

EVALUATION OF NURSING CARE QUALITY FOR HEART FAILURE PATIENTS AND RELATING FACTORS AT HANOI HEART HOSPITAL

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ABSTRACT

Objective: To assess the nursing care quality and some factors related to the outcome of care for hospitalized heart failure patients at Hanoi Heart Hospital in 2024.

Method: We performed a cross-sectional study evaluating 21 routine nursing care activities for the level of completion on three days: day 1, day 3, and the day of discharge. We also identified the relevant factors to the patient care outcome. The data was collected from medical records and patient interviews.

Results: Among the total of 156 hospitalized heart failure patients participating in the study, 83.3% of patients received good nursing care at the hospital, while only 16.7% of heart failure patients did not receive adequate nursing care. Factors related to the outcome of patient care include: Age group, gender, socioeconomic status, number of hospitalizations per year, disease duration, and patient satisfaction. ($p < 0.05$).

Conclusion: Proper nursing care for hospitalized.

Keywords: Nursing care for heart failure patients, nursing care, heart failure

I. INTRODUCTION

Heart failure is a common medical issue, which is the consequence of many cardiovascular diseases such as hypertension, coronary artery disease, valvular heart disease, cardiomyopathy, congenital heart disease, arrhythmia. This

health problem is significantly increasing in incidence rate due to an aging population. Worldwide, approximately 23 million people have heart failure. In Vietnam, each year, there are about 550.000 new cases of heart failure diagnosed and this number is predicted to reach 1.5 million per year by 2040 [1]. Nurses play a crucial role in the doctor's urgent treatment. This demands careful assessment, comprehensive monitoring, and swift decision-making.

Caring for heart failure patients is a challenging task with many difficulties, especially due to their high risk of death,

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high mortality, and frequent readmissions. According to research by Minlu Li and colleagues, improving the quality of care and monitoring heart failure patients contributes to reducing in-hospital mortality, shortening hospital stays, reducing early mortality after discharge, and reducing readmission rates [2]. Caring for heart failure patients also helps prevent disease progression, reduce mortality, and prolong life.

In Vietnam, there have been many research topics on patient care in general, but the issue of caring for hospitalized heart failure patients remains an open question. Hanoi Heart Hospital is one of the successful hospitals in managing heart failure patients. The hospital has established a program to manage heart failure patients from inpatient to outpatient care for nearly 4,000 patients. However, there have been no studies evaluating the care of hospitalized heart failure patients.

To evaluate the results of heart failure patient care activities at Hanoi Heart Hospital, thereby making recommendations for better nursing care for heart failure patients, we conducted a study entitled: "Nursing care for heart failure patients and related factors at Hanoi Heart Hospital in 2024" with the objective: *To describe the nursing care activities and some factors related to the outcomes of nursing care for hospitalized heart failure patients at Hanoi Heart Hospital in 2024.*

2. OBJECTIVES AND METHODS

- Research design: Descriptive cross-sectional study.

- Sampling method: Convenience sampling.

- Study population: Heart failure patients hospitalized at the Hanoi Heart Hospital.

○ Inclusion criteria:

- Patients aged 18 and over
- Patients diagnosed with heart failure with $EF \leq 50\%$ on ultrasound
- Patients voluntarily agree to participate in the study

○ Exclusion criteria:

- Patients who are not mentally capable of answering questions
- Patients in medical or surgical emergency conditions

- Research period: from February 2024 to August 2024 at Hanoi Heart Hospital Research protocol:

○ Data collection:

Data will be collected from patient medical records, patient interviews, and family interviews using a questionnaire to be filled in the research medical record. Subsequently, the collected data will undergo statistical analysis.

Patient-related data from medical records: Administrative information, patient status before treatment, evaluation of clinical condition, and laboratory results of patients at three-time points: Admission day (day 1), day 3, and discharge day.

Care-related data from medical records: Vital signs monitoring sheets, patient care sheets, and patient interview results using a questionnaire to collect data on diseases, nursing care activities, and health education counseling provided by nurses to hospitalized heart failure patients at Hanoi Heart Hospital in 2024

Data collection training: Organizing training for interviewers and supervisors

- o Evaluation criteria:

Our study evaluates 21 routine nursing care activities. Each activity is evaluated for the level of care on three days: Day 1, day 3, and the day of discharge. Care activities are considered achieved when nurses perform the above care activities on all three days. Each activity has a specific evaluation level.

- Data analysis and processing:

The collected data is analyzed using medical statistical algorithms with SPSS 20.0 software.

- Ethical Considerations in Research

The study was approved by the Scientific and Ethical Council of Thang

Long University, No. 24030402/QD-DHTL, and was approved for data collection by the Hanoi Heart Hospital administration.

All research subjects will be explained in detail about the purpose and content of the study and will be asked for voluntary participation and cooperation in the research process. The study is conducted with respect for the privacy of the research subjects and with the consent of the research subjects. Information of research participants is processed and published in the form of data, without mentioning personal names. Questionnaires and personal data of research subjects are kept strictly confidential. All collected information is not used for any purpose other than research purposes.

3. RESULTS

3.1. Patient characteristics

Table 3.1. Demographic characteristics of the research subjects

Demographic characteristics		n	Percentage (%)
Age groups	18 - 39	6	3.9
	40 - 59	28	17.9
	≥ 60	122	78.2
Sex	Male	114	73.1
	Female	42	26.9
Ethnics	Kinh	151	96.8
	Others	5	3.2
Areas	Rural	119	76.3
	Urban	37	23.7

The total of 156 research subjects, the highest proportion is in the eldest age group (>= 60 years old) (78.2%), followed by the 40 - 59 age group with 28 people (17.9%),

and the lowest proportion is in the 18 - 39 age group with 6 people (3.9%). Most of the research subjects are male, accounting for 73.1%, while the remaining 26.9% are

female. Almost all research subjects are Kinh ethnic, accounting for 96.8%, with only a very small proportion of other ethnicities at

3.2%. Most patients live in rural areas, accounting for 76.3%, while only 23.7% live in urban areas.

3.2. Results of heart failure patient care

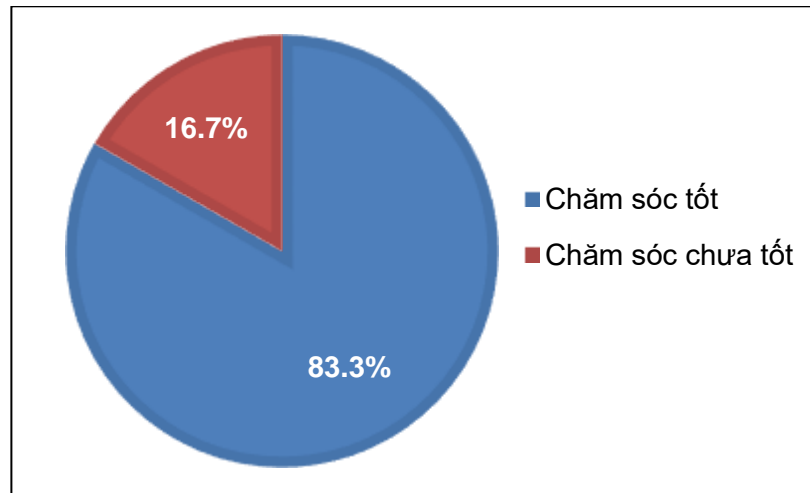


Figure 3.1. Results of heart failure patient care by nurses

The 83.3% of the 156 heart failure patients involved in the study received good nursing care at the hospital. Conversely, 16.7% of the patients did not receive adequate nursing care.

3.3. Factors related to nursing care outcomes

Table 3.2. Factors related to nursing care outcomes

Patient's factors		Outcomes		OR (95%CI)	p
		Adequate n (%)	Inadequate n (%)		
Age group	≥ 60	107 (87.7)	15 (12.3)	3.41 (1.39 - 8.38)	0.006
	< 60	23 (67.6)	11 (32.4)		
Gender	Female	41 (97.6)	1 (2.4)	11,5 (1.5 - 87.9)	0.004
	Male	89 (78.1)	25 (21.9)		
Socioeconomic status	Non-low-income	128 (84.8)	23 (15.2)	8,3 (1.3 - 52.7)	0.008
	Low-income	2 (40)	3 (60)		
Disease duration	< 3 years	107 (93.9)	7 (6.1)	12,6 (4.7 - 33.5)	< 0.001
	≥ 3 years	23 (54.8)	19 (45.2)		
Number of	< 3 times	126 (86.3)	20 (13.7)	9,4	0.002

hospitalizations/year	≥ 3 times	4 (40)	6 (60)	(2.4 - 36.4)	
Patient satisfaction	Satisfied	128 (85.3)	22 (14.7)	11,6 (2.0 - 67.4)	0.001
	Dissatisfied	2 (33.3)	4 (66.7)		

Factors such as age group, gender, economic status, number of hospitalizations, disease duration, and patient satisfaction are related to the outcome of patient care ($p < 0.05$).

4. DISCUSSION

4.1. Characteristics of the study population

The average age of the study population was 68.5 ± 13.7 years. The majority were aged ≥ 60 , accounting for 78.2%. This result clearly reflects the increasing risk of heart failure in the elderly, consistent with many studies in Vietnam and abroad. In the study by La Thi Duong at the Vietnam Heart Institute, 80% of heart failure patients were over 60 years old [3].

The study by Le Thi Hong at Thai Binh University of Medicine and Pharmacy in 2023 also showed a similar result, with 80.2% of heart failure patients aged 60 and over. The clinical characteristics of heart failure patients studied by Nguyen Van Lanh in 2024 also showed similar results to those in our study [4].

In the United States, the American Heart Association (AHA) report also emphasized that about 75% of heart failure patients are over 65 years old, confirming that this is the age group with the highest risk [1].

The increased risk of heart failure among the elderly can be attributed to several factors. These include the

development and progression of cardiovascular conditions like high blood pressure and coronary artery disease over time. Additionally, age-related changes in the heart's structure and function may also contribute to this increased risk, even in individuals without diagnosed cardiovascular diseases.

4.2. Outcomes of heart failure patient care and some related factors

Our study found that the success rate of heart failure patient care by nurses reached 83.3%, which is an encouraging result, reflecting the effectiveness of the applied care methods and the continuous efforts of the nursing team. To better understand the results and their significance in the context of global healthcare, we compared them with similar studies in Vietnam and abroad.

In Vietnam, the study by Nguyen Cong Thanh (2020) at the Geriatric Cardiology Department of An Giang Heart Institute showed that the success rate of nursing care for heart failure patients reached 59.3%. The difference between the success rate of 59.3% in Nguyen Cong Thanh's study and the rate of 83.3% in our study shows a significant improvement in the patient care protocol [6]. This reflects the improvement in training quality and the application of more effective treatment methods. This improvement may be due to the application of more advanced nursing care methods and the application of up-to-date treatment guidelines.

Results showed a significant difference in nursing care outcomes between age groups. Patients aged ≥ 60 had a significantly higher rate of good care compared to those aged < 60 . Several factors may explain this difference, including Elderly patients are often given attention by nurses due to their high risk of complications and their deteriorating health.

Treatment adherence is important: Elderly patients are often more aware of the importance of adhering to medical advice, possibly due to their experience with healthcare or a more serious attitude towards treatment. This can improve the effectiveness of the care process.

Family support is crucial: Elderly patients often receive positive support from their families, helping them adhere better to treatment instructions. The results of Eimer and colleagues' study also support our findings, showing that non-adherence to treatment in elderly heart failure patients can lead to irreversible conditions, reduced lifespan, readmission, and increased treatment costs [7].

Socioeconomic status also affects the quality of healthcare for heart failure patients. Specifically, the rate of good care among patients from non-low-income households was 84.8%, compared to only 40% of those from low-income families. Despite having health insurance, patients often face significant financial burdens due to uncovered medical expenses and co-payments, which can hinder their ability to continue treatment or maintain regular healthcare. Some studies on barriers to heart failure treatment have identified related factors such as healthcare costs,

difficulties in making lifestyle modifications, treatment adherence, lack of disease knowledge, lack of trust and motivation in the treatment process [8].

Our study revealed a significant correlation between patient satisfaction and the quality of care received by heart failure patients. A substantial 85.3% of patients who were satisfied with the care provided exhibited positive health outcomes, compared to only 33.3% of dissatisfied patients. This finding underscores the critical role of patient satisfaction in assessing healthcare quality. Satisfied patients demonstrate a greater tendency to adhere to treatment regimens, actively engage in the care process, and maintain consistent communication with the healthcare team. Consequently, these patients experience improved health outcomes as a result of enhanced collaboration and providing effective responses to their needs by nursing staff.

5. CONCLUSION

Among the total of 156 heart failure patients participating in the study, 83.3% of patients had good care outcomes at the hospital, while only 16.7% of heart failure patients did not receive adequate care from nurses.

Factors related to the outcomes of heart failure patient care provided by nurses include: age group, gender, socioeconomic status, number of hospitalizations, disease duration, and patient satisfaction ($p < 0.05$).

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