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An Assessment of Health Service Quality: A Case Study of a Teaching Hospital in Central Province of Sri Lanka

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ABSTRACT. *Health status of the people has direct links to the socio-economic development of any country. Quality health care for people is one of the top priorities in the political agenda of most of the countries. It is evident that there is an increased tendency by the private sector health care service providers to invest in the sector which has brought about severe competition to the government sector hospitals. In such a context, provision of health care services by the government sector institutions with a consistent quality is becoming more important. This raises the research question as to what extent the government hospitals meet the expectations of its external and internal customers. The major objective of this study was to assess the quality of services delivered by a selected government teaching hospital, as perceived by its customers.*

The case study strategy was adopted in this study. A leading teaching hospital in the central province was selected as the physical boundary of the case study. Both qualitative and quantitative data were gathered using multiple data gathering methods. The study revealed that the Teaching Hospital did not adequately meet the expectations of its customers. Poor service quality was evident from the high levels of service quality gaps that prevailed in relation to the patients, doctors and nurses, which also differed among different divisions of the same hospital.

The main factors affecting the service quality of the studied hospital was found to be the negative attitude of the service providing staff, inadequate training and resources. The implications should necessarily be viewed from system perspective to enhance the health care service quality.

INTRODUCTION

Despite having achieved impressive health indicators, including high life expectancy and low infant and maternal mortality, Sri Lanka is currently facing economic challenges due to insufficient spending by the government in the health care sector (Central Bank Report, 2003).

In Sri Lanka, 99% of the people depend on public health services (Central Bank Report, 2003), which is characterised by frequent disruptions of services due to labour disputes. The

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health sector loses a large number of man days of service of medical officers and other health workers owing to strikes. In addition, both government and confidential medical institutions suffer from lack of trained health personnel particularly nurses and other para medical staff (Central Bank Report, 2004).

According to Jayasekara (2004), the poor state of infrastructure and equipment, unreliable supply and quality of drugs, shortcomings in waste management and infection control, poor performance of personnel because of low motivation or insufficient technical skills and severe under financing of essential operating costs of health services are the main reasons behind the poor quality of health care. It has also been noted that the probability of adverse events of Sri Lanka are much higher than that of in industrialized nations (Jayasekara, 2004).

In this context, it is of vital importance to investigate (a) whether there is a gap between the expectations and the level of services experienced by patients of public sector hospitals (b) do quality differences exist among the services provided by different divisions of a given hospital? If so, why? and (c), what are the areas that needed further improvement for enhancing the service quality of public sector hospitals?

The major objective of this study hence was to assess the quality of the services delivered by a selected teaching hospital in the Central Province of Sri Lanka in the context of the research questions raised above.

MATERIALS AND METHODS

Conceptualization and measurement of service quality

The importance of studying service product separately from physical goods was becoming apparent in early 1980s. As with any other field, one of the first challenges faced in the area of service quality is to understand exactly what is meant by the term "service quality" (Schneider *et al.,* 2004). In other words, what things do people consider in figuring out if a service is good or bad? The research programme launched by Parasuraman *et al.*(1985) resulted in several common themes that emerged across their customer focus groups in terms of the facet of service that customers considered in judging the quality of a service. The authors consequently developed a model to measure the service quality which is known as SERVQUAL, the various dimensions of which are summarized in Table 1. What was interesting about this list was its focus on service delivery issues. Their approach to defining and measuring service quality still pervade much of the service quality literature today and SERVQUAL remains a very popular, if not the most popular, measure adopted by service quality researchers and practitioners (Schneider and White,2004).

Table 1. SERVQUAL Model

Service Quality Attributes	Definitions
Reliability	Delivering the promised performance dependably and accurately
Tangibles (Basic Amenities)	Appearance of the organisation's facilities, employees, equipment and communication materials
Responsiveness	Willingness of the organization to provide prompt service and help customers
Assurance	Ability of the organization's employees to inspire trust and confidence in the organization through their knowledge and courtesy
Empathy	Personalised attention given to a customer

Subsequent research that have been conducted in health care sector have found out certain other dimensions of service quality that are unique to the health care sector. Donabedian (1990) argues that the physician's duty is to cure sometimes, relieve often, but comfort always and hence the acceptance is an importance dimension in health care sector. Acceptance in this context was defined as the extent to which the personal preferences, values and expectations of patients are recognized by service providing staff. According to Barker (1998), the concepts of teamwork or collaboration are another important dimension to capture the service quality in health care services since different groups of people are involved in the process of service delivery. Collaboration was defined in this context as the ability of the service providing staff to work as a team to ensure quality services to patients. Quality can hence be defined as the discrepancy between customers' expectations and perceptions (Zeithaml *et al.*, 1990). In other words, the service quality is considered as meeting or exceeding what customers expect from the service and the health care quality can be defined as the degree to which health services meet the needs, expectations, and standards of care of the patients, their families and other beneficiaries of health care services (Donabedian, 2001).

The expectations of the internal and external customers are the belief they are having about the services they consume. They use this belief (i.e expectations) as the standards to measure the services (Zeithhaml *et al.*, 1985). According to the same group of authors, the expectations of the customers usually depend upon word of mouth, personal needs and past experiences. Barker (1998) argues that the expectations of hospital customers are influenced by the demographic profile of the customers, especially the level of education, as it influences the level of knowledge the customers possess about the various aspects of the health care services. Figure 1 illustrates the conceptual framework developed for this study.

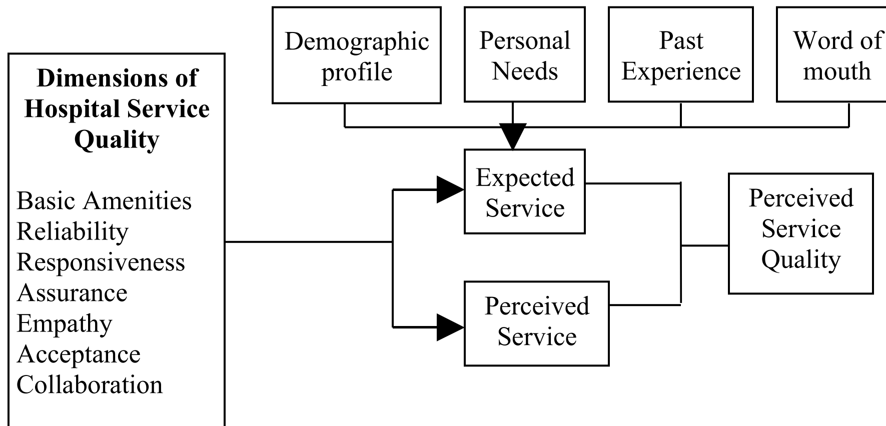

Figure 1. Conceptual framework: Hospital service quality

Services: search versus experience versus credence properties

One framework for isolating differences in evaluation process between physical products and services is a classification of properties of offering proposed by economist (Parasuraman, 1990). Economist first distinguished between two categories of properties of consumer products, namely search qualities and experience qualities. Search qualities are attributes that a consumer can determine before purchasing a products and experience qualities are the attributes that can be discerned only after purchase or during consumption. According to Zeithaml *et al.*, (1990) there is a third category known as credence qualities which include the characteristics of services that the consumers may find impossible to evaluate even after purchase and consumption.

Data gathering and sampling decisions

In order to achieve the objectives of this study, the case study methodology was adopted (Yin, 1994). The case study is logic of design…"A strategy to be preferred with circumstances and research problems are appropriate rather than an ideological commitment to be followed whatever the circumstances" (Mithel, 2001). According to Yin (1994), a case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident. In other words, the case study as a strategy comprises an all encompassing method with logic of design incorporating specific approaches to data collection and data analysis (Mithel, 2001).

A teaching hospital situated in the Central Province of Sri Lanka was selected as the physical boundary of the case study and various medical services provided by the hospital were considered as the unit of analysis. Both qualitative and quantitative tools were adopted for data gathering and analysis.

Selection of a specific hospital (as opposed to a number of hospitals) provided the researchers the opportunity to gain a holistic understanding of the phenomenon being studied. Capturing the perceptions and expectations of the different stakeholders of the teaching hospitals about the service quality and enhancing the richness of the data were considered to be the major aspect in the study. As it was perceived that different divisions of the hospital may provide services with different quality levels, the sampling was done based on different divisions (i.e. wards) of the selected hospital and 9 out of 11 divisions were selected for the study[2]. Patients, doctors and the nurses attached to each division were considered as the respondents of the study as it enabled the researchers to increase the validity of the findings through different data sources. Patients who had been receiving treatment in the hospital for at least three days were considered as the respondents of the study (Mitcell and Jolley, 2001). A list of such patients was obtained from respective wards and 15% of the patients who fulfilled the previously mentioned criteria were randomly selected for the purpose of the interview. Twenty five percent (25%) of the doctors and the nurses were also selected randomly and interviewed. The interviews were carried out by using two separate questionnaires (i.e. one for patients and the other for doctors and nurses) with close ended questions prepared based on hospital service quality dimensions, namely basic amenities, reliability, responsiveness, assurance, empathy, collaboration and acceptability (see Figure 1) With respect to these service quality dimensions the respondents were asked to express their expectations and perceptions using the scales given in Table 2.

Table 2. Expectation and Perception Measurements

Expectation Scores	Perception Scores
5 = M = Must	5 = E = Excellent
4 = VI = Very Important	4 = VG = Very Good
3 = I = Important	3 = G = Good
2 = FI = Fairly important	2 = F = Fair
1 = U = Unimportant	1 = P = Poor

The data collected were analysed in three stages, namely, within the case analysis, cross case analysis and comparison of the finding with relevant theories (Yin, 1994). The service quality gaps of different stakeholders were measured based on expectation and perception scores of the respective stake holders. Table 3 depicts as to how the service quality gaps were measured for various stake holders.

Table 3. Service Quality Gaps of Various Stakeholders

Service Quality Gaps	Measurement
Patients' Service Quality Gaps	Difference between the Patients' Perception Score and Patients' Expectation score
Doctors' Service Quality Gaps	Difference between Doctors' Perception Score and Doctors' Expectation score
Nurses' Service Quality Gaps	Difference between Nurses' 'Perception Score and Nurses' Expectation score

[2] Intensive care and the psychiatric wards were excluded from the study as it was practically impossible to interview patients

The expectation and perception scores were computed based on mean expectation and mean perception of the patients, doctors and nurses and Table 4 depicts as to how the expectation and perception scores were computed.

Table 4. Elements of Service Quality Measures

Elements	The Method of Capturing
Expectations Score	Sum of Individual Expectation Scores divided by Number of Quality Attributes
Perceptions Score	Sum of Individual Perception Scores divided by Number of Quality Attributes

The expectation and perception scores of the three different stakeholders of the hospitals were computed using central tendency measures. The mean expectation and perception were computed and subsequently the service quality gap was expressed as a percentage of expectations. One way ANOVA was performed to check whether the service quality gaps in different divisions are statistically significant.

RESULTS AND DISCUSSION

Service quality as perceived by customers

It was evident from the findings that all customer groups have experienced high service quality gaps with the consultants having experienced the highest gap of 51%, followed by medical officers, (48%) nurses, (40%) and the patients, (32.51%).

The lowest service quality gap experienced by the patients vis-à-vis other internal customer (i.e. doctors and nurses) types indicated that the service quality expectations of patients were lower than that of the other categories. The findings, that the consultants experienced the highest gap followed by the medical officers and the nurses confirmed the arguments made by Barker (1998) that the degree of expectations of a given customer is directly correlated with the level of knowledge possessed by a customer. This further validates the argument presented by Zeithaml *et al.* (1990) that certain consumers may find it impossible to evaluate the service even after consumption (i.e. credence quality) which also indicates that the level of objectivity adopted by consumers in evaluating a given service increases with the level of knowledge and experience possessed by him/her. It can hence be argued based on the aforesaid findings, that the patients of the study sample in general are not in a position to measure the service quality in more objective terms.

The service quality gaps experienced by different customer groups in the context of the seven service quality dimensions are summarised in Table 6.

Table 6. Service Quality Gaps In terms of Service Quality Dimension as a Percentage of expectation

Customer Group	Reliability (%)	Responsiveness (%)	Assurance (%)	Empathy (%)	Basic Amenities (%)	Collaboration (%)	Acceptance (%)
Patients	32	36	25	32	33	33	37
Nurses	47	39	39	38	38	37	35
MOs	69	43	45	43	38	39	20
Consultants	73	44	49	48	40	45	15

The patients experiencing the lowest gap for "assurance" indicates that they have placed a higher degree of trust on the medical staff and the nurses. The highest gap experienced by them in relation to the "acceptance" implies that the recognition given by service delivery personnel is not adequate to meet their expectations. This could be further validated by the lowest gap experienced by internal customers for the same attribute.

The highest service quality gap experienced by the internal customers in relation to the reliability aspect of the services indicates that they are incapable of delivering the promised performance dependably and accurately. This was mainly attributed to the bureaucratic red-tape imposed by various administrative and financial regulations that hampered the access to required resources and maintenance services on demand.

Table 7 depicts the service quality by different divisions

Table 7. Service quality gap across different divisions of the hospital

Divisions	Service quality gap as the % of expectations
Gynaecology and Obstetric	17.20
Surgical	29.50
Orthopaedic	29.50
Paediatric	31.80
Neurology	34.30
Medical	35.40
Gynaecology	36.20
Antenatal	39.20
Postnatal	39.50
Hospital	32.51

The service quality gaps among various divisions of the studied hospital were found to be significantly different. The individual service quality gaps (i.e. the difference between perception and expectation) were analysed using One Way ANOVA and the findings revealed that the mean gaps among the divisions are statistically significant at $P = 0.01$. However, the mean separation revealed that only the mean gaps related to Gynaecology & Obstetric divisions are statistically different from the rest. The Gynaecology & Obstetric division received the lowest gap (i.e. the highest perceived quality) whereas the Postnatal division received the highest gap (i.e. the lowest perceived quality).

CONCLUSIONS AND POLICY IMPLICATIONS

The study revealed that the customers of the studied Teaching Hospital had high expectations and low perceptions about the services provided by the hospital. The high service quality gaps that were found across all the customer segments (i.e. patients, doctors and nurses) indicated that the hospital did not adequately meet the expectations of its internal and external customers. This aspect was particularly prominent in the case of responsiveness and the reliability aspects of the service quality. The service quality gaps also varied across various divisions of the same hospital despite the availability of trained staff with similar qualifications and hence further research is warranted to establish the cause and effect relationships for such differences.

The implication for improving the service quality in the studied Teaching Hospital should be viewed from the systems perspective i.e. all important stakeholders (internal as well as external) must be taken into account in developing a policy framework for delivering quality services. A clear set of values with regard to service quality should be developed and incorporated into the vision and the mission of the hospital and the same should be communicated across all the parties involved. The people related aspects of the service delivery could be improved through adopting appropriate human resource policies with the main emphasis placed on training on customer care coupled with performance based rewards. Such a strategy could be effectively monitored through a system based on external customer feedback.

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