# QUALITY OF LIFE AMONG ELDERLY PATIENTS WITH HEART FAILURE AT THONG NHAT HOSPITAL IN 2023

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### Abstract

**Objectives:** To evaluate the quality of life (QoL) among elderly patients with heart failure (HF) treated at Thong Nhat Hospital in 2023. **Methods:** A cross-sectional descriptive study was conducted to assess the QoL of 300 elderly inpatients ( $\geq 60$  years old) diagnosed with HF from January 1, 2023 to December 31, 2023. Data were collected using the SF-36 and Kansas City Cardiomyopathy Questionnaire (KCCQ) tools. **Results:** 55.33% of patients reported moderate-to-poor overall health, with a mean physical health score of  $23.51 \pm 19.61$  (62% poor, 27.33% moderate-to-poor). Mental health scores were comparatively higher, averaging 57.84  $\pm$  10.84, with 67.67% reporting moderate-to-good outcomes. Marital status, education level, disease duration, and comorbidities (atrial fibrillation) significantly influenced the maintenance of a good QoL. **Conclusion:** Maintaining a good QoL among elderly HF patients was predominantly moderate-to-poor, especially concerning physical health. Factors such as marital status, education attainment, duration of illness, and comorbidities were significant determinants of maintaining a good QoL.

Keywords: Quality of life; Elderly; Heart failure.

#### **INTRODUCTION**

Maintaining a good QoL is critical for patients with chronic progressive illnesses, particularly HF. QoL in HF patients is markedly reduced compared to healthy individuals and those with other chronic conditions [1]. QoL reflects the impact of clinical symptoms and treatment modalities on patients' daily lives. HF symptoms such as dyspnea,

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chest pain, fatigue, edema, and insomnia often restrict physical and social activities, leading to diminished QoL [2]. Poor QoL is associated with increased hospitalization and mortality rates [3]. QoL is also a sensitive measure for evaluating intervention effectiveness and an independent predictor of survival in cardiovascular disease patients. Therefore, comprehensive QoL assessments are essential for tailoring appropriate interventions for HF patients. However, research on QoL among Vietnamese HF patients, especially the elderly, remains limited. This study aims to: Address this gap by evaluating the QoL of elderly HF patients at Thong Nhat Hospital in Ho Chi Minh City in 2023.

## MATERIALS AND METHODS

## 1. Subjects

Including 300 elderly patients ( $\geq 60$  years) diagnosed with HF and admitted to Thong Nhat Hospital from January 1, 2023 to December 31, 2023.

\* Inclusion criteria: Inpatients  $\geq$  60 years old; diagnosed with HF; voluntarily participated in the study.

\* *Exclusion criteria:* Acute HF diagnosis; declined participation.

# 2. Methods

\* *Study design:* A cross-sectional descriptive study.

### \* Sample size:

The sample size formula for the descriptive study was used:

$$\mathbf{n} = \frac{Z^2}{1 \cdot a/2} \mathbf{x} \cdot \frac{(1 - p)}{p \mathbf{x} \varepsilon 2} \mathbf{x} \mathbf{DE}$$

n: Sample size;  $Z_{1-\alpha/2}$ : Confidence coefficient with statistical significance level  $\alpha = 0.05$ , corresponding to 95% confidence level then  $Z_{1-\alpha/2} = 1.96$ ; DE (Design effect): Design coefficient, choose DE = 2.0; p: Estimate the percentage of elderly people with HF receiving inpatient treatment at Thong Nhat Hospital, choose p = 0.198 according to the study of Tran Song Giang [4];  $\varepsilon$ : Relative error,  $\varepsilon = 0.1$ .

The minimum sample size calculated was n = 189; in fact, the study was conducted on 300 elderly patients with HF who were hospitalized at Thong Nhat Hospital in 2023.

\* Data collection tools:

SF-36: A widely used health-related QoL scale consisting of 36 questions evaluating physical health (physical functioning, role limitations due to physical health, pain), mental health (vitality, social functioning, role limitations due to emotional problems, mental health), and overall health [4]. Scores range from 0 to 100, with higher scores indicating better QoL. The level of assessment was defined as follows:

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Poor (from 0 - 25); medium - poor (from 26 - 50); medium - good (from 51 - 75); good - very good (from 76 - 100).

KCCQ: A 15-item questionnaire assessing physical and psychological health, social relationships, and living environment. Scores are standardized from 0 (poorest) to 100 (best) [5].

\* *Data analysis:* Data were entered and analyzed using SPSS 22.0.

#### 3. Ethics

The research was conducted according to Decision No. 196/QĐ-BKHCN dated February 2, 2021, issued by the Ministry of Science and Technology. Thong Nhat Hospital granted permission for the use and publication of the research data. The authors hereby declare that there are no conflicts of interest in this research.

#### RESULTS

**Table 1.** Demographic and clinical characteristics of elderly HF patients (n = 300).

General ch	Mean	
Age $(\overline{X} \pm SD)$		$75.95\pm9.33$
Conder $n(0/2)$	Female	138 (46.0%)
	Male	162 (54.0%)
Marital status n (%)	Currently married	198 (66.0%)
Maritar status, II (70)	Single/widowed	102 (34.0%)
Duration of illness ( $\overline{X} \pm S$	$70.08\pm127.65$	
Educational attainment	High school or above	97 (32.33%)
n (%)	Below high school	203 (67.67%)
	Ι	92 (30.67%)
NYHA HF	II	49 (16.33%)
classification, n (%)	III	128 (42.67%)
	IV	31 (10.33%)
Atrial fibrillation	Yes	108 (36.0%)
n (%)	No	192 (64.0%)

(NYHA: New York Heart Association)

The mean age of the study population was  $75.95 \pm 9.33$  years, with a female-tomale ratio of approximately 1:1.17. The mean duration of illness was  $70.08 \pm$  127.65 months. Among the 300 patients, the proportions of the New York Heart Association (NYHA) class I, II, III, and IV were 30.67%, 16.33%, 42.67%, and 10.33%, respectively. Atrial fibrillation was observed in 36% of HF patients.

Domains	$\overline{\mathbf{X}} \pm \mathbf{S}\mathbf{D}$	Min	Max
Physical health	$23.51\pm19.61$	0.0	74.05
Mental health	$57.84 \pm 10.84$	29.29	78.57
Overall health	$36.90 \pm 14.60$	17.36	75.28

Table 2. Mean QoL scores (SF-36) of elderly patients with HF.

The mean physical health score of chronic HF patients was  $23.51 \pm 19.61$  points, ranging from 0 - 74.05 points. For mental health, the mean score was 57.84  $\pm$  10.84 points, ranging from 29.29 to 78.57 points. The mean overall health score of the study population, calculated based on physical and mental health scores, was  $36.90 \pm 14.60$  points.



Figure 1. Classification of QoL scores among elderly patients with HF.

Regarding physical health scores, the majority of patients in the study had poor scores (62%) and moderate-to-poor scores (27.33%). None of the patients achieved scores classified as good or very good in physical health. Mental health scores

were higher; specifically, no patients were classified as having poor mental health scores. The proportions of patients with moderate-to-poor, moderate-to-good, and good-to-very-good mental health scores were 22.67%, 67.67%, and 9.67%, respectively. As for overall health scores, 55.33% of patients were in the moderate-to-poor category, 22% in the moderate-to-good category, and 21% were classified as poor.

Variables		Physical health		Mental health		Overall health	
		$\overline{\mathbf{X}} \pm \mathbf{S}\mathbf{D}$	р	$\overline{\mathbf{X}} \pm \mathbf{S}\mathbf{D}$	р	$\overline{\mathbf{X}} \pm \mathbf{S}\mathbf{D}$	р
Gender	Male (162)	$22.37 \pm 18.62$	> 0.05	$57.28 \pm 10.51$	> 0.05	$36.00 \pm 14.07$	> 0.05
	Female (138)	$24.86\pm20.70$		$58.50 \pm 11.22$		$37.95 \pm 15.19$	
Age	60 - 69 (86)	$21.08 \pm 18.45$		$57.93 \pm 9.98$	> 0.05	$35.44 \pm 13.92$	> 0.05
	70 - 79 (92)	$23.80 \pm 19.89$	> 0.05	$57.80 \pm 11.87$		$37.07 \pm 14.99$	
	≥ 80 (122)	$25.02\pm20.19$		$57.81 \pm 10.70$		$37.80 \pm 14.81$	
Curren Marital married status Single/v (102)	Currently married (198)	$30.80 \pm 19.63$	< 0.05	$59.02 \pm 11.92$	< 0.05	$41.82 \pm 15.06$	< 0.05
	Single/widowed (102)	$9.37\pm9.01$		$55.56\pm7.93$		$27.35\pm7.02$	
Educational attainment	High school or above (197)	29.08±18.63	< 0.05	$58.54 \pm 10.48$	> 0.05	$40.64 \pm 14.30$	< 0.05
	Below high school (203)	$20.85 \pm 19.56$		$57.51 \pm 11.02$		$35.11 \pm 14.44$	

**Table 3.** The correlation between mean QoL scores (SF-36) and demographic characteristics of elderly patients with HF (n = 300).

The physical health and overall health scores of elderly HF patients living with a spouse and having an educational attainment of high school or above were significantly higher compared to those who were single/widowed and had an educational attainment below high school (p < 0.05). Regarding mental health scores, HF patients living with a spouse also exhibited significantly higher QoL scores compared to single/widowed patients (p < 0.05).

Variables			Physical health		Mental health		<b>Overall health</b>	
		n	$\overline{\mathbf{X}} \pm \mathbf{S}\mathbf{D}$	р	$\overline{\mathbf{X}} \pm \mathbf{S}\mathbf{D}$	р	$\overline{\mathbf{X}} \pm \mathbf{S}\mathbf{D}$	р
NYHA HF classification	Ι	92	$22.93\pm19.51$		$57.19 \pm 8.88$	> 0.05	$36.30 \pm 14.01$	> 0.05
	II	49	$22.81\pm20.24$	> 0.05	$54.93 \pm 11.25$		$35.20 \pm 14.89$	
	III	128	$22.84 \pm 19.77$		$58.47 \pm 11.36$		$36.75 \pm 14.84$	
	IV	31	$29.11\pm18.25$		$61.80\pm12.26$		$41.95 \pm 14.51$	
Duration of illness (year)	< 1	159	$28.50\pm21.82$		$60.05\pm12.14$	< 0.05	$40.78\pm16.34$	< 0.05
	1 - < 5	47	$18.56 \pm 15.63$	< 0.05	$57.50\pm6.95$		$33.87 \pm 10.44$	
	$\geq 5$	94	$17.56\pm14.72$		$54.27\pm9.08$		$31.85 \pm 11.05$	
Atrial	Yes	108	$30.06\pm20.61$	< 0.05	$59.03\pm9.53$	> 0.05	$41.32\pm15.56$	< 0.05
fibrillation	No	192	$19.83\pm18.07$		$57.17\pm11.49$		$34.41 \pm 13.45$	

**Table 4.** The correlation between mean QoL scores (SF-36) and clinical characteristics of elderly patients with HF (n = 300).

Elderly patients with a longer duration of HF exhibited progressively lower scores in physical health, mental health, and overall health. Patients with a disease duration of less than 1 year had significantly higher overall health scores compared to those with a duration of 1 to < 5 years and  $\geq$  5 years, with mean scores of 40.78  $\pm$  16.34, 33.87  $\pm$  10.44, and 31.85  $\pm$  11.05, respectively (p < 0.05). HF patients with atrial fibrillation had significantly lower physical health and overall health scores compared to those without atrial fibrillation (p < 0.05).

Variables			KCCQ sca	ale	SF-36 scale		
		n	Score of KCCQ	n	Score of SF-36	n	
			$(X \pm SD)$	þ	$(X \pm SD)$	р	
	60 - 69	86	$38.78\pm21.14$		$35.44 \pm 13.92$		
Age	70 - 79	92	$40.58\pm20.32$	> 0.05	$37.07 \pm 14.99$	> 0.05	
	$\geq 80$	122	$41.84\pm20.20$		$37.80 \pm 14.81$		
Gender	Male	162	$39.83\pm20.22$	> 0.05	$36.00\pm14.07$	> 0.05	
	Female	138	$41.46\pm20.82$	20.05	$37.95 \pm 15.19$	- 0.03	
Marital status	No	102	$28.51\pm14.73$	< 0.01	$27.35\pm7.02$	< 0.01	
	Yes	198	$46.79\pm20.27$	< 0.01	$41.82\pm15.06$		
Educational attainment	High school or above	203	37.46 ± 19.19		35.11 ± 14.44		
	Below high school	97	$47.10\pm21.62$	< 0.01	$40.64 \pm 14.30$	< 0.01	
NYHA HF	I - II	141	$38.55 \pm 19.63$	> 0.05	$35.92\pm14.28$	> 0.05	
classification	III - IV	159	$42.38\pm21.10$	- 0.05	$37.77 \pm 14.88$		

Table 5. QoL of HF patients classified by general characteristics.

Using both the KCCQ and SF-36 scoring systems, QoL was significantly higher among patients living with a spouse (KCCQ: 46.79 ± 20.27; SF-36:  $41.82 \pm 15.06$ ) and those with an educational attainment of high school or above (KCCQ: 47.10 ± 21.62; SF-36:  $40.64 \pm 14.30$ ) compared to single/widowed patients (KCCQ: 28.51 ± 14.73; SF-36:  $27.35 \pm 7.02$ ) and those with educational attainment below high school (KCCQ:  $37.46 \pm 19.19$ ; SF-36:  $35.11 \pm 14.44$ ) (p < 0.05). There were no statistically significant differences in QoL scores between age groups, genders, or NYHA HF classifications on either the KCCQ or SF-36 scales.

#### DISCUSSION

Our study results indicate that the mean overall health score of 300 chronic HF patients, as measured by the SF-36 questionnaire, was  $36.90 \pm 14.60$ . The mean physical health score was  $23.51 \pm 19.61$ , lower than the mean mental health score of  $57.84 \pm 10.84$ . Regarding QoL classification, the majority of HF patients exhibited poor (62%) or moderate-to-poor (27.33%) physical health. Mental health scores were higher, with no patients classified as poor; most were classified as moderate-to-good (67.67%). As for overall health scores,

55.33% of patients were categorized as moderate-to-poor. These results highlight the significant impact of HF on QoL, with generally low scores across domains. This finding aligns with the study by Ghuloom and Sanad (2022), which reported that among 250 HF patients, 74.8% had poor QoL, 21.6% had moderate QoL, and 3.6% had good QoL [6].

The QoL scores in our study are lower compared to some other national and international studies. For example, Truong Phi Hung (2023) reported reduced QoL across all physical and mental health domains, with median scores of 44.3 (30.5 - 52.1) and 46.9 (32.1 - 58.8), respectively [7]. The COACH study (2012) demonstrated reduced QoL among HF patients across most domains, except for pain perception [8]. Similarly, Chatzinikolaou et al. (2021), using the SF-36 scale, found a mean overall health score of 45.69  $\pm$ 21.75, a physical functioning score of  $64.75 \pm 33.72$ , and an emotional health score of  $50.95 \pm 18.67$  [9]. Our findings indicate more severe physical health impairment compared to these studies, though mental health scores were comparatively higher, possibly reflecting patient sample characteristics or cultural and social factors.

We observed that elderly HF patients living with a spouse  $(41.82 \pm 15.06)$  and those with an educational attainment of high school or above  $(40.64 \pm 14.30)$ had significantly higher QoL scores compared to those who were single/ widowed  $(27.35 \pm 7.02)$  or had an educational attainment below high school  $(35.11 \pm 14.44)$  (p < 0.05). No statistically significant differences in QoL were found between age groups, genders, or NYHA classifications across both the KCCQ and SF-36 scales. The SF-36 questionnaire is a very popular instrument for evaluating health-related QoL [4]. The KCCQ has been widely recognized for its sensitivity and specificity in measuring the health status of HF patients [5]. These findings underscore the critical role of familial support and care in improving the QoL of HF patients. Higher educational attainment may be associated with better disease understanding, treatment adherence, and access to healthcare services [6].

## CONCLUSION

The study conducted on 300 elderly HF patients hospitalized at Thong Nhat Hospital in 2023 revealed that 55.33% of patients had moderate-to-poor overall health scores. Physical health scores were notably low  $(23.51 \pm 19.61)$ , with

the majority classified as poor (62%) or moderate-to-poor (27.33%). Mental health scores were relatively better (57.84  $\pm$  10.84), with 67.67% classified as moderate-to-good. Marital status, educational attainment, duration of illness, and comorbidities such as atrial fibrillation were significant factors influencing the QoL of elderly HF patients.

## REFERENCES

1. Riedinger M, Dracup K, Brecht M. SOLVD investigatos studies of left ventricular dysfunction. Quality of life in women with heart failure, normative groups, and patients with other chronic conditions. *Am J Crit Care*. 2002; 11(3):211-219.

2. Zambroski CH, Moser DK, Bhat G, et al. Impact of symptom prevalence and symptom burden on quality of life in patients with heart failure. *European Journal of Cardiovascular Nursing*. 2005; 4(3):198-206.

3. Heo S, Lennie TA, Okoli C, et al. Quality of life in patients with heart failure: Ask the patients. *Heart Lung*. 2009; 38(2):100-108.

4. Lins L, Carvalho FM. SF-36 total score as a single measure of health-related quality of life: Scoping review. *SAGE Open Med.* 2016; 4:2050312116671725.

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5. Spertus JA, Jones PG. Development and validation of a short version of the Kansas City Cardiomyopathy Questionnaire. *Circulation: Cardiovascular Quality Outcomes.* 2015; 8(5):469-476.

6. Ghuloom AM, Sanad HM. Perceived quality of life in patients with heart failure: A cross-sectional study among adults in Kingdom of Bahrain. *Arab Gulf Journal of Scientific Research*. 2023; 41(1):67-76.

7. Hùng TP, Hiền TT. Đánh giá chất lượng cuộc sống liên quan đến sức khỏe trên bệnh nhân suy tim mạn: nghiên cứu cắt ngang tại Hải Dương, Việt Nam. *Tạp chí Y học Việt Nam.* 2023; 533(1).

8. Postmus D, van Veldhuisen DJ, Jaarsma T, et al. The COACH risk engine: A multistate model for predicting survival and hospitalization in patients with heart failure. *European Journal of Heart Failure*. 2012; 14(2):168-175.

9. Chatzinikolaou A, Tzikas S, Lavdaniti M. Assessment of quality of life in patients with cardiovascular disease using the SF-36, MacNew, and EQ-5D-5L questionnaires. *Cureus*. 2021; 13(9).