

“FACTORS AFFECTING PATIENT SATISFACTION IN HEALTH CARE INDUSTRY AND ITS SERVICES”

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Abstract

Purpose: This study aims to understand the factors influencing and affecting the satisfaction level of patients with regards to the elements of health-care related service quality in selected hospitals in the Kathmandu Valley.

Design/methodology/approach: This study has used journal reviews, RATER Model as well as statistical tools to analyze the purpose and reach to a factually and data supported conclusion.

A total of 22 articles were reviewed and analyzed to support the ensuing study. The model used in this study is the SERVQUAL (or RATER) model developed by Zeithaml, Parasuraman and Berry in 1980. Statistical tools like descriptive statistics, t-test, ANOVA test and ch-square test have been used as well. A questionnaire (questions ranging from rank 1 to 5) was distributed among the patients to collect opinions through the primary source.

Basic Model: The basic model for this study has been derived from the research paper by Zineldin (2006)

Determinants: The **explanatory variables** used in the study are

1. Quality of Object, 2. Quality of Process, 3. Quality of Infrastructure, 4. Quality of Interaction, and 5. Quality of Atmosphere. And, the **explained variable** in the study is determined to be Service Quality.

Findings: The respondents/patients rated their satisfaction which showed significant correlation with their perceived quality of the service provided to them. There is a positive significant relationship between the patient satisfaction and the willingness to recommend others.

Therefore, the improvement implemented in these qualities in hospital can increase patients' satisfaction.

Key Words: Empathy, Atmosphere, Patient, Perception, Health Care

1. Introduction

The health care sector has and should have a heavy-weight focus on service. In this study, the patients, or the ‘service receivers’ are kept as the focal point when it comes to understanding the quality of the service, as they are the direct receivers and users of the service as well as medical facilities provided by hospitals. This article focuses on analyzing the data collected from the responses of the patients, to understand where a particular hospital stands in terms of meeting and fulfilling their individual (patient’s) expectations and preferences. The sector itself has various external and environmental factors—demographic changes, aging of a population, the emergence of new treatments and technologies, and increased insistence on the greater quality of service—all playing a major role in determining the service quality keeping competition stiff. And, needless to say that the competitiveness among health-care service providers helps improve the customer satisfaction.

Coming to the customer satisfaction, it is widely understood that, customer satisfaction is the degree of contentment expressed by customers upon meeting their expectation with regards to the quality of product or service provided by the product or service provider, and which should be measured by the combination of the subjective assessments.

Hence, in this case, it can be confidently stated that, the patient satisfaction is the degree of the contentment the patient realizes upon receiving the health-care services from the sampled hospital. Therefore, this study aims to look at their contentment or lack of, measuring it while considering multidimensional attributes associated with health care experiences.

Thus, without any surprise, like any other service focused industry, the health-care sector too considers service quality and customer satisfaction vital. There are, therefore, fundamentally, the three goals of a health system: improving health, enhancing its responsiveness to the expectations of the population, and assuring fairness of financial contribution.

This paper provides a new model of the doctor-patient relationship and scales specifically designed to test patients’ satisfaction levels. Additionally, the paper analyzes an understanding how much a doctor’s trustworthiness, a practice-oriented performance influences and plays part on their patients’ satisfaction level, which analyzing a new framework for examining the competitiveness among health care organizations.

2. Research Objectives

This research has been conducted to study the factors affecting the level of satisfaction of patients with health-care services provided by selected hospitals of Kathmandu valley.

The major objective of conducting this research is to identify the service quality factors of healthcare and its impact on customer satisfaction and recommendation intentions. Thus, the major objectives of this study are as follows:

1. *To identify service quality factors of health care in 5Qs model.*
2. *To examine the impact of service quality on the satisfaction level of hospital's customers.*

3. Literature Review

In total, 21 previous studies and theories have been reviewed to understand the key subject, to redesign the methodology to understand the quality management and factors affecting level of customer/patient satisfaction in health-care sector.

According to Zineldin (2006), the study argues that a patient's satisfaction is a cumulative effect of summing of satisfaction with five different qualities (5Qs) of the hospital: quality of object, processes, infrastructure, interaction, and atmosphere.

Parasuraman, et al. (1985) have presented the exploratory research (focus group and in-depth executive interviews) that offered several insights and propositions concerning consumer's perceptions of service quality. It suggested a conceptual service quality model (SERVQUAL), which serves as a framework for further empirical research.

Vinagre and Neves (2008) conducted research to develop and empirically test a model to examine the major factors affecting patients' satisfaction that depict and estimate the relationships between service quality, patient's emotions, expectations, and involvement. The approach was tested using structural equation modeling, with a sample of 317 patients from six Portuguese public healthcare centers, using a revised SERVQUAL scale for service quality evaluation and an adapted DESII scale for assessing patient emotions. The scales used to evaluate service quality and emotional experience appears valid.

Larsson and Larsson (2010) suggested a theoretical model of the relationship between quality of care from a patient perspective and patient satisfaction is new, as is the emotion-oriented approach to assessing patient satisfaction. Alhashem, et al. (2011) studied to measure the quality of health care services, and patient satisfaction is used as one of the most important indicators. The majority (87 percent) of the patients responded that the time for communication between physician and patient was not enough.

Kessler and Dierdre (2011) made a paper to investigate how patient satisfaction affects the propensity to return, i.e. loyalty. The study used regression analysis to estimate the satisfaction's effects on patient loyalty, while holding process-based quality measures and hospital and market characteristics constant. Kessler and Dierdre (2011) found a statistically significant link between satisfaction and loyalty. Although satisfaction's effect overall is relatively small, contentment with certain hospitalization experience may be important. The link between satisfaction and loyalty is weaker for high-satisfaction hospitals, consistent with other studies in the marketing literature.

Puri, et. al. (2011) made to monitor the quality of care and patient satisfaction for continuous quality improvement by Outpatient departments (OPDs) and found that at exit, 52 (86.6 percent) patients were satisfied with the OPD care. The mean score for patient-doctor interaction was found to be significantly lower (3.6/5) among dissatisfied patients compared to the satisfied patients (4.7/5). Satisfied patients reported a significantly higher consultation time (12.4 minutes) with a doctor compared to dissatisfied patients (8.5 minutes) ($p=0.04$).

Sack, et. al. (2011) made a study that included a survey of 37000 patients treated by 73 hospitals. It showed that hospital accreditation may represent a step towards total quality management, but may not be a key factor to quality of care measured by the patient's willingness to recommend. Manaf, et. al. (2012) made a study to explore the development and validation of an outpatient satisfaction instrument, with emphasis on the service of the attending physician. Twenty-six items on service of the attending physician and registration service were developed for the instrument based on earlier published research. The instrument was found to establish excellent reliability with Cronbach's alpha 0.975, and two factors, "service of doctors" and "registration service", were extracted from the factor analysis.

This study argues that a patient's satisfaction is the combination of the cumulative sum of of the, five different qualities (5Qs) of the hospital: quality of object, processes, infrastructure, interaction, and atmosphere a cumulative construct, summing satisfaction with five different qualities (5Qs) of the hospital: quality of object, processes, infrastructure, interaction, and atmosphere

Otani, et. Al. (2012) made a study to determine how seriously ill patients differ from seriously less ill patients during their combining process. They adopted a non-compensatory model to analyze overall quality of care and willingness to recommend to others using multiple linear regression with scatter term, a severity measure, and interaction effects. Aliman and Mohamad (2013) made a study to examine the mediation effect of satisfaction on service quality perception and intentions behavior of private hospital outpatients in Malaysia. They adopted following proposed research model:

Al-BorieandAmal (2013) did research to know Saudi Arabian hospital performance, vis-à-vis patient satisfaction with service provision, has emerged as a key policy and planning concern. Keeping in view public and private hospital service quality. Data were collected through questionnaires using the SERVQUAL scale. Al-Borieand Amal (2013) found that Cronbach's alpha for five service-quality dimensions (tangibles, reliability, responsiveness, safety and empathy) were high and the SERVQUAL instrument proved to be reliable, valid and appropriate. The results showed that sex, education, income and occupation were statistically significant in influencing inpatients' satisfaction. Simeza (2013) made a study to explore the impact of nurses' motivation on the patients' outcome in the Renal Unit at Kenyatta National Hospital. The patients were satisfied with nurses' good listening skills, being treated as individuals, nurses' responsiveness, and provision of information.

Batailler, et. al. (2014) presented a paper to investigate trends in patient hospital quality perceptions between 1999 and 2010. Patient perception scores may disguise divergent judgments on different care aspects while individual items highlight specific areas with room for improvement. Despite the growing-pressure on healthcare expenditure, this single-center study showed only modest reduction in patients' hospital-care perceptions in the 2000s.

Pantouvakis and Bouranta (2014) presented a paper to synthesize existing quality: measurement models and apply them to healthcare by combining a Nordic service quality with an American service performance model. Results are based on a questionnaire survey of 1298 respondents. The proposed model identifies important quality and satisfaction issues. It also enables transitions between different responses in different studies to be compared.

Assem and Dulewicz (2015) made a research to provide a greater understanding of the general practitioner (GP)-patient relationship for academics and practitioners. A new model for dyadic professional relationships specifically designed for research into the doctor-patient relationship was developed and tested. Kondasani and Panda (2015) made a study to analyze how perceived service quality and customer satisfaction lead to loyalty towards healthcare service providers. Findings helped healthcare managers to formulate effective strategies to ensure a better quality of services to the

customers. Mohamed and Azizan (2015) studied to advance healthcare service quality research using hierarchical component models. This study used a quantitative approach with cross-sectional design as a survey method, combining cluster and convenience sampling and partial least square structural equation modeling (PLS-SEM) to validate the research model and test the hypothesis.

The study extends health service quality literature by showing that: patient satisfaction (PS) is dominant, significant and indirect determinant of behavioral compliance (BC);

Sarode, et al. (2015) made a paper to measure family member satisfaction with the care provided in an Australian private intensive care unit (ICU) at two time points separated by two years. The study was part of a quality improvement process for ICU and was designed with reference to the revised Australian Commission on Safety and Quality in Health care.

3.1 Literature Review for Methodology Development

Methods of Model and variables used:

The basic model for this study has been derived from the research paper "The quality of health care and patient satisfaction: an exploratory investigation of the 5Qs model at some Egyptian and Jordanian medical clinics" by Zineldin (2006), which examined the major factors affecting patients' perception of cumulative satisfaction. The study described patients' satisfaction with different service quality dimensions was correlated with their willingness to recommend the hospital to others. The conceptual model shows the 5Qs model and its constructs where total quality (TQ) of healthcare is a function of (Q1 to Q5).

$$TQ = f(Q1 + Q2 + Q3 + Q4 + Q5)$$

In this model, Patient satisfaction is the dependent variable. In the context of this research, the next variable is a positive recommendation, which means the satisfied customer decides to return and recommend others.

The five influencing quality dimensions (5Qs) that impact the decision towards satisfaction and recommendations. The demographic variables like age group, gender affect the satisfaction level of customers. These variables are measured in a Likert scale, which is the independent variable.

The independent variable of five Qs can be specified as below:

Quality of Object (Q1) — The technical quality (what the patients perceive). It measures the treatment itself, the main reason why a patient is visiting a hospital.

Quality of Processes(Q2) — The functional quality (how the health caring unit provides the core service (the technical). It measures how well health care activities are being implemented; examples include waiting times and speed of performing health care activities. Process indicators should receive more attention in the health care industry. They can be used to pinpoint problems in service delivery and to suggest specific solutions. Front-line nurses/physicians/managers can use process indicators to monitor activity at their facilities and to guide day-to-day decision-making.

Quality of Infrastructure(Q3) — Measures the basic resources which are needed to perform the health care services: the quality of the internal competence and skills, experience, know-how, technology, internal relationships, motivation, attitudes, internal resources and activities, and how these activities are managed, co-operated and coordinated.

Quality of Interaction(Q4) — Measures the quality of information exchange (e.g. the percentage of patients who are informed when to return for a check-up, amount of time spent by physicians or nurses to understand the patient's needs, etc.), financial exchange and social exchange, etc.

Quality of Atmosphere(Q5) — The relationship and interaction-process between the parties are influenced by the quality of the atmosphere in a specific environment where they co-operate and operate. The atmosphere indicators should be considered very critical and important because of the belief that the lack of friendly atmosphere explains the poor quality of care in developing countries.

4. Research Methodology

To meet the objectives, this study analyzes the data of the hospitals operating in Kathmandu with the help of 5Qs model devised by Zineldin (2006). The model consists of 1. Quality of Objects, 2. Quality of Processes, 3. Quality of Infrastructure, 4. Quality of Interaction, and 5. Quality of Atmosphere.

The SERVQUAL constructs impact has been used to measure service quality and to identify service gaps, and their root causes for which other approaches are needed. Some efforts have been made to improve and redesign the methods to suit the nature of study.

4.1 Research Design

This research is based on existing theory, and the theory is applied according. The cross sectional data for this research were collected in a single time frame through the distribution of hard copies of the questionnaires: they were distributed to the respondents (who were either the in-patients themselves or their relatives or the willing individuals at the selected hospitals of Kathmandu). Data collected were analyzed with the aid of the SPSS and Microsoft Excel software.

4.2 Sample Size Determination

The sample size is limited for the research purpose and the research participant are selected from the reputed private hospital and does true representation of the general population in Kathmandu valley. The name of these hospitals is shown below in Table 1.

Table1: List of hospitals selected for research

SN	Hospital	Location
1	Medicare National Hospital & Research Center	Chabahil
2	Om Hospital and Research Center	Chabahil
3	Kantipur Hospital	Tinkune
4	Norvic International Hospital	Thapathali
5	Grande International Hospital	Tokha
6	Himal Hospital Pvt. Ltd.	Gyaneshwor

Most of the Nepalese hospitals have been established in Kathmandu valley, Kathmandu city being the capital city of Nepal. These hospitals are not only large in number, but also in size and dimensions of service.

The sampling method that was selected for the purpose of this study, which was stratified sampling; additionally, it was directed towards particular geographical locations and individuals available. It assures the representation of all groups in the sample. Characteristics of each stratum can be estimated, and comparisons can be made. It increases statistical efficiency. For sample selection, a multistage sampling procedure was followed. From each selected hospital, 30 respondents were chosen. The information was collected through pre-designed, structured questionnaires consisting of dichotomous scale, multiple choice/single response and Likert scale questions. A sample of 180 respondents out of 200 was selected from the hospitals on the basis of their convenience for the objective.

4.3 Hypotheses

To address the above-mentioned research questions, the following hypotheses were formulated:

H01: There is no significant relationship;

- between the service quality of the object and patient satisfaction,
- between the service quality of process and patient satisfaction,
- between the quality of infrastructure and patient satisfaction,
- between the quality of interaction and patient satisfaction,
- between the quality of atmosphere and patient satisfaction.

H02: There exists significant relationship between patient satisfaction and explanatory variables.

4.4 Validity and Reliability

As discussed in the literature, a draft questionnaire constructed by Zineldin (2009) was cross-checked and piloted to test for reliability and validity. Cronbach's alpha test was also carried out for consistency. The questionnaire was circulated to 180 respondents. The aggregate Cronbach's alpha value of the questionnaire used in the survey was calculated to be at 0.786 which is greater than 0.6. Thus, no modifications have been carried out in the questionnaire.

Table 2: Reliability Test

Aspects	Cronbach's Alpha
Quality of Object	0.754
Quality of Process	0.774
Quality of Infrastructure	0.760
Quality of Interaction	0.786
Quality of Atmosphere	0.760
Satisfaction Level	0.736
Recommendation Intention	0.729
Aggregate Alpha	0.786

4.5 Data Collection and Data Analysis

Data were collected through questionnaires to measure 35 attributes or variables in 5 different dimensions of quality service.

Data retrieved from the questionnaires were analyzed in the following way. The data were grouped and put into tables. These tabulated data were analyzed using statistical tools like cross tabulation analysis, mean scores, and correlation analysis. Software packages like SPSS 23.0 and Microsoft Excel were used. The questionnaire contained rating scaled questions. Each factor was rated over a scale of 1 to 5 i.e., Likert Scale was used. The respondents were asked to rate the factors they had perceived in the hospital where they chose their services. A set of 35 attributes or variables spreading in 5 different dimensions for service quality calculations. Other 5 attributes were presented for overall satisfaction, reliability, degree of expectation, commitment and willingness to recommend.

The study is based on analysis of the research performed in a few private hospitals of Kathmandu valley only.

5. Results and Discussions

It consists of two parts data analysis and presentation. The data presentation covers data on respondents' characteristics, and respondents' satisfaction impacted by service quality dimensions of private hospitals analysis with respect to independent factors. The sampling was divided on the basis of hospitals where equal numbers of respondents were taken from 6 different private hospitals in Kathmandu. 30 samples were chosen from each category, thus 16.7% of each hospital. Out of 180 respondents, 86 (47.8%) were male and 94 (52.2%) female.

The distribution of respondents was as follows:

- The total number of respondents was 180 out of 200.
- 86 (47.8%) were male and 94 (52.2%) female.

- 32.8% of the respondents were under 31 years of age, 33.3% of the respondents were between the age group 31 and 45 and 33.9% of the respondents were over 45 years of age.
- The age group shows that the frequency and percentage analysis of the education level of the respondents. 24.4% of the respondents lie in the education level of SLC or below, 26.7% of the respondents lie in up to intermediate, 25.6% of respondents lie up to Bachelors' level, and 23.3% of the respondents lie in Masters' and above level.
- By occupation, 19.4% of the respondents were students, 26.1% of the respondents were self-employed, 17.8% were from government service, 20.6% were from private service and 16.1% were from other backgrounds.
- 26.1% of the respondents were self-employed, 17.8% were from government service, 20.6% were from private service and 16.1% were from other backgrounds.

The descriptive analysis of responses is shown Table-3 to Table-10 for 5 SQs. Similarly, Table-11 to Table 14 shows test of difference between/among means as a part of inferential analysis.

Table 3: Analysis of Quality of Object

SN	Quality Attributes	Minimum	Maximum	Mean	Std. Deviation
1	Sense wellbeing that you felt in the hospital.	2	5	3.69	.694
2	The ability of the hospital to treat you the way you expected	1	5	3.57	.791
3	Sense of security from physical harm you felt in the hospital	2	5	3.72	.805
4	Performance of services when they were supposed to be performed	2	5	3.71	.787
5	Better treatment	1	5	3.81	.785
6	Up to date health practice	2	5	3.68	.837
7	Absolute faith in the hospital	1	5	3.73	.783

Source: field survey 2019

Table-3 explains the mean values of the respondents' perception of Quality of Object or the treatment itself of the respective private hospital, which focuses on the technical accuracy of medical diagnosis and procedures. In the questionnaire, the respondents were asked to rank on a scale of 1 to 5 where '1' represented very bad quality and '5' represented very good quality. It can be seen that the most well perceived quality attribute within the Quality of Object is "better treatment" whereas the least well perceived quality attribute is "ability of the hospital to treat you the way you expected".

Table 4: Analysis of Quality of Process

SN	Quality Attributes	Minimum	Maximum	Mean	Std. Deviation
1	Waiting time for medication	2	5	3.74	.848
2	Waiting time for tests	2	5	3.71	.745
3	Speed and ease of admissions	2	5	3.64	.789
4	Time between admission and getting into your room	2	5	3.69	.777
5	Convenience close to the hospital	2	5	3.54	.807
6	Proper documentation	2	5	3.78	.729
7	Waiting time for doctors' round	2	5	3.70	.884

Source: field survey 2019

Table- 4 explains the mean values of the respondents' perception of Quality of Process or how the services are provided of the respective private hospital, which focuses on the process by which the health care is delivered. It can be seen that the most well perceived quality attribute within the Quality of Process is "proper documentation" whereas the least perceived quality attribute is "convenience, close to the hospital".

Table 5: Analysis of Quality of Infrastructure

SN	Quality Attributes	Minimum	Maximum	Mean	Std. Deviation
1	The skill of the nurses attending you	2	5	3.62	.749
2	The skill of those performing your tests	2	5	3.68	.794
3	The skill of the physicians attending you	1	5	3.54	.848
4	Temperature of the food	1	5	3.58	.716
5	Professional appearance of physicians and nurses	2	5	3.55	.807
6	Physical appearance of room	2	5	3.53	.736
7	Cleanliness of the hospital	2	5	3.61	.842

Source: field survey 2019

Table-5 explains the mean values of the respondents' perception of Quality of Infrastructure of the respective private hospital, which focuses on the competence, skills, attitudes, motivations and reassurances. The highly ranked attribute of Infrastructure is "skill of those performing your tests" whereas the least one is "physical appearance of room".

Table 6: Analysis of Quality of Interaction

SN	Quality Attributes	Minimum	Maximum	Mean	Std. Deviation
1	Adequacy of explanation about your treatment	2	5	3.56	.813
2	Adequacy of instruction upon release from the hospital	2	5	3.68	.801
3	Ability of the hospital to give what they promised in advertising	2	5	3.59	.674
4	Ease of getting hold of hospital personnel on the phone	2	5	3.61	.848
5	Amount of time spent by staff in understanding your needs	2	5	3.67	.693
6	Waiting time for refund, if due	2	5	3.64	.782
7	Instructions about billing procedures	2	5	3.67	.754

Source: field survey 2019

Table-6 displays the mean values of the respondents' perception of Quality of Interaction, which focuses on the quality of information, financial obligation, and social responsibility during and after treatment. The highly and low ranked attributes are "adequacy of instruction upon release from the hospital", and "adequacy of explanation about your treatment" respectively.

Table 7: Analysis of Quality of Atmosphere

SN	Quality Attributes	Minimum	Maximum	Mean	Std. Deviation
1	Responsiveness of nurses to your needs	2	5	3.59	.837
2	Ability of information about your condition	2	5	3.61	.736
3	Politeness of the nurses	2	5	3.68	.787
4	Politeness of other hospital staff	2	5	3.59	.790
5	Responsiveness of the physicians to your needs	2	5	3.72	.784
6	Hospital concern for family and visitors	2	5	3.63	.777
7	Ability of sleeping accommodation for your family	2	5	3.69	.799

Source: field survey 2019

Table- 7 lists 7 attributes of quality of atmosphere and patients valued doctors' responsiveness to their needs as the best attributes of the atmosphere.

Table 8: Analysis of Satisfaction

SN	Quality Attributes	Minimum	Maximum	Mean	Std. Deviation
1	I am satisfied with all my experience of Hospital X	2	5	3.68	.745
2	The service hospital X provides always meets my expectations	2	5	3.71	.780
3	I feel that hospital X is a reliable hospital	2	5	3.59	.789

Source: field survey 2019

Table-8 shows the mean values of the respondents' Satisfaction level. It can be seen that the most well-perceived Satisfaction level is "The service hospital X provides always meets my expectations," whereas the least well-perceived Satisfaction level is "I feel that hospital X is a reliable hospital".

Table 9: Analysis of Recommendation

SN	Quality Attributes	Minimum	Maximum	Mean	Std. Deviation
1	I often recommend friends and family to visit hospital X	2	5	3.61	.868
2	I would visit hospital X (in case) again in near future	2	5	3.59	.810

Source: field survey 2019

Table-9 represents the mean values of the respondents' Recommendation Intentions. Only two attributes are given to measure the Recommendation. There is not much difference between the mean values among attributes.

Table 10: Tabular display of overall mean of determinants

Quality Determinant	Mean Score
Quality of Object	3.70
Quality of Process	3.69
Quality of Infrastructure	3.59
Quality of Interaction	3.63
Quality of Atmosphere	3.65
Mean Score for Total Quality (TQ)	3.65
Mean Score for Satisfaction	3.66
Mean Score for Willingness to Recommend	3.60

Source: field survey 2019

Table-10 illustrates the mean of each object of Service Quality. The means of all attributes within an object were taken into account, and grand mean of these attributes was computed. For example, there were 7 attribute means of Quality Object as shown in Table-3. The overall mean (average of 7 averages) happened to be 3.70. The highest and the lowest overall mean were found to be 3.70 for Quality of Object and 3.59 for Quality of Atmosphere. The overall mean of each of the 5 factors has been compared with reference to the types of gender.

Table 11: Tests of differences between measures of Satisfaction level and Gender

Objects	Gender	Number	Mean	Std. Deviation	t-value	p-value	Differences
Quality of object	Male	86	3.71	0.53	0.42	0.68	Not significant
	Female	94	3.68	0.55			
Quality of Process	Male	86	3.68	0.51	0.16	0.88	Not significant
	Female	94	3.69	0.53			
Quality of Infrastructure	Male	86	3.64	0.47	1.32	0.19	Not significant
	Female	94	3.54	0.49			
Quality of Interaction	Male	86	3.67	0.51	0.93	0.35	Not significant
	Female	94	3.60	0.53			
Quality of Atmosphere	Male	86	3.57	0.47	1.71	0.09	Not significant
	Female	94	3.71	0.58			

Source: field survey 2019

The table shows that mean differences between genders are not statistically significant, which implies the both genders have almost the same opinion on the services provided by the sampled hospitals. In similar way, the effect of age and education on the factor of satisfaction about the service will be studied in Table-13 and Table-14 respectively. The only difference is the use of the statistical tests in those tables. More than two means are compared together, ANOVA test will be used in the place of t-test in these two tables.

Table-12 Impact of age in the respondent's perception of the services received by the patient

Objects	Gender	Number	Mean	Std. Deviation	t-value	p-value	Differences
Quality of object	Male	86	3.71	0.53	0.42	0.68	Not significant
	Female	94	3.68	0.55			
Quality of Process	Male	86	3.68	0.51	0.16	0.88	Not significant
	Female	94	3.69	0.53			
Quality of Infrastructure	Male	86	3.64	0.47	1.32	0.19	Not significant
	Female	94	3.54	0.49			
Quality of Interaction	Male	86	3.67	0.51	0.93	0.35	Not significant
	Female	94	3.60	0.53			
Quality of Atmosphere	Male	86	3.57	0.47	1.71	0.09	Not significant
	Female	94	3.71	0.58			

Source: field survey 2019

The F-value and p-value together indicate that there is no variation in average ranking of opinion among different age groups. In other words, the differences in age of the respondents do not make any differences in valuing the services provided by the hospitals.

Table-13 Impact of education level on the respondent's perception of the services received by the patient

	Quality of object	Quality of Process	Quality of Infrastructure	Quality of Interaction	Quality of Atmosphere
SLC & below	3.70	3.66	3.63	3.59	3.59
Intermediate	3.79	3.72	3.64	3.83	3.83
Bachelors	3.76	3.62	3.60	3.48	3.51
Masters & above	3.53	3.74	3.48	3.62	3.64
p-value	2.05	0.50	0.97	4.01	3.25
F-value	0.11	0.68	0.41	0.01	0.02

Like the p-values in Table-13, all p-values in Table-13 are not statistically significant. So, it can be said that education level does not give any variation in the patient protection about the services provided by the hospital.

The next analysis is to know how far the factors used to measure the level of satisfaction is correlated to the satisfaction itself. Table-14 displays the correlation coefficients of independent factors with satisfaction level. Spearman correlation coefficients have been calculated because of ordinal nature of data.

Table 14: Correlation analysis of the factors of Service Quality and Satisfaction Level

	Quality of object	Quality of Process	Quality of Infrastructure	Quality of Interaction	Quality of Atmosphere
SLC & below	3.70	3.66	3.63	3.59	3.59
Intermediate	3.79	3.72	3.64	3.83	3.83
Bachelors	3.76	3.62	3.60	3.48	3.51
Masters& above	3.53	3.74	3.48	3.62	3.64
p-value	2.05	0.50	0.97	4.01	3.25
F-value	0.11	0.68	0.41	0.01	0.02

Source: field survey 2019

The coefficients of correlation indicate the relation between factors and satisfaction is positive, and p-value indicate that the relationship is significant at 5%. Besides the data analysis, relation between the satisfaction level and recommendation is analyzed and Spearman correlation, which is 0.68, coefficient between two has positive in direction and statistically significant in value.

4.2 Conclusion

The measurement of patient satisfaction has always become crucial to the healthcare sector. It should be noted the purpose of the study is not to compare the hospitals in the dimensions of the services what they are providing to patients. Some differences in the dimensions of services may be expected to arise due to the differences in the financial, human, and technological resources available to each hospital. The primary purpose of the study is to point out the area of improvements and recommendations based on the analysis of respondents' questionnaires as discussed in the analysis section of the survey.

All the objects of service had an average ranking value greater than (3 out of 5 ranking marks) average value. The observed rankings imply that patients are satisfied with the services what they were getting from hospitals when they were filling up the questionnaires. In addition, the analysis shows that neither the gender difference nor education status make any impact in the unanimity of opinion about the services rendered by the hospital; it is to say that all, males and females have the same opinion on the delivery of services provided by the hospitals. Moreover, the null hypothesis that there's no significant relationship between the level of satisfaction and each of the factors is rejected. On the opposite, each of the factors have significant and positive relationship with the satisfaction level.

5. Recommendations

The results of the current research illustrate that the hospitals can assess 5Qs model to ascertain the level of services provided to identify the inadequacies while delivering quality services. In order to improve the patient satisfaction in Nepali health-care sector, cultural values such as courtesy, empathy, and harmony should be emphasized when delivering the health-care services.

Satisfaction should be undoubtedly considered an important asset for the healthcare provider as they intend to repeat the service-provider and to recommend it to their families and friends.

According to the study, 39% were very dissatisfied or dissatisfied with overall service quality. Hence, both foreign and Nepalese health-care providers should adopt a customer perspective to enhance the service quality and then to maintain long-term relationships with their customer.

61.1% respondents either satisfied or very satisfied with the overall service quality of hospitals; 33.9% felt average, and 5.00% were very dissatisfied or dissatisfied with the overall service quality of hospitals.

57.7% respondents agreed or strongly agreed that the service in the hospital met their expectations, whereas only 12.60% disagreed or strongly disagreed that the service in the hospital met their expectations.

53.9% respondents agreed or strongly agreed that they felt the hospital is reliable, while 39.4% were neutral, and 6.7% disagreed that they felt the hospital is reliable.

The satisfaction level of both the male and female is above average. Females have greater satisfaction levels than males.

The satisfaction level of all age groups is above average. Age group between 31-45 years felt a greater satisfaction level, whereas patients above 45 felt the least satisfied with the service provided.

The way to improve patients' satisfaction in hospitals is to influence on dimensions of total quality: quality of process (Q2), quality of object (Q1), and quality of interaction (Q4).

However, 55% respondents are willing to recommend others while 10.00% are unwilling or very unwilling to recommend others. This highlights the level of dissatisfaction as 1 in every 10 patient feels that the service provided to them is not at all up to the mark.

54.5% respondents agreed or strongly agreed to visit hospital again in the future, whereas 7.8% disagreed or strongly disagreed to visit hospital again in the future.

There is a positive significant relationship between the patient satisfaction and the willingness to recommend others. Not only this, it is seen that females can be a great brand vocalists. It wouldn't be wrong to say that the age-group that faces more ailments need more care. Age-group of 45 and above have regular checkups scheduled, thus, taking care of them means taking good care of repeat customers.

Almost 40% of patients still have to form an opinion about reliability of service provided by health-care service providers. This is a big gap, thus, it is essential for health-care sector to work on building trust in the market.

Therefore, the improvement implemented in these qualities in hospital can increase patients' satisfaction.

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APPENDIX

Survey on Service Quality and its Impact on Patients' Satisfaction in Private Hospitals of Kathmandu Valley

This survey is done purely for academic research purposes and won't be used for any commercial purpose, all responses will be kept confidential. The information collected will be anonymous and no personal information will be collected during the interview and data collected will be secured for five years and will be destroyed then after. The researcher takes full responsibility for any legal disputes that arise in future.

Please fill in the appropriate number for each option of the following questions:

Gender	Age	Education	Occupation
1. Male	1. 15-30	1. SLC and below	1. Student
2. Female	2. 31-45	2. Intermediate	2. Self-employed
	3. 46 & Above	3. Bachelors	3. Government Service
		4. Masters and above	4. Private Service
			5. Others (Please specify)

Please read the statement carefully and tick the most appropriate response for the factors that are associated with your experience of health services at the hospital. For example, if I think the sense of well-being that I felt at hospital X is very good, I will mark number 5.

(1 = Very Bad, 2 = Bad, 3 = Neutral, 4 = Good, 5 = Very Good)

Q1. The treatment itself		Experience				
1	sense of wellbeing that you felt in the hospital.	1	2	3	4	5
2	ability of the hospital to treat you the way you expected	1	2	3	4	5
3	sense of security from physical harm you felt in the hospital	1	2	3	4	5
4	performance of services when they were supposed to be performed	1	2	3	4	5
5	better treatment	1	2	3	4	5
6	up to date health practice	1	2	3	4	5
7	absolute faith in the hospital	1	2	3	4	5

Q2. How the services are provided		Experience				
1	waiting time for medication	1	2	3	4	5
2	waiting time for tests	1	2	3	4	5
3	speed and ease of admissions	1	2	3	4	5
4	time between admission and getting into your room	1	2	3	4	5
5	convenience, close to the hospital	1	2	3	4	5
6	proper documentation	1	2	3	4	5
7	waiting time for doctors' round	1	2	3	4	5

Q3. The infrastructure		Experience				
1	skills of the nurses attending you	1	2	3	4	5
2	skill of those performing your tests	1	2	3	4	5
3	skill of the physicians attending you	1	2	3	4	5
4	temperature of the food	1	2	3	4	5
5	professional appearance of physicians and nurses	1	2	3	4	5
6	physical appearance of room	1	2	3	4	5
7	cleanliness of the hospital	1	2	3	4	5

Q4. The interaction		Experience				
1	adequacy of explanation about your treatment	1	2	3	4	5
2	adequacy of instruction upon release from the hospital	1	2	3	4	5
3	ability of the hospital to give what they promised in advertising	1	2	3	4	5
4	ease of getting hold of hospital personnel on the phone	1	2	3	4	5
5	amount of time spent by staff in understanding your needs	1	2	3	4	5
6	waiting time for refund, if due	1	2	3	4	5
7	instructions about billing procedures	1	2	3	4	5

Q5. The atmosphere		Experience				
1	responsiveness of nurses to your needs	1	2	3	4	5
2	ability of information about your condition	1	2	3	4	5
3	politeness of the nurses	1	2	3	4	5
4	politeness of other hospital staff	1	2	3	4	5
5	responsiveness of the physicians to your needs	1	2	3	4	5
6	hospital concern for family and visitors	1	2	3	4	5
7	ability of sleeping accommodation for your family	1	2	3	4	5

Please read the statement carefully and tick the most appropriate response for the factors that are associated with your satisfaction and Recommendation of health services at the hospital. For example, if you strongly agree with all your experience of Hospital X, tick mark number 5.

(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

Q6.	Satisfaction	Experience				
1	I am satisfied with all my experience of Hospital X	1	2	3	4	5
2	The service hospital X provides always meets my expectations	1	2	3	4	5
3	I feel that hospital X is a reliable hospital	1	2	3	4	5

Q7.	Recommendation	Experience				
1	I often recommend friends and family to visit hospital X	1	2	3	4	5
2	I would visit hospital X (in case) again in near future	1	2	3	4	5

Thank you for your time and feedback!