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Study on Front Office Total Service Quality at Super- Speciality Hospitals in India - A Diagnostic Study

Anu. A. Natraj[1*], N.S. Viswanath[2], Navya Gubbi Sateeshchandra[3], Samrat Ray[4]

[1]Manipal Academy of Higher Education, Madhav Nagar, Manipal, Karnataka 576104, India; anumpbim16@gmail.com (A.A.N.)
[2]Bharatiya Vidya Bhavan's M.P. Birla Institute of Management, #16, Race Course Road, India; viswanathns19@gmail.com (N.S.A.)
[3]Academic Faculty, Berlin School of Business and Innovation, Berlin, Germany; navya.gubbi@berlinsbi.com (N.G.S.)
[4]International Institute of management studies, Pune, India; s.ray@iimspune.edu.in (S.R.)

Abstract. Total Service Quality (TSQ) at the front office is a critical element in every super-specialty hospital-integral to the hospital's administrative function. The backbone of its operations is a well-coordinated team of front-office executives responsible for planning, supervising, and efficiently managing hospital operations while maintaining daily coordination with all departments. As the initial point of contact for patients, these executives require continuous training and development to enhance patient happiness. Aligning training programs with high-quality service delivery is essential for improving productivity across-both the front and back ends of-the hospital, crucial for maintaining service standards. In this context, the primary aim of the study is to measure the overall service quality of the administration staff and its impact on patient satisfaction in super-specialty hospitals. The primary data was collected by an ordered random sampling without replacement method [ORSWRM] gathered from 100 respondents in Bengaluru city. The findings of the study highlights factors such as timely service delivery, adherence to prescribed treatments, complaint resolution, patient attention, and staff's communication skills are vital in realizing the hospital's vision, mission, goals, and objectives making TSQ a tangible reality.

Keywords: Care-Users, Customized treatment and, Front office, Patient Satisfaction/happiness, Super-Specialty Hospitals, Total Service Quality.

1. INTRODUCTION

There are two domains of the medical industry today. First, is the set of doctors who continuously contribute to provide solutions to human health problems. Secondly, is the organization which evolves to provide a physical space for emerging human issues through their doctors and the support staff. While the first gives lead for the pharma industry, the second will grow from a clinic to hospital and to a super-specialty hospital for meeting all challenges posed by the clients/patients from the domestic as well as from transnational clients/patients through medical tourism. This can be achieved only by creating an environment for patient happiness which is beyond satisfaction. The super-specialty hospital then becomes an active research center to attend to emerging problems by concerted efforts of Doctors, Nurses and Administration staff of the clients. It is in this context the present research aims to investigate into efficacy of total quality and service quality together of administration staff [front office staff] which together is Total Service Quality [TSQ] on clients. The clients derive that outcome which has helped by the organization to solve their problems of health.

2. REVIEW OF LITERATURE

The literatures on research are concerned with patient satisfaction, customers' perception, service quality, its measurement and evaluation [References 4 to 7]. However, some studies reflect on quality function deployment, framework of delighting customers either in the private or in any other sector of institutions [References 8 to 17]. There is no study on patient/customer happiness in an environment specially designed for challenging health care issues. This has prompted the researcher to investigate into the efficacy of super-specialty hospital. Hence, the present study.

2.1. The Research Problem

Organization aims at growing consistently by improving their functional efficiency in order to have holistic performance. They usually adapt new technology to train people and integrate them by functional responsibilities.

The concept of total quality is being practiced by organizations with a clear match of meanings and action across hierarchy. The products delivered by the organization must be associated with service delivery. In order to improve service delivery, training of people, both at front and back ends, becomes critically essential for quality of work that they offer. In essence, there should be a blend of total quality with that of service quality applied to the continuous exercises of training wing.

The research done so far, is either with the application of total quality or service quality without blending the both and there are no applications of the concept total service quality in training people for better results. Research in this area is scanty and there is a need for it in the context of organization making. Investment in training their human resources for developing and sustaining effective delivery system is an essential and a

* Correspondence: anumpbim16@gmail.com

critical input. The problem to be researched here is of front office staff who form a critical component in a hospital environment. The efficacy of the front office staff, inter alia, depends on how reflective, responsive and professional they are to the patients who come to them first for apprising their problems. The first impression gathered on the hospital will facilitate acquiring solutions to their problems. The study intends to conduct a diagnostic study of quality responses of the front staff as reflected in the reactions collected by way of an instrument specially designed for the purpose.

2.2. Research Objectives

The aims of this study are as follows:

1. To Identify the dimensions of Service Quality exhibited by Front office staff within super-specialty hospitals.
2. To Investigate the correlation between Front office Service Quality and Patient Happiness.
3. To Develop best practices and initiatives for enhancing service quality in super-specialty hospitals.

2.3. Hypotheses of the Study

H_0: There is no significant relationship between front office service quality and patient happiness.

H_1: There is a significant relationship between front office service quality and patient happiness.

The hypothesis is divided into sub hypotheses for assessment of total service quality.

H_{01}: There is no statistical significance of all the nineteen servqual variables against

H_{11}: There is statistical significance of all the nineteen servqual variables.

H_{02}: There is no correlation between all the pairwise servqual variables against

H_{12}: There is strong correlation between pairs of servqual variables.

H_{03}: There is no regression relationship between demographic variables and the servqual variables against

H_{13}: There is a strong regression relationship between demographic variables and servqual variables.

2.4. Research Methodology

The study has adopted a method of research wherein secondary data forms the foundation and the primary data are collected on the foundations of sampling design with the concept of unit of measurement well defined, scientifically determined sample size, and finally the data are collected from the listed super-specialty hospitals in Bengaluru city. The details are enumerated below:

2.5. Population of the Study

There are ten best cities known for medical tourism in India. They are spread across India and are: 1. Chennai, 2. Mumbai, 3. New Delhi, 4. Coimbatore, 5. Ahmedabad, 6. Bengaluru, 7. Alleppey, 8. Goa, 9. Hyderabad and 10. Vellore. The medical tourism industry is of the order of $9 billion and India 20% of the global market share. The industry has a growth rate of 30% a year [Today's Traveler, 19-01-2022].**

The population of the study is the super-speciality hospitals located in Bengaluru City.

There are, in all, eighteen super-speciality hospitals in Bengaluru City. The break up in terms ownership is: 1. eleven in private sector,2. Two form foreign countries and, 3. Five in Government sector. These are officially recognized as super-speciality hospitals on the basis of norms of the Government under Central Services [Medical Attendance]-commonly known as CS[MA] Rules under Central Government's Ministry of Health and Family Welfare. There are norms fixed for different types of cities in terms of number of beds, functional requirement, building and space requirement, man power requirement and, instruments/equipments [FNo.S14021/5/2008 MS, Government of India, Ministry of Health and Family Welfare].

2.6. Choice of the City

Bengaluru city is purposively chosen as it is one of the top ten cities in medical tourism in India. The city, being software capital of India, has best of the super-speciality hospitals of all types. That is, private, public and foreign super-speciality are in operation in Bengaluru. Apart from serving the local population, patient-guests come from all over India and from other countries as well. The theme demands the area wherein vibrancy of the operations is felt and experienced. Given the status of Bengaluru within and outside India, the choice is appropriate and apt for the study.

2.7. Choice of the Hospitals

The super-speciality hospitals were selected on the basis of ownership type. It was thought appropriate to restrict the study to private super-speciality hospitals on the basis of select interviews of patient- respondents. The respondents were asked about their choice of the hospitals. It is generally, perceived that there is always a better response from the private hospitals and that the best of the Doctors treats the patients. The super-speciality hospitals in the private sector have gained an image value which made the researcher select the private hospitals for the study. Training of all working under different departments could be critical component which has enabled them to acquire the status of a 'super-speciality' hospital. Word of Mouth [WoM], further, reinforces

them to acquire the tag and the status as 'super speciality' in the medicare context. As such, the listed hospitals were selected: 1. Manipal Hospital, 2. Fortis, 3. Sparsh Hospital, 4. Sakra, 5. Apollo, 6. Peoples' Tree and,7. Columbia-Asia.

2.8. Patient Happiness Survey Instrument

The process of development of instrument for patients/clients/ guests is described here. The end user of the hospital is the patient who is normally referred to by a family physician. The first point of contact would then be the back office of the hospital, the reception counter. Given the operational definition of a patient, it was decided to conduct a patient happiness survey. Patient satisfaction surveys are quite common and have served their purposes. There are different expectations set in a super-speciality hospital environment and as such much more is expected than just satisfaction. A patient is normally sent for an expert help in solving his/her problem. The referral to this type of hospital would mean finally deriving happiness in terms of cure for their health issues. Thus, happiness survey instrument was developed with service quality and total quality management concepts in the backdrop. The instrument has been divided into two parts from the perspective of a client/patient: i. Demographics and, ii. Administration staff perspective. The variables considered in demographics are: i. gender. ii. marital status, iii. qualification, iv. occupation, v. type of patient type and vi. Years of association with the hospital.

The patient happiness survey instrument has considered in all eleven-dimensional variables. They are: 1. TSQ dimension,2. Reliability, 3. Assurance,4. Empathy, 5. Patient care, 6. Communication, 7. Access,8. Competence, 9. Professionalism, 10. Tangibles, and, 11. Continuous Improvement [kaizen]. Administration staffs are the key to perform by establishing appropriate linkages. On TSQ dimension as many as twenty questions were listed covering as many variables. The variables are: 1. Greeting, 2. Willingness to answer, 3. Responsiveness, 4. On time delivery, 5. Error free registration, 6. Initiation to respond, 7. Error free discharge certificate, 8. Interface between insurance and hospital, 9. Listening skills, 10. Connectivity between departments, 11. Appointment,12. Waiting time in reception,13. Effective messages, 14. Advice 24X7, 15. Updated documentation,16. Follow-up, 17. Training, 18. Attractive interiors, 19. Comfort in waiting area, and, 20.Willingness to answer any question.

2.9. Sampling Method and Sample Size Determination

One of the sampling units to be sampled in a super-speciality hospital is Administration staff. The responses of the patients have to be collected to enable an accurate assessment of application of total service quality [TSQ] dimensions across these four organizational units mentioned above. A sample of one hundred each would be selected by an ordered random sampling without replacement method [ORSWRM][1]. The process of ordered sampling is this: The sampling unit [be it a Doctor/ Nurse/Training personnel/ Admin staff] who comes first to respond would be requested for the data needed for the study. Then, in a sequence those who arrive are approached and apprised about the study to impress on the importance and relevance in the context of changing business scenario. After their concurrence, the professional would be interviewed and responses documented. There is orderliness in the selection in terms of sequence and randomness is inbuilt into it. No researcher can have an idea of a particular professional being approached for data set. Hence randomness operates. Local control and replication are a part of experimentation. An environment would be built-in for ease of reflection. In case a professional is noticed to have shown reluctance or negligence or not truthful, the data would not be used for further analysis.

The determination of sample size is done separately for each type of sampling unit. The population of Administration and Training N_3=145. The estimate of patient population N_4= 1500. The sample sizes are determined for each type of population categories on the basis of their size enumerated

2.10. Data Collection

There was cooperation from the hospital organizations selected for the study. As such, the functionaries were response although not at one go. We had to wait repeat the visit on average five time to make a successful visit.

The real issue was the data to be collected from the Patient population. As described above, they were selected using ORSWRM method. There were many who showed their disinterest and rejected our request. However, one out of eight in a sequence would accept and respond to our request for data from them. The characteristics of them were generally referred to by their respective family physicians. The response time for each questionnaire worked out to be thirty minutes. This was a big time lent to the researcher for their concentration would be on meeting the specialist for a solution to their problems. The patients who were on the corridors of Out Patient Department [OPD] were only selected. No patient was interviewed from an inpatient population. The hospital had advised us not conduct surveys from such patients as there would not proper reflections for questions listed to be responded. The average time taken for completing a questionnaire was twenty minutes.

The study was conducted from January 2020 to December 2020 a spread-out period of twelve months. This was the period of intense second wave of Covid19 in Bengaluru city. The hospitals of all types were under this

wave. Hospitals of all types were under intensive restrictions imposed by the Government of Karnataka [which in turn was prompted by the Government of India].

The secondary data are collected form well authenticated sources. The first source is the super-specialty hospital itself. The documented reports of the hospitals were made available to the researcher. In addition, report from the State Government sources, Central Government sources were collected. The published reports of WHO and Ministry of Health care of Governments of the State and the Union Government, wherever necessary, were downloaded.

2.11. Tools of Analysis

The data collected were transcribed in an excel format to facilitate for further analysis. The variables were appropriately coded and cross checked for elimination of transcription errors. The outliers were observed for 3-σ limits. Those observations that crossed 3-σ limits were eliminated from the analysis.

The choice of tools of analysis is dependent on the research problem, identified parameters and the hypotheses being tested. The tools of analysis have been identified on the basis of the need to derive results from the data sets. The following tools are identified and used later in the analysis of data. The tolls are: 1. Tabular analysis, 2. Correlation analysis, 3. Regression analysis. Further descriptions are done of each of these tools selected for the study.

2.12. Limitations

There are limitations of this study. They are listed here:

1. The study is restricted to only seven super-specialty hospitals located in Bengaluru city.
2. The study has stretched over a year during January 2020 to December 2021. This is a period of intense second wave covid 19 pandemic in Bengaluru city.
3. Outpatients' responses were considered for Patient Happiness Survey.
4. Training Data are for 1 to 10 yrs of Experience of Health care professionals.
5. Allied services such as physiotherapy, yoga, pharmacy, dieticians and several other support services have not been considered for the study.

3. RESULTS

3.1. Dimensions of Front Office Service Quality

The data related to the front office is analyzed in this context. The study commenced by gathering demographic information from respondents, including age, gender, marital status, income, qualifications, years of association, and types of patients encountered. To assess patient satisfaction with healthcare services, the study employed SERVQUAL dimensions within a hospital environment. The servqual variables are nineteen in number as a function of front office staff. All these variables are critical to making an impression on the patients who come first on the advice of their family doctors to find a solution to their health problems. The general perception level of services as indicated in Table 1 is on average at 3.67/5.00. The standard errors in Table 1 is less than 0.1 for all the nineteen parametric variables. The staff display professionalism and the environment is clean and tidy for any one to experience. The knowledge level of the staff is reasonably good. The perception of patients as first impression needs a relook. The alertness, promptness in service and clarity in providing information are considered fine. There should be some level of eagerness to help in terms of answers at the beginning. There should be a demonstration of willing ness to answer and the documentation of information from the patient should be error free. This will facilitate the nursing staff and the doctors to navigate further on the diagnostic process. Attention the staff pays for the patient and dependability need be ensured to have their problem to be fixed up. Apart for error free billing and attention, courteousness and 'feel safe' factors matter a lot in ensuring a solution to their problems. Moral support and hospitality are considered essential regardless of the status of the patient. The knowledge level of the staff must be continuously updated to create confidence in patients of non-disease factors. The null hypotheses of 'no significant difference between servqual variables' are tested against there are statistically significant differences are examined by 't' statistic for at 98 degrees of freedom. The results suggest that none of the servqual variables are statistically significant leading to acceptance of null hypotheses for all servqual variables. This will induce us to conclude that some more leading efforts are needed to train front office staff for moving towards excellence in service i.e., moving towards total service quality.

Table 1: Descriptive Statistics for the Data.

Particular	Value		
	Statistic	Std. Error	't'-Statistic
1.Alertness	3.46	0.093	1.139
2. Prompt service	3.45	0.092	1.132
3.Clear Information	3.49	0.088	1.079
4.Willingness to answer	3.52	0.094	1.151
5. Documentation is error free	3.43	0.093	1.144
6. Dependability	3.55	0.086	1.053
7. Services promised on time	3.59	0.088	1.081
8. Error free Billing	3.49	0.089	1.085
9. Attention paid	3.55	0.090	1.097
10. Being courteous	3.51	0.094	1.145
11. Making patients feel safe	3.59	0.084	1.024
12. Care provided to patients	3.65	0.087	1.062
13. Hospitality	3.65	0.084	1.030
14. Provided Moral Support	3.66	0.082	1.009
15. Services Regardless of status	3.63	0.083	1.014
16.Knowledge level	3.73	0.083	1.016
17. Ability to answer patients	3.81	0.082	1.001
18.Professionalism displayed	3.81	0.081	.992
19.Neatness and appearance	3.91	0.076	.926

Note: Two-sided test; t=1.980 at α=0.025 at half of the curve. All the null hypotheses are accepted at 0.050 level.

The bivariate correlation analysis of servqual variables provide us a strong picture of two-way correlation between servqual response variables. The null hypotheses of 'no significant correlations between the servqual variables are tested against their respective alternatives of 'significant correlation between servqual variables'.

All correlation coefficients demonstrate statistical significance at a level of 0.000%. This result supports the alternative hypothesis indicating the significance of 'r' between all pairs of variables. Notably, all standard deviations are above 1.00, except for 'Neatness and Appearance' and 'Professionalism displayed'. This suggests that these two variables exhibit greater reliability in terms of the precision of sample values.

The average levels fall between three and four, indicating that the response levels are not entirely as expected. However, the latter two variables, showcasing credibility of outlook and displayed professionalism, stand out. The first fifteen variables show a reasonable response with relatively high sample standard deviation. Furthermore, the standard errors of estimate (SEE) are approaching zero, indicating that the data closely reflects the population dataset.

Table 2: Correlation Analysis.

Response Variable	Pearson Correlation	Sig.
Willingness to answer & Ability to provide clear information	0.915**	0.000
Willingness to answer & Procedures followed trustable	0.916**	0.000
Procedures followed trustable & Willingness to answer	0.916**	0.000
Procedures followed are Trustable & Accuracy of services	0.917**	0.000
Procedures followed trustable & Dependability	0.918**	0.000
Accuracy of Services & Procedures followed are trustable	0.917**	0.000
Accuracy of Services & Dependability	0.930**	0.000
Dependability & Services within Promised time	0.919**	0.000

Note: ** Significant at 1% level.

3.2. Correlation Analysis of With Other Response Variables

All twenty-seven variables exhibit strong and statistically significant correlations with various aspects of front-office service quality, such as promptness, clear communication, friendly greetings, reliable information provision, trustworthiness, and knowledgeability. The clarity of information provided, the attention given to patients, adherence to rules and procedures, and the willingness to go beyond expectations in assisting patients are particularly noteworthy. The front office's soft and empathetic approach stands out, contributing to a positive patient experience. Their proactive disclosure of information also indicates the potential for continuous improvement and development. Overall, the front office plays a crucial role in guiding patients, facilitating interactions, and ensuring accurate diagnostic procedures.

By conducting interviews within the administration department, the effectiveness of their training was evaluated using a series of checklist questions. The analysis suggested that enhancing front-office service quality could be achieved through quality improvement initiatives, with nursing training being a crucial initial step in this process. The effectiveness of methods employed for quality enhancement could influence the implementation of training initiatives. Factors such as enhancing compliance, ensuring sustainability, and fostering replication capacity should all be taken into account in designing a high-quality improvement intervention.

Table 3: Regression analysis.

Model Summary					
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Significance level**
Age	0.696[a]	0.484	0.214	0.812	0.022[b]
Gender	0.517[a]	0.268	-0.116	0.531	0.872[b]
Marital status	0.732[a]	0.536	0.293	0.633	0.003[b]
Income	0.580[a]	0.337	-0.010	0.596	0.528b
Qualification	0.741[a]	0.550	0.314	0.637	0.002[b]
Years of Association	0.859[a]	0.738	0.601	0.588	0.000[b]

3.3. Analysis

ANOVA fixed effects model is assumed for all the relationships tested for their significance. The number of years of association with the servqual variables shows high multiple correlation and the regression relationship is stronger at R 2 value at 0.738 and the adjusted value of R 2 is 0 602. The level of significance is at 0.000 indicating quality variables strike when the association of the patient is longer. In addition, the education level of the patient influences in making the right reflection from them.

The table above shows that Marital status, Qualification, and Years of Association are statistically significant in relation to the response variables. This indicates that Marital status, to some degree, can impact decision-making when individuals discuss and influence each other regarding the advantages and disadvantages of the service quality provided. Qualification, representing education level, is believed to contribute to the acquisition of knowledge and understanding of the various components of service quality. Additionally, Years of Association demonstrates a significant level of accuracy, suggesting that patients remain associated with hospitals for extended periods only when the quality of services significantly influences their satisfaction.

3.4. Conclusion

The above study shows that the front office department is the key promoter of patient satisfaction/happiness. It is the most important for any hospital to face diverse patients on a day-to-day basis. It becomes vital for them to understand the queries of patients with utmost dignity and grace. The skills that they bank on for addressing the queries of patients are soft skills [Communication skills, Negotiation skills, listening skills, Problem-solving skills, Stress management skills, and Leadership skills]. However, training skills are needed to continuously nurture, and building these skill sets will aid to better service quality contributing a higher satisfaction/happiness level of patients.

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