisfied                          | 67        | 40.9    |  |  |  |

| Satisfaction in health care outcome |     |      |
|-------------------------------------|-----|------|
| Satisfied                           | 145 | 88.4 |
| Unsatisfied                         | 19  | 11.6 |
| Overall satisfaction                |     |      |
| Satisfied                           | 84  | 51.2 |
| Unsatisfied                         | 80  | 48.8 |

Table 2: Association of socio-demographic variables with patient satisfaction (n=164)

| Variable         Satisfied Vnsatisfied N(%)         χ2         p-value           Type of eye surgery           Others eye surgery         35 (64.8)         19 (35.2)         5.95         0.015*           Cataract         49 (44.5)         61 (55.5)  |   |           |             |       |          |  |  |
|---|---|-----------|-------------|-------|----------|--|--|
| Type of eye surgery  Others eye surgery  Others eye surgery  Cataract   | Variable  | Satisfied | Unsatisfied | γ2    | p-value  |  |  |
| Others eye surgery       35 (64.8)       19 (35.2)       5.95       0.015*         Cataract       49 (44.5)       61 (55.5)       10.015*         Religion       35 (64.8)       19 (35.2)       5.95       0.015*         Hindu       58 (47.5)       64 (52.5)       2.58       0.032*         Others       26 (61.9)       16 (38.1)       2.58       0.032*         Educational status       1.16 (38.1)       19.31       <0.001**   |   |           | N(%)        |       | 1        |  |  |
| surgery       35 (64.8)       19 (35.2)       5.95       0.015*         Cataract       49 (44.5)       61 (55.5)  |   | у         |             |       |          |  |  |
| Religion  | •   | 35 (64.8) | 19 (35.2)   | 5.95  | 0.015*   |  |  |
| Hindu       58 (47.5)       64 (52.5)       2.58       0.032*         Others       26 (61.9)       16 (38.1)       2.58       0.032*         Educational status       Literate       54 (69.2)       24 (30.8)       19.31       <0.001**   | Cataract  | 49 (44.5) | 61 (55.5)   |       |          |  |  |
| Others 26 (61.9) 16 (38.1) 2.58 0.032*  Educational status  Literate 54 (69.2) 24 (30.8) 19.31 <0.001**  Place  Urban 62 (59.0) 43 (41.0) 7.15 0.007**  Distance between hospital and home  Less than 15 KM 34 (64.2) 19 (35.8) greater than or equal to 15 KM 50urce of Information about Himalaya Eye Hospital  From non-health professional 70 (56.5) 54 (43.5) 5.57 0.018*  From health professional 53 (67.1) 26 (32.9) (family) 15.36 <0.001**  Health professional 31 (36.5) 54 (63.5)  International wealth index  Lowest quintile 12 (37.5) 20 (62.5) Second quintile 10 (33.3) 20 (66.7)  Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)  | Religion  | Religion  |             |       |          |  |  |
| Others       26 (61.9)       16 (38.1)         Educational status         Literate       54 (69.2)       24 (30.8)         Illiterate       30 (34.9)       56 (65.1)         Place         Urban       62 (59.0)       43 (41.0)         Rural       22 (37.3)       37 (62.7)         Distance between hospital and home       Less than 15 KM       34 (64.2)       19 (35.8)         greater than or equal to 15 KM       50 (45.0)       61(55)       5.24       0.022*         From non-health professional       70 (56.5)       54 (43.5)       5.57       0.018*         From health professional       14 (35.0)       26 (65.0)       5.57       0.018*         From health professional       53 (67.1)       26 (32.9)       (family)       15.36       <0.001**   | Hindu   | 58 (47.5) | 64 (52.5)   | 2.50  | 0.032*   |  |  |
| Literate  | Others  | 26 (61.9) | 16 (38.1)   | 2.56  |          |  |  |
| Place   | Educational status                                |           |             |       |          |  |  |
| Illiterate   30 (34.9)   56 (65.1)   Place  | Literate  | 54 (69.2) | 24 (30.8)   | 10.21 | 0.00444  |  |  |
| Urban 62 (59.0) 43 (41.0) 7.15 0.007**  Rural 22 (37.3) 37 (62.7)  Distance between hospital and home  Less than 15 KM 34 (64.2) 19 (35.8) greater than or equal to 15 KM  Source of Information about Himalaya Eye Hospital  From non-health professional 70 (56.5) 54 (43.5) 5.57 0.018*  From health professional 14 (35.0) 26 (65.0)  Counseling for admission  Non-health professional 53 (67.1) 26 (32.9) (family) 15.36 <0.001**  Health professional 31 (36.5) 54 (63.5)  International wealth index  Lowest quintile 12 (37.5) 20 (62.5)  Second quintile 10 (33.3) 20 (66.7)  Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)  | Illiterate  | 30 (34.9) | 56 (65.1)   | 19.31 | <0.001^^ |  |  |
| Rural 22 (37.3) 37 (62.7)  Distance between hospital and home  Less than 15 KM 34 (64.2) 19 (35.8)  greater than or equal to 15 KM  Source of Information about Himalaya Eye Hospital  From non-health professional  From health professional  Counseling for admission  Non-health professional  53 (67.1) 26 (32.9) (family)  Health professional  International wealth index  Lowest quintile 12 (37.5) 20 (62.5)  Second quintile 10 (33.3) 20 (66.7)  Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)   | Place   |           |             |       |          |  |  |
| Rural       22 (37.3)       37 (62.7)         Distance between hospital and home       Less than 15 KM       34 (64.2)       19 (35.8)         greater than or equal to 15 KM       50 (45.0)       61(55)       5.24       0.022*         From non-health professional         From health professional       70 (56.5)       54 (43.5)       5.57       0.018*         From health professional       14 (35.0)       26 (65.0)       26 (65.0)         Non-health professional (family)       15.36       <0.001**   | Urban   | 62 (59.0) | 43 (41.0)   | 7.15  | 0.007**  |  |  |
| Less than 15 KM       34 (64.2)       19 (35.8)         greater than or equal to 15 KM       50 (45.0)       61(55)         Source of Information about Himalaya Eye Hospital         From non-health professional       70 (56.5)       54 (43.5)         From health professional       14 (35.0)       26 (65.0)         Counseling for admission       53 (67.1)       26 (32.9)         (family)       15.36       <0.001**  | Rural   | 22 (37.3) | 37 (62.7)   | 7.15  |          |  |  |
| greater than or equal to 15 KM  Source of Information about Himalaya Eye Hospital  From non-health professional  From health professional  Counseling for admission  Non-health professional  53 (67.1)  Health professional  International wealth index  Lowest quintile  12 (37.5)  Second quintile  16 (44.4)  20 (55.6)  5.24  0.022*  5.24  0.022*  5.24  0.022*  61(55)  54 (43.5)  5.57  0.018*  6.65.0)  15.36  0.001**  15.36  0.0001**  16.48  0.002**  Fourth quintile  20 (62.5)  12 (37.5) | Distance between hospital and home                |           |             |       |          |  |  |
| equal to 15 KM  Source of Information about Himalaya Eye Hospital  From non-health professional  From health professional  Counseling for admission  Non-health professional  Source of Information about Himalaya Eye Hospital  70 (56.5)  54 (43.5)  5.57  0.018*  From health professional  Counseling for admission  Non-health professional  (family)  Health professional  International wealth index  Lowest quintile  12 (37.5)  Second quintile  10 (33.3)  20 (66.7)  Middle quintile  16 (44.4)  20 (55.6)  16.48  0.002**  Fourth quintile  | Less than 15 KM                                   | 34 (64.2) | 19 (35.8)   |       |          |  |  |
| From non-health professional 70 (56.5) 54 (43.5) 5.57 0.018*  From health professional 14 (35.0) 26 (65.0)  Counseling for admission  Non-health professional 53 (67.1) 26 (32.9) (family) 15.36 <0.001**  Health professional International wealth index  Lowest quintile 12 (37.5) 20 (62.5)  Second quintile 10 (33.3) 20 (66.7)  Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)   | •   | 50 (45.0) | 61(55)      | 5.24  | 0.022*   |  |  |
| professional       70 (56.5)       54 (43.5)         From health professional       14 (35.0)       26 (65.0)         Counseling for admission       Non-health professional (family)       26 (32.9)         Health professional       31 (36.5)       54 (63.5)         International wealth index       12 (37.5)       20 (62.5)         Second quintile       10 (33.3)       20 (66.7)         Middle quintile       16 (44.4)       20 (55.6)       16.48       0.002**         Fourth quintile       20 (62.5)       12 (37.5)  | Source of Information about Himalaya Eye Hospital |           |             |       |          |  |  |
| Professional   14 (35.0)   26 (65.0)  |   | 70 (56.5) | 54 (43.5)   | 5.57  | 0.018*   |  |  |
| Non-health professional 53 (67.1) 26 (32.9) (family) 15.36 <0.001**  Health professional 31 (36.5) 54 (63.5) 15.36 <0.001**  Lowest quintile 12 (37.5) 20 (62.5) Second quintile 10 (33.3) 20 (66.7) Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)   |   | 14 (35.0) | 26 (65.0)   |       |          |  |  |
| professional professional professional (family) 15.36 <0.001**  Health professional International wealth index  Lowest quintile 12 (37.5) 20 (62.5)  Second quintile 10 (33.3) 20 (66.7)  Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)  |   |           |             |       |          |  |  |
| 31 (36.5) 54 (63.5)  Professional  International wealth index  Lowest quintile 12 (37.5) 20 (62.5)  Second quintile 10 (33.3) 20 (66.7)  Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)   | professional                                      | 53 (67.1) | 26 (32.9)   | 15.36 | <0.001** |  |  |
| Lowest quintile 12 (37.5) 20 (62.5)  Second quintile 10 (33.3) 20 (66.7)  Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)  |   | 31 (36.5) | 54 (63.5)   |       |          |  |  |
| Second quintile       10 (33.3)       20 (66.7)         Middle quintile       16 (44.4)       20 (55.6)       16.48       0.002**         Fourth quintile       20 (62.5)       12 (37.5)   | International wealth index                        |           |             |       |          |  |  |
| Middle quintile 16 (44.4) 20 (55.6) 16.48 0.002**  Fourth quintile 20 (62.5) 12 (37.5)  | Lowest quintile                                   | 12 (37.5) | 20 (62.5)   |       |          |  |  |
| Fourth quintile 20 (62.5) 12 (37.5)   | Second quintile                                   | 10 (33.3) | 20 (66.7)   |       |          |  |  |
| •   | Middle quintile                                   | 16 (44.4) | 20 (55.6)   | 16.48 | 0.002**  |  |  |
| Highest quintile 25 (75.8) 8 (24.2)   | Fourth quintile                                   | 20 (62.5) | 12 (37.5)   |       |          |  |  |
| *n-value significant at <0.05   |   |           |             |       |          |  |  |

<sup>\*</sup>p-value significant at <0.05.

Patient satisfaction was significantly associated with type of eye surgery (p=0.015). Similarly, with the educational status (p<0.001), with the place of residence (p=0.007). Furthermore, with international wealth index (socioeconomic status of the patient) (p=0.002) (Table 2).

#### **DISCUSSION**

#### Overall satisfaction

In this study, more than half (51.2%) of the respondents were satisfied with eye health services which are nearly similar (50%) to the study conducted in the national institute of ophthalmology Vietnam.<sup>12</sup> The study is inconsistent with the study conducted in the Tilganga hospital of Nepal (74.1%),<sup>13</sup> Nigerian teaching hospital (75.5%),<sup>14</sup> and Vietnam eye hospital (71%)<sup>15</sup> and in India (96.9%).This difference may be due to study at a different point in time, due to different social settings, and is related to patient expectancy of services.

The average satisfaction score in this study was (4.061±0.26) which is nearly similar to the study conducted in Tehran. However, the mean level of satisfaction is lower than 4 out of 5 in the study conducted in Korea. Direct comparison among these studies was difficult due to the use of different measurement scales, which encompass the consistent measurement.

In this study educated respondents were more satisfied in comparison to the illiterate respondent which is similar to the study in Iran, Vietnam, and Nepal. 4,12,14 These findings contradict with the study done in Portland and the United States where the higher educated patient is less satisfied since they have higher education they have a higher demand for services and their expectation are high.4,18,19 This suggests that patient with higher education would easily approaching hospital procedure and information and there is need of better communication and easy procedure for less-educated service users.12

# Satisfaction with physical environments

In this study overall, 48.2% of respondents were satisfied with the physical environment and about 90% of the respondents were satisfied with the overall cleanliness of the hospital which is nearly similar to the study of Nigeria, <sup>20</sup> This results is the driving force to seek eye care service for many patients in Himalaya Eye Hospital. But in contrast with other studies shows that the worst aspect of the physical environment. <sup>12,21,22</sup> This difference appears due to many hospitals of Nepal are still striving for logistic and other services rather than patient safety.

# Satisfaction with eye care services

In this study, patient satisfaction was a higher inadequate explanation of treatment cost at the hospital (4.23±0.52) which is similar to the findings of Rizyal. <sup>14</sup> This study reveals quick and effective treatment procedure of doctor which is similar to the study on Nepal medical college teaching hospital, <sup>23</sup> in Vietnam <sup>12</sup> and Iran <sup>15</sup> where highly educated people were more satisfied with the treatment procedure. The reason behind this might be due to the good patient-physician interaction in this hospital and higher educated respondents have more knowledge regarding their health.

In this study, the lower satisfaction was found in drinking water is similar to the findings of Nepal Medical College Teaching Hospital.<sup>23</sup> Furthermore, the mean satisfaction score was lower (3.18±0.18) in waiting time in OPD due to lengthy queue, which is similar in the study done in a tertiary hospital of Nepal,<sup>24</sup> Nepal medical college,<sup>14</sup> in China and USA.<sup>25,26</sup> A more efficient system of patient check-in, morning and evening examination shift, and allocation of round staff during break time is the best solution to minimize waiting time in this hospital.

# Health care providers

In this study, 90% of the respondents were satisfied with health care providers which are nearly similar to the study of Nepal and Nigeria. 14,20 More than 80% of the respondents were satisfied with health worker competencies which in contrast with the study of Nigeria. 20 The average satisfaction score was greater than 3.8 in all variables, for example, health worker took verbal and written consent with respondents which is consistent with the other studies. 26,27,28

#### Financial cost

The average score on financial cost in this study is (3.16±0.86) which is higher (4.5±1.1) in a similar study of Iran.<sup>15</sup> The possible cause for a lower score in the aspect of finance between these studies might be due to poor rural and remote people visit this hospital and they expect some sorts of subsidization and most of them did not cover from government health insurance and they cannot afford even the minimal expenses.

## **CONCLUSION**

The majority of respondents were satisfied with the cleanliness of the hospital. Likewise, major satisfactions were obtained in health care providers, taking informed consent, and the health care outcome of Himalaya Eye hospital. The main dissatisfaction was related to the provision of safe drinking water, availability of space

for caretakers, availability of easy way for handicapped, financial cost, lengthy time for ticketing, long waiting time, uncomfortable waiting area, and doctor's explanation in terms of each medical test and side effect of the medicine. The level of satisfaction was seen more in the literate patients and those respondents who were counsel from family as compared to a health worker for the hospital admission.

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