Evaluation of service quality of hospital outpatient department services

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ABSTRACT

BACKGROUND

It has become essential for hospital managers to understand and measure consumer perspectives and service quality gaps, so that any perceived gap in delivery of service is identified and suitably addressed. A study was conducted at a peripheral service hospital to ascertain any service gap between consumer expectations and perceptions in respect of the hospital outpatient department (OPD) services.

METHOD

A cross-sectional study was conducted using SERVQUAL as the survey instrument, the instrument being validated for use in the hospital environment. Consumer ratings across 22 items of the survey instrument were collected in paired expectation and perception scores and then service quality gaps were identified and statistically analysed.

RESULTS

Service quality gaps were identified to exist across all the five dimensions of the survey instrument, with statistically significant gaps across the dimensions of 'tangibles' and 'responsiveness.' The quality gaps were further validated by a total unweighted SERVQUAL score of (-) 1.63.

CONCLUSION

The study concludes that significant service quality gaps existed in the delivery of the hospital OPD services, which need to be addressed by focused improvement efforts by the hospital management.

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Key Words: expectations and perceptions; quality gaps; service quality; SERVQUAL

INTRODUCTION

Healthcare managers are under increasing pressure to demonstrate that their services are customer-focused and directed towards providing best possible medical care to the clientele of the

hospital. Taking into consideration the resource constraints under which service hospitals must function, it has become essential for hospital managers to understand and measure consumer perspectives, so that any perceived gap in delivery of service is identified and suitably addressed.

Healthcare quality has two distinct facets, namely technical quality and functional quality.^{1,2} Technical quality refers to the accuracy of medical diagnosis and procedures, and is generally comprehensible to the professional community but not to the patients. Patients essentially perceive functional quality as the manner in which the services are being delivered.³

Service quality largely determines consumer satisfaction. A popular definition of service quality is conformance to consumer expectations.⁴ The important role played by expectations in consumer's evaluation of services has been widely acknowledged in the service quality literature.^{5,6} Researchers have generally agreed that expectations serve as reference points in consumer's assessment of service performance.⁷

The study was conducted at a peripheral service hospital for a period of three months to ascertain any perceived service gap between consumer expectations and perceptions about quality of the outpatient department (OPD) services being offered by that hospital.

MATERIALS AND METHOD

The study was conducted at a 99 bed peripheral service hospital with basic specialist facilities by designing a cross sectional study of patients attending the OPD of the hospital, using the SERVQUAL questionnaire developed by Parasuraman et al⁸ as the survey instrument. The SERVQUAL instrument has been empirically evaluated in the hospital environment and has been shown as a reliable and valid instrument in that setting.^{9,10}

SERVQUAL is designed to measure quality expectations and perceptions about quality of services using 22 items representing five dimensions, using a seven-point Likert scale:

1. Tangibles – physical facilities, equipment and appearance of personnel.
2. Reliability – ability to perform the promised service dependably and accurately.
3. Responsiveness – willingness to help consumers and provide prompt service.
4. Assurance – competence, courtesy and security.
5. Empathy – caring and individualised attention.

The study population was defined as patients attending the general as well as specialist OPDs of the hospital. The sample

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Table 1 SERVQUAL dimension scores for hospital outpatient department services.

Dimension	Cronbach's alpha	Expectation (E)	Perception (P)	Service gap score (P-E)	P value*
Tangibles	0.78	6.61	6.06	-0.55	<0.001
Reliability	0.79	6.38	6.34	-0.04	1.00
Responsiveness	0.78	6.53	5.88	-0.65	<0.001
Assurance	0.80	6.59	6.31	-0.28	0.463
Empathy	0.82	6.39	6.28	-0.11	0.155
Total unweighted SERVQUAL score (-) 1.63					

*P value < 0.05 is considered statistically significant.

consisted of 50 patients, a little above half of the respondents being female (53%). Respondents were mostly between the age of 21 and 45 (72%) and predominantly represented by service personnel posted to the military station and their dependents (81%). A small percentage of respondents were veterans and their dependents in the higher age group of 40–65 years. Majority of the respondents were married and 86% of the respondents had at least higher-secondary education. Civilian non-entitled patients being attended as a welfare measure were excluded from the scope of the study.

Every third patient who had utilised the OPD services of the hospital at least once before the current visit was requested to respond to the self-administered questionnaire on-site. Patients were assured full confidentiality and anonymity and requested to complete the survey while waiting for their supply of medicines at the dispensary after completing the doctor's consultations.

To confirm reliability and internal consistency of the study instrument, Cronbach's coefficient alpha was calculated for each dimension of the study instrument (Table 1).

By using the SERVQUAL instrument, expectation (E) and perception (P) of each respondent was assessed across each of the 22 items of the instrument and the service quality gap evaluated by measuring the gap score (P-E) across the same 22 items. The score on each dimension of the scale was then calculated as the mean of the corresponding item scores and the mean expectation and perception values for each dimension was tested for difference between the mean scores of the dependent sample at 0.05 level of significance by analysing the data using SPSS, Version 2 (Table 1).

Finally, the mean expectation (E) and perception score (P) as well as the gap score across each of the 22 items of the instrument was examined and similarly analysed for testing difference between the mean values for statistical significance, so as to correctly identify the service quality gaps in respect of the OPD services being studied (Table 2).

RESULTS

The coefficient alpha values were observed to be consistently high, ranging from 0.78 to 0.82 across all five dimensions, indicating high internal consistency among items within the SERVQUAL instrument.¹¹

The E values were consistently high for all the items, the mean scores being above six for all items except the two items of 'staff always willing to help' and 'readiness for personal attention.' The highest expectation value was observed against the item 'prompt response to request' (Table 2).

Perception (P) mean scores were mixed in their scope, with several item scores being close to the expectation values while an appreciable number of item scores observed to be significantly lower than the reciprocal expectation scores (Table 2).

Service quality gaps (P-E) have been illustrated in both Tables 1 and 2. As can be seen from Table 1, quality gaps exist along all five dimensions of the survey instrument, with the gap across the dimensions of 'tangibles' and 'responsiveness' being statistically significant at <0.001 value. The quality gap was further emphasised by the observation of an overall unweighted SERVQUAL score of (-) 1.63.

Service quality gaps across 20 of the 22 items of the survey instrument demonstrated a negative value between perceptions and expectations. Quality gap across various items, particularly those under the dimensions of 'tangibles' and 'responsiveness' were statistically significant at a value of <0.05. However, the quality gap showed positive value across the items of 'individual attention to patients' and 'readiness for personal attention' (Table 2).

DISCUSSION

Understanding quality from the perspective of the consumer, particularly functional quality is emerging as a critical issue in health service delivery with recent research showing that physicians do not have good understanding of consumer expectations. Studies show that perceived service quality is directly linked to compliance with medical advice and treatment regimes to achieving best health outcomes.¹²

Quality has been defined as "The totality of features and attributes of a service that bear on its ability to satisfy a given need".¹³ However, service quality is being increasingly expressed as a function of consumer expectations of service to be provided compared with their perceptions of the actual service experience.¹⁴

Consumers are becoming increasingly knowledgeable, discriminating and demanding of healthcare service, with their access to the internet opening up the realm of consumer medical knowledge. The high expectations scores, where the mean scores

Table 2 Item score analysis for expectations and perceptions.

Item	Expectations (E)	Perceptions (P)	Service gap score (P-E)	P value*
Tangibles				
Modern equipment	6.74	5.24	-1.50	<0.001
Physical facilities	6.50	6.04	-0.46	0.009
Clean and hygienic appearance	6.68	6.38	-0.30	0.041
Clean smart staff	6.66	6.30	-0.36	0.003
Reasonable waiting time	6.50	6.34	-0.16	
Reliability				
Sympathetic attendance to patients	6.52	6.62	-0.10	
Dependable OPD services	6.24	6.24	0	
Punctual OPD staff	6.76	6.52	-0.24	
Accurate OPD records	6.00	6.00	0	
Responsiveness				
Easy appointment/attendance	6.64	6.34	-0.30	
Prompt service	6.64	5.50	-1.14	<0.001
Staff always willing to help	5.80	5.68	-0.12	
Prompt response to any request	6.96	6.02	-0.94	<0.001
Assurance				
Can trust OPD staff	6.46	6.20	-0.26	
Feel safe	6.58	6.28	-0.30	
In-care of OPD staff				
Polite OPD staff	6.74	6.52	-0.22	
Adequate	6.58	6.24	-0.34	0.045
Support by the hospital to the OPD				
Empathy				
Individual attention to patients	6.56	6.84	0.28	
Readiness for personal attention	5.76	5.96	0.20	
OPD staff aware of the needs of the patients	6.18	5.88	-0.30	
Staff have best interests of the patients in their heart	6.72	6.52	-0.20	
Convenient working hours	6.72	6.62	-0.10	

*P value < 0.05 is considered statistically significant.
OPD: outpatient department.

across majority of the items of the survey instrument are above six in a seven-point scale possibly reflect the new paradigm of increasing consumer expectations and demand for high quality care by the consumers of service hospitals.

The quality image of a healthcare organisation is made of a set of expectations that will serve as a standard for comparing the perceived performance of the service provider, once the need for a service encounter arises.¹⁵ The result of a service encounter is a satisfaction or dissatisfaction judgment, the judgment being the outcome of the patient's comparison of perceived service performance with the expectations brought by the consumer to the hospital. Mean perception scores observed during the study gives conflicting results, with scores along majority of the survey items being less than the expectation scores while exceeding such scores against two items listed under the dimension of 'empathy.'

Service quality gaps existed across all five dimensions of the survey instrument with the total unweighted SERVQUAL score standing at (-) 1.63. These findings demonstrate that the patients' perceptions of offered service were falling short of their expectations in respect of all dimensions of hospital OPD services. The study findings are similar to the findings of a study conducted by Lam,¹⁶ where gap scores were observed in the dimensions of reliability, responsiveness, assurance and empathy.

Service quality gap across the dimension of 'tangibles' was observed to be statistically significant at <0.001. This dimension consisted of five items representing the physical infrastructure and turn-out of OPD staff along with waiting time. The gap score across all items except waiting time were also observed to be statistically significant, pointing towards an appreciable deficiency across these items. Probably the peripheral location

of the hospital, being located in a field station can partially explain the gap. However, the gap was also a wake-up call for the hospital management to drastically improve the structure of the OPD services of the hospital.

Consumer ratings for paired expectation and perception scores were observed to demonstrate appreciable convergence across the dimensions of 'reliability' and 'assurance', signifying high confidence among the consumers in respect of dependability and competence of the services being provided. However, statistically significant quality gap existed across the item 'adequate support by the hospital to the OPD'. This particular perception needs further analysis as to the reason behind such perception.

Statistically significant quality gap was also observed across the dimension of 'responsiveness', with wide gaps between expectation and perception observed against the necessity of prompt service and prompt response by OPD staff. This deficiency possibly referred to requirement for additional inputs in behavioural training of OPD staff. However, it may also be interpreted as inadequate staffing of the OPD, as dependable and helpful OPD staff is not being able to deliver prompt service, though willing to do so.

It was comforting to observe reasonable convergence in E/P scores across the dimension of 'empathy', indicating careful, compassionate attendance by OPD staff. Positive gap score was also observed across the items of 'individual attention to patient' and 'readiness for personal attention', which point towards consumer delight across these dimensions.

The study had significant implications for the hospital management, as service quality gaps along with their specific dimensions were correctly identified, thus directing focused improvement efforts for addressing such gaps in the hospital OPD services.

It will be appropriate to acknowledge the exploratory nature of the study, as the study did not control for important confounders such as educational and hierarchical status of the respondents, illness severity and physician characteristics which may impact quality perception due to possible attribution effects. There is a need for further research with a bigger sample size on this issue for gaining stronger insights.

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CONFLICTS OF INTEREST

None identified.

REFERENCES

1. Donabedian A. *Explorations in Quality Assessment and Monitoring*. Ann Arbor, MI: Health Administration Press 1980.
2. Gronroos C. A service quality model and its marketing implications. *Eur J Marketing* 1990;18:36–44.
3. Bopp KD. How patients evaluate the quality of ambulatory medical encounters. *J Healthcare Marketing* 1990;10:6–15.
4. Berry LL, Parasuraman A, Zeithaml VA. The service quality puzzle. *Business Horizons* 1988;36–44.
5. Bolton RN, James HD. A longitudinal analysis of the impact of service changes on customer attitudes. *J Marketing* 1991;55:1–9.
6. Tse DK, Wilton PC. Models of customer satisfaction formation. *J Marketing Research* 1988;25:204–212.
7. Parasuraman A, Zeithaml VA, Berry LL. Alternative scales for measuring service quality. *J Retailing* 1994;70:201–230.
8. Parasuraman A, Zeithaml VA, Berry LL. A multiple items scale for measuring consumer perceptions of service quality. *J Retailing* 1993; 66:12–40.
9. Conel C, Fletcher EAA. An analysis of service quality at a student health centre. *Intl J Healthcare Quality Assurance* 1985;14:260–267.
10. Babakus E, Mangold WG. Adopting SERVQUAL scales to hospital services: an empirical investigation. *Health Services Research* 1992; 26:767–786.
11. Nunally JC. In: *Psychometric Theory*, Engelwood Cliffs, NJ: McGraw Hill Book Coy 1978.
12. O'Connor SJ, Shewchuk RM, Trish HQ. Perceptual gaps in understanding patient expectations for healthcare service quality. *Healthcare Manag Rev* 25:7–23.
13. Bauer JC, Duffy GL, Westcott RT, ed. *The Quality Improvement Handbook*. Milwaukee: ASQ Quality Press 2002.
14. Gronroos C. Defining service marketing—a market oriented approach. *Eur J Marketing* 1989;23:9–11.
15. Taylor SA. Managing consumer relations, In: *Handbook of Healthcare Management*, Duncan JW, Ginter PM, Swayne LE, eds. Blackwell Publishers 1998:55–79.
16. Lam SSK. SERVQUAL: A tool for measuring patients' opinion of hospital services quality in Hong Kong. *Total Quality Management* 1997;8: 145–152.