Associated Factors Inpatient Satisfaction With Hospital Health Care Education: A Cross-Sectional Study

Nguyen Thi Thuy Trang[1], Nguyen Van Tuan[1*], Nguyen Viet Phuong[1], Quach Tan Dat[2], Nguyen Hoang Sinh[3], Nguyen Thi Bich Giang[4], Ho Van Duc[5], Wantonoro[6]

[1]Faculty of Nursing and Medical Technology, Can Tho University of Medicine and Pharmacy, Can Tho City, Vietnam
[2]Department of Cardiology – Interventional Cardiology, Hoan My Cuu Long Hospital, Can Tho City, Vietnam
[3]Faculty of Engineering and Technology, Nam Can Tho University, Can Tho City, Vietnam
[4]Department of Finance and Accounting, Can Tho University of Medicine and Pharmacy Hospital, Can Tho City, Vietnam
[5]Department of Interventional Cardiology and Neurology, Can Tho University of Medicine and Pharmacy Hospital, Can Tho City, Vietnam
[6]Department of Nursing, Universitas' Aisyiyah Yogyakarta, Indonesia
[*]Corresponding author's: nvtuan@ctump.edu.vn; ORID: https://orcid.org/0009-0004-5206-015X
Authors:
Nguyen Thi Thuy Trang: ntttrang@ctump.edu.vn; ORID: https://orcid.org/0009-0004-5206-015X
Nguyen Viet Phuong: nvphuong@ctump.edu; ORID: https://orcid.org/0000-0003-3201-9761
Quach Tan Dat: drdatquach@gmail.com; ORID: https://orcid.org/0009-0001-6318-7760
Nguyen Hoang Sinh: nhsinh@nctu.edu.vn; ORID: https://orcid.org/0009-0009-1301-4034
Nguyen Thi Bich Giang: ntbgiang.bv@ctump.edu.vn; ORID: https://orcid.org/0009-0005-1820-6706
Ho Van Duc: hvduc.bv@ctump.edu.vn; ORID: https://orcid.org/0009-0002-9188-5491
Wantonoro: wantoazam@unisayogya.ac.id; https://orcid.org/0000-0001-9662-6427

Keywords:

Inpatients, Health Care Education, Satisfaction.

Abstract

Background: Healthcare education plays an important role in helping individuals and communities improve their health through disease prevention, monitoring, treatment, and prevention of complications.
Objectives: The study explored several associated factors on inpatient satisfaction with hospital healthcare education.
Methods: A cross-sectional descriptive study design on 210 inpatients was conducted. The Patient Education Satisfaction Scale (PESS) was applied to assess the satisfaction with healthcare education of inpatients.
Results: The percent of satisfaction with health education activities of inpatients was 82.2%, with a total average score of 123.3 ± 23.21. The education level, the occupation and number of hospitalizations of patients, health care educator, the implementation of health education and subjects implementing health care education were found associated with inpatient satisfaction with health care education activities of medical staff.
Conclusion: There were several factors associated to inpatient satisfaction with health education activities. Therefore, therapists and caregivers need to pay attention to this issue to have effective intervention strategies to further improve patient satisfaction in the future.

1. INTRODUCTION

Health care education is one of the core activities in the health and medical care system, contributing to raising awareness, changing behavior and improving health for individuals and communities. "Consciously constructed opportunities for learning involving some form of communication designed to improve health literacy, including improving knowledge, and developing life skills, which are conducive to individual and

community health" (Geneva, 1998). The WHO Health Promotion Glossary characterizes health care education as more than the mere transmission of health-related information, emphasizing its role in "fostering the motivation, skills, and confidence (self-efficacy) necessary to take action to improve health". It underscores "The communication of information concerning the underlying social, economic, and environmental conditions impacting on health, as well as individual risk factors and risk behaviors, and use of the health care system". The primary objective of health care education is, therefore, not solely to enhance knowledge regarding personal health behaviors but also to develop competencies that "demonstrate the political feasibility and organizational possibilities of various forms of action to address social, economic, and environmental determinants of health". Furthermore, health literacy is defined as "the degree to which people are able to access, understand, appraise, and communicate information to engage with the demands of different health contexts in order to promote and maintain good health across the life-course" (Kwan et al., 2006). Many studies have demonstrated the effectiveness of health education in the community as well as in hospitals. According to a study by Tran Do Hung et al., it was shown that educational communication plays an important role in Hand-foot-mouth disease prevention through raising awareness, attitudes, and disease prevention for mothers who directly care for children under 5 years old. Mothers who received educational communication improved 2.79 times, correct attitudes improved 2.84 times, and practices improved 1.83 times compared to those who did not receive educational communication (Tran et al., 2021). In particular, in the hospital environment, health care education not only helps patients understand their health status and comply with treatment, but also reduces complications and readmissions (Alhassoon et al., 2022). However, the effectiveness of this activity depends largely on patient satisfaction factor reflecting the quality and appropriateness of the content and methods of education.

In Vietnam, although health care education has been emphasized in medical facilities, the level of patient satisfaction with this work has not been fully studied, especially among inpatients. In 2022, in a publication by author Tran Thi Tuyet Phung et al., a study on satisfaction of patients health insurance examination and treatment at Can Tho University of Medicine and Pharmacy Hospital showed that the overall satisfaction rate with drug dispensing of patients for outpatient examination and treatment with health insurance was 80.0% and it was necessary to increase the number of pharmacists dispensing and providing advice on drug use to patients to increase patient satisfaction (Phung et al., 2022).

Various factors, including education level, demographic characteristics, educational content, the role of medical staff, and communication methods were reported in patient satisfaction. Identifying these factors is essential for enhancing healthcare education effectiveness, improving service quality, and meeting patient needs. Therefore, this study investigated factors associated with inpatient satisfaction with healthcare education at a hospital.

2. METHODS

Study design

The study was designed as a cross-sectional investigation, in which 210 patients aged 18 years and older were sampled by non-probability convenience sampling scheme.

Setting

The study setting was a university hospital in Can Tho City, Vietnam.

Research Subject

The study was performed in June 2023 on 210 patients who were hospitalized for 2 days or more, were preparing to be discharged or had an expected discharge notice.

Inclusion and Exclusion Criteria

Inclusion criteria: Inpatients aged 18 years or older who provided informed consent to participate in the study. Exclusion criteria: Patients who were in a serious, emergency stage; treated at the Emergency Department, Anesthesia and Resuscitation - Intensive Care; or had mental disorders, dementia, deafness, inability to answer interviews, inability to read and answer questionnaires and did not agree to participate in the study were excluded.

Instruments

A questionnaire was designed to collect data related to anthropometric factors, health education factors and hospitalization. To investigate the implementation of health care education for inpatients in hospitals, we used a questionnaire compiled based on regulations on patient care in hospitals and Circular No. 31/2021/TT-BYT of the Ministry of Health on Regulations on nursing activities in hospitals, Decision No. 6858/QD-BYT dated November 18, 2016 of the Ministry of Health on promulgating standards for hospital quality management in Vietnam (Health, December 28, 2021), (Health, November 18, 2016). The questionnaire consisted of 9 questions rated on a 5-point Likert scale (1 = Not implemented, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always). The maximum total score is 45 points. Raw scores were converted to percentages for ease of interpretation and differentiation between implementation levels. Higher scores indicated better implementation of health care education for patients. The instrument used in this study was the assessment of patient satisfaction with health care education communication activities using the PESS scale with 30 questions (Cronbach's α value of the scale was 0.93), it was rated on a 5-point Likert scale (1 = completely dissatisfied, 2 = Dissatisfied, 3 = Normal, 4 = Satisfied, 5 = Completely very satisfied). The maximum total score was 150 points. Higher scores indicated higher patient satisfaction with health care education communication activities. The overall satisfaction score was calculated based on the total score achieved for each answer. Therefore, a score of 3 “Normal” is considered the cut-off point for good or poor satisfaction. Raw scores were converted to percentages for ease of interpretation and differentiation between the satisfaction levels of study participants (Çiftçi et al., 2022).

Sampling technique

A non-probability convenience sampling method was utilized, adhering strictly to the predefined inclusion and exclusion criteria. The research team obtained inpatient lists from clinical departments, systematically screened eligible participants, and directly approached them to seek informed consent. Only patients who voluntarily agreed to participate were enrolled in the study.

Data Analysis

Data analysis was performed using SPSS software version 27.0. Descriptive statistics were utilized to characterize the study population, with categorical variables expressed as frequencies and percentages, while continuous variables were presented as means and standard deviations. Inferential statistical analyzes were conducted to explore associations between inpatient satisfaction and various characteristics. Independent t-tests and one-way analysis of variance (ANOVA) were utilized to compare mean satisfaction scores across distinct demographic subgroups, including age categories, educational level, and occupational classifications.... Pearson's correlation was employed to evaluate the linear relationship between inpatient satisfaction levels and the Implementation of Health Care Education by medical staff. Statistical significance was determined at $p < 0.05$.

Ethical Consideration

This study received ethical approval from the Institutional Review Board of Can Tho University of Medicine and Pharmacy (Approval No. 22.077.GV/PCT-HĐĐĐ, issued on November 30, 2022). Written informed consent was obtained from all participants prior to their inclusion in the study.

3. RESULTS

Sample Characteristics

Through our research results, we found that most of the research subjects were Kinh ethnic group with 96.2% and the non-religious group accounted for the highest proportion of 82.4% and 3.8% were other ethnic groups. In our study, inpatients under 60 years old accounted for a higher proportion than other age groups with 57.1%, the average age of inpatients in the study was 54.4 ± 16.1, the proportion of inpatients who were female accounted for 64.3%, higher than that of males who accounted for only 35.7%. Patients in the study were mainly from countryside (54.8%) and most had primary education or higher, of which 53.3% had higher secondary education. The number of the study participants had academic level from primary school or higher (illiteracy accounts for only 4.8%), most of them have jobs (unemployment rate was only 1.4%), with 54.3% going to the hospital for treatment for the first time.

93.8% of patients received health education through personal consultation; 6.2% of patients received health education through patient council meetings. Doctors provided health care education to patients 64.6%

and nurses 29.2%, other 6.3%. Doctors were the most preferred by patients with 45.1%, followed by nurses with 31.7%.

The implementation of health care education for inpatients in hospitals

Table 1. The implementation of health care education for inpatients in hospitals (n = 210)

Job content	Never	Rarely	Occasionally	Regularly	Always	Mean ± SD
			n (%)			
• Instruct inpatients on hospital rules and regulations	14 (6.7)	8 (3.8)	-	-	188 (89.5)	4.6 ± 1.13
• Care and encouragement	3 (1.4)	10 (4.8)	3 (1.4)	-	194 (92.4)	4.8 ± 0.82
• Nutrition	3 (1.4)	11 (5.2)	-	-	196 (93.3)	4.8 ± 0.81
• Personal hygiene	9 (4.3)	8 (3.8)	-	-	193 (91.9)	4.7 ± 0.98
• Rest and exercise	6 (2.9)	8 (3.8)	-	-	196 (93.3)	4.8 ± 0.87
• Self-monitoring, self-care	10 (4.8)	17 (8.1)	-	-	183 (87.1)	4.6 ± 1.14
• Medication	6 (2.9)	11 (5.2)	-	-	193 (91.9)	4.7 ± 0.93
• Explanation and notification before performing infusion, paraclinical	17 (8.1)	13 (6.2)	-	-	180 (85.7)	4.5 ± 1.27
• Risk factors and disease prevention	20 (9.5)	11 (5.2)	-	-	179 (85.2)	4.5 ± 1.31
Total			**91.6%**			**41.2 ± 7.38**

Note: SD: standard deviation

Healthcare education content for inpatients was implemented quite fully, with a mean score of 41.2 ± 7.38 (91.6%).

Inpatient satisfaction with health care education in hospitals

Table 2. Inpatient satisfaction with health care education

Content	Mean ± SD
I think that I can use the education I have received in my daily life even after being discharged	4.8 ± 0.78
My lack of knowledge and curiosity about the issue has been completely resolved	3.6 ± 1.12
I think I have reached the knowledge/skills I wanted to obtain from education	3.5 ± 1.13
I think that appropriate feedback is given in the education	4.9 ± 0.52
I think the physical conditions (sound, temperature, light, etc.) of the educational environment were good	3.5 ± 1.13
The health professional providing the education had good performance throughout the education	3.5 ± 1.30
The health professional provides the education motivated me throughout the education	4.8 ± 0.78

Content	Mean ± SD
At the end of the education, the subject summary was created	4.7 ± 0.88
I think the instructor has sufficient knowledge of the subject she/he is teaching	3.6 ± 1.19
I think the instructor makes short, understands, and clear sentences. sentences	4.9 ± 0.53
The healthcare professional providing the education constantly tried different methods to teach the subject	4.6 ± 1.12
I was satisfied with the communication of the healthcare professional providing the education	3.6 ± 1.12
I think the healthcare professional provides the education behaved respectfully towards me and my relative	3.5 ± 1.09
During the education, I was constantly asked questions to attract my attention	3.7 ± 1.07
I think that materials (model, brochure, poster, video, etc.) and methods (discussion, lecture, question answer, etc.) are used in education to facilitate my understanding of the subject	4.8 ± 0.71
I can understand the language used in education	4.8 ± 0.87
I think the education was generally efficient	3.5 ± 1.21
I think the content of the education suits me	4.5 ± 0.68
I was able to participate actively during the education	4.8 ± 0.82
I think the duration of the education is sufficient	3.6 ± 1.19
My family/caregiver were also given education and they were giving a voice	3.7 ± 1.14
I was given the opportunity to ask enough questions during education	4.6 ± 1.11
I think the topics covered in the education can be useful for me	3.6 ± 1.13
I think the topics covered in the education can be useful for me	3.7 ± 1.07
The educational content, time and place were suitable for me	3.5 ± 1.30
First of all, education was given on subjects I needed to learn about	3.7 ± 1.14
Before starting education my readiness for training was taken into consideration by asking whether I had pain, discomfort, or any other problem	4.8 ± 0.82
The education was held at my convenience	4.8 ± 0.71
The education begins after they evaluate my knowledge of the issue	4.1 ± 1.06
It was agreed with me on which subjects I needed education	3.5 ± 1.21
Total **82.2%**	**123.3 ± 23.21**

Note: SD: standard deviation

Inpatient satisfaction with health care education activities was 82.2% with a total average score of 123.3 ± 23.21.

Factors Associated on Inpatient Satisfaction with Hospital Health Care Education

Table 3. Association between satisfaction with health care education of inpatients and characteristics of age, gender, ethnicity, religion, and place of residence of patients (n=210)

Factors		Mean ± SD	t	p
Gender	Male	124.59 ± 21.97	0.604	0.547
	Female	122.57 ± 23.92		
Age	< 60 years old	125.53 ± 24.08	1.624	0.106
	≥ 60 years old	120.30 ± 21.75		
Ethnicity	Kinh	123.90 ± 23.17	1.928	0.055
	Other	107.86 ± 19.53		
Religion	None	124.56 ± 20.99	1.730	0.085
	Other	117.32 ± 31.26		
Place of residence	City	121.91 ± 21.17	- 0.791	0.430
	Countryside	124.42 ± 24.80		

Note: SD: standard deviation; t-test.

There was no statistically significant difference between inpatient satisfaction and characteristics of age, gender, ethnicity, religion, and place of residence of the inpatient.

Table 4. Association between inpatient satisfaction with health care education and characteristics of education level and current job (n=210)

Factors		Mean ± SD	f/t	p	
Education level	(1) Illiterate	99.40 ± 21.06	6.272[f]	**< 0.001**	3 > 1,2
	(2) Elementary	117.87 ± 26.15			
	(3) High school/ Above High School	127.05 ± 20.75			
Job	Steady Job	119.61 ± 23.42	- 3.011[t]	**0.003**	
	Unstable Job	129.38 ± 21.65			

Note: SD: standard deviation; f: one-way ANOVA test; t: t-test.

There was a significant difference between education level and satisfaction of inpatients, the higher the education level, the higher the average satisfaction score of health care education ($f = 6.272$; $p < 0.001$). There was a significant difference between work and satisfaction of inpatients ($t = - 3.011$; $p = 0.003$), patients with unstable jobs (129.38 ± 21.65) had a higher average satisfaction score of health care education than patients with stable jobs (119.61 ± 23.42).

Table 5. Association between inpatient satisfaction with health care education and number of hospitalizations, length of stay, subjects of medical examination and treatment, and form of health care education (n=210)

Factors		Mean ± SD	f/t	p	
Health Insurance	Yes	123.22 ± 24.52	0.098[t]	0.922	
	No	123.65 ± 14.93			
Number of Hospitalizations	(1) First Time	128.25 ± 17.30	11.841[f]	**< 0.001**	1,2 > 3
	(2) 2nd Time	127.08 ± 13.46			
	(3) ≥ 3 Times	111.59 ± 32.11			
Number of Hospitalization Days	< 4 Days	119.67 ± 25.92	- 1.891[t]	0.060	
	≥ 4 Days	125.79 ± 20.87			

Note: SD: standard deviation; f: one-way ANOVA test; t: t-test.

There was a significant difference between hospitalizations and inpatient satisfaction. The more times an inpatient was hospitalized, the lower the average satisfaction score with health care education ($F = 11.841$; $p < 0.001$).

Table 6. Association between inpatient satisfaction with health care delivery and health care educators

Factors		Mean ± SD	t/r	p
Form of Health Care Education	Individual	124.99 ± 19.52	- 2.021[t]	0.066
	Group	97.46 ± 48.86		
Implementation of Health Care Education			0.543[r]	**< 0.001**
Health Care Educator	Doctor	126.14 ± 18.88	3.155[t]	**0.004**
	Nurse	117.94 ± 19.94	-2.887[t]	**0.004**
	Other	130.44 ± 14.28	1.371[t]	0.172

Note: SD: standard deviation; t: t-test; r: Pearson correlation.

There was no significant difference in the form of health education that inpatients received during their hospitalization. However, in patients who received individual health education had a higher mean satisfaction score than those who received group health education ($t = -2.021$; $p = 0.066$). There was a statistically significant difference between the mean satisfaction scores of inpatients for the subjects implementing health care education, namely doctors ($t = 3.155$; $p = 0.004$) and nurses ($t = -2.887$; $p = 0.004$). There was a statistically significant positive correlation between patient satisfaction with health education and the implementation of health education by medical staff ($r = 0.543$; $p < 0.001$), the better and more complete the implementation of health education, the higher the patient satisfaction

4. DISCUSSION

The implementation of health care education for inpatients in hospitals

In our study, the results from Table 1 show that the health care education content for inpatients were implemented quite fully, with a mean score of 41.2 ± 7.38 (91.6%). The results of our study are similar to the study of Nguyen Thi Hoai Trang et al. (2020), patients assessed the implementation well (reaching a rate of 97.5%) on the issue of nurses' explanation and guidance before performing procedures, infusions, and paraclinical techniques, equivalent to our study also reaching over 90% (the level was always 86.2% and often 5.7%). Regarding instructions and explanations to patients about drug use, our results were 97.2% (always 92.4% and often 4.8%), similar to author Nguyen Thi Hoai Trang et al. (96.5%), this result is also similar to the study of Vuong Thi Nhat Le et al. (2022) conducted at Cho Ray Hospital with 93.1% (Le et al., 2022), (Trang et al., 2020). The issue of caring for and encouraging patients 92.4%; guiding and disseminating regulations, rights and obligations for patients when hospitalized 89.5%; guiding patients on methods to improve health and prevent diseases 85.2%; nutritional regimen 93.3%; guiding patients on self-monitoring and care during hospitalization 87.1%; personal hygiene instructions 91.9%; rest and exercise regimen 93.3% are all similar to the research results of author Nguyen Thi Hoai Trang et al. (2020) respectively 95.9%; 91.8%; 91.3%; 90.8%; 88.8%; 84.2%; exercise and daily activities reached 76.6% (Trang et al., 2020).

Inpatient satisfaction with health care education in hospitals

According to Table 2, the results of our study showed that patient satisfaction with health care education activities was very high (82.2%), with a total average score of 123.3 ± 23.21. This was a positive result, showing that the health care education program was bringing real value to patients. Our primary findings aligned with numerous national and international studies. For instance, this result was consistent with a study involving 238 hospitalized patients across two provinces in Saudi Arabia, which reported high levels of patient satisfaction with nursing care (Alharbi et al., 2023). According to Nguyen Thi Hoai Trang et al. (2020), up to 95.9% of patients were satisfied and very satisfied when participating in health care education consultation sessions in clinical departments, of which 4.1% of patients were still dissatisfied. Our study results were lower than those of to Nguyen Thi Hoai Trang et al. with the average score of inpatient satisfaction with health care education being 123.3 ± 23.21 points (up to 82.2%). This is because doctors and nurses often combine health care education in daily professional care and treatment activities, so they have not yet used illustrations to help patients understand the issues more easily (Trang et al., 2020). Besides, according to author Nguyen Thi Bich Nga et al. (2022), the health care education activities of nurses were also highly appreciated by patients (63% of patients were very satisfied and 37% of patients were satisfied) (Nga, 2022). Various studies have highlighted the use of medical and technical terms as the most frequently mentioned barrier to health care education. Comparing this result with previous studies, it was found that the level of poor patient satisfaction with health care education has decreased significantly. This is an encouraging sign, but healthcare professionals still need to make further efforts to improve their skills and the quality of health care education. In recent times, many studies have been conducted and reported on health care education activities for patients in hospitals in Vietnam. Many factors affect the reduction of patient satisfaction with health care education. According to Doan Phuoc Thuoc et al. (2019), 73.6% of inpatients were generally satisfied with health care education work and author Nguyen Thi Hang et al. (2020) at 108 Central Military Hospital, the overall satisfaction rate of patients with health counseling and education work of nurses was 88.9%; but 11.1% of patients were still not satisfied or found it normal (Hang et al., 2020), (Thuoc et al., 2020). This rate is lower than our study, this difference may be due to the fact that the team of doctors and nurses at the Hospital are

lecturers at the University, which is a favorable condition for nurses and midwives to regularly update and have information on health care education (diet, exercise, medication use, etc.); the nursing department of the Hospital directly guides the entire team of nurses and midwives in a number of health care education counseling methods in many different forms (direct counseling, organizing health care education sessions) and periodically supervises and trains; the majority of the nursing team is young, with university and college degrees, just graduated, so their health care education counseling skills are very good. In addition, the Hospital has also taken measures to promote departments to design leaflets and posters as a means to communicate health care education to patients more easily and conveniently. According to AL Mahameed Mahmoud Ibrahim et al. (2020) when implementing health care education by incorporating simple changes into educational activities, higher satisfaction rates can be achieved among participants as well as health care education staff (AlMahameed et al., 2023).

Factors Associated on Inpatient Satisfaction with Hospital Health Care Education

In our study, there was no statistically significant difference between inpatient satisfaction with health care education at the hospital and the characteristics of age, gender, ethnicity, religion, place of residence of the patient, health insurance and length of stay (Table 3). However, according to Table 5, we noted that there was a significant difference between the number of hospitalizations and patient satisfaction, the more times the patient was hospitalized, the lower the average satisfaction score with health care education ($f = 11.841$; $p < 0.001$). Our study is similar to the study by Sabo, K.G et al. (2023) in Ethiopia, patients with a hospital stay of 1 to 3 days were 1.98 times more likely to be satisfied than those with a hospital stay of 4 days. The results also showed that patients who were hospitalized for more than 7 days were not satisfied with the service (Sabo et al., 2023). The explanation for this may be related to the fact that as the length of hospital stay increases, the cost of medicines, hospital beds, food and other necessities increases. Therefore, patients may have financial problems and therefore are likely to be dissatisfied. On the contrary, this finding is inconsistent with the study in Indonesia by Akbar, Prima Soultoni et al. (2017), which found that patient satisfaction increased as the length of hospital stay increased (Akbar et al., 2017). This difference may be due to differences in study populations and sampling techniques.

The present study demonstrates a statistically significant association between educational attainment and inpatient satisfaction with healthcare education ($F = 6.272$; $p < 0.001$) in Table 4. Patients with higher levels of education exhibited greater satisfaction, suggesting that increased health literacy enhances comprehension, engagement, and perceived value of educational interventions delivered by healthcare professionals. These findings are consistent with prior research emphasizing the critical role of health literacy in shaping patient satisfaction, adherence to medical recommendations, and overall healthcare experiences. Notably, Assari et al. reported a similar trend, wherein higher educational attainment was positively correlated with greater satisfaction with healthcare services among White patients but not among African American patients, highlighting potential disparities in healthcare perceptions across different racial and ethnic groups (Assari, 2020). There was a significant difference between work and satisfaction of inpatients ($t = - 3.011$; $p = 0.003$), patients with unstable jobs (129.38 ± 21.65) had a higher average satisfaction score of health care education than patients with stable jobs (119.61 ± 23.42).

The present study found no statistically significant difference in the form of health care education that patients received during hospitalization ($t = -2.021$; $p = 0.066$) in Table 6. This suggests that the mode of education delivery—whether through verbal instruction, written materials, or multimedia resources—did not substantially influence patient satisfaction. However, significant differences were observed in patient satisfaction depending on the health care educator. Patients who received education from doctors reported higher satisfaction scores ($t = 3.155$; $p = 0.004$), whereas those educated by nurses exhibited comparatively lower satisfaction ($t = -2.887$; $p = 0.004$). A strong positive correlation was identified between the overall implementation of health care education and patient satisfaction ($r = 0.543$; $p < 0.001$). This finding suggests that the quality and consistency of health education play a crucial role in shaping patient perceptions of their care experience. The higher the effectiveness of health education implementation, the greater the patient satisfaction with health care communication in the hospital setting. These results are consistent with prior studies, such as that of Akbar, Prima Soultoni et al. (2017), which highlighted key factors influencing patient satisfaction, including education level, duration of hospitalization, and the quality of health care education provided (Akbar et al., 2017). However, our findings contrast with those of Heshmati Nabavi et al. (2016), who reported higher patient satisfaction scores for doctors (66.2 ± 23.4) compared to nurses (74.1 ± 24.1), with a statistically significant difference ($p = 0.02$) (Heshmati Nabavi et al., 2016). This discrepancy may be

attributed to differences in health care settings, institutional policies, and variations in the methodology used to assess patient satisfaction. The perception of health care professionals' roles and communication styles may also contribute to these differing results. Overall, these findings underscore the importance of optimizing health care education strategies to enhance patient satisfaction. Future research should explore tailored education approaches that account for patient preferences, health literacy levels, and the role of multidisciplinary teams in delivering effective health education. Standardized protocols and patient-centered education interventions may help bridge gaps in satisfaction and improve overall health care experiences. This suggests that improved patient satisfaction may be an important reason to provide health care education programs to patients, especially as the health system moves toward a more competitive, regulated environment.

5. CONCLUSIONS

The study findings indicated that patients exhibited a positive attitude toward health education, with a high level of satisfaction regarding these activities. The majority expressed a strong preference for receiving health information and education from physicians. Higher education levels were associated with higher mean satisfaction scores for health education but longer hospital stays were associated with lower mean satisfaction scores for health education. A significant positive correlation was observed between patient satisfaction and the effectiveness of health education implementation, suggesting that better execution of health education programs corresponded to higher patient satisfaction with health communication activities in the hospital setting.

6. ACKNOWLEDGEMENTS

We would like to express our sincere thanks to Can Tho University of Medicine and Pharmacy and Hospital of Can Tho University of Medicine and Pharmacy for providing funding and facilitating the process of collecting research samples. This valuable support has significantly contributed to the implementation of the study on inpatient satisfaction with health care education activities at the hospital. The research results not only reflect the quality of health care education activities but also provide a scientific basis for improving this work, contributing to improving the quality of health care for the community.

REFERENCES

1. Akbar, P. S., Adriani, R. B., & Murti, B. (2017). The Influence of Personal Factors of the Patient, Doctor, Payment Method and Type of Class to the Quality and Satisfaction of Inpatient Care Services in Dr. Moewardi Hospital Surakarta. Journal of Health Policy and Management, 2(1), 1-15. https://thejhpm.com/index.php/thejhpm/article/view/20
2. Alharbi, H. F., Alzahrani, N. S., Almarwani, A. M., Asiri, S. A., & Alhowaymel, F. M. (2023). Patients' satisfaction with nursing care quality and associated factors: A cross-section study. Nursing Open, 10(5), 3253-3262. https://doi.org/https://doi.org/10.1002/nop2.1577
3. Alhassoon, B. S. F., Alhayyaf, H. H., Alhajji, R. A. M., Asiri, F. H., Alomani, F. M., Alsharari, F. H. A., Alsamaeel, S. H., Almosfer, F. S. F., E, A. Q. A., Alethan, H. A. R. A., Alessa, A. A. A., Alsalameen, A. H. A., & Alradwan, H. A. (2022). The effectiveness of patient education in improving health outcomes. Journal of Population Therapeutics and Clinical Pharmacology, 29(04), 2174-2179. https://doi.org/https://doi.org/10.53555/jptcp.v29i04.5308
4. AlMahameed, M. I., Kakish, S. F., & Abu-Shaheen, A. (2023). Experience of Conducting a Group Patient Education Program at a Tertiary Hospital in Riyadh. Saudi Journal of Health Systems Research, 4(2), 64-73. https://doi.org/10.1159/000534870
5. Assari, S. (2020). Educational Attainment and Satisfaction With the Healthcare System: Racial Variation. Hospital Practices and Research, 5, 141-149. https://doi.org/10.34172/hpr.2020.27
6. Çiftçi, B., Avşar, G., & Sarıalioğlu, A. (2022). A psychometric assessment on patient education: Developing a satisfaction scale. Perspect Psychiatr Care, 58(4), 2237-2245. https://doi.org/10.1111/ppc.13052
7. Geneva, W. (1998). Health promotion glossary. https://iris.who.int/bitstream/handle/10665/64546/WHO_HPR_HEP_98.1.pdf?sequence=1
8. Hang, N. T., An, P. T. P., Tuoi, N. T., Anh, V. N., Linh, B. D., & Tho, D. T. (2020). The current status of health education of nurses and patient satisfaction at the Gastrointestinal Surgery Institute, 108 Military Central Hospital, 2020. Journal of 108 - Clinical Medicine and Phamarcy, 224-229.

9. Health, M. o. (December 28, 2021). Decision No. 31/2021/TT-BYT of the Ministry of Health on Regulations on nursing activities in hospitals (Quy định hoạt động điều dưỡng trong bệnh viện). Bộ Y tế
10. Health, M. o. (November 18, 2016). Decision No. 6858/QĐ-BYT of the Ministry of Health on promulgating the set of criteria for quality of Vietnamese hospitals (Quyết định ban Hành bộ tiêu chí chất lượng bệnh viện Việt Nam).
11. Heshmati Nabavi, F., Rajabpoor, M., Mahmoodi, J., Pouresmail, Z., & Mikaniki, T. (2016). Comparing the Patient's Satisfaction With Educational Performance of the Physicians and the Nurses [Research Article]. Jundishapur J Chronic Dis Care, 5(1), e60306. https://doi.org/10.17795/jjcdc-29190
12. Kwan, B., Frankish, J., & Rootman, I. (2006). The development and validation of measures of "health literacy" in different populations. Vancouver, University of British Columbia Institute of Health Promotion Research and University of Victoria Centre for Community Health Promotion Research. https://blogs.ubc.ca/frankish/files/2010/12/HLit-final-report-2006-11-24.pdf
13. Le, V. T. N., Phong, V. T., Huyen, P. T., Chi, L. T. M., & al, K. T. e. (2022). Nurses' health education for patientsand their relatives at Cho Ray Hospital in the period of 2019 - 2020. Journal Nursing Science, 75-79.
14. Nga, N. T. B. (2022). Situation of health education activities for patients of nursing at National Lung Hospital 2020. Journal of 108 - Clinical Medicine and Phamarcy, 17(DB8), 28-32. https://doi.org/https://doi.org/10.52389/ydls.v17iDB8.1296
15. Phung, T. T. T., Suol, P. T., & Phuc, L. T. (2022). Research on the implementation of drug distribution and satisfaction of patients health insurance examination and treatment at Can Tho University of Medicine and Pharmacy Hospital in 2021. Cantho Journal of Medicine and Pharmacy(52), 224-230. https://doi.org/10.58490/ctump.2022i52.302
16. Sabo, K. G., Mare, K. U., Berhe, H., & Berhe, H. (2023). Factors Affecting Satisfaction With Inpatient Services Among Adult Patients Admitted to Arba Minch General Hospital, Southern Ethiopia: A Mixed Method Study. Health Serv Insights, 16, 11786329231166513. https://doi.org/10.1177/11786329231166513
17. Thuoc, D. P., Lien, D. T. H., Tu, N. V., & Thao, T. T. T. (2020). Assessment of patient's satisfaction of nursing care provided by clinical departments in Hue University of Medicine and Pharmacy Hospital in 2019. Hue journal of medicine and pharmacy, 10 (04), 46-56. https://doi.org/https://www.doi.org/10.34071/jmp.2020.4.6
18. Tran, H., Tran, N., Tran, H., & Nguyen, T. (2021). Effectiveness of Educational Communication in Knowledge, Attitude, and Practice to Hand-Foot-Mouth Disease Prevention of Mother Having Children Under 5 Years Old. Journal of the Medical Association of Thailand = Chotmaihet thangphaet, 104, 1-6. https://doi.org/10.35755/jmedassocthai.2021.08.10816
19. Trang, N. T. H., Huong, N. T. M., Hoa, L. T., Thanh, N. T. P., & Thang, H. X. (2020). Assessment of consultancy and education activities for patients at Hue Central Hospital 2nd branch. Journal of Clinical Medicine - Hue Central Hospital, 63/2020, 102-107. https://doi.org/10.38103/jcmhch.2020.63.16