Quality of healthcare services and its related factors among inpatients in Ho Chi Minh Oncology hospital in 2020

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ABSTRACT

Objective: Improving quality of healthcare services is one of a crucial issues for the current implementation and development in hospitals.

Method: A cross-sectional study was applied by using the combination of quantitative and qualitative approaches to identify the quality of healthcare services among inpatents and associated factors in Ho Chi Minh Oncology hospital from April 2020 to August 2020. A total of 400 inpatients and 16 health staffs were selected in this study. The study tool was designed by using SERVPERF to measure the quality of healthcare services in 5 aspects (including tangibles, reliability, responsiveness, assurance and sympathy) with 5-Likert-scale. Bivariate analysis was applied to identify the associated factors with the categorical dependent variable of healthcare quality, with significant level $p<0.05$.

Result: The results demonstrated that only 26.8% of inpatients satisfied with the quality of healthcare services. In term of healthcare services quality, the assurance aspect had 70.8% of inpatients rated as satisfactory. The remaining aspects were with the lower rate, particularly sympathetic (43.5%), reliable (37.8%), responsive (32%) and tangible (31.5%).

Conclusion: There was an inadequate proportion of healthcare staffs, limited training and motivation, performance assessment, lacking of supervion and support, influencing the quality of healthcare services. It is necessary to facilitate the capacity building for health staffs, implement the working performance assessment based on job positions and strengthen activities of supervision and support.

Keywords: Healthcare services, healthcare quality, inpatients, SERVPERF,...

INTRODUCTION

Quality of healthcare services is one of the important indicators in healthcare sector in all countries as well as in Vietnam (1). Currently, the measurement of quality of healthcare services has been done by appylying different approaches such as SERVQUAL or SERVPERF model. According to the models, the quality of healthcare services was measured through 5 asepcts including tangibles, reliability, responsiveness, assurance and sympathy (2), (3). The factors influencing to the quality of healthcare services related to human resources, health facilities and equipment, procedure and management of medical examination and treatment in hospital.

Ho Chi Minh Oncology hospital is the first specialized level, under the management of the Deparament of Health in Ho Chi Minh City. In which, the deparament of internal medicine 4 is one of the clinical departments with a large number of patients. On average, there are approximately 400 patient visits per day

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for examination and treatment. There number of workforce in the department is a total of 82 staffs, particularly 23 medical doctors and 51 nurses (4). To determine the factors affect on the quality of healthcare services in the department is one of the demands and concerns of hospital leaders and managers. The research questions are how is the quality of healthcare services and what are the factors influencing quality of healthcare services through the patients' experiences? Therefore, the study was conducted to identify the quality of healthcare services and its related factors among inpatients at the department of internal medicince 4 in Ho Chi Minh Oncology hospital in 2020.

METHODOLOGY

Study design: A cross-sectional study was applied to measure the quality of healthcare services through the inpatients' experience and its associated factors.

Study site: This study was implemented at Department of Internal Medicine 4, Ho Chi Minh Oncology hospital, Vietnam. The study duration was from April to August 2020.

Study subject

For quantitative section, the study focused on in-patients who used healthcare services at Department of Internal Medicine 4, Ho Chi Minh Oncology hospital. The inclusion criteria including the inpatients from 18 years old and above, agreement to participate in this study and have ability to answer the questionnaire. For the qualitative section, the representative of hospital director, head of human resource and personnel department, head doctors and nurses and inpatients in department of internal medicine 4 were selected as the key informants in this study.

Sample size and sampling methods

For the quantitative, the sample size was calculated with the formula:

$$n = Z^2_{(1-\alpha/2)} \frac{p(1-p)}{d^2}$$

In which:

- n is sample size

- Z is reliability coefficient, with significant level α= 0.05 then Z=1.96,

- p is estimated that 50% inpatients satisfied with healthcare services quality

- d is relative precision, d=0,05 in this study.

After being calculated, the sample size was 384. It was estimated that 5% patients would refuse to participate in this study, thus the needed sample size was 400 inpatients. The inpatients were randomly chosen upon the number of those coming to the hospital for examination and treatment.

For the qualitative, the study was conducted 16 in-depth interviews with purposely choosen the key informants including 01 representative of hospital director, 01 head of human resource and personnel department, 01 head doctors, 01 head nurses in department of internal medicine 4, 02 medical doctors and 10 inpatients who are stay at least 2 days forusing inpatient care in department of internal medicine 4.

Variables and Measurement

For quantative data, the study included the social-demographic variables such as age, gender, education and income of inpatients. Beside this, the variables measuring quality of healthcare services based on the standardized SERVPERF model. The model included 05 aspects with

22 items, particularly (1) Tangibles with 04 items, including infrastructure, equipment, health staff uniform and communication, environment; (2) Reliability with 05 items, including the ability of providing the committed healthcare services reliably and precisely; (3) Responsiveness with 04 items measuring the willingness for supporting patients and providing services timely; (4) Assurance with 04 items measuring health staff courtesy as well as their ability of being credited by patients and (5) Sympathy with 05 items measuring the degree of health staff care to patients. The Likert scale with 05 levels was used to measure the level of healthcare services quality through the inpatients' satisfaction.

For qualitative data, the information was collect from in-depth interview with the key informants related to the factors influencing the quality of healthcare services for inpatients in hospital.

Study tool and data collection

For quantitative, a self-administered questionnaire was given to the inpatients after being examined and treated. Patients were invited to the private room for survey. They were explained the research purpose and participated in the data collection if agreed.

For qualitative, all the key informants were invited and set the schedule for in-depth interview in 30-45 minutes to give the information related to healthcare services quality in hospitals.

Data management and analysis

For quantative data, the collected data were entered by Epidata 3.0 and exported to SPSS 20.0 for analysis. Descriptive statistics such as mean, standard deviation were used to present satisfaction. The categorical

dependent variable of healthcare quality was created by the following steps: (1) 22 items of 5 factors were summed up to create the variable of healthcare quality. The summed variable had a score ranging from 53 to 102, the mean is 81.5; (2) The summed variable would then be recoded into a categorial variable. The histogram of the summed variable shows normal distribution, then the cut-off point was 81.5. The categorical dependent variable takes 0 if the summed variable has a score under 81.5 and this variable takes 1 if the summed variable has a score from 81.5 and above.

The independent variables include age group, sex, occupation, educational level, marital status, income, health insurance status, occupation, distance to hospital, number of hospital visit. Bivariate analysis was applied to identify the associated factors with the categorical dependent variable of healthcare quality. Several statistical techniques were used to evaluate the association such as Chi-square with significant level of under 5%, OR with 95% interval confidence.

For qualitative information, the collected information from indepth interviews was transcribed and analysed according to the study topics realted to healthcare services quality.

Ethical clearance

The study was approved by the Ethical review committee of the Hanoi University of Public Health with the Decision No. 124/2020/YTCC-HD3 (date issued 30/03/2020). The individuals signed the inform consent.

RESULTS

The characteristics of the research participants

Table 1. Socio-demographic characteristics of the research participants

Characteristics	Number (n)	Percent (%)
Gender		
Male	145	36.3
Female	255	63.7
Education		
High school and under	237	59.3
College and upward	163	40.7
Age		
Younger than 40	69	17.3
41 - 50	104	26.0
51 – 60	126	31.4
61 and older	101	25.3
Marital status		
Married	327	81.7
Unmarried	73	18.3
Work status		
Self-employment	161	40.3
Governmental staff	101	25.3
Others (workers, peasants…)	138	34.4
Distance from home to hospital		
10km and under	38	9.4
11-50 km	69	17.3
51-under100km	53	13.3
100km and above	240	60.0
Income per month		
5 million and under	128	32.0
6-under 10 million	234	58.5
10 million and above	38	9.5
Number of hospital visit		
1 time	25	6.3
2-3 times	214	53.4
4 and above	161	40.3
Health insurance status		
No	54	13.5
Yes	346	86.5
Healthcare quality		
No	199	49.8
Yes	201	50.2

Table 1 shows the socio-demographic characteristics of the research participants. The female participants are twice as much as the male, namely 63.7% and 36.3% respectively. Those who have education level of college and upward account for little lower than those having the level of high school and under, 40.7% and 59.3% respectively. Participants whose age from 51-60 account for highest percentage (31.4%) and younger than 40 account for lowest percentage (17.3%) while the age group 41-50 and 61 and older have the similar percentage. Most participants are married, 81.7%. Those who work as self-employment account highest proportion, 40.3% compared to the lowest proportion of those who work as governmental staff, 25.3%. The hospitalized patients whose their houses' distance to this hospital of 100km and above account for highest proportion, 60% while the other distances of under 10km, 11-50km and 51-under 100km account for lower rate, 9.4%, 17.3% and 13.3% respectively. Most of patients had the income from 6-10 million per month, 58.5%. Few patients had income of 10 million and above, 9.5%. Most patients have visited the hospital over 2 times, accounting for over 90%. Over 80% of patients are insured.

The proportion of patients agrees that the provided healthcare services with quality is similar to those agree that the provided healthcare services without quality, 50.2% and 49.8% respectively.

Healthcare services quality by SERVPERF model through the inpatients' satisfaction at Dept. of internal medicine 4, Ho Chi Minh Oncology hospital

Table 2. Healthcare services quality by SERVPERF model through the inpatients' satisfaction (n=400)

Items	Healthcare services quality		
	Agree n (%)	Mean score	SD
Tangibles	**86 (21.5)**	**13.7**	**2.7**
Service firm has up-to-date equipment	238 (59.5)	3.6	0.7
The physical facilities are visually appealing	71 (17.8)	2.8	0.7
The health staffs are well dressed and appear neat	128 (32.0)	3.2	1.5
The appearance of the physical facilities is in keeping with the type of services provided	317 (79.3)	4.0	0.7
Reliability	**151 (37.8)**	**18.7**	**3.3**
When the health staffs promise to do something by a certain time, it does so	332 (83.0)	4.1	0.7
When the health staffs promise to do something by a certain time, it does so	224 (56.0)	3.6	2.1
The health staffs are dependable	141 (35.3)	3.2	0.8
The health staffs provide their services at the time they promise to do so	249 (62.3)	3.6	0.7

The health staffs keep their records accurately	326 (81.5)	4.1	0.7
Responsiveness	**128 (32.0)**	**14.4**	**2.8**
The health staffs are expected to tell patients exactly when services will be performed	312 (78.0)	3.9	0.6
It is realistic for patients to expect prompt service from the health staffs	208 (52.0)	3.5	0.8
The health staffs are expected to always help the patients	206 (51.5)	3.6	1.7
It is a problem if the health staffs are too busy to respond to patients' requests promptly	172 (43.0)	3.4	0.9
Assurance	**283 (70.8)**	**16.6**	**3.3**
The patients can trust the health staffs	318 (79.5)	4.1	2.1
The patients are able to feel safe in their transactions with the health staffs	328 (82.0)	3.9	0.6
The health staffs should get adequate support from the service firm's management to do their jobs well	367 (91.8)	4.4	2.1
The health staffs are polite	356 (89.0)	4.2	0.6
Empathy	**174 (43.5)**	**18.7**	**2.7**
The health staffs are expected to give patients individual attention	252 (63.0)	3.7	0.9
The health staffs are expected to give patients personal attention	237 (59.3)	3.6	0.7
It is expected that the health staffs know what the needs of their patients are	228 (57.0)	3.7	0.7
It is expected that the health staffs have their patients' best interests at heart	295 (73.8)	3.9	0.7
The health staffs are expected to have operating hours convenient to all their patients	280 (70.0)	3.8	0.6

The resuts shows that in terms of tangible, the proportion of quality is low, with only 21.5% and the average score is 13.7/20 only. Regarding to the reliability, responsiveness and sympathy aspects, the proportion of quality achieved at low level are only 37.8%, 32.0%, 43.5% and the average score is 18.7, 14.7, 18.7 for respectively. The assurance aspect reached at higher level of quality with 70.8% and the average score at 16.6. The overall quality score of healthcare services is still low, with 26.8% of inpatients' satisfactory.

The factors influencing healthcare services quality at Dept. of internal medicine 4, Ho Chi Minh Oncology hospital

Table 3. Socio-demographic characteristics by healthcare service quality

Characteristics	Without quality (n=199)	With quality (n=201)	OR(CI95%)/ Chi-Square (χ^2), p
Gender			
Male	73(50.3)	72(49.7)	OR=1.1
Female	126(49.4)	129(50.6)	(CI=0.7-1.6)
Education level			
High school and under	105(44.3)	132(55.7)	**OR=0.6**
College and upward	94(57.7)	69(42.3)	**(CI=0.4-0.9)**
Age			
Younger than 40	45(65.2)	24(34.8)	**χ^2=10.7**
41-50	48(46.2)	56(53.8)	**p=0.01**
51-60	65(51.6)	61(48.4)	
61 and older	41(40.6)	60(59.4)	
Marital status			
Married	154(47.1)	173(52.9)	**OR=1.8**
Unmarried	45(61.6)	28(38.4)	**(CI=1.1-3.0)**
Work status			
Self-employment	70(43.5)	91(56.5)	**χ^2=10.4**
Governmental staff	64(63.4)	37(36.6)	**p=0.01**
Others (workers, peasants…)	65(47.1)	73(52.9)	
Distance from home to hospital			
10km and under	15(39.5)	23(60.5)	χ^2=5.2
11-50 km	41(59.4)	28(40.6)	P=0.2
51-100km	29(54.7)	24(45.3)	
100km and above	114(47.5)	126(52.5)	
Income			
5 million and under	60(46.9)	68(53.1)	χ^2=2.1
6-10 million	123(52.6)	111(47.4)	P=0.4
10 million and above	16(42.1)	22(57.9)	
Number of hospital visit			
1 time	13(52.0)	12(48.0)	χ^2=1.5
2-3 times	112(52.3)	102(47.7)	P=0.5
4 and above	74(46.0)	87(54.0)	
Health insurance status			
No	32(59.3)	22(40.7)	OR=0.6
Yes	167(48.3)	179(51.7)	(CI=0.4-1.1)

Table 3 shows the association between several socio-demographic factors and healthcare service quality using bivariate analysis. It can be seen that 04 factors of education, age, marital status, and work status are associated with healthcare service quality. Those who

participated in high school and under are 40% more likely satisfied with quality of healthcare services than those having "college and upward" degrees (OR=0.6, 95%CI=0.4-0.9). Those whose age of younger than 40 are likely less satisfied with healthcare service quality than those with older age (c^2 =10.7, p=0.01). Those who are married are 1.8 times more unsatisfied with healthcare service quality than those who are unmarried (OR=1.8; 95% CI=1.1-1.3). Governmental staff are less likely satisfied with healthcare service quality than the other group (χ^2 =10.4, p=0.01). The association between other independent variables and healthcare service quality was not found significantly.

The qualitative analysis also indicates that the factors influencing the quality of healthcare services. Regarding to the proportion of human resources, in the Dept. of Internal medicine 4 has a total of 82 health staffs (including 23 doctors and 51 nurses). However, due to the large number of patients (average 200 patients/day), the deparment has to face to the shortage of human resources that could not ensure the comprehensive care and support for inpatients' needs.

"In our department, doctors and nurses are both qualified and outnumbered many other departments. But in fact, this number is still not able to meet the large number of patients." (IDI – TK).

Concerning to training and motivation, although the hospital has issued a training schedule and policy to support for professional capacity building for health staffs, but the number of health staffs participating in training courses is still limited. It could affect on the capacity of human resources and reducing the quality of healthcare services in hospital.

About work performance appraisal, the hospital has developed a job on position, but there are still problems related to the implementation of work performance appraisal, i.e. applying the old form in the past, not ensure the accuracy and efficiency in work performance appraisal.

Support and supervison on examination and treatment proceduce, the hospital has established the quality management committee. The committee consists of 17 members who are heads and deputy heads of departments, in which the chairman of the committee is the hospital director. The support and supervison of quality management criteria comply with the 83 quality criteria of the Ministry of Health. However, due to the lack of human resources, the support and supervision activities is not working effectively.

DISCUSSIONS

Quality of curative and treatment services assessed by inpatients at No.4 Medical Internal Department, Ho Chi Minh Oncology Hospital in 2020 reached a low satisfaction rate of 26.8%. This satisfaction rate is lower than the satisfaction rate of Vo Van Dung's study which was also conducted in Ho Chi Minh City in 2019 with a quality satisfaction rate of 76.8% (5).

In terms of tangible, the quality satisfaction rate is only 21.5% and average score is 13.7 per 20. This result is lower than the rate of Tran Van Hai's study which was implemented at the Department of Infectious Diseases, No.4 Military Medical Hospital in 2017 (4). In terms of reliability, the quality satisfaction rate is also low with 37.8% of the inpatients saying that health services meet they meet their needs, and the average score of reliability

is 18.7 per 25. This result is equivalent to the study of Tran Thi Men in Thai Binh in 2014 (5). In terms of responsiveness, the health service satisfaction rate of this aspect is low (32%) and the average score is only 14.4 per 20. These results are lower than results in the study of Nguyen Thi Hong Diem condutected in Hau Giang in 2016 (3). The assurance aspect has a high rate of inpatients satified with health services of hospital (70.8%) and the average score of this aspect is 16.6 per 20. Compared with many international studies and studies in Vietnam, this rate is at the high level (6).

Regarding to factors influencing to quality health service, in general, the results are similar to the studies of Vo Tran Xuan Dao, Do Thu Huong and Nguyen Hong Thanh in 2019 (7), (8), (9). These results show that there is not enough evidence to provide associations between almost demographic factors the feeling of patient with quality of health service (p> 0.05). Besides that, the study found some factors related to health service quality. The study is similar to Nguyen Hong Thanh's study on the relationship between educational level and healt service quality (7). People with high level of education tend to be less satisfied than people with low educational level people. Highly educated people are more likely to have better economic conditions, good understanding about their rights, and thus they require quality of health service more than others. In our study, we show that age is aslo associated to quality of health service, and the elders are more likely to be satisfied with service quality than younger people. It could be explained that the elders are people often have diseases, especially chronic diseases that make them come to get diagnosis and treatment services in hospital more frequently than young people. As a result, they seem to be easier to accept health service, require less requirements, thus the rate of this group satisfied with heath service quality is more than the satisfaction rate of younger people. Governmental staff are less satisfied with health service quality than other groups, including self-employment, workers, etc. It can be explained that Governmental staff in general have better economic conditions, more stable jobs, so they may require more quality health service than other groups.

The research results show that due to the large number of patients, the staff in the department do not have much time to participate in training, partly affecting the quality of medical services. This result is also found in other studies, especially hospitals at the central and provincial levels in big cities (6), (10). The process of evaluating performance of health workers at the hospital is still implemented in the old methods. It could not accurately reflect the capacity and contribution of each health worker in the treatment and supportive care to patients. This problem is also common in public hospitals in Vietnam and it has been shown by many studies (11).

The limitation of the study was conducting only at one of department in the hospital that could not represent the healthcare service quality of the whole hospital. On the other hand, the study could have recall bias when asking the information about the utilization among inpatients of their healthcare service in the past.

CONCLUSIONS

The measurement of healthcare services quality through the inpatients's experiences at Dept. of Internal medicine 4, Ho Chi Minh Oncology hospital still reached at a low proportion with 26.8% of inpatients' satisfactory. In term of 5 aspects of healthcare

services quality in SERVPERF model, only the assurance aspect was highly appreciated by the inpatients with 70.8% of satisfactory. The 4 remain aspects were under 50% of satisfactory, particularly the sympathy (43.5%), reliability (37.8%), responsiveness (32.0%) and tangible (31.5%). The factors related to the proportion of human resources, training activity, motivation and preformnace appraisal, support and supervision on the examination and treatment were associated to the quality of healthcare services. Therefore, in order to improve the quality of healthcare services, the hospital needs to recuit more health staffs to ensure the appropriately proportion of human resources, especially the ratio of doctors/nurses; to conduct training for health staffs to meet the needs of medical care and treatment for inpatients at the Dept. of internal medicine; to deploy the job performance based on the job position; to strengthen the support and supervision on the procedure of examination and treatement.

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