QUALITY OF LIFE OF THE OLDER PEOPLE
WITH CARDIOVASCULAR DISEASES IN THAI BINH

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ABSTRACT

Objective: To assess the quality of life of older people with cardiovascular diseases in Thai Binh province in 2024.

Subjects and research methods: A cross-sectional study in the community. The research subjects were 264 older people (≥ 60 years old) with cardiovascular diseases living in 5 communes in Dong Hung district, Thai Binh, from April 2024 to June 2024.

Results: The average score of the quality of life of the older people with cardiovascular diseases in general (0.5431) was significantly lower than the quality of life of the older people aged 65 years and older in the general population (0.89), as well as significantly lower than the quality of life of the older people with cardiovascular diseases in Hanoi (0.7176). Only people with rheumatic heart disease had a better quality of life (0.8351). The diseases that have the most significant impact on the lives and activities of patients are cerebrovascular disease (0.2325), pulmonary heart disease, and pulmonary circulation (0.2308). Anxiety, sadness, pain, and/or discomfort are the factors that most affect the quality of life.

Conclusion: Health education and propaganda efforts are necessary to help older people comprehend the illness and feel comfortable receiving treatment, in order to improve their quality of life.

Keywords: Quality of life, older people, cardiovascular diseases, EQ-5D-5L.

1. INTRODUCTION

Cardiovascular disease (CVD) is the leading cause of death worldwide, accounting for approximately 17.3 million deaths annually. This number is projected to rise to 23.6 million by 2030, with nearly 80% of these deaths occurring in low- and middle-income countries [1]. According to the American Heart Association (AHA), the prevalence of CVD in both men and women in the United States increases with age, affecting about 40% of individuals aged 40–59 years, 75% of those aged 60–79 years, and approximately 86% of individuals aged 80 years and older [2]. Patients with cardiovascular disease often experience a range of symptoms, including fatigue, dyspnea, and chest pain, which significantly impact their physical, emotional, and social well-being, leading to a considerable decline in quality of life (QoL) [3], especially among older people.

Quality of life (QoL) is a broad concept used to evaluate the overall well-being of individuals and societies, encompassing physical health, mental and emotional state, and social functioning. In a systematic review conducted by Ting Zhou and colleagues involving 9,400 patients with various diseases, the use of the EQ-5D-5L instrument revealed that QoL scores among cardiovascular disease patients were relatively low, ranging from 0.56 to 0.85 across different studies [4]. QoL has increasingly been recognized as an essential outcome indicator for assessing the effectiveness of cardiovascular interventions.

In Vietnam, several studies have assessed

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health-related quality of life among older people using the EQ-5D-5L instrument. However, QoL may be influenced by a variety of factors, including disease characteristics, cultural background, economic status, and social conditions. Therefore, we conducted this study to assess the quality of life among older people with cardiovascular disease in Thai Binh Province in 2024.

2. SUBJECT AND METHOD

2.1. Subject

Older patients with common cardiovascular conditions.

- Inclusion Criteria:

+ Patients aged ≥ 60 years diagnosed with at least one cardiovascular disease classified under ICD-10 by a healthcare facility.

+ Voluntarily participated in the study.

- Exclusion Criteria:

Patients meeting one or more of the following criteria:

+ Declined to participate in the study.

+ Had difficulty completing the research survey/ questionnaire.

+ Too frail or critically ill to participate in the study.

2.2. Study setting and duration

The study was conducted in five communes of Dong Hung district: Hop Tien, Phong Chau, Dong Hung town, Dong Son, and Phu Chau; from April 2024 to June 2024.

2.3. Methods

- Study design: A cross-sectional study utilizing a cardiovascular disease-specific quality of life assessment tool in community settings to evaluate quality of life among older patients with common cardiovascular conditions.

- Sample size and sampling: Purposive sampling was employed. All older people identified with cardiovascular diseases during community-based cardiovascular disease screening were assessed for quality of life using standardized measurement scales. The final study sample comprised 264 participants.

- EQ-5D-5L Scoring methodology: The EQ-5D-5L instrument, a European Research Consortium-validated health-related quality of life assessment tool, evaluates five dimensions: mobility, self-care, usual activities, pain/ discomfort, and anxiety/depression. Each

dimension is graded across five severity levels: no problems, slight problems, moderate problems, severe problems, and extreme problems. Quality-of-life index scores were converted using the Vietnamese value set (range: 0-1), with higher scores indicating better quality of life.

2.4. Data Collection and Processing:

The collected data were entered and managed in Excel 2010, then processed using biomedical statistical algorithms with SPSS 22.0 software.

3. RESULTS

3.1. Characteristics of the Study Population

The majority of participants were aged 60–65 years (40.53%), followed by the >65–70 age group (29.55%), the >70–75 group (16.57%), and the >75–80 group (7.58%). Only 15 subjects were over 80 years old (5.68%). The mean age was 67.64 ± 10.3 years. Males predominated, accounting for 57.20% of the sample.

Most participants were of Kinh ethnicity (59.85%), followed by Tày (15.91%) and Mường (11.36%) ethnic groups.

The majority of older people residing in Thái Bình Province had attained education up to lower secondary level (47.35%), followed by primary education (28.03%) and upper secondary education (15.91%). Only 3.03% held a college degree or higher. Most subjects were farmers (73.86%), and the poverty rate among households was 35.98%.

3.2. Quality of life in older people with cardiovascular diseases

The majority of cardiovascular disease patients reported experiencing anxiety/depression and pain/discomfort, with rates of 95.5% and 93.6%, respectively. Difficulties in mobility, self-care, and usual activities were observed at lower frequencies (21.6%, 31.1%, and 36%, respectively). No EQ-5D-5L dimension reached the most severe level (Figure 1).
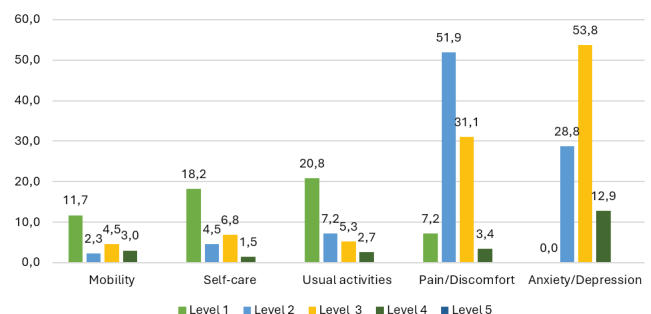

Figure 1. Quality of life according to the EQ-5D-5L scale (n=264)

Table 1. Quality of life scores among older adults with cardiovascular diseases, as measured by the EQ-5D-5L scale

Characteristics	Mean score	SD
Heart failure	0.5021	0.0732
Arrhythmia	0.5084	0.1012
Hypertension	0.6781	0.0669
Cerebrovascular disease	0.2325	0.0653
Ischemic heart disease	0.3211	0.0801
Cardiomyopathy	0.3321	0.0852
Infective endocarditis	0.4686	0.0911
Arterial/venous diseases	0.6125	0.1102
Pulmonary heart disease and pulmonary circulation disorders	0.2308	0.0622
Rheumatic heart disease	0.8351	0.1414
Average	0.5431	0.1005

Overall, all 264 older people cardiovascular patients demonstrated relatively low quality of life, with a mean overall score of 0.5431. Among these, rheumatic heart disease patients showed significantly higher quality of life compared to other cardiovascular conditions (coefficient: 0.8351). The diseases most severely affecting patients' daily living were cerebrovascular disease (0.2325) and cor pulmonale/pulmonary circulatory disorders (0.2308)

Table 2. Quality of life in older patients with hypertension using the EQ-5D-5L scale

ICD10 Code	Condition	Mean score	SD
I10	Essential (primary) hypertension	0.3084	0.0531
I11+ I12+ I13+I15	Secondary hypertension	0.3891	0.0721

In the group of patients with hypertension (HTN), those with essential hypertension had significantly lower EQ-5D-5L scores compared to those with secondary hypertension.

Table 3. Quality of life in older patients with cardiac arrhythmias according to the EQ-5D-5L Scale

ICD10 Code	Condition	Mean score	SD
I44	Atrioventricular block and left bundle branch block	0.4821	0.1011
I45	Other conduction disorders	0.5124	0.0009
I47	Paroxysmal tachycardia	0.4088	0.0006
I48	Atrial fibrillation and atrial flutter	0.5384	0.1001
I49	Other cardiac arrhythmias	0.5452	0.1008

Among patients with arrhythmias, paroxysmal tachycardia most significantly impacted patients' quality of life, followed by atrioventricular block and left bundle branch block.

Table 4. Quality of life in older patients with cerebrovascular diseases according to the EQ-5D-5L Scale

ICD10 Code	Condition	Mean score	SD
I60	Subarachnoid hemorrhage	0.1998	0.0611
I61+ I62	Intracerebral hemorrhage	0.2052	0.0583
I63	Cerebral infarction	0.2117	0.0544
I64	Stroke, not specified as hemorrhage or infarction	0.2427	0.0651
I66 +I67 +I68+I69	Other cerebrovascular diseases	0.2443	0.0683

Among cerebrovascular diseases, the cerebral hemorrhage and infarction groups had the lowest quality of life.

Table 5. Quality of life in older patients with pulmonary heart disease and pulmonary circulation disorders according to the EQ-5D-5L Scale

ICD10 Code	Condition	Mean score	SD
I26	Pulmonary embolism	0.1975	0.0516
I27	Other pulmonary heart diseases	0.2488	0.0624
I28	Other diseases of the pulmonary vessels	0.2605	0.0671

Among patients with pulmonary heart disease and pulmonary circulation disorders, the pulmonary embolism group had the lowest quality of life scores.

Table 6. Quality of life in older patients with arterial diseases according to the EQ-5D-5L Scale

ICD10 Code	Condition	Mean score	SD
I70	Atherosclerosis	0.5344	0.1007
I71	Aortic aneurysm and dissection	0.4492	0.1012
I74	Arterial embolism and thrombosis	0.4614	0.1074
I72+73+I77+I78+I79	Other arterial diseases	0.5383	0.1107

Among arterial diseases, the aortic aneurysm/dissection and arterial embolism/thrombosis groups had the lowest quality of life scores.

4. DISCUSSION

This study assessed the quality of life in 264 older patients with cardiovascular diseases (CVDs) identified through community-based disease structure screening. Results showed the mean EQ-5D-5L score for older CVD patients in Thai Binh province was 0.5431 ± 0.1005. Compared to the general Vietnamese population score (0.94) and the Vietnamese older people (≥65 years) score (0.89) [5]. Most CVDs significantly impair the quality of life of older people. Our results are considerably lower than those of older CVD patients in Hanoi (0.7176) [6]. This discrepancy may stem from socioeconomic differences, as education levels and economic conditions in Thai Binh are substantially lower than in Hanoi [6], indicating these factors significantly influence the older people's quality of life.

Regarding specific CVDs, rheumatic heart disease had a significantly higher quality of life (0.8351),

followed by hypertension (0.6781) and venous diseases (0.6125). Conditions most severely impacting patients' lives were cerebrovascular disease (0.2325) and pulmonary heart/pulmonary circulation disorders (0.2308), particularly subarachnoid hemorrhage (0.1998) and pulmonary embolism (0.1975). This variation is mainly attributable to clinical symptom burden. Older CVD patients experience numerous symptoms, with symptom prevalence and burden being major predictors of reduced quality of life. Post-stroke patients exhibit physical and psychological symptoms significantly impairing quality of life, including upper limb paralysis (79%), lower limb paralysis (64%), speech disorders (33%), arrhythmias (16%), and cardiac conduction abnormalities (31%) [7]. However, active treatment significantly improves stroke patients' quality of life within 4 months [7], underscoring the need for patient education, early symptom detection, and timely intervention to mitigate stroke consequences. Another study of 53 heart failure patients using health-related QoL scales revealed frequent symptoms: dyspnea (85.2%), fatigue (84.9%), sleep disturbances (64.2%), chest pain (53.7%), and psychological symptoms (anxiety, sadness, irritability) in >70% of affected individuals [3]. Other conditions (heart failure, hypertension, ischemic heart disease, cardiomyopathy) also show suboptimal QoL scores (0.4–0.5), as patients require lifelong medication post-hospitalization and face recurrent acute exacerbations necessitating rehospitalization. Disease exacerbations severely disrupt patients' lives. Medication adherence is particularly challenging for older people, often requiring family assistance. Additionally, CVDs indirectly impair QoL through negative emotional responses like anxiety and depression. These factors collectively explain the reduced QoL in this population.

The EQ-5D-5L instrument demonstrates that better QoL is more frequently reported by both healthier individuals and those unaware of their health status. In our study, anxiety/depression and pain/discomfort were the most impactful QoL dimensions. Essential hypertension patients showed lower EQ-5D-5L scores than secondary hypertension patients, aligning with Hortega's population-based findings [8]. Known hypertensive patients report more bodily pain than those with undiagnosed hypertension [9], suggesting that disease awareness or treatment burden, rather than hypertension itself, primarily drives QoL reduction.

5. CONCLUSION

Among 264 surveyed older CVD patients in Thai Binh province, the mean overall EQ-5D-5L score was

0.5431, indicating substantially impaired quality of life. Only rheumatic heart disease patients exhibited relatively better QoL. Cerebrovascular disease (0.2325) and pulmonary heart/pulmonary circulation disorders (0.2308) most severely impacted patients' lives. Other conditions (heart failure, hypertension, ischemic heart disease, cardiomyopathy) showed suboptimal QoL scores (0.4–0.5). Anxiety/depression and pain/discomfort were primary QoL determinants across all older people CVD patients, highlighting the necessity of targeted health education and awareness campaigns to improve treatment adherence and peace of mind.

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