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5.0 The Problem

With commercialisation of medical profession and rapidly increasing cost of treatment, patients and their attendants have been struggling to obtain a trade-off between the "treatment package" cost and the quality obtained. The declining ethics among the professionals and ever increasing use of technology in the medical services demands proper management of "total quality" in the health care sector. This is further necessitated by the fact that majority of patients or their attendants are unaware of the entire process of the diagnosis and treatment and simply rely on the doctors.

Quality consciousness among customers in India has been increasing at a growing pace. All organisations in order to gain, regain, or sustain competitive advantage are under pressure to produce quality goods and services. However, the concept of quality has either been misunderstood or highly neglected in the non-profit service organisations like the hospitals maintained and run by the government. These organizations could neither meet their social objectives nor maintain any qualities per say. Since the users of services
being offered by such hospitals are not the 'kings' therefore, survival or existences of the organizations are not in danger. However, the same would not be true for the hospitals in the private sector. Here, the customers demand value for their money.

5.1 Objectives

1. To understand the health service industry in general.
2. To understand the concept of quality as applicable to health care industry.
3. Define quality indicators from doctors, patients/attendants point of view.
4. Study perception of Doctors, regarding quality on different dimensions such as qualification dimension, behavioural dimension, background dimension, physical factors dimension, and perception dimension.
5. Study perception of quality among doctors on different demographic variables like city, experience, status, gender and qualification.
6. Study perception of Patients/attendants, regarding quality on different dimensions such as Qualification dimension, behavioural dimension, background dimension, physical factors dimension, cost dimension, location dimension and perception dimension.
7. Study perception of quality among patients/attendants on different demographic variables like city, income, status, gender and qualification.

5.2 Hypotheses

Keeping in view the above objectives of the study, the following null hypotheses and alternative hypotheses were framed.

\[ H_0 \, 1 \quad \text{There is no difference in the perception of quality among male and female patients/attendants.} \]

\[ H_1 \, 1 \quad \text{There is difference in the perception of quality among male and female patients/attendants} \]

\[ H_0 \, 2 \quad \text{There is no difference in the perception of quality among patients/attendants of different qualifications.} \]

\[ H_1 \, 2 \quad \text{There is difference in the perception of quality among patients/attendants of different qualifications} \]

\[ H_0 \, 3 \quad \text{There is no difference in the perception of quality among patients/attendants of different locations.} \]

\[ H_1 \, 3 \quad \text{There is difference in the perception of quality among patients/attendants of different locations} \]

\[ H_0 \, 4 \quad \text{There is no difference in the perception of quality among patients/attendants of different status (Patient or attendant).} \]
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$H_1$ 4 There is difference in the perception of quality among patients/attendants of different status (Patient or attendant).

$H_0$ 5 There is no difference in the perception of quality among patients/attendants of different income group.

$H_1$ 5 There is difference in the perception of quality among patients/attendants of different income group.

$H_0$ 6 There is no difference in the perception of quality among male and female doctors.

$H_1$ 6 There is difference in the perception of quality among male and female doctors.

$H_0$ 7 There is no difference in the perception of quality among doctors of different age groups (Experience).

$H_1$ 7 There is difference in the perception of quality among doctors of different age groups (Experience).

$H_0$ 8 There is no difference in the perception of quality among doctors of different qualification.

$H_1$ 8 There is difference in the perception of quality among doctors of different qualification.

$H_0$ 9 There is no difference in the perception of quality among doctors from different locations.

$H_1$ 9 There is difference in the perception of quality among doctors from different locations.

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$H_0$ 10 There is no difference among doctors of different status (nature of work)

$H_1$ 10 There is difference among doctors of different status (nature of work)

5.3 Research Design

The study used an exploratory research design. To conduct the study two sets of written and undisguised questionnaires were developed, one for doctors and another for patients / attendants. The questionnaires were developed to cover all possible aspects of quality. Very simple and common language is used. These two instruments were designed in consultation with senior doctors, statisticians and psychologists. Both questionnaires have five points ‘Likert’ type scale of measurement weighted as follows:

-2 = Strongly Disagree
-1 = Disagree
0 = Neither Agree nor Disagree
1 = Agree
2 = Strongly Agree

For negatively worded statements, reverse scoring was used at the time of analyses, to keep the consistency.
Before conducting the final survey, couple of prototype/pilot surveys were conducted on small samples to check the validity of these two instruments.

5.3.1 Doctors Questionnaire

Doctor's questionnaire included 19 statements on five different dimensions, apart from questions on demographic variables. The five different Dimensions in Doctors Questionnaire were as follows:

- Qualification Dimension
- Background Dimension
- Behavioural Dimension
- Physical Factors Dimension
- Perception Dimension

The questionnaire for Doctors has four statements on Qualification dimension, two statements on Background dimension, eight statements on Behavioural dimension, two statements on Physical Factors dimension and three statements on Perception dimension.

5.3.2 Patients / Attendants Questionnaire

Questionnaire for Patients / Attendants has thirty-one questions on seven different dimensions, apart from questions on demographic variables.
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The seven different Dimensions in Patients / Attendants Questionnaire were as follows:

- Qualification Dimensions
- Reputation Dimensions
- Cost Dimensions
- Behavioural Dimensions
- Physical Factors Dimensions
- Location Dimensions
- Perception Dimensions

The Questionnaire for Patients / Attendants has four statements on Qualification dimension, four statements on Reputation dimension, four statements on Cost dimension, five statements on dimension Behavioural, four statements on dimension Physical Factors, three statements on dimension Location and seven statements on dimension Perception.

5.3.3 Bio-graphical Questionnaire

Besides statements on different dimension to measure the perception of quality among respondents, a Bio data questionnaire was also used. The Biographical section contained questions that yielded personal information about the respondents.
5.4 The Sample

Population for the sample was all doctors, patients and their attendants of Delhi, Aligarh and Amroha.

The questionnaires were administered on 250 Doctors and 300 Patients/Attendants. The questionnaire was distributed among them. Out of this 209, filled questionnaire of doctors and 257, filled questionnaires of patients/attendants were received, of which 4 questionnaires of Doctors and 19 of patients/attendants rejected (kept out of analysis) because of incomplete information. 205 Questionnaires of Doctors and 238 questionnaires of Patients / Attendants, correctly and fully filled, were selected for analysis. Thus 205 for Doctors and 238 for Patients / Attendants is the sample size for this study.

Judgement Sampling Technique was used to choose the respondents. Even in pure experimental researches drawing of sample through random sampling is a difficult task, a practical way is to draw respondents at random from those respondents that are easily accessible. The nature of this study did not allow us to use pure random sampling as it may not be possible to get a questionnaire filled from each and every Patient / Attendant and Doctor as he may not be accessible or may not be in a position to respond. So judgemental sampling was used but it was ensured that no bias was involved in selection of respondents.
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Geographical area of the study was restricted to three cities Delhi, Aligarh and Amroha for ease of conducting survey and ensuring high response rate. However, to ensure representation of population in the survey every possible care has been taken. Delhi was selected to represent metropolitan city, Aligarh as District head quarter (B class city), Amroha represented the smaller cities (C class city).

5.4.1 Doctors Sample
Out of 205 respondents, 133 were male respondents and 72 female respondents. 83 respondents are from Aligarh, 98 from Delhi and 24 from Amroha. 103 were less experienced, 73 have medium experience and 29 were highly experienced. 78 were having graduation degrees, 111 were post-graduation degrees and 16 were having post doctorate degrees. 63 are working as private practitioners, 78 working in Government hospitals, 60 working in private hospitals and 4 working in other fields.

5.4.2 Patients / Attendants Sample
Out of 238 respondents, 122 were male and 116 female respondents. 170 respondents were Patients and 70 Attendants. 57 of the respondents were Post-Graduates, 85 were Graduates, 46 were Under Graduates and 50 were Non High School. 50
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respondents were in the income group of less than 5,000 rupees, 145 were in the income group of 5,000 to 15,000 rupees, 39 in the 15,000 to 25,000 rupees group and 4 respondents were in the group of above 25,000 rupees. 102 respondents were from Aligarh, 97 respondents were from Delhi and 39 respondents from Amroha.

5.5 Data Sources

Primary and secondary data has been used for the study. The primary data has been collected from Delhi, Aligarh and Amroha. Secondary data was selected from university libraries, Newspapers like The Times of India, Pioneer, Outlook etc. and Medical Journals, Quality Journals: Solutions, Industrial Engineering etc, Health care journals, Management journals: Vikalpa, Management etc apart from Internet etc.

5.6 Pattern of Analysis

The researcher followed standard pattern of analysis. The statistical analysis of the result was undertaken by using mean. Mean is used, as it is an important measure of central tendency. It is appropriate for the present study because it affords comparison among means from several data sets (Levin & Rubin, 2002).

A significant difference among different groups of respondents was calculated using the t-test and analysis of variance.
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(ANOVA). For testing the hypothesis, paired sample two assuming same variance was used. Wherever there were more than two sample means ANOVA was used. The statistical analysis was undertaken using Microsoft Excel, MS Office XP 2003 version. Use of Excel expedited the process of data analysis. The analysis was carried out keeping significance level at 0.05 and 0.01 or confidence level of 95% and 99% respectively, this was done to get a clear picture, and to compare the values at different critical values.

5.7 Scope of the Study

The study would be of immense help to doctors in understanding their patients. What makes a patient choose a particular doctor or nursing home?

It would also be useful to promoters of health care industry, in understanding, what product attribute should be promoted to attract patients/attendants.

It will also be helpful to academia that are interested in the study of health care industry in general and quality aspects of health care industry in particular.

5.8 Limitations

Despite the honest and enthusiastic efforts of the researcher, survey research study has limitations and shortcomings of their
own. There are many limitations like limitations of methods, time, cost etc. Researcher has tried his level best effort to minimise, if not eliminate the limitations. This study has a fair amount of shortcomings. Some major limitations can be summed as follows.

1. The study was restricted geographically to three cities Delhi, Aligarh and Amroha only, the sample of 208 Doctors and 238 Patients / Respondents was chosen on the basis of standard sampling procedures and scientific methods. It could be concluded that result represents the population. Even then generalisation of result for whole India may not be possible.

2. Every possible precaution was taken while constructing the questionnaire, help of many senior Doctors and Psychologists was sought in constructing it, but even then there may be certain shortcomings in the questionnaire.

3. Every possible care was taken while administering the questionnaire. Researcher tried his best that all questionnaires should be administered in his presence so that doubts can be removed immediately.

4. Cooperation of respondents was a serious problem, as it is in all survey-based researches. It was difficult to arouse interest of the respondents; they also had doubts about the
utility of the study. Many of them had the feeling it a waste of time, and of no use for them.

5. Administering of questionnaire was difficult to illiterate respondents, as they were unable to understand many things. The questionnaire had to be translated in Hindi or Urdu. In some case that may have caused distortion in the message.