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EVALUATION OF THE HEART FAILURE CLUB MODEL AT THE DEPARTMENT OF CARDIOLOGY, THONG NHAT HOSPITAL

Tran Thien Duc[1], Nguyen Van Be Hai[1], Van Viet Truong[1]
1. Department of Cardiology, Thong Nhat Hospital, Ho Chi Minh City, Vietnam
* *Corresponding author: Nguyen Van Be Hai ✉ hainvb@bvtn.org.vn*

ABSTRACT: The heart failure club model is considered an appropriate approach for providing patient education and psychosocial support in settings with limited specialized healthcare personnel. This study had two objectives: (1) to evaluate patients' knowledge, self-care behaviors, psychosocial benefits, and satisfaction with the Heart Failure Club model; and (2) to investigate factors associated with regular participation in the club's activities. We conducted a cross-sectional descriptive study among patients attending the Heart Failure Club at the Department of Cardiology, Thong Nhat Hospital. Eligible patients completed a staff-assisted, structured 20-item Yes/No questionnaire immediately after a club session. A total of 154 patients were surveyed (87.7% female; mean age 66.4 ± 8.4 years, range 22-83). Most patients reported a better understanding of heart failure (96.8%), the importance of regular medication (98.7%), and a low-salt diet (98.7%); 83.8% understood the warning signs of decompensation. Self-care behavior improved in most patients: correct medication-taking (97.4%), dietary adherence (97.4%), daily self-monitoring (94.8%), proactive follow-up (95.5%), and self-care confidence (91.6%). Psychosocial benefit and satisfaction were high (97.4-100%). Full/consistent attendance was associated with higher knowledge/self-care/satisfaction scores (15.5/16 vs 13.8/16, $p = 0.039$); prior topic awareness and convenient timing were both strongly associated with attendance ($p < 0.001$ and $p = 0.004$, respectively). Patients attending the Thong Nhat Hospital Heart Failure Club reported high levels of knowledge, self-care, psychosocial benefit, and satisfaction. Consistent attendance was associated with greater perceived benefit; advance notice of topics and convenient scheduling are simple, feasible levers to further strengthen the program.

Keywords: heart failure club, self-care, patient education, satisfaction

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1. INTRODUCTION

Heart failure is a complex chronic clinical syndrome that affects a substantial proportion of the population, with approximately 64 million people living with heart failure worldwide [1]. Most patients do not fully understand the causes, course, prognosis, and treatment strategies of heart failure. This knowledge gap lowers quality of life, alters psychological behavior, and reduces the capacity for self-care. Many intervention models have been developed to promote self-care in patients with heart failure; however, results vary across models, and no model has been shown to be clearly superior to the others [2,3].

Given the shortage of healthcare staff with specialized training in heart failure management and the overload at tertiary hospitals, one-to-one education and counseling for each patient is very difficult. Group sessions are a simple, easily applied alternative that remains effective in improving knowledge, self-care behavior, and quality of life in patients with heart failure [4-6]. Among these approaches, the heart failure club model (regular group sessions combining health education, psychosocial support, and periodic follow-up) is a practical and feasible way to bring self-management education into routine clinical practice.

Club-based group programs for patients with heart failure have been introduced at several hospitals in Vietnam. However, no Vietnamese study has yet systematically evaluated the effect of this model on the knowledge, self-care behavior, and satisfaction of patients with heart failure. We conducted this study with the following objectives: (1) to evaluate patients' knowledge, self-care behavior, psychosocial benefits, and satisfaction with the heart failure club model; and (2) to explore factors associated with full participation in club activities.

2. SUBJECTS AND METHODS

2.1. Study design

Cross-sectional descriptive study.

2.2. Study period and setting

From February 2026 to June 2026 at the Department of Cardiology, Thong Nhat Hospital.

2.3. Study subjects

Patients attending the Heart Failure Club, Department of Cardiology, Thong Nhat Hospital.

Inclusion criteria: (i) currently attending the Heart Failure Club; (ii) able to communicate in, listen to, and understand Vietnamese; (iii) agreed to participate voluntarily in the study.

Exclusion criteria: (i) unable to answer the entire questionnaire; (ii) foreign nationals (not holding Vietnamese citizenship).

2.4. Sample size and sampling method

Total sampling was used: all patients attending the club during the study period were included. In total, 154 patients completed the questionnaire and were included in the analysis.

2.5. Instrument and data collection procedure

Data were collected with a questionnaire, completed with the assistance of healthcare staff immediately after a club session. The questionnaire covered basic demographic information (age, sex) and 20 Yes/No questions on prior awareness of session content, convenience and regularity of attendance, knowledge gained, changes in self-care behavior, psychosocial benefits, and satisfaction with the club. For ease of analysis and presentation, the research team grouped the 20 questions (not a validated scale) into 5 domains: (A) content awareness/convenience/attendance (questions 1-4); (B) disease knowledge (questions 5-8); (C) changes in self-care behavior (questions 9-14); (D) psychosocial benefits (questions 15-16); (E) satisfaction and willingness to continue participating (questions 17-20). The full wording of each question is shown in Table 2.

2.6. Data analysis

Data were analyzed using SPSS 26. Categorical variables were presented as frequencies and percentages; continuous variables were presented as mean ± standard deviation. The chi-square test (with Fisher's exact correction when a 2x2 table had an expected cell count < 5) was used

to compare proportions between two categorical variables. Student's t-test and the Mann-Whitney U test were used to compare means between two groups. Internal consistency of the questionnaire was assessed with Cronbach's alpha. Statistical significance was set at $p < 0.05$.

2.7. Research ethics

The study was approved by the Scientific and Ethics Committee of Thong Nhat Hospital (No. 94-121/2026/CN-HĐĐĐ-BVTN). The purpose of the study was clearly explained to patients, who agreed to participate voluntarily. Data were anonymized with codes and used for research purposes only.

3. RESULTS

3.1. Demographic characteristics

Table 1. Demographic characteristics of the study sample (N = 154)

Characteristic	n	%
Sex - Male	19	12.3
Sex - Female	135	87.7
Age < 60	21	13.6
Age 60 - 69	76	49.4
Age 70 - 79	50	32.5
Age ≥ 80	7	4.5
Median age (min - max)	67 (22- 83)	

Comment: During the study period, 154 patients attending the Heart Failure Club completed the questionnaire. Most were female (87.7%), with a median age of 67 years (22-83). Most patients (86.4%) were aged ≥ 60 years, including 4.5% aged ≥ 80 years (Table 1).

3.2. Results of the 20-item questionnaire

Table 2. Responses to the Heart Failure Club evaluation questionnaire (N = 154)

No.	Item	Yes, n (%)	No, n (%)
Domain A: Content awareness, convenience, and attendance			
1	Knew the session topics before attending	100 (64.9)	54 (35.1)
2	Club session times are suitable	144 (93.5)	10 (6.5)
3	Venue is convenient to reach	145 (94.2)	9 (5.8)
4	Attended all or most sessions	142 (92.2)	12 (7.8)
Domain B: Knowledge of heart failure			
5	Better understanding of heart failure after joining	149 (96.8)	5 (3.2)
6	Clear understanding of warning signs of worsening heart failure	129 (83.8)	25 (16.2)
7	Clear understanding of the role of regular medication	152 (98.7)	2 (1.3)
8	Better understanding of a low-salt diet	152 (98.7)	2 (1.3)
Domain C: Changes in self-care behavior			
9	Takes medication more correctly and completely	150 (97.4)	4 (2.6)
10	Better adherence to diet	150 (97.4)	4 (2.6)
11	Better daily self-monitoring of weight and symptoms	146 (94.8)	8 (5.2)
12	Attends follow-up visits on schedule more proactively	147 (95.5)	7 (4.5)
13	More confident in heart failure self-care	141 (91.6)	13 (8.4)
14	Knows to seek medical care promptly for abnormal symptoms	145 (94.2)	9 (5.8)
Domain D: Psychosocial benefits			
15	The club helps reduce worry about the illness	150 (97.4)	4 (2.6)
16	Feels supported and understood in the club	151 (98.1)	3 (1.9)
Domain E: Satisfaction and willingness to continue			
17	Satisfied with club session content	154 (100.0)	0 (0.0)
18	Staff explain clearly and attentively	149 (96.8)	5 (3.2)
19	Wishes to continue attending the Heart Failure Club	153 (99.4)	1 (0.6)
20	Willing to recommend the club to other heart failure patients	154 (100.0)	0 (0.0)

Comment: The proportion of "Yes" responses was high in all 5 domains (Table 2). The lowest proportions were for prior awareness of session topics (64.9%) and

understanding the warning signs of worsening heart failure (83.8%); all other items exceeded 91%, and two items (satisfaction with content and willingness to recommend the club) reached 100%.

3.3. Domain scores

Table 3. Domain scores of the Heart Failure Club evaluation questionnaire (N = 154)

Domain	Items	Max score	Mean ± SD	% of max score
A. Awareness, convenience, attendance	1-4	4	3.45 ± 0.79	86.2
B. Disease knowledge	5-8	4	3.78 ± 0.57	94.5
C. Self-care behavior	9-14	6	5.71 ± 0.88	95.1
D. Psychosocial benefits	15-16	2	1.95 ± 0.21	97.7
E. Satisfaction, continued participation	17-20	4	3.96 ± 0.23	99.0
Total score	1-20	20	18.85 ± 2.03	94.3

Comment: Mean domain scores (as a percentage of the maximum score) ranged from 86.2% (awareness/convenience/attendance domain) to 99.0% (satisfaction domain) (Table 3). The mean total score for the 20 items was 18.85 ± 2.03/20 (94.3%). The distribution was markedly left-skewed: 50.0% of patients (77/154) achieved the maximum score of 20/20, and only 3.2% (5/154) scored ≤ 15.

3.4. Factors associated with full attendance and benefits gained

Table 4. Factors associated with full attendance and club effectiveness (total score)

Factor	Yes	No	p-value
Core score (items 5-20, max 16) by full attendance (item 4)	15.5±1.0 (n=142)	13.8±4.0 (n=12)	0.039
Full attendance (item 4) by prior topic awareness (item 1)	98/100 (98.0%)	44/54 (81.5%)	<0.001
Full attendance (item 4) by suitable timing (item 2)	136/144 (94.4%)	6/10 (60.0%)	0.004
Full attendance (item 4) by convenient venue (item 3)	135/145 (93.1%)	7/9 (77.8%)	0.15

Comment: Patients who attended all or most sessions had significantly higher knowledge/self-care/satisfaction scores (items 5-20, maximum 16) than the remaining patients (15.5 ± 1.0 vs 13.8 ± 4.0; p = 0.039). Full attendance was strongly associated with two logistical factors: prior awareness of session topics (98.0% of patients who knew the topics in advance attended fully vs 81.5% of those who did not; p < 0.001) and suitable session timing (94.4% vs 60.0%; p = 0.004). In contrast, convenience of the venue was not significantly associated with attendance (p = 0.15) (Table 4).

4. DISCUSSION

4.1. Demographic characteristics

The clear predominance of women in the study sample (87.7%) is a notable feature. This differs from the more balanced sex distribution in other studies of outpatients with heart failure in Vietnam (49% women among 143 patients at Nhan Dan Gia Dinh Hospital) [7], and from the international literature on cardiac rehabilitation, in which women usually participate less than men because of transportation barriers, family caregiving responsibilities, and lower referral rates. The opposite trend observed in this study may reflect the population of a hospital specializing in geriatrics, where heart failure with preserved ejection fraction (more common in older women) may account for a larger share, or it may reflect the health self-care and group participation behavior of older Vietnamese women. Because the study did not collect data on ejection fraction or NYHA class, this hypothesis needs to be tested in further studies, and the reasons for the low participation of men in the club also warrant investigation.

4.2. Knowledge and self-care behavior

The levels of self-reported knowledge and self-care behavior in this study were

markedly higher than those reported in studies of outpatients with heart failure who did not take part in a club model. At Vinmec Times City Hospital, in 143 patients with heart failure assessed with the Atlanta Heart Failure Knowledge Test and the Self-Care of Heart Failure Index, only 2.1% answered medication knowledge questions correctly and 9.8% had adequate self-monitoring knowledge [8]. Similarly, in a study of 143 outpatients with chronic heart failure at Nhan Dan Gia Dinh Hospital, only 35% had adequate heart failure knowledge on the Atlanta questionnaire, and the proportions achieving adequate self-care maintenance, symptom monitoring, self-care management, and self-care confidence were only 33%, 31%, 29%, and 27%, respectively. Health education was the strongest independent predictor of adequate knowledge (adjusted OR 51.7; $p < 0.001$) and of all four self-care behavior domains [7]. Together with the very high self-reported knowledge and self-care in our sample (83.8-98.7% for knowledge items; 91.6-97.4% for self-care items), these comparisons support the view that regular, structured group education (such as the club model) is associated with markedly better self-reported knowledge and self-care than usual outpatient follow-up without a comparable education program.

A fairly clear example is a single-group pre-post educational intervention study in 86 patients with chronic heart failure at Hop Luc General Hospital, Thanh Hoa: the mean knowledge score increased from 10.0 ± 2.9 to 19.6 ± 3.0 (out of 22 points) after 1 week of health education ($p < 0.001$) and remained high after 1 month (18.6 ± 4.0); self-care practice scores in all three domains (maintenance, management, and confidence) improved in parallel ($p < 0.01$) [9]. The marked improvement after a single education session in that study makes it more plausible that knowledge and self-care remain high among patients attending regular club sessions in the present study. This is consistent with international evidence that self-management education, whether delivered individually or in groups, improves knowledge and self-care behavior, although its effect on major clinical outcomes (readmission, mortality) varies across studies and no model has been shown to be clearly superior [5,6,10,11].

4.3. Attendance, engagement, and logistical factors

An important contribution of this study is the identification of modifiable program-level factors that are associated with attendance and, through attendance, with perceived benefit. Patients who attended all or most sessions had significantly higher knowledge/self-care/satisfaction scores ($p = 0.039$), suggesting a dose-response relationship between level of participation and perceived benefit. This is consistent with the observation that greater participation in self-management education programs is associated with better outcomes [5,6]. Full attendance was closely associated with two feasible factors: prior awareness of session topics ($p < 0.001$) and suitable session timing ($p = 0.004$), whereas convenience of the venue was not a decisive factor ($p = 0.15$). These findings are in line with common barriers to cardiac rehabilitation: inconvenient schedules, transportation problems, and lack of advance information are the most frequent barriers, especially among women [12]. Suggestions for improving club activities include announcing upcoming session topics in advance (by telephone, printed leaflets, or messaging apps) and maintaining or further optimizing session times for patients' convenience.

4.4. Strengths and limitations

The strengths of this study include a relatively large, consecutive sample of club participants, a comprehensive questionnaire covering several aspects (awareness, knowledge, self-care behavior, psychosocial factors, and satisfaction), and the identification of specific, modifiable factors that can improve patient attendance.

The study also has several limitations. It used a single-time-point cross-sectional design without baseline data or a control group, so no causal conclusions can be drawn about the effect of the club on knowledge or self-care. The sample was drawn from a single tertiary hospital specializing in geriatrics using total/convenience sampling, which limits generalizability. In addition, the questionnaire was developed specifically for this study and has not been validated like the Atlanta HFKT, SCHFI, or EHFScBS, which limits comparability with other studies. Clinical variables (NYHA class, ejection fraction,

comorbidities, treatment regimens) were not collected, which limits analysis by clinical characteristics. Future studies should use a pre-post or longitudinal design, validated instruments, and objective clinical outcomes such as readmission and mortality.

5. CONCLUSION

Among 154 patients attending the Heart Failure Club of the Department of Cardiology, Thong Nhat Hospital, self-reported knowledge, self-care behavior, psychosocial benefit, and satisfaction were all high; most patients wished to continue participating and were willing to recommend the club to others. Regular attendance was associated with greater perceived benefit, and attendance itself was closely associated with prior awareness of session content and convenient timing.

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