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Inpatient satisfaction: an analysis of Malaysian public hospitals

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Abstract

Purpose – The purpose of this paper is to provide an empirical analysis on inpatient satisfaction in Malaysian public hospitals.

Design/methodology/approach – A self-administered questionnaire was the main data collection method. Altogether, 23 hospitals throughout Peninsular Malaysia participated in the survey. Cluster sampling was used in the selection of the respondent hospitals, while convenience sampling was used in administering the survey.

Findings – Three factors of inpatient satisfaction were extracted, which were clinical and physical dimensions of service, and additional facilities for patients and family members. Inpatient satisfaction was found to be higher for the clinical dimension than for the physical dimension. Overall, inpatient satisfaction was high, as reflected by the high mean score of the variables, although caution was expressed in interpreting the findings, particularly the low expectations of patients to begin with.

Research limitations/implications – The research was limited to inpatients of Malaysian public hospitals. A thorough evaluation of the nation's public healthcare delivery system would need to include outpatient services as well.

Originality/value – The paper provides an empirical analysis on inpatient satisfaction in Malaysian public hospitals. This allows policy makers to evaluate the level of public healthcare delivery service in the country and therefore assist in policy decision-making and implementation.

Keywords Malaysia, Hospitals, Patients, Health care, Public health, Patient satisfaction, Public healthcare, Public hospitals

Paper type Research paper

1. Introduction

Patient satisfaction has emerged over the years as an important measure of the quality of care provided by healthcare organisations. It is not only important for gaining insights into the perception of customers on the delivery of healthcare services, but also, as indicated by Donabedian (1988), a key outcome of care. According to Torres and Guo (2004), patients entrust their life and wellbeing to healthcare providers, and thus monitoring patient satisfaction is a crucial component in measuring an organisation's effectiveness and should be part of any quality improvement plans. An insight into patient satisfaction can also help decision-makers in resource allocation, as patient priorities and preferences can be identified from the various health care quality attributes (Elleuch, 2008). Apart from that, patients who are content with their service experience are also likely to come back for more services when the need arises (Ramsaran-Fowdar, 2005). Low patient satisfaction also may result in poor compliance, with the potential for waste of resources and suboptimal clinical outcomes.

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Tucker (2002) suggested that understanding the individual patient characteristics that affect the patient's perspectives on satisfaction can offer insight into their evaluative processes. Information gained from the patient's perspective can help healthcare organisations to modify their approaches to improving satisfaction. Patients who are satisfied with the service that they experience are likely to exhibit behaviours potentially beneficial to the long-term success of the healthcare provider (Ramsaran-Fowdar, 2005). With the concomitant rise in health consumer movement, satisfying the needs of the patients has also of late been the *sine qua non* of healthcare organisations (Gill and White, 2009).

2. Research problem

The main aim of the study is to analyse empirically the level of inpatient satisfaction in Malaysian public hospitals. The survey instrument used gathered the respondents' perception of:

- the cleanliness and comfort of the physical surroundings;
- satisfaction with respect to the food provided;
- the level of noise in the wards and the management of visitors to the wards;
- treatment and medication received;
- services of the doctors and nurses; and
- information given to patients on their condition.

A study of patient satisfaction needs to be tied to quality improvement efforts within Malaysian public healthcare delivery. The Ministry of Health (MOH) can be regarded as a forerunner in implementing quality improvement efforts among Malaysian public sector agencies. It began its quality assurance programme as early as the 1980s, and today, quality improvement initiatives are widely implemented, aimed at enhancing customer satisfaction. These include the Clients' Charter and the inculcation of corporate values of caring, professionalism and teamwork among employees. Given such an emphasis on service quality, it is therefore timely that an assessment be made on patient satisfaction of Malaysian public hospitals. This provides feedback from the customers' perspectives on the level of service provided by the hospitals. One would posit that given the long period of involvement in quality improvement efforts by MOH hospitals, a higher patient satisfaction score would reflect positively on the effectiveness of such initiatives.

Patient satisfaction is also ranked among the most important performance measures for healthcare service delivery (Zabada *et al.*, 2001). Thus, the findings should also assist policy-makers to evaluate the performance of public hospitals. Given the fact that Malaysian public healthcare is at a crossroads, with the government's intention eventually to privatise services, the findings should help policy-makers in charting the next course of action. Efforts at privatising public hospitals have been mooted since the Seventh Malaysia Plan (1996-2000), with the argument that free-market competition will lead to improved services and efficiency. However, the move towards complete privatisation has not yet fully taken shape, although some form of corporatisation has taken place in selected hospitals such as the National Heart Institute.

3. Research method

Due to the large geographical area to be covered, a self-administered questionnaire was the main method of data collection used. There are 130 public hospitals altogether in the country, and these are organised into national, state and district levels. The national-level hospital is Hospital Kuala Lumpur, which provides a comprehensive range of tertiary services. State-level hospitals are located in the state capital of each of the 13 federal states in the country, and provide a comprehensive range of secondary care services. District-level hospitals on the other hand, provide basic inpatient care services, and may or may not have some secondary-level specialist services.

A total of 23 hospitals spread across Peninsular Malaysia participated in the survey. All the state-level hospitals were included in the survey as there is only one state-level hospital in each state. Hospital Kuala Lumpur, which is the only national level hospital, was also included. However, the remaining 11 district hospitals were randomly selected by state and region. This was done by instructing an Excel spreadsheet to assign random numbers to each district hospital, and then randomly select the hospitals. For practical purposes, non-probability convenience sampling was used in the administration of the survey. This was due to the fact that patients are not in the best of conditions to participate in any form of survey. Convenience sampling was also used by Lim and Tang (2000) in their study on patient satisfaction in Singapore hospitals. Respondents comprised patients from all wards of the respondent hospital. A proportionally larger number of questionnaires was distributed to the third class ward, followed by the second class ward based on the number of beds. For patients from the paediatric ward, the questionnaire was completed by their parents or guardian who was with them on the ward.

The instrument used for the study was based on an earlier questionnaire developed by the Institute of Health Management (IHM), Ministry of Health Malaysia (Abdullah *et al.*, 2000). The instrument comprised 14 items covering, among others, the satisfaction of patients on the service of doctors and nurses, information about their health condition, the hospital environment and the facilities provided. Manaf (2006) pointed out that the majority of patients in Malaysian public hospitals are low-income earners, as the service is almost free at the point of use. Lin and Kelly (1995) stressed the need to reduce data collection demands on patients, while Tomes and Ng (1995) also raised the concern that patients may also be burdened with psychological concerns such as fears of physical disability, fears of dying and fears about side-effects of treatment. Thus, taking into consideration their social background and their conditions, it was considered that the IHM questionnaire, which comprises short, straightforward items that are simple to answer, was most suited for the study. Likert-scale responses were assigned to each item of the questionnaire with a score of 1 for "very dissatisfied", 2 for "dissatisfied", 3 for "not sure", 4 for "satisfied" and 5 for "very satisfied". The mean of the variables was worked out by averaging all the responses for a single variable. A mean of less than 3 was classified as being dissatisfied with the service provided, and a mean of greater than 3 was taken as an indication of satisfaction.

Donabedian (1988) cautioned that patients may actually be quite reluctant to express their true feelings about the service provided for fear of reprisals from service providers. Thus, in order to reduce the fear, logos of the funding educational institutions were placed on the questionnaires as a means of communicating to the

respondents that the survey was carried out by independent educational institutions, and not by the hospital itself. Envelopes were also provided with the questionnaires in order to ensure confidentiality of response. This was to encourage the respondents to express their true feelings about the quality of services. The envelopes containing the completed questionnaires were then collected by the researcher. A total of 900 questionnaires were distributed to the respondent hospitals, and 819 responses were received. Of these, 173 were found to have missing data. Hair *et al.* (1998) suggested that one of the remedies in dealing with missing data is to delete the offending cases. Accordingly, cases with missing data were deleted and the remaining 646 usable questionnaires were analysed, which gave a response rate of 71.8 per cent.

4. Reliability and validity

Reliability analysis was first carried out using Cronbach's coefficient α. Nunnally and Bernstein (1994) stressed that coefficient α should actually be applied to all new measurement methods even if other estimates of reliability are also necessary. The Cronbach's α for the 14 items was found to be 0.8776, which indicated a good internal consistency among the items. All the corrected item-total correlations were also found to exceed the acceptable lower limit of 0.30 proposed by Nunnally and Bernstein (1994). Factor analysis by principal component analysis was then carried out in order to establish construct validity. The factor analysis was performed by Varimax rotation and three factors resulted from the analysis, with 58.79 per cent of total variance explained. The first factor accounted for 41.38 per cent of total variance. A minimum factor loading of 0.50 was applied for the loading to be considered significant (Hair *et al.*, 1998). The latent root criterion was also applied in the factor extraction with factors having latent roots or eigenvalues greater than 1 being considered significant (Hair *et al.*, 1998). Table I shows the factor loadings, eigenvalues, percentage of variance and cumulative percentage of variance of the factors.

Reliability analysis carried out on all three factors showed the Cronbach's α of the first factor to be 0.8500, the second factor 0.7530, and the third factor 0.6495. The first factor, which grouped items relating to the clinical aspects, such as service of doctors and nurses, clinical treatment received, and information given about treatment, was labelled the "clinical dimension of the service". The second factor, which grouped items that concern the physical aspects of the service, such as cleanliness, and environment of the ward, was labelled the "physical dimension of the service". The third factor, which grouped items on additional facilities such as public telephones and food provided, was labelled "additional facilities for patients and family members".

5. Analysis of findings

5.1 Demography

The demography of the respondents indicated that the sample was representative of the population. Gender was represented by 46.1 per cent males and 53.9 per cent females for the sample. This was close to the population parameter of 38.42 per cent males and 61.58 per cent females[1]. Distribution by ethnicity was represented by 79.6 per cent Malays, 10.7 per cent Chinese, 9 per cent Indians and 0.8 per cent others. The ages of the respondents were as follows:

- less than 19 years – 12.4 per cent;
- 20-29 years – 27.1 per cent;

Factor	Items	Factor loading
1	Service of nurses	0.819
	Clinical treatment received	0.796
	Service of doctors	0.787
	Information given to you about your condition	0.674
	The way you are managed	0.620
	Eigenvalue	5.793
	Percentage of variance	41.378
	Cumulative percentage of variance	41.378
2	Environment	0.772
	Cleanliness	0.683
	Management of visitors to ward	0.622
	Bathroom and toilet	0.612
	Noise in ward	0.572
	Eigenvalue	1.427
	Percentage of variance	10.195
	Cumulative percentage of variance	51.573
3	Public telephone	0.756
	Radio, TV and rest lounge	0.729
	Food	0.641
	Eigenvalue	1.010
	Percentage of variance	7.216
	Cumulative percentage of variance	58.789

Source: Survey data

Table I.
Factor loading, eigenvalue, percentage and cumulative percentage of variance for factor analysis on inpatient survey

- 30-39 years – 23.2 per cent;
- 40-49 years – 17.6 per cent; and
- more than 50 years old – 19.7 per cent.

Those who were less than 19 years old included patients from the paediatric ward. In terms of educational background, 17.3 per cent of the respondents had primary school education (minimum six years at school), 19.7 per cent had lower secondary education (minimum nine years), 40.2 per cent had higher secondary education (minimum eleven years), and 16.9 per cent had college/university education, while others made up 5.9 per cent of the respondents. Public healthcare is provided free for government servants, and officers from the public service made up most of those with a university degree.

5.2 Clinical dimension of service

Five items grouped under the clinical dimension factor were also collapsed to form a single variable for the clinical dimension of inpatient service. Table II shows that the patients are very satisfied with the various aspects of inpatient service. Patients were found to be very satisfied with the service of doctors (mean 4.36) and nurses (mean 4.35). This was followed by clinical treatment received (mean 4.28), the way they were managed (mean 4.20), and information given to them about their condition (mean 4.11). All the items, when collapsed to form a single variable for the clinical dimension of service, have a mean of 4.26. This indicates that inpatients of public hospitals are very satisfied with the clinical aspects of the service received during their stay on the ward.

A one-sample *t*-test carried out with a test value of 3.00 provides statistical evidence for inpatient satisfaction on the clinical aspects of service.

A paired samples *t*-test was also carried out in order to find out whether there is any significant difference between the service of doctors and that of nurses. The result showed a significant correlation between the service of doctors and nurses with a correlation coefficient of 0.603. However, the paired samples *t*-test showed that there is no significant difference between the two variables, as shown in Tables III and IV.

5.3 Physical dimension of service

Five items were grouped together under the factor labelled the physical dimension of service. As shown in Table V, patients were found to be most satisfied with the cleanliness of the wards (mean 4.28), followed by the environment of the ward (mean 4.09), management of visitors to the ward (mean 3.96), and the condition of the

	Mean	SD	ρ value
Service of doctors	4.36	0.60	0.00*
Service of nurses	4.35	0.60	0.00*
Clinical treatment received	4.28	0.59	0.00*
The way you are managed	4.20	0.63	0.00*
Information given to you about your condition	4.11	0.73	0.00*
Clinical dimension	4.26	0.50	0.00*

Note: *$\rho < 0.01$

Table II. Clinical dimension of inpatient satisfaction

	n	Correlation	Significance
Pair 1: Nurses and doctors	646	0.603	0.000

Table III. Paired samples correlation between doctors and nurses

	Mean	SD	ρ value
Nurses-doctors	−0.01	0.534	0.659

Table IV. Paired samples *t*-test between service of doctors and nurses

	Mean	SD	ρ value
Cleanliness	4.28	0.62	0.00*
Environment	4.09	0.64	0.00*
Management of visitors to ward	3.96	0.80	0.00*
Bathroom and toilet	3.94	0.83	0.00*
Noise in ward	3.67	0.85	0.00*
Physical dimension	3.99	0.54	0.00*

Note: *$\rho < 0.01$

Table V. Physical dimension of inpatient satisfaction

bathroom and toilets (mean 3.94). The item with the lowest mean is the noise in the ward, although in terms of score, the patients are still satisfied with this variable (mean 3.67). All these items, when collapsed to form a single factor for the physical dimension of inpatient service, have a mean score of 3.99. This indicates that the inpatients of the public hospitals are satisfied with the physical aspects of the service provided by the hospitals. A one-sample *t*-test carried out with a test value of 3.00 provides statistical evidence of satisfaction in this aspect of service.

5.4 Additional facilities for patients and family members

Three items were grouped together under the factor labelled additional facilities for patients and family members. As shown in Table VI, patients were found to be most satisfied with the food (mean 3.75), followed by public telephone (mean 3.75), and the radio, television and rest lounge (mean 3.52). All these items, when collapsed to form a single factor for the physical dimension of inpatient service, have a mean score of 3.69. This indicates that the inpatients of the public hospitals are satisfied with the additional facilities provided by the hospitals, although the mean score is not as high as physical dimension and clinical dimension of service. Again, statistical evidence of satisfaction in this aspect of service was provided by a one-sample *t*-test with a test value of 3.00.

5.5 Overall inpatient satisfaction

Items in all the three factors, i.e. the clinical and physical dimensions of service, as well as additional facilities for patients and family members, were also collapsed to form a single variable for overall inpatient satisfaction as shown in Table VII. This variable was found to have a mean of 3.98, which indicates that the patients are satisfied with the overall inpatient service. A one-sample *t*-test carried out against a test value of 3.0 provides statistical evidence that the inpatients are satisfied with the service rendered by the hospitals.

A one-sample *t*-test carried out with the null hypothesis that the mean difference between the clinical and physical dimension is less than or equal to 0 provides statistical evidence that inpatients of Malaysian public hospitals are more satisfied

Table VI.
Additional facilities for patients and family members

	Mean	SD	ρ value
Food	3.83	0.84	0.00*
Public telephone	3.75	0.84	0.00*
Radio, TV and rest lounge	3.52	1.00	0.00*
Additional facilities	3.70	0.69	0.00*

Note: *$\rho < 0.01$

Table VII.
t-test on overall inpatient satisfaction

	Mean	SD	ρ value
Overall inpatient satisfaction	3.98	0.47	0.00*

Note: *$\rho < 0.01$

with the clinical aspects of service than the physical aspects. Table VIII shows the result of the *t*-test.

The finding is consistent with the literature, as shown by the work of Sewell (1997), who administered the SERVQUAL questionnaire to NHS hospitals in Britain, and found that patients attach greater importance to reliability – i.e. the hospital's ability to perform the promised service dependably and accurately – rather than the tangibles – i.e. the appearance of the hospital's physical facilities, buildings, equipment, etc. Work on quality perception between private and public hospitals carried out by Angelopoulou *et al.* (1998) found that patients in public hospitals place greater emphasis on technical medical competence, while patients in private hospitals pay greater attention to the hotel and contextual factors of service. Tomes and Ng (1995) also found that inpatients in public hospitals are more likely to be satisfied with the clinical treatment received than with the physical facilities provided by the hospitals.

Thus, the same conclusion can be drawn for the inpatient service of Malaysian public hospitals, where the patients are more satisfied with matters such as clinical treatment, the service of doctors and nurses, and the medicine prescribed, rather than the physical ambience. This finding is not surprising considering the fact that most public hospitals in Malaysia are not housed in new buildings, and are not known to have furnishings and layouts comparable to the hotel sector, as private hospitals do.

It is also interesting to note that although there has been a growing criticism of the quality and interpersonal skills of staff in public hospitals (Ghazali, 2002), this is not supported by the findings of this study, as reflected in the high mean score on patient satisfaction (mean 3.98). One possibility is that the expectations of patients in public hospitals regarding care and service are already low to begin with, since they are aware that they are not paying fees for private medical care, and hence the higher perception of satisfaction. Private medical care is very expensive in Malaysia and is beyond the reach of most Malaysians, especially the lower income group who make up the majority of patients in public hospitals. Thus, they are grateful enough to be getting medical care at a very highly subsidised rate from the government.

Another possibility, as has been raised by other researchers, is the reluctance of patients to express their true feelings for fear of antagonising the service providers and experiencing even worse service in the future (Coyle and Williams, 1999; Batchelor *et al.*, 1994; Evason and Whittington, 1997; Angelopoulou *et al.*, 1998). Under such circumstances, Donabedian (1988) suggested that the results of patient satisfaction surveys should actually be used together with other forms of indicators of the quality of care, such as complaints registered and premature termination of care. The literature also points to other factors that contribute to the multidimensional nature of patient satisfaction. The "generosity effect" of the patients has been cited by Kasalova (1995) as an intervening factor of patient satisfaction. Religiosity is another factor that is not understood, but has an effect on patient satisfaction (Kasalova, 1995).

	Mean	SD	ρ value
Difference between clinical and physical dimensions of service	0.27	0.48	0.00*

Note: *$\rho < 0.01$

Table VIII. *t*-test on difference between clinical and physical dimension of inpatient satisfaction

6. Conclusion

The findings for the inpatient survey indicate that generally patients are satisfied with the inpatient service of Malaysian public hospitals. Nevertheless, patients are more satisfied with the clinical aspects of treatment than with the physical aspects of service. This reflects the emphasis of Malaysian public hospitals on clinical aspects rather than on physical aspects. For the clinical aspects, the sample statistics suggest that they are also most satisfied with the service of the doctors and nurses, whereas for the physical aspects, they are most satisfied with the cleanliness of the wards.

The findings speak well of the service of the doctors and nurses. In the course of conducting the survey, the researcher was often taken aback by the large number of patients; wards were almost always full to the brim. In meetings hospital directors, most would lament the shortage of doctors and nurses in their hospitals. A shortage of manpower among doctors and nurses is an incessant problem in the Malaysian public healthcare landscape, where an average of 300 doctors and specialists resign from the government service each year (Lim, 2002). The government has also never committed more than 3 per cent of GNP to healthcare, and Malaysia has not fallen into the trap of pouring money into hospitals, as is common in most developing countries. Thus, public hospitals are not endowed with adequate and up-to-date medical equipment, except for a few newer ones (Ghazali, 2002). Given the circumstances, one may conclude that the doctors and nurses have done quite well as shown by the findings of the survey.

The findings should also serve as a wake-up call to the policy-makers, who are generally of the opinion that problem in service delivery of the public hospitals can only be solved through privatisation. Hence, numerous studies have been conducted on the proposed national health financing scheme which will eventually see the country's healthcare system converging into a single entity rather than the current public-private dichotomy (Yon, 2002). The proposed reform is on the assertion that the public healthcare delivery service is in dire need of an injection of entrepreneurial dose in order for it to be more customer-centric. Thus, rather than undergoing major healthcare reform, the findings may support the contention that public healthcare in the country may not actually need a major surgery, but rather an increase in allocation for a system that is operating within very tight financial and human resources constraints.

Note

1. Population statistics obtained from the Inpatient Census for Government Hospitals for 2001, Information and Documentation Unit, Ministry of Health.

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