

ORIGINAL ARTICLES

Inpatients' experience and the associated factors: A cross-sectional study at Lung hospital, Son La, in 2020

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ABSTRACT

Objectives: Medical facilities with an autonomous tendency always try to serve positive and pleasant experiences to improve the brand name, increase patient satisfaction and loyalty. A descriptive cross-sectional study was conducted on 245 inpatients at Lung Hospital in Son La province in 2020. To describe the current situation of the inpatient's experience at Lung Hospital in Son La province by 2020 and its related factors.

Methods: This was a cross-sectional study conducted on 245 inpatients at Son La Lung Hospital

Results: The study showed that the total score of inpatients' experience ranged from 22 points to 57 points and the mean of it was 39.7 (6.13) points. Subject's experience scores were divided into 2 groups, the satisfied group accounted for 32.7% and the percentage of the unsatisfied group was 67.3%. As compared to men, a higher total score of women was (OR: 1.134; 95% CI: 0.284-0.997). The urban area group's score was 1,190 times higher than that of those who live in rural and mountainous areas (95% CI: 1,010 - 1,400). The middle-income group had more positive experience than the low-income group (OR: 1.180; 95% CI: 1.010 - 1.370).

Conclusions: Our research showed that gender, living area and economic condition affected the total score of inpatients' experience at the Lung hospital.

Keywords: Patient experiences, inpatient treatment, hospital, associated factors.

INTRODUCTION

Health care institutions pay more attention to the quality of patient care and focus their objectives on patient experience (1). In 2017, research in Shanghai showed that the overall positive experience rate was 87.4% and the satisfaction rate of patients in a hospital of the same size (2). Furthermore, as Wolf and colleagues explain in the current issue, a patient's experience produces many definitions (3). On one side hand, the hospital organisations also want patients to return, refer

their friends and family and share positive truths about their health and behaviour through their experiences with the health system (4), (5). All of these evidence points out measuring patient experience could be important because it provides valuable information for improving care, making strategic decisions, meeting patients "expectations, and effectively managing and monitoring health and care services. While many patient experience measurements are still in the development phase, studies reporting improvements in patient satisfaction, patient satisfaction



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and quality of care are showing initial improvements (6), (7).

A systematic review of 55 studies at health stations and hospitals showed a positive relationship between patient experience, patient safety, and clinical efficacy (8). There is a positive relationship between different aspects of patient experience such as effective communication between medical service providers and patients, some health care processes. These procedures are drug treatment compliance, effective clinical results, improving patient safety, and minimizing unnecessary medical services for patients (9). Thus, to improve patient experience, hospital managers should combined with other quality management methods, will provide a general picture of healthcare. Some studies around the world (10) describing inpatient experience focused on assessing patient satisfaction on many different scales.

Son La Lung Hospital, a grade 3 specialized hospital at the provincial level, has 150 beds, performing the task of examining and treating chronic diseases of tuberculosis, lung and related diseases; manage and supervise the TB prevention network in the whole province. Son La Lung Hospital examines and treats more than 2,000 patients each year. Lung hospital in Son La always has to welcome a large number of inpatients who have long-term treatment in a hospital so that their satisfaction is believed to be important to enhance treatment effectiveness (11), (12). To better understand the relationship between the quality of patient experience and the number of procedures performed in a hospital, research has been conducted to describe and analyze factors related to patient satisfaction with their healthcare experience.

METHODS

Study design: This was a cross-sectional study conducted among 245 inpatients treatment at Lung Hospital, in Son La province during the period from June to July 2019. The study selection criteria were: Patients over 18 years old, who had completed the inpatient treatment at Son La Lung hospital, volunteered to participate and had no problems with mental health.

Sample size: 245 patients receiving inpatient treatment at Lung Hospital, in Son La province during the period.

The formula for calculating the estimated sample size for a ratio (13)

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

n: sample size

p: Rates from previous or experimental studies

ε: Desired relative deviation between sample and population parameters.

$Z_{(1-\alpha/2)}$: the confidence interval depends on the statistical significance.

$Z^2_{(1-\alpha/2)} = 1,96$, $\alpha = 0,05$; Choose: $\epsilon = 0,05$; $p = 87,4\%$ (2). Get an additional 10% of the reserve in case the collected votes are faulty, or refuse to participate.

Questionnaire

The toolkit used in the study is a self-filling guidance toolkit developed and developed by the US Medical Quality Research Agency AHQR in Vietnamese version (14), (15). There were 2 parts to the questionnaire: The demographic and the Patient's experiences. The demographic was including age, gender, married status, occupation, education level,

ethnicity, living area, family economic status, using health insurance, treatment fee, treatment time and treatment outcome. Patient experiences survey had 28 items, divided into 7 aspects: Doctor care (3 Items with 4-score scale), Nursing care (4 Items with 4-score scale), Hospital environment (3 Items with 4-score scale), Experience at the hospital (5 Items with 4-score scale and 3 items with yes/no answer), Discharge from the hospital (1 Item with 3-score scale, 2 items with yes/no answer), Overall assessment of the hospital (1 Item with yes/no answer and 1 item with 10-score answer), Understanding of self-care (3 Items with 4-score scale 2 items with 5-score scale and 1 item with yes/no answer). The overall patient's experiences score was calculated by sum all the 28 items scores. The cut-off point was 41 if the patient had more than 41 scores that mean that patient was satisfied and unsatisfied with the other group.

Data analysis

Quantitative data was checked, cleaned, encoded and entered using Epidata 3.1 software, Data was captured and analyzed using R software. We conducted a descriptive analysis that described demographic factors, hospitalization characteristics of subjects and inpatient experience in 7 sections. We also performed a stepwise logistic regression to explain the relationship between overall inpatients' experience and demographic

factors, hospitalization characteristics of subjects. $p < 0.05$ were considered statistically significant.

Research ethics

The study was approved by the Outline Evaluation Council of Hanoi Medical University before implementing the study and approved by the leaders of Son La Lung Hospital. The subject voluntarily participated in the study. All information provided as strictly confidential and was for research purposes only, not for any other purpose.

RESULTS

Respondents' characteristics

Demographic characteristics: Among 245 study subjects, the average age was 51.14 years old, most of them were > 50 years old, male-dominated (61.63%). Almost all subjects were married (91.84%), working (95.1%), most of them had under-university education (91.43%). Other ethnic groups (164 Thai, 16 Mong, 4 Muong) accounted for the majority (76.73%). Living in rural/mountainous areas (73.06%), the average / near-poor family economy (64.9%) accounted for a large proportion.

Hospitalization characteristics of research subjects

Table 1. Clinical characteristics of study subjects (n = 245)

Hospitalization characteristics of subjects	n	%
Health Insurance		
Yes	245	100
Disease treatment		
Lung disease	209	85.31
Tuberculosis	36	14.69
Payment of medical fees		
Self-pay	69	28.16
Free	176	71.84
Time in hospital		
<= 14 days	75	30.61
> 14 days	170	69.39
Mean ± SD	21.63 ± 9.05	
Discharge status		
Cured	176	71.84
Transferred	69	28.16

Results of subjects' characteristics when being treated in hospital: 100% of subjects had health insurance. The majority of subjects were treated for lung diseases (85.31%), length of hospital stayed days >

14 days (69.39%), being discharged with cured condition (71.84%), and free of charge (71.84%).

The patient's experiences

Table 2. Total scores of inpatients' experiences

Overall (N=245)	
Total score	
Mean (SD)	39.7 (6.13)
Median (Min, Max)	39.0 (22.0, 57.0)
Group of score	
Satisfied	80 (32.7%)
Unsatisfied	165 (67.3%)

The results showed that the total score of inpatients' experiences ranged from 22 points to 57 points and the mean of it was 39.7 (6.13) points. Subject's experience scores were divided into 2 groups, satisfied group

accounted for 32.7% and the percentage of the unsatisfied group was 67.3%.

Some of factors related to the patient's experiences.

Table 3. The associated between inpatients' experiences and characteristics of inpatients (n = 245)

Factors associated	Overall inpatients' experience (Satisfied vs Unsatisfied)		
	OR	95% CI	p-value
Gender (Female vs Male)	1.134	0.784 - 0.997	0.045
Married status (Married vs Single/Divorced)	1.210	0.970 - 1.510	0.092
Occupation (Employee vs Unemployee)	1.240	0.937 - 1.640	0.133
Living area (Urban vs Rural/Country side)	1.190	1.010 - 1.400	0.040
Family economy status (Normal vs Poor)	1.180	1.010 - 1.370	0.037

As compared to men, a higher total score of women was (OR: 1.134; 95% CI: 0.284-0.997). The urban area group's score was 1,190 times higher than that of those who live in rural and mountainous areas (95% CI: 1,010 - 1,400). The middle-income group had more positive experience than the low income group (OR: 1.180; 95% CI: 1.010 - 1.370).

DISCUSSION

In the study, the general information section showed that 57.96% of the subjects are > 50 years old, 91.84% are married, 91.43% of the subjects have below university education, these characteristics have a higher rate than the study by Kyle A. Kemp et al (2015) (16). In the study

by Kyle A. Kemp et al. (2015), the percentage of female patients and the number of hospitalization time <3 days accounted for a large proportion, this result was different from the results of this study in which about 61.63% of subjects were men. The mean of hospital staying days was 21 days (69.39% was hospitalization > 14 days), higher than that of the study by Kyle A. Kemp et al (2015) (16). Due to the specific characteristics of acute or chronic respiratory diseases treatment in Lung hospital, especially chronic lung-related diseases, the duration of inpatient treatment is much longer than that of other speciality hospitals. All of our subjects had health insurance when they went to the hospital. The cured rate was high (71.84%), meanwhile, the transferred rate was low (28.16%). This result might prove that that Son La hospital has been implementing policies

on raising quality and customer satisfaction, towards becoming a qualified hospital.

The regression model has shown a relationship between sex, living area, and economic conditions with the total score of inpatient's experiences. However, Kyle A. Kemp's study (16) illustrated the relationship between age, education level, expenses and services of provider and length of hospitalization time. inpatient treatment. In a previous study (17), women had significantly lower experience's score ($P = 0.007$) than men, especially women with higher education level and women between the ages of 18 and 44. This study showed that gender influenced the total score of inpatients' experiences, women had better experiences than men. Compared to men, women use more health care services (18), so they have more opportunity to try new services, this could affect their experience.

Rural residents are less likely to receive health care programs than townsman, this could be the result of limitations of accessing healthcare in rural areas (19). Son La province is a mountainous region with difficult travelling conditions, which makes patients who live in rural areas find difficulty in accessing medical facilities. Inequality between rich and poor was found in many figures related to efficiency, cost, and access in both urban and rural areas (20). In this study, the middle-income group had a better experience than low-income group. This might due to because of some health services could not be covered by insurance, in some case, patients had to pay for it. Therefore, the poor group had little chance to experience health services that are not on the list of health insurance coverage.

Limitations and recommendations

There were some limitations in our study. Firstly, this study is a descriptive cross-sectional study so that it has not shown a specific cause-and-effect relationship between factors related to

patient experience, the results may be influenced by confounding factors, there might conduct vertical research or prospective research in the future to clarify. Next, the sample size of the study is limited to one province, so it is necessary to expand the study area to give more objective results. Thirdly, the study was conducted at Son La Lung hospital, study subjects were limited to one group of diseases (respiratory diseases), the further studies need to be collected on many groups of diseases to conduct a control.

CONCLUSION

The study revealed a median score of 22 to 57 points in the hospital encounter and a mean of 39.7 (6.13) points in the clinic. The perception results of the subjects were split into 2 categories, 32,7% for the satisfied group and 67,3% for the unsatisfied group. The study found that the overall score of hospital experiences in Lung's hospital was influenced by ethnicity, living areas, and economic conditions. As compared to men, there was a higher total score of women (OR: 1.134; 95% CI: 0.284-0.997). The urban area group's score was 1,190 times higher than that of those who live in rural and mountainous areas (95% CI: 1,010 - 1,400). The middle-income group had more positive experience than the low-income group (OR: 1.180; 95% CI: 1.010 - 1.370). There have been some limitations in our research, the findings could be skewed by confounding factors, vertical studies or prospective research might be conducted for clarification. Further studies on several disease types should be collected to conduct a control.

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