# KNOWLEDGE AND PRACTICE ABOUT SELF-CARE AMONG PATIENTS WITH CHRONIC HEART FAILURE AT HOP LUC GENERAL HOSPITAL, THANH HOA IN 2020

*Le Thi Lieu[1], Vu Van Thanh[2], Nguyen Thi Dung[2], Mai Thi Yen[2]*
*[1]Hop Luc Medical and Pharmaceutical College, [2]Namdinh University of Nursing*

## ABSTRACT

***Objective:*** *To describe the knowledge and practice about self-care among patients with chronic heart failure at Hop Luc General Hospital, Thanh Hoa in 2020.* ***Method:*** *A descriptive study was conducted to collect data by using self-determination questionnaires from 86 patients with chronic heart failure at Hop Luc General Hospital,Thanh Hoa from January to May 2020.* ***Results:*** *Knowledge and practice about self-care among patients with chronic heart failure at Hop Luc General Hospital were still limited, the mean of knowledge was 10.0 ± 2.89 (highest score was 22); The mean of practice "maintaining care" was 35.1 ± 17.5 (highest score was 100), the mean of practice "care management" was 47.2 ± 14.63 (highest score was 100), the mean of Practice "Confidence in self-care" was 41.3 ± 15.39 (highest score was 100).* ***Conclusion:*** *Knowledge and practice about self-care among patients with chronic heart failure in the study is still limited. Therefore, h*ealth *education should be implemented regularly to improve knowledge and practice for patients with chronic heart failure.*

***Keywords:*** *knowledge, practice, self-care, patients with chronic heart failure.*

## 1. INTRODUCTION

Heart failure is one of the leading causes of hospitalization, and high morbidity and mortality rates in many countries [1]. According to literaturview, around 26 million people worldwide have heart failure and it is predicted that the incidence will increase to 25% by 2030 [2]. In the US, the number of people with heart failure has increased from 5.7 million, accounting for 2.2% of the population (2012) to 6.5 million people (2014), and each year there are about 650,000 new cases [3]. In Viet Nam, there are no exactly statistics, but based on the rate of heart failure in Europe (0.4% - 2%), it is estimated that Viet Nam has between 320,000 and 1.6 million people suffering from heart faiure [4]. The rate of people with heart failure is continue to increase as the population aging [5].

Heart failure has become a health problem for all human with rate of re-hospitalization in 30 days after discharge is about 25% [6] and a 5-year death rate of around 50% [3]. Chronic heart failure with a bad prognosis and deterioration is not always preventable. In fact, more than a half of hospitalized chronic heart failure cases are due to serious illness and are a direct result of poor self-care [7]. Poor self-care such as lack of adherence to medication therapy, failure to comply with salt-restricted diets, fluid restriction, failure to self-monitor daily weight, delaying the time of hospitalization in the presence of symptoms of the disease

Cor. author: Le Thi Lieu
Email: lieu.hopluc@gmail.com
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will increase. worsen the disease status, increase hospitalization rate and increase the risk of death in patients with chronic heart failure [8]. Many people with chronic heart failure have poor self-care behavior. In Viet Nam, the elderly with low self-care behavior accounting for 50.9% - 83.6% [9], [10]. Self-care is very important in the treatment and prevention of complications caused by chronic heart failure. The European Heart Association emphasizes the importance of self-care as part of successful treatment and enhances self-care for patients by providing educational programs that can alleviate symptoms, worsening of the disease, reducing the risk of re-hospitalization, improving quality of life and reducing mortality [11].

The study was conducted with the aim: To describe the knowledge and practice about self-care among patients with chronic heart failure at Hop Luc General Hospital, Thanh Hoa in 2020.

## 2. RESEARCH METHOD

### 2.1. Research subjects

- Patients with chronic heart failure at Hop Luc General Hospital, Thanh Hoa .

- Inclusion criteria: Patients from 18 years old and above. The patient has the ability to receive and answer interview questions. The patient agrees to participate in the study.

- Exclusion criteria: Patients with acute and emergency medical conditions receiving intensive treatment.

### 2.2. Setting and research period

- Research period: from December 2019 to August 2020.

- Setting: Hop Luc General Hospital, Thanh Hoa.

### 2.3. Research design

Study design: Cross section description.

### 2.4. Sample size and sampling method

Sample size: Including 86 patients with chronic heart failure

Sampling method: Collected all patients that met the criteria using the convenient sampling method from January to May 2020

### 2.5. Data collection

All data were collected by using questionnaire to interview patients with chronic heart failure.

### 2.6. Research instruments

The research instruments were used in this study which modified from Atlanta Heart Failure Knowledge Test [12] and Self-Care of Heart Failure Index [11]. The instruments was translated into VietNamese and used by Pham Thi Hong Nhung at Nam Dinh General Hospital [13]. The instruments were used to do pilot with 30 patients (not in research sample) and to verify the reliability before using, the knowledge coefficient cronbach alpha = 0.89; maintenance practice with cronbach coefficient alpha = 0.75; Care management has cronbach alpha coefficient = 0.88 and confidence in self-care has cronbach alpha coefficient = 0.91.

### Evaluation criteria

Knowledge: Patients participating in the study answered 22 questions, each correct answer got 1 point, incorrect answer or no answer got 0 point. The correct and incorrect knowledge of the patient is based on available knowledge of heart failure pathology, drug use, weight monitoring, diet and exercise of chronic heart failure patients.

Practice: The score for each behavior depends on the patient's choice with the highest score of 4. Each area of self-care practice (maintenaning care, care management and confidence in self-care) is calculated separately from the score spectrum from 0 - 100 points.

### 2.7. Data analysis

The data were synthesized by using SPSS 20.0 software. Descriptive statistical including mean, percentage, standard deviation were used to describe knowledge and practice about self-care among patients with chronic heart failure

### 2.8. Ethical consideration

The research proposal was approved by the Ethical Review Board of Nam Dinh University of Nursing. An informed consent was obtained to ensure that the subjects voluntarily participated in this study. Participants have the right to withdraw from the study at any time

The responses would be kept strictly confidential, and their identity will not be revealed, only use for research purposes.

## 3. RESULTS

### 3.1. General characteristics of research subjects

The majority of participants in the study are the elderly, the age group> 60 years old accounts for 65.1%, the 18-40 age group accounts for the lowest percentage (5.8%), female were more than male. Most of the subjects had a certificate from secondary school (37.2%). The patients lived in rural areas (53.5%), in urban areas (46.5%). The patients were (41.9%), farmers (30.2%), and public employees (2.3%). Most of patients lived with their families (76.7%)

### 3.2. Knowledge and practice about self-care among patients with chronic heart failure at Hop Luc General Hospital.

#### 3.2.1. Knowledge about self-care among patients with chronic heart failure

**Table 1. Patient's knowledge about heart failure and drug use (n=86)**

| Contents | Correct | | Incorrect | |
|---|---|---|---|---|
| | Number | % | Number | % |
| **Heart failure** | | | | |
| Heart failure is a medical condition | 36 | 41.9 | 50 | 58.1 |
| The ability to control heart failure | 26 | 30.2 | 60 | 69.8 |
| Vaccinations and regular checkups | 32 | 37.2 | 54 | 62.8 |
| **Drug use** | | | | |
| The effect of diuretics | 34 | 39.5 | 52 | 60.5 |
| When using diuretics must supplement Kali | 35 | 40.7 | 51 | 59.3 |
| Patients with heart failure forget to take medicine, need to take them as soon as they remember | 35 | 40.7 | 51 | 59.3 |

Heart failure patients had limited knowledge of heart failure and drug use. More than a half of patients have incorrect knowledge about heart failure and drug use: Heart failure is a medical condition (58.1%); The ability to control heart failure (69.8%); Vaccinations and regular checkups (62.8%); The effect of diuretics (60.5%); When using diuretics must supplement Kali (59.3%); Patients with heart failure forget to take medicine, need to take them as soon as they remember (59.3%).

**Table 2. Knowledge about weight, diet and physical activity of the patients (n=86)**

| Contents | Correct | | Incorrect | |
|---|---|---|---|---|
| | Number | % | Number | % |
| Weight | | | | |
| Knowledge of weight gain in 1-2 days | 40 | 46.5 | 46 | 53.5 |
| Self-monitoring daily weight | 38 | 44.2 | 48 | 56.8 |
| The best time to weigh is in the morning | 42 | 48.8 | 44 | 51.2 |
| The patient should see a doctor or call the health-care worker when gaining weight, edema, and dyspnea | 20 | 23.3 | 66 | 76.7 |
| Diet | | | | |
| Foods that contain a lot of salt | 28 | 32.6 | 58 | 67.4 |
| The foods that contain the least amount of salt | 54 | 62.8 | 32 | 37.2 |
| Classification of liquids | 33 | 38.4 | 53 | 61.6 |
| Measures to reduce thirst | 18 | 20.9 | 68 | 79.1 |
| Physical activity | | | | |
| Effects of exercise | 17 | 19.8 | 69 | 80.2 |
| When patients with heart failure need to stop exercising | 44 | 51.2 | 42 | 48.8 |

Patients who have correct knowledge of weight, diet and physical activity to improve heart failure are still low, many people do not understand the role of weight monitoring, salt reduction diet, and reduced intake. water in and the effect of physical activity. Table 2 showed some of the main results of knowledge with the lowest percentage of correct knowledge was effects of exercise (19.8%).

***3.2.2. Practice about self-care among patients with chronic heart failure***

**Table 3. Practice "Maintaining care" of the patient (n=86)**

| Contents | Pass | | Not pass | |
|---|---|---|---|---|
| | Number | % | Number | % |
| Keep track of your weight | 32 | 37.2 | 54 | 62.8 |
| Watch for leg edema | 28 | 32.5 | 58 | 67.5 |
| Prevention of disease | 24 | 27.9 | 62 | 72.1 |
| Physical activity | 37 | 43.0 | 49 | 57.0 |
| Periodic examination | 42 | 48.9 | 44 | 51.1 |
| Salt-reduced diet | 28 | 32.5 | 58 | 67.5 |
| Exercise for 30 minutes | 20 | 23.3 | 66 | 76.7 |
| Forget to take 1 medicine in the daily prescription | 37 | 33.7 | 47 | 66.3 |
| Note to reduce salt when eating at restaurants | 16 | 18.6 | 70 | 81.4 |
| There is a reminder to take medicine | 24 | 27.9 | 62 | 72.1 |

Table 3 showed that the percentage of patients who achieve maintenance practice is very low. The patient has not done well to monitor the signs of disease such as weight gain, Watch for leg edema, very few of the patients follow the diet to reduce salt (35.5%), exercise for 30 minutes (23.3%). and disease prevention (27.9%).

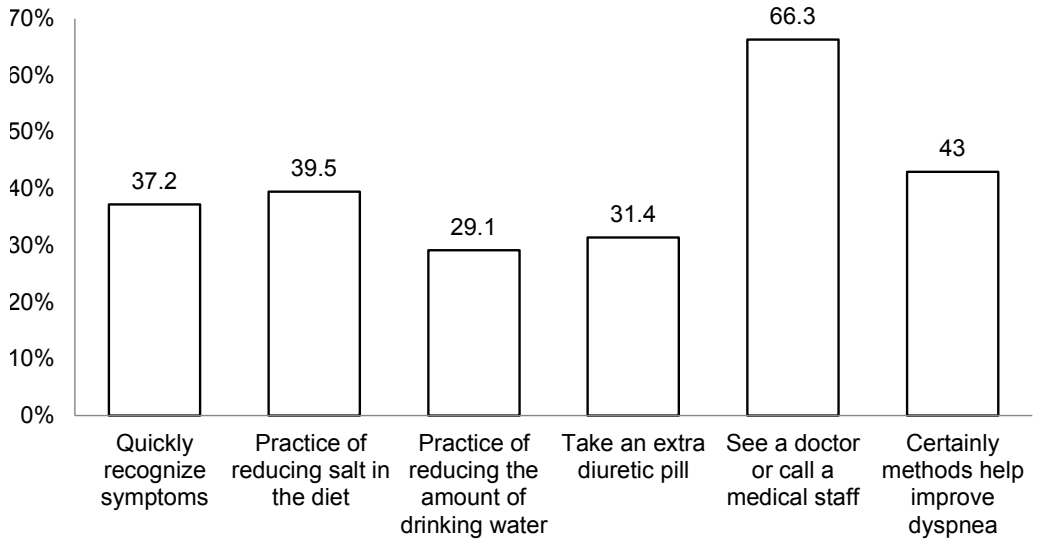


**Figure 1. Practical "Care management" among patients with chronic heart failure (n=86)**

The percentage of patients who have achieved "care management" were not high. Practicing to reduce salt in the diet, reduce the amount of water, and taking an extra diuretic pill only account for 29.1% to 43.0%. However, the percentage of patients who had achieved practice in terms of seeing a doctor or call a medical staff was higher, accounting for 66.3%.

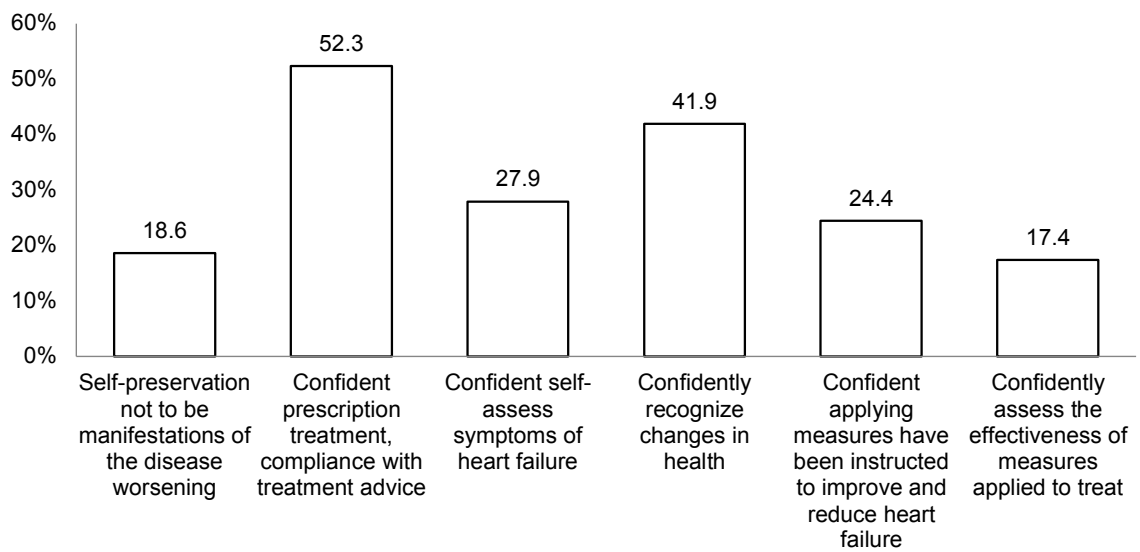


**Figure 2. Practice "Confidence in self-care" among patients with chronic heart failure (n = 86)**

The level of confidence in self-care of heart failure patients was low, only 18.6% of the patients confidently maintain Self-preservation not to be manifestations of the disease worsening; 27.9% of patients confidently self-assess symptoms of heart failure and only 17.4% of patients confidently assess the effectiveness of measures applied to treat. The percentage of patients Confident prescription treatment, compliance with treatment advice (52.3%) and confidently recognize changes in health (41.9%).

***3.2.3. Mean of knowledge and practice among patients with chronic heart failure***

**Table 4. Mean of knowledge and practice among patients with chronic heart failure (n=86)**

| Contents | Pass score | | |
|---|---|---|---|
| | Min | Max | Mean ($\overline{X} \pm$ SD) |
| Knowledge | 2 | 17 | 10.0 ± 2.89 |
| Practice "Maintaining care" | 7 | 83 | 35.1 ± 17.5 |
| Practice "Management care" | 22 | 84 | 47.2 ± 14.63 |
| Practice "Confidence in self-care" | 11 | 84 | 41.3 ± 15.39 |

The mean of knowledge of patients with chronic heart failure was 10.0 ± 2.89 points out of 22 points. The mean of Practice "maintaining care" was 35.1 ± 17.5 points out of 100, the lowest score was 7, the highest score was 83; The mean of Practice "Management care" was 47.2 ± 14.63 points out of 100, the lowest score was 22, the highest score was 84; The mean of practice "Confidence in self-care" was 41.3 ± 15.39 points out of the total score of 100, the lowest score was 11, the highest score was 84.

## 4. DISCUSSION

### 4.1. General characteristics of research subjects

The study collected data from 86 patients with chronic heart failure at Hop Luc General Hospital. The majority of subjects was the elderly group (> 60 years old), accounting for 65.1% . The finding is similar to the study of Tran Thi Ngoc Anh at the Viet Nam Heart Institute in 2016 [1], Pham Thi Hong Nhung at the Department of Cardiology - Nam Dinh General Hospital in 2018 [2] and a study of 89 patients with heart failure hospitalized in the Department of Cardiology - Hue Central Hospital in 2017 [2]. The elderly are faced with aging and impaired function including the cardiovascular system, which is also a risk factor for cardiovascular diseases.

Most of the subjects had a certificate from secondary school (37.2%). This study result is similar to the research of Tran Thi Ngoc Anh [1], the study of Nguyen Ngoc Huyen in 2013 [3] and the study of Pham Thi Hong Nhung in 2018 [2]. Patients with low education often lack knowledge about prevention of diseases including cardiovascular disease and do not have the economic conditions to check their health regularly, so they cannot detect symptoms of heart failure early.

### 4.2. Knowledge about self-care among people with chronic heart failure

Research shows that the status of self-care knowledge of patients with chronic heart failure treated at Hop Luc General

Hospital was limited. The mean of general knowledge was only 10.0 ± 2.89 out of the total score of 22. This result is equivalent to the research of Tran Thi Ngoc Anh [1] with the general knowledge score of patients with heart failure of 11.9 ± 2.8 and Pham Thi Hong Nhung [4] with average knowledge score of 10.41 ± 3.54 points out of a total score of 22.

Their knowledge of heart failure disease and drug use remains low: The percentage of patients with correct knowledge was only from 23.3% to 41.9%. This result is similar to Tran Thi Ngoc Anh's study [1] with 43% of subjects correctly understanding the concept of heart failure, 32.5% of subjects correctly understanding controllable heart failure and Pham Thi Hong Nhung's study in 2018 [2] only 41.1% of the respondents correctly understood the concept of heart failure, 31.1% of the respondents correctly understood that heart failure can be controlled, and 37.8% of the respondents correctly understood the concept of controllable heart failure, 20% of respondents correctly understand that when using diuretics, they must add more kali and 30% of them understand correctly when forgetting to take the drug, they should take it as soon as they remember. It have been explained that the patient has not actively searched for information from many information sources, but mainly received information from medical staff, while the hospital was often overcrowded, the number of patients coming for medical examination and treatment was too high. It was so big that the medical staff could not explain the disease to the patient.

Patients with correct knowledge of weight gain in 1-2 days, self-monitoring daily weight, the best time to weigh in the morning is consistent with research of Tran Thi Ngoc Anh [1] with 46% of patients had the right knowledge of the best time to weigh is in the morning. However, patient had correct knowledge about diet and exercise was lower than Tran Thi Ngoc Anh's study [1] with 52.5% of correct knowledge of foods containing high salt and liquid classification, 88.5% and 87% of patients know which foods contain low salt and have correct knowledge about stopping exercise if there are signs of difficulty breathing, chest pain, and dizziness. The results difference between these two studies may be due to different sample sizes, different study setting and the educational level of patients in the two different studies.

Patients in other countries had much better knowledge, according to Wal MH et al. [4], 84% of the subjects understand the effects of diuretics, 80% of the subjects perception the importance of daily exercise and 99% of subjects knew when to stop exercising.

**4.3. Practice about self-care among people with chronic heart failure**

Practice about self-care among people with chronic heart failure at Hop Luc General Hospital is limited in 3 areas: mean of maintenaning care was 35.1 ± 17.5 points out of 100; The mean of care management was 47.2 ± 14.63 points; The mean of Confidence in self-care was 41.3 ± 15.39 points out of the total score of 100. This result is supported from the research of Pham Thi Hong Nhung [1] with the mean of practice (41.52 ± 20.51), maintenaning care (35.56 ± 15.21), care management (35.56 ± 15.21), Confidence in self-care (50.45 ± 16.11). This finding is higher than study in Iran in 2013 [2] with mean of maintenaning care (18.5 ± 12); the mean of care management (11.9 ± 11.19) points; Mean of confidence in self-care (10.6 ± 13.3).

For maintaining care, the number of people achieving practice is still very low:

The percentage of patients who achieve practice was only from 18.6% to 37.2%. This result is simiar to the study of Pham Thi Hong Nhung [1] that 22.2% of patients regularly monitor their weight, 36.9% of the patients reduce salt daily. This result is lower than in Tran Thi Ngoc Anh's study [3] with patients who regularly eat and reduce salt by 77% and Nguyen Thi Hong Hai's study [4] with 54% of patients monitoring leg edema, , 43% of the patients agree that "I eat bland".

For care management, patients had limited practice. The results in this study is higher than study of Pham Thi Hong Nhung [1] with 24.7% of the patients quickly recognized the symptoms and reduced salt intake; Only 16% of patients reduce the amount of water they drink; 17.3% of the respondents will definitely implement the above measures to help improve the swelling, difficulty breathing.

For confidence in self-care, only 18.6% of the patients confidently maintain Self-preservation not to be manifestations of the disease worsening; 27.9% of patients confidently self-assess symptoms of heart failure and only 17.4% of patients confidently assess the effectiveness of measures applied to treat. The percentage of patients Confident prescription treatment, compliance with treatment advice (52.3%) and confidently recognize changes in health (41.9%). The results is similar to the study of Pham Thi Hong Nhung [5], patients who confidently maintained themselves in order not to suffer from worsening manifestations of heart failure (50.6%); Confidence in prescription treatment (55.6%); confident in recognizing health changes (37.0%).

Orem (2001) demonstrated that knowledge is essential for improving self-care behavior. Health education for patients with chronic heart failure helps them to acquire knowledge about heart failure and self-care in heart failure. When patients have better knowledge, they adhere to better treatment and can implement effective self-care behaviors. Many studies had also shown that the knowledge of heart failure is a factor influencing self-care behavior [6], [3], [4]. Therefore, to improve knowledge and practice about self-care for patients with chronic heart failure, it is necessary to implement health education interventions.

## 5. CONCLUSION

Patients with chronic heart failure had limited knowledge and practice about self-care. The mean of knowledge among patients with chronic heart failure only reached 10.0 ± 2.89 out of 22 points; Self-care knowledge helps to control the disease and reduces the worsening symptoms of heart failure such as salt restriction, reduced water intake, kali supplementation when taking diuretics, and low physical activity. Practice of "Maintaining care" only reached 35.1 ± 17.5 points out of the total score of 100; Practice of "Care management" reached 47.2 ± 14.63 points out of the total score of 100; Practice of "Confident in self-care" reached 41.3 ± 15.39 points out of the total score of 100.

Therefore, in order to enhance knowledge and practice of self-care for patients with chronic heart failure at Hop Luc General Hospital, it is necessary to implement health education intervention.

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