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Patient Experience of Inpatient Care and Services Received at a Teaching Hospital in Malaysia: A Cross-Sectional Study

Wan Nor Fatihah Wan Nawawi

Department of Nursing Science, Faculty of Medicine, Universiti Malaya, Kuala Lumpur 50603, Malaysia,
fatihahnawawi@um.edu.my

Vimala Ramoo

Department of Nursing Science, Faculty of Medicine, Universiti Malaya, Kuala Lumpur 50603, Malaysia,
vimala@ummc.edu.my

Mei Chan Chong

Department of Nursing Science, Faculty of Medicine, Universiti Malaya, Kuala Lumpur 50603, Malaysia,
mcchong@um.edu.my

Nor Zehan Ahmad

Department of Nursing Science, Faculty of Medicine, Universiti Malaya, Kuala Lumpur 50603, Malaysia,
norzehan@um.edu.my

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Patient Experience of Inpatient Care and Services Received at a Teaching Hospital in Malaysia: A Cross-Sectional Study

Wan Nor Fatimah Wan Nawawi^{ID}, Vimala Ramoo^{*ID}, Mei Chan Chong^{ID}, Nor Zehan Ahmad^{ID}

Department of Nursing Science, Faculty of Medicine, Universiti Malaya, Kuala Lumpur 50603, Malaysia

Abstract

Background: Patients' experience reflects the quality of healthcare services from the end user's perspective and therefore is an essential indicator of healthcare quality. This study aimed to measure patient experience of inpatient care and services received at a teaching hospital.

Methods: A total of 321 patients were enrolled in this quantitative, cross-sectional study during their discharge. Data were collected from May to September 2018 through a validated self-administered questionnaire adapted from the Hospital Consumer Assessment of Healthcare Providers and Systems survey. Analysis of patient experience and overall hospital quality rating was conducted using SPSS version 25.

Results: The majority of the patients (91%) reported a positive experience of inpatient care and perceived a high quality of service provided by the hospital. Further analysis revealed that the patients' experiences varied significantly with their age, ethnicity, religion, employment status, type of ward, and perceived health status (all $p < 0.05$). Meanwhile, the level of patient experience was significantly correlated with the overall rating of the hospital ($r = 0.804$, $p < 0.001$).

Conclusions: The findings served as benchmark data for hospital management to address issues related to hospital services. Future studies should be extended to patients from multidisciplinary wards and outpatient units to provide a significant reflection of hospital service quality.

Keywords: care received, inpatient care, nursing care, patient

INTRODUCTION

The current demand for a high quality healthcare system is on the rise due to enhanced health awareness, establishment of reliable healthcare management, and advancements in biotechnology.¹ In line with the increasing trend in healthcare demand, the healthcare system should continuously improve the quality, safety, and efficiency of healthcare.² To effectively address ongoing demands, we must access patients' perspectives on current healthcare quality to identify their needs and expectations.³

Several studies have considered patient feedback as one of the crucial tools in monitoring and assessing the quality of health systems.^{4,5} Patient feedback enables healthcare providers to improve the quality of their services and the efficiency of their operations. It can also help them identify areas for improvement and develop effective strategies to improve the care they provide.⁶ Patient feedback on the healthcare system can be evaluated in various forms, including their perception,

satisfaction level, or experience with the healthcare services.⁷

In Malaysia, patient feedback is rated according to the patient's satisfaction level toward a healthcare service. This assessment has been included in the national policy of the Ministry of Health as one of the main components for quality improvement in healthcare.⁸ Therefore, a national patient satisfaction survey was launched in 2011 using a standardized instrument based on the service quality concept to achieve the policy's objective.⁹ However, the national survey was applied only to government-funded hospitals; numerous private hospitals and teaching hospitals (under the Ministry of Education) also deliver healthcare services to the public. Private and teaching hospitals conduct their patient satisfaction surveys specific to their setting, making it difficult to compare their quality of service with that of other healthcare organizations.⁷ In addition, the measurement of quality of care using patient satisfaction has often been criticized for its methodological weaknesses and theoretical challenges.^{10,11} A previous research has suggested that patient satisfaction evaluation has a limited consensus across multiple dimensions, with discrepancies between patients' overall satisfaction ratings and feedback on certain attributes of their experience.¹² Therefore, the lack of validity of

*Corresponding author:

Vimala Ramoo
Department of Nursing Science, Faculty of Medicine,
Universiti Malaya, Kuala Lumpur, Malaysia
E-mail: vimala@ummc.edu.my

patient satisfaction has inhibited the acceptance of quality improvement in the healthcare system.

A comprehensive review of Patient-Reported Experience Measures highlighted patient experience as an interesting topic and strongly recommended the shift from assessing patient satisfaction to patient experience.¹³ The study revealed that compared with patient satisfaction, patient experience is highly associated with more objective patient perceptions about receiving care and can provide practical data for quality improvement initiatives.¹³ Although Malaysia has yet to develop metrics for patient experience with the healthcare system, a survey named Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) has already been established. HCAHPS was developed by the Centers for Medicare and Medicaid Services (CMS) to assess patient experience level in the United States¹⁴ and has since been widely used.^{15,16} In addition, the European Commission chose HCAHPS due to its potential to provide a comprehensive view of patient experience across various healthcare systems. The RN4CAST project analyzed survey results from 12 European countries (England, Belgium, Germany, Finland, Ireland, Greece, Norway, Netherlands, Sweden, Poland, Spain, and Switzerland) to compare the quality of healthcare services across Europe.¹⁷ This finding supported that HCAHPS has high validity and reliability to serve as a standardized instrument for patient experience assessment.¹⁴

To date, only one study in Malaysia used HCAHPS but only to report its psychometric analysis in Malay language.⁷ Literature review revealed the lack of data on patient experience of receiving healthcare in Malaysian context, reflecting the need and potential contribution of the present study to improve healthcare. Therefore, the current work aimed to assess patient experience of inpatient care and services at a teaching hospital, its association with sociodemographic variables, and the relationship between patient experience and overall hospital quality rating using the validated HCAHPS questionnaire.

METHODS

Data collection

This quantitative, cross-sectional study was conducted at a large multidisciplinary teaching hospital within a limited time frame and human and financial resources. The hospital is strategically located in the heart of Kuala Lumpur, the capital of Malaysia. As the largest and oldest teaching hospital in Malaysia, it has approximately 1,439 beds in operation and an annual bed occupancy rate of 72.32% with a variety of medical specialties. A sample size of 288 patients was determined using an Epi Info 7 sample size calculator and assuming a 95% confidence interval with a 5% marginal error. With the adjustment for the turnover

rate, 321 inpatients who met the inclusion criteria (aged 18 and above, awake and conscious, able to read and write English or Malay, and hospitalized for at least two days) were invited to participate in this study through convenience sampling.

Data were collected using a self-administered questionnaire between May and September 2018 on 10 randomly selected wards of the teaching hospital. Patients who met the inclusion criteria were approached while awaiting discharge completion, which involves physicians writing a case summary, arranging follow-up care and medication, issuing bills, and arranging for families to take the patient home. At the teaching hospital, this process would take (on average) 2–3 hours once a patient is deemed fit for discharge by the attending physician.

The front page of the questionnaire contained a brief explanation of the purpose of the study, estimated time to complete the questionnaire (approximately 15–20 minutes), implication and benefits of the study, patient's rights to participate or withdraw from the study, privacy and confidentiality, and researcher contact information. Patients who consented to participate in the study were required to complete the consent form and the questionnaire. Data were reported following the Statement on Strengthening the Reporting of Observational Studies in Epidemiology.

Instrument

The questionnaire originally consists of CMS-approved adaptations of HCAHPS scales. Sentence structures and items were slightly modified to meet the needs of this study, and all screening questions from the original HCAHPS were eliminated following the consensus of the expert panel. The elimination of the screeners does not affect the validity of the survey because it does not need to provide information about patient perception.¹⁸ Since the survey was developed in the public domain, it is not subject to copyright laws in the United States.¹⁹ Thus, the final questionnaire consists of 32 items assessing the following components of the hospital experience: sociodemographic characteristics (11 items), communication with nurses (4 items), communication with physicians (3 items), responsiveness of hospital staff (5 items), the hospital environment (3 items), and discharge information (5 items). The questionnaire also contains a final question on the patients' perception of the hospital's overall rating.

The final version of the questionnaire uses multiple response scales: a four-point Likert scale for patient experience (1 = Strongly disagree, 2 = Disagree, 3 = Agree, and 4 = Strongly agree) and a global rating scale for overall hospital quality rating (0 = Worst to 10 = Best). The questionnaire was translated from English into Malay by bilingual linguists in accordance with the

recommended guidelines for translation and cross-cultural adaptation.⁷ Several experts from the Department of Quality and Clinical Management, the Director of Nursing, and senior nursing lecturers were invited to validate the questionnaire, and the content validity index of the questionnaire was determined to be within an acceptable range (above 0.83).²⁰ A pilot study with 32 inpatients demonstrated the reliability of the questionnaire and indicated excellent internal consistency between the total scale and its subscales (Cronbach's alpha ranges from 0.88 to 0.98).⁷

Ethical consideration

Ethical approval for this study was obtained from the Medical Research Ethics Committee, University Malaya Medical Center, Malaysia (MRECID.NO: 201813-13) and granted by the nursing director before data collection. This study complied with the provisions of the Declaration of Helsinki and the Caldicott Principle, that is, all the participants gave their informed consent to the study and their anonymity was preserved.

Data analysis

Statistical Package for the Social Sciences (SPSS) version 25.0 was used for data analysis. Total patient experience scores of inpatient care and services received at a teaching hospital and overall hospital quality rating were found to be normally distributed as assessed by central tendency, skewness, and kurtosis values. The descriptive data were presented as frequency, percentage, mean and standard deviation. Independent t-test, ANOVA, and post hoc test were used to determine associations between variables. Pearson's correlation coefficient test was applied to assess the relationship between patient experience and the hospital's overall rating.

The total score for patient experience ranged 25–80 points and categorized as (a) positive experience (score of 51 and above) and (b) negative experience (score of 50 and below) depending on the cutoff points derived from the CMS.¹⁴ For each item, a dichotomized scale was generated by collapsing responses from the original scale for 1 (strongly disagree) and 2 (disagree) into one category and those for 3 (agree) and 4 (strongly agree) into another category, yielding a scale of 1 = disagree and 2 = agree. For coherent analysis and comprehensible data presentation, this dichotomized scale was used to identify the total percentage of patients with agreeing or disagreeing responses.

The overall rating of patient-perceived hospital quality was assessed using a global rating scale from 0 (Worst) to 10 (Best). Responses ranged from 2 to 10 and were presented in three categories: high quality (score of 9 and above), medium quality (score of 7 to 8), and low quality (score below 7) based on the proposed cutoff

points by the CMS.¹⁴ $p < 0.05$ with a 95% confidence interval was deemed statistically significant.

RESULTS

The distributed questionnaires were returned with a complete response (response rate 100%). Table 1 summarizes the sociodemographic characteristics of the patients. The male patients slightly outnumbered

TABLE 1. Demographic characteristics of patients (N = 321)

Characteristics	Frequency (N)	Percentage (%)
Age (in years)		
20–39	109	34.0
40–59	128	39.9
≥ 60	84	26.1
Gender		
Male	175	54.5
Female	146	45.5
Ethnicity		
Malay	118	36.8
Chinese	112	34.9
Indian	75	23.4
Others	16	5.0
Religion		
Islam	125	38.9
Buddhism	112	34.9
Hinduism	59	18.4
Christian	20	6.2
Others	5	1.6
Marital status		
Single	62	19.3
Married	219	67.3
Divorced/Widowed	43	13.4
Employment status		
Professional	35	10.9
Support service	98	30.5
Business	66	20.5
Unemployed/Retired	100	31.2
Student	22	6.9
Previous hospital admission		
No	185	56.7
Yes	139	43.3
Length of hospital stay (in days)		
2–5	154	48.0
6–10	116	36.1
≥ 11	51	15.9
Ward		
General surgical	153	47.7
Orthopedics	80	24.9
Specialized surgical	88	27.4
Need for self-care assistance		
No	143	44.5
Yes	178	55.5
Perceived health status during hospitalization		
Excellent	46	14.3
Fair	244	76.0
Poor	31	9.7

the female patients, accounting for 54.5% versus 45.5%, respectively. Patients from the 40–59 age group accounted for the highest percentage at 39.9%, and Malays and Muslims accounted for 36.8% and 38.9%, respectively.

More than half of the patients were married (67.3%), 31.2% were unemployed/retired, and only a small portion were students (6.9%). Almost half of the patients were admitted to the general surgical ward (47.7%) and stayed for an average of 2–5 days (48%), and 43.3% had been previously hospitalized. During their current hospitalization, 55.5% of the patients required assistance with activities of daily living due to physical constraints; however, 76% of the patients perceived their health status as fair.

In general, most patients (91%) had a positive experience of inpatient care at the teaching hospital with a mean total score of 67.80 (SD = 12.40, range 25–80). Table 2 reveals that the majority of the patients (92.5%) gave a high overall rating for the hospital quality with a mean score of 9.17 (SD = 1.38, range 2–10).

Table 4 summarizes the association of patients' sociodemographic data with their experience. Statistically significant differences were observed in patient experience by age, ethnicity, religion, employment status, admitted ward type, and perceived health status during hospitalization (all $p < 0.05$). Post hoc analysis revealed that patients who were aged 60 years and above ($p = 0.001$), Malays ($p = 0.013$), Muslims ($p = 0.020$), unemployed/retired ($p = 0.003$), admitted in the general surgical ward ($p = 0.003$), and perceived their health status as fair ($p = 0.024$) had many positive experiences with the inpatient care and services of the teaching hospital.

Further analysis was performed to assess the association between the patient's experiences of receiving inpatient care and services and their overall hospital quality ratings using Pearson's product-moment correlation test. A statistically significant strong positive correlation was noted between the two variables, $r = 0.804$ ($p = 0.001$) suggesting that patients who had many positive experiences of inpatient care gave a high score of overall hospital quality rating.

On the basis of the item analysis of patient experiences (Table 3), no major difference in the individual mean was observed across all subdomains as evidenced by a small mean difference of 3.23–3.54 points. The highest patient experience score was associated with physician care (3.54 ± 0.38), and the lowest score was associated with the hospital environment (3.26 ± 1.08) among all subdomains.

TABLE 2. Level of patient experience with inpatient care and overall hospital quality rating (N = 321)

Variables	Range of score	Frequency (N)	Percentage (%)	Mean (SD)
Patient experience				67.80 (12.40)
Positive	>50	292	91	
Negative	≤50	29	9	
Overall rating of hospital quality				9.17 (1.38)
High	9–10	240	74.8	
Medium	7–8	57	17.8	
Low	0–6	24	7.5	

TABLE 3. Item analysis on patient experience of inpatient care and services received at the teaching hospital (N = 321)

Items	Disagree N (%)	Agree N (%)	Mean	SD
Care from nurses				
1. The nurses always treat me with courtesy and respect.	30 (9.3)	291 (90.7)	3.39	0.66
2. The nurses always listen carefully to my concern.	28 (8.7)	293 (91.3)	3.40	0.65
3. The nurses always explain things in a way I could understand.	28 (8.7)	293 (91.3)	3.41	0.66
4. After I pressed the call button, I always get the help as soon as I wanted it.	65 (20.2)	256 (79.8)	3.24	0.86
Care from doctors				
1. The doctors always treat me with courtesy and respect.	5 (1.6)	316 (98.4)	3.54	0.54
2. The doctors always listen carefully to my concern.	5 (1.6)	316 (98.4)	3.54	0.54
3. The doctors always explain things in a way I could understand.	6 (1.9)	315 (98.1)	3.53	0.55
Hospital environment				
1. My bed cubicle / room and bathroom were always kept clean at almost all time.	51 (15.9)	270 (84.1)	3.28	0.80
2. The area around my bed cubicle / room was quiet and calm at night.	56 (17.4)	265 (82.6)	3.26	0.80

TABLE 3. Continue

Items	Disagree N (%)	Agree N (%)	Mean	SD
3. The temperature of the ward environment was comfortable for me.	63 (19.6)	258 (80.4)	3.23	0.83
Continuity of care			3.35	1.57
1. I always get the help in getting to the bathroom/using a bedpan/changing diaper as soon as I wanted.	46 (14.3)	275 (85.7)	3.32	0.75
2. The hospital staffs always ask/assess the pain that I had.	32 (10.0)	289 (90.0)	3.40	0.67
3. The hospital staffs assessed / discussed with me about my pain and how to manage it.	43 (13.4)	278 (86.6)	3.36	0.72
4. The hospital staffs always advised me on purpose of my new medication before served it.	39 (12.1)	282 (87.9)	3.36	0.70
5. The hospital staffs always explained the possible side effects of my medication in a way I could understand.	46 (14.3)	275 (85.7)	3.33	0.73
Discharge information			3.44	1.08
1. The doctors, nurses, or other hospital staff discussed with me about any help needed at home.	18 (5.6)	303 (94.4)	3.44	0.61
2. The hospital staff gave health education verbally/writing/pamphlet on health management at home.	17 (5.3)	304 (94.7)	3.45	0.61
3. The hospital staff took into account my preferences in deciding my health care needs at home.	18 (5.6)	303 (94.4)	3.43	0.61
4. The hospital staff ensured that I had a good understanding of my responsibility in managing my health.	18 (5.6)	303 (94.4)	3.44	0.61
5. The hospital staff ensured that I had clearly understood the purpose and the importance of taking each of my medications.	18 (5.6)	303 (94.4)	3.44	0.61

Note: The dichotomized scale was developed by collapsing responses from the original scale for 1 (strongly disagree) and 2 (disagree) into one category and those for 3 (agree) and 4 (strongly agree) into another category named as 1 = disagree and 2 = agree, respectively.

TABLE 4. Patient experience of inpatient care and services received at the teaching hospital according to demographic characteristics (N = 321)

Characteristics	N	Mean	SD	p
Age (in years)				
20-39	109	66.92	11.89	0.001*
40-59	128	65.23	12.52	
≥60	84	72.85	11.47	
Gender				
Male	175	69.76	11.77	0.343
Female	146	65.45	12.76	
Ethnicity				
Malay	118	70.55	11.81	0.013*
Chinese	112	65.71	11.44	
Indian	75	66.08	13.57	
Others	16	70.19	14.21	
Religion				
Islam	125	71.02	11.65	0.020*
Buddhism	112	65.71	11.44	
Hinduism	59	66.02	14.19	
Christian	20	65.85	11.25	
Others	5	62.80	19.82	
Marital status				
Single	62	67.00	11.01	0.230
Married	216	68.03	12.67	
Divorced/Widowed	43	67.77	13.14	

TABLE 4. Continue

Characteristics	N	Mean	SD	p
Employment status				
Professional	35	68.80	13.34	0.003*
Support service	98	65.39	11.99	
Business	66	64.73	12.58	
Unemployed/Retired	100	71.18	11.85	
Student	22	70.77	10.77	
Past admission				
No	182	65.20	12.63	0.129
Yes	139	71.20	11.25	
Length of stay (in days)				
2–5	154	67.16	12.14	0.165
6–10	116	66.97	12.92	
≥ 11	51	71.59	11.45	
Ward				
General surgical	153	67.89	11.88	0.003*
Orthopedics	80	71.41	10.98	
Specialized surgical	88	66.14	12.37	
Need of self-care assistance				
No	143	66.11	11.82	0.102
Yes	178	69.15	12.71	
Perceived health status during hospitalization				
Excellent	46	68.65	13.77	0.024*
Fair	244	72.90	10.91	
Poor	31	66.99	12.19	

* $p < 0.05$

DISCUSSION

Patient experience assessment is one of the validated tools to assess the quality of healthcare services. This study aimed to assess patient experience of inpatient care and services provided by a major teaching hospital and was the first to use HCAHPS in Malaysia. Consistent with previous studies,^{21,22} the current results showed that patients generally had positive experiences of inpatient care and services provided at the Malaysian teaching hospital. The patients also reported the good quality of inpatient care delivered as reflected by the high overall hospital quality rating. Furthermore, a significant strong positive correlation was observed between the total patient experience scores of inpatient care and services received at a teaching hospital and the overall hospital quality rating, indicating that patients who had many positive experiences during hospitalization are likely to give a high overall hospital quality rating.^{21,22}

This study also showed that patients' experiences of inpatient care and services provided in a teaching hospital differed significantly by several sociodemographic factors such as age, ethnicity, religion, employment status, type

of ward, and perceived health status during their hospital stay. These results supported those perceptions and experiences being influenced by various personal factors.^{23–30} In terms of patient age, a previous study similarly found that older patients are more likely to report positive experiences with healthcare services than younger patients²³. Moreover, older patients in Asian culture tend to be treated more gently than younger patients.²³ Aging also affects the acceptance of the disease or treatment, with acceptance likely to be higher in older patients than in younger patients.²⁴

Mixed results were found across gender, with women rating their care experience higher than men.²⁵ In another study, women scored significantly lower than men because the former have higher expectations for the quality of the care they receive compared with the latter.²⁶ Some analyses revealed that gender is not related to patients' perceptions of quality of care.²⁷ Although female patients had slightly less positive experiences than male patients in the present study, the results were not statistically significant. Therefore, gender is unlikely to have an impact on the experience of receiving inpatient care and services. Additional

studies are warranted to explore this finding in Malaysian context.

The profile of the patients in this study is extremely diverse because Malaysia has a complex multiracial population predominantly defined by three major ethnic groups: Malay, Chinese, and Indian. This study reported that Malays had more positive experiences than other ethnic groups. A previous study explained that patients from minority ethnic communities are highly likely to report negative experience with the care and services they received.²⁸ It also documented that racial minorities receive inadequate healthcare quality and are viewed as less desirable users of healthcare compared with majority groups.²⁸

This study found that patients with a long hospital stay had better experience scores than those with a short stay, although no statistically significant difference was found. Length of stay reflects the severity of the patient's condition; those who have been hospitalized for the longest periods are the most satisfied and declare to have had a positive experience.²⁵ However, limited studies have been conducted on the association between length of stay and patient experience for a specific diagnosis or treatment. By contrast, another study found that patients with a long stay had low patient experience scores, which may reflect the complexity of their condition being treated over time.²⁹

Patients' perceived health status during hospitalization is also significant in influencing patient experience ratings. An increase in the number of dependent patients leads to an increase in the attention required from hospital staff, but not all of the patients' demands can be met. A previous study showed that patients who perceived poor health are likely to report less satisfaction and negative experience of healthcare services because they associate their poor health with the care they received.³⁰

The results of this study suggested that additional organizational efforts are warranted to provide patients with a positive experience of inpatient care and services provided in a teaching hospital, particularly in relation to the hospital environment subdomain. Otherwise, the excellent values should be retained in other subdomains. Finally, the outcome of this study allows the comparison of healthcare quality through patient experience, particularly in countries that have used HCAHPS as a standardized tool for quality improvement initiatives in healthcare systems.

This study has several limitations due to its cross-sectional nature. First, the analysis was limited to a single teaching hospital; hence, the data presented may not fully represent all healthcare services in Malaysia or other global regions. Future research should consider

including multiple institutions ranging from primary to tertiary hospitals to obtain accurate generalizations and to understand potential regional differences. Second, the convenience sampling method posed a limitation to this study and may lead to bias in responses. Therefore, future research should consider longitudinal observational studies to obtain in-depth information about patients, such as the social and psychological factors that influence their perspectives on inpatient care and hospital services.

CONCLUSIONS

This work is the first study in Malaysia to assess patient experience of inpatient care and services at a teaching hospital using HCAHPS and provides essential information about patient perspectives on inpatient care and services received during hospital stay. Results revealed that patients who had positive experiences are most likely to rate the teaching hospital as high quality. This finding reflected the importance of maintaining the positive experience among patients toward the inpatient care and services. The results also indicated an urgent need for the healthcare facilities to provide a conducive healthcare environment to improve the HCAHPS score among patients receiving inpatient care. Nonetheless, these findings will serve as a first step in understanding patients' perspectives on healthcare to guide strategies, such as identifying the areas of improvement in the key HCAHPS components and execute an effective plan to promote a high quality inpatient care culture in Malaysia.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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