

The Influence of Anxiety, Self-Efficacy, and Quality of Life in Coronary Heart Disease Patients

Yeni Koto^{1*}, Santhna Letchmi Panduragan¹, Sandeep Poddar¹, Solehudin Solehudin², Agus Purnama², Saldi Susaldi²

¹Lincoln University College, Wisma Lincoln, 12-18, Jalan SS 6/12, 47301 Petaling Jaya, Selangor, Malaysia

²Nursing Study Program, Faculty of Health Sciences, Advanced Indonesia University, 12610 Jakarta, Indonesia

*Corresponding Author's Email:kyoto.yeni16@gmail.com

ABSTRACT

Background: Coronary heart disease (CHD) is a serious public health problem and requires an in-depth understanding of the factors that influence it, including anxiety and self-efficacy. The aim of the research was to determine the effect of anxiety and self-efficacy on the quality of life of coronary heart disease patients. **Methods:** The type of research used is correlation analysis with a cross-sectional approach. The population in the study was 70 patients with coronary heart disease at a heart hospital in Indonesia. The collection technique used total sampling, so the total sample consisted of 70 respondents. The research instrument used was the Depression Anxiety Stress Scales (DASS)21, General Self-Efficacy Scale, and Medical Outcomes. Study Short Form 36. **Results:** The results of statistical tests for each independent variable have a partial effect on the dependent variable. The significance value for the anxiety variable is 0.034, and self-efficacy is 0.001. Simultaneous test results obtained a sig value of 0.002, meaning that anxiety and self-efficacy influence the quality of life of patients with coronary heart disease. **Conclusions:** Patients with lower levels of anxiety tend to have a better quality of life. A high level of self-efficacy is positively correlated with a better quality of life in coronary heart disease patients. The results of this study can provide a basis for designing more effective clinical interventions, such as stress management programs or self-empowerment programs, to improve the quality of life of coronary heart disease patients.

Keywords: Anxiety; Self Efficacy; Quality of Life; Coronary Heart Disease

INTRODUCTION

Coronary Heart Disease is a medical condition that occurs when the coronary blood vessels that supply blood to the heart muscle become narrowed or blocked (He *et al.*, 2023). These coronary blood vessels carry oxygen and nutrients to the heart muscle, which is essential for normal heart function. The main cause of coronary heart disease is the buildup of atherosclerotic plaque on the walls of the coronary arteries. Atherosclerotic plaque consists of fat, cholesterol, blood cells, and fiber (Björnson *et al.*, 2023). This plaque can harden, narrowing blood vessels, and even rupture, forming blood clots that can block blood flow to the heart muscle (Liu *et al.*, 2023).

Coronary heart disease can have a serious impact on sufferers, affect quality of life, and cause life-threatening complications. Coronary Heart Disease can increase the risk of sudden death (Boccanelli & Scardovi, 2023), especially if a heart attack or serious arrhythmia occurs. Sufferers may experience physical limitations and difficulty carrying out daily activities due to a weakened heart. Coronary heart disease can also have psychological impacts (Xu *et al.*, 2023), such as anxiety, depression, or higher stress (Bouchard *et al.*, 2023).

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Coronary Heart Disease can have a significant impact on a patient's quality of life (Al-Maskari *et al.*, 2023). Patients experience limitations in carrying out daily physical activities due to weakness of the heart muscle (Xu *et al.*, 2023). Shortness of breath and fatigue can reduce the patient's ability to undertake physical and social activities, thereby limiting quality of life (Hailin *et al.*, 2023). Patients experience chest pain or discomfort, which can create physical discomfort and anxiety. This can affect emotional aspects and mental well-being. Patients are often required to make significant changes in their lifestyle.

Coronary Heart Disease can cause stress, anxiety and depression. Physical limitations, uncertainty about health, and lifestyle changes can be factors that contribute to psychological problems (Nan *et al.*, 2023). Limited physical activity and changes in the sufferer's ability to engage in social activities can affect interpersonal relationships and social life. Patients experience fear of repeated heart attacks or sudden death, which can affect daily life and quality of life (Moazzami *et al.*, 2023). Another study showed that Lavender oil improved sleep quality and decreased the anxiety of coronary heart disease patients who were admitted to the ICU (Hartono *et al.*, 2021).

Good management, social support, and a holistic approach to health care can help mitigate these impacts (Sannemann *et al.*, 2023). Good health education, emotional support, and appropriate treatment planning can also improve the quality of life for CHD sufferers (Saini *et al.*, 2022). A health care team consisting of doctors, nurses, and other health professionals can provide the support needed to help sufferers manage their condition and improve their quality of life (Lundgren *et al.*, 2022).

Self-efficacy refers to a person's belief in their ability to succeed in carrying out certain tasks or overcoming challenges. Self-efficacy can play an important role in influencing their quality of life (Putri & Hudiyawati, 2022). Self-efficacy can influence the ability of CHD sufferers to manage their own health conditions. If someone has high self-confidence, they are more likely to be able to follow a treatment plan, adhere to medication, and adopt a healthy lifestyle. Sufferers require long-term treatment (Blanck *et al.*, 2024). A high level of self-efficacy can increase the likelihood of compliance with a treatment plan, including taking medication regularly and following medical care instructions (Nuraeni *et al.*, 2023).

Coronary Heart Disease sufferers need to make significant changes in their lifestyle, such as diet and physical activity. High self-confidence can help them overcome obstacles and adapt to these changes (Marichi *et al.*, 2023). Self-efficacy can play an important role in CHD sufferers' ability to manage stress and anxiety related to their health condition. A high level of self-confidence can help them face challenges better. Increasing self-efficacy can be achieved through approaches that involve social support, health education, and the development of necessary skills (Kargar *et al.*, 2021). Health professionals can play an important role in providing the information, support, and motivation needed to increase self-efficacy in people with CHD, with the aim of improving their quality of life.

The aim of this research is to examine the influence of anxiety and self-care on the quality of life of people with coronary heart disease.

METHODOLOGY

Participants

The type of research used is correlation analysis with a cross-sectional approach. The population in the study was 70 patients with coronary heart disease at a heart hospital in Indonesia. The collection technique used total sampling, so the total sample was 70 respondents. All respondents in this study have obtained informed consent, and they are willing to fill out the questionnaire.

Instruments

Anxiety was measured with the Depression Anxiety Stress Scales (DASS) 21. The scores of the DASS-21 and its subscales may be used to reflect on symptoms of distress (Ali *et al.*, 2021). This study only used 14 questions from the DASS, consisting of a total of 42 questions, namely only for the Anxiety scale. Self-efficacy is measured using the General Self-Efficacy Scale (GSES). It consists of 10 questions detailing common situations that require resilience and self-confidence. The results of the validity and reliability test of this instrument had a

Cronbach's value of 0.95 (He *et al.*, 2023). Quality of life is measured using a Quality of Life (QoL), Medical Outcomes Study Short Form-36 (SF-36) 36 questions measuring eight domains, including physical health, social functioning, and mental health. This instrument is valid and reliable based on the results of validity and reliability tests with a Cronbach's alpha value of 0.7–0.9 (McNamara *et al.*, 2023).

Data Collection

Research data collection was carried out in January 2024. Respondents who were recruited at hospitals were previously given informed consent to obtain consent from the respondents. The researcher introduced himself, explained his research, and obtained their consent. After the respondent agrees to take part in the research, the researcher provides a questionnaire for the respondent to fill out. Completing the questionnaire takes approximately 10 minutes. If a respondent asked a question or expressed concern, the researcher clarified the content of the question. Next, the researcher checked the completed questionnaire and ensured that the respondent had filled in all the questions.

Statistical Analysis

Respondent characteristics—*anxiety, self-efficacy, and quality of life*—were processed using descriptive statistics. Statistics to test the relationship between *anxiety, self-efficacy, and quality of life* use the Multiple Logistic Regression Test.

Ethical Consideration

The present research received ethical approval from Department of Ethics and Research, Advanced Indonesia University, Indonesia based on number 7376/Sket/Ka-Dept/RE/UIMA/XII/2023 on 26th December, 2023.

RESULTS

The characteristics of the research respondents obtained data as explained in the table below:

Table 1: Sociodemographic Characteristics

Social Demographics	Frequency	Percentage (%)
Age		
Mature	23	32.9
Elderly	47	67.1
Gender		
Male	38	54.3
Female	32	45.7
Work		
Not Work	31	44.3
Work	38	55.7
Marital Status		
Divorced	20	28.6
Married	48	68.6
Not Married	2	2.9

Based on table 1, the dominant characteristics of respondents for elderly are at 67.1%, male at 54.3%, working at 55.7%, married at 68.6%. There is complexity in the relationship between age, anxiety, self-efficacy, and quality of life. Anxiety levels can tend to decrease with age. As people grow older, they may develop higher levels of self-efficacy. The quality of life can improve with age, especially if a person can overcome challenges and live a meaningful life. The results showed general trends, and there were large individual variations between men and women. Changes in gender and societal norms may influence these

dynamics over time. Jobs with high levels of stress or constant work pressure can contribute to higher levels of anxiety. Work that provides challenges and opportunities to achieve success can increase self-efficacy. Occupation plays an important role in determining a person's income level and economic status. This aspect can have an impact on quality of life, including access to health services, education, and a comfortable life. Individuals who are married or in a stable relationship often have greater emotional support. In a healthy marriage, partners can support and collaborate with each other, strengthening their sense of self-efficacy. A supportive marriage can provide a consistent source of social and emotional support, which can improve the quality of life.

An overview of the research variables is explained below:

Table 2: Description of Research Variables

Variabel	Frequency	Percent
Quality of Life		
Bad	24	34.3
Good	46	65.7
Self Efficacy		
Low	21	30.0
High	49	70.0
Anxiety		
Normal	11	15.7
Mild	36	51.4
Moderate	22	31.4
Severe	1	1.4

Table 2 explains that the description of respondents based on research variables is as follows: respondents' quality of life was dominantly good at 65.7%, high self-efficacy at 70.0%, mild anxiety at 51.4%. The majority of respondents felt satisfied or even very satisfied with their lives. This can be attributed to a variety of factors, including good physical and mental health, adequate social relationships, job satisfaction, and other factors that support well-being. Most respondents believe in their ability to overcome the tasks and challenges they face in life. High levels of self-efficacy can be associated with strong motivation, higher personal accomplishment, and the ability to overcome obstacles with self-confidence. Most respondents probably experienced anxiety at a level that could be considered mild or moderate. Mild anxiety can be a natural response to stress or challenges in life. If this anxiety becomes excessive or has a negative impact on quality of life, it needs to be identified and treated.

Table 3: The Influence of Anxiety, Self-Efficacy on Quality of Life

Variables	B	S.E.	Wald	Sig.	Exp(B)
Anxiety	-2.357	1.110	4.511	0.034	0.095
Self Efficacy	-2.308	0.673	11.746	0.001	0.100
Constant	3.357	1.059	10.045	0.002	28.703

Based on table 3, the regression equation is $Y = X_1 + X_2$. Quality of Life = -2.357 (Anxiety) + (-2.308) (Self Efficacy). The regression equation can be analyzed as follows: The constant is 3.357, which means that if there is an increase in anxiety and self-efficacy, there will be a change in quality of life. The regression coefficient for the anxiety variable is -2.357 (negative), which means that every time there is a decrease in anxiety, there will be an increase in the quality of life. The regression coefficient for the self-efficacy variable is

-2.308 (negative), which means that every time there is a decrease in self-efficacy, there will be a decrease in the quality of life. To test the hypothesis that each independent variable partially influences the dependent variable, it was found that the significance value for the anxiety variable was 0.034, meaning that partially anxiety (X1) significantly influences the quality of life. The significance value for the self-efficacy variable is 0.001, meaning that partially self-efficacy (X2) significantly influences the quality of life. Simultaneous test results obtained a sig value of 0.002, meaning that anxiety and self-efficacy influence the quality of life of coronary heart disease patients.

DISCUSSION

The Influence of Anxiety on Quality of Life

The relationship between anxiety and quality of life is complex, and many factors can influence this dynamic. Anxiety is an emotional response to uncertainty or threat. Anxiety levels can vary from mild to severe and can affect various aspects of daily life. Quality of life shows an individual's assessment of their satisfaction and happiness with their life as a whole (Iswahyudi *et al.*, 2020). This includes various dimensions such as physical health, social relationships, work, and the living environment.

High or chronic anxiety can have a negative impact on quality of life. Individuals who experience anxiety may have difficulty enjoying daily life, navigating social relationships, or feeling satisfied with work and personal accomplishments (Nuraeni & Mirwanti, 2017). Untreated anxiety can be linked to mental and physical health problems, which in turn can affect the overall quality of life. The presence of strong social support can function as a mediating factor, helping to reduce the impact of anxiety on quality of life (Purnama, 2020). Support from friends, family, or the community can provide emotional resources to overcome anxiety. Individuals with a tendency to use effective coping strategies may be better able to manage anxiety and maintain their quality of life. Psychological interventions such as psychotherapy or counseling can help individuals identify and manage their anxiety. It can improve coping skills and restructure thought patterns that can be detrimental to quality of life (Arifudin & Kristinawati, 2023). Early prevention of anxiety and efforts to increase mental health awareness can have a positive impact on overall quality of life.

Overcoming anxiety and improving quality of life involve a variety of strategies that can help individuals manage stress, build mental resilience, and achieve holistic well-being. Cognitive Behavioral Therapy (CBT) can help individuals identify and change negative thought patterns and develop healthier coping skills. Mindfulness-Based Stress Reduction (MBSR) or mindfulness training can help individuals become more aware of their thoughts and feelings, reduce anxiety, and improve quality of life (Umara *et al.*, 2017). Deep, controlled breathing techniques can help lower stress levels and improve well-being. Regular meditation can help relieve anxiety, improve focus, and create a feeling of calm. Physical activity can increase the production of endorphins, hormones that can improve mood and reduce anxiety. Yoga or Tai Chi; both of these activities involve body movement, breathing, and mental focus, which can help reduce stress and improve well-being (Liu *et al.*, 2022).

Setting goals that can be achieved gradually can provide a feeling of accomplishment and increase motivation. Setting priorities, schedule must be managed well, and allowing time for rest can help reduce stress while increasing efficiency. Sharing feelings and concerns with friends, family, or mental health professionals can provide important emotional support (Alfian *et al.*, 2017). Joining a group with similar interests or experiences can provide social support and understanding. Sleep deprivation can worsen anxiety and affect the quality of life. Make sure to get enough quality sleep every night. A balanced, nutrient-rich diet can support physical and mental health and play a role in managing anxiety. Improving communication skills can help individuals resolve conflict, build healthy relationships, and feel more confident in social interactions (Laili & Purnamasari, 2019). Each individual responds differently to these strategies, so they can adapt the approach according to their personal needs and preferences. If anxiety or other mental health concerns become significant, consultation with a mental health professional is recommended for more targeted assistance.

The Influence of Self-Efficacy on Quality of Life

The influence of self-efficacy on quality of life reflects how a person's belief in their own abilities (self-efficacy) can influence the level of satisfaction and happiness in their life as a whole. Self-efficacy is an individual's belief in his or her ability to successfully complete a task or overcome certain challenges. Individuals with high levels of self-efficacy tend to feel more able to cope with various aspects of life, whether in terms of work, relationships, or personal achievements (Barham *et al.*, 2019). This can provide a feeling of independence and control over their lives. High self-efficacy can increase motivation to set and achieve goals. The ability to set realistic goals and be confident in achieving them can enrich the quality of life.

High self-efficacy can help individuals become more resilient to stress and challenges. They may be better able to adapt to change, manage stress, and overcome obstacles effectively. High levels of self-efficacy can contribute to reduced levels of anxiety, as individuals feel more confident and capable of dealing with potentially stressful situations (Kristinawati *et al.*, 2023). High self-efficacy can help motivate individuals to achieve more in their lives. These accomplishments, whether in career, education, or relationships, can improve quality of life (Shackleford *et al.*, 2019). Individuals with high self-efficacy tend to reward themselves for their achievements, which can have a positive impact on quality of life (Akhmad, 2018).

High self-efficacy can influence social relationships. Individuals with strong self-efficacy may be more likely to seek positive social support and build supportive relationships, which may improve their quality of life. Self-efficacy can influence learning outcomes and educational achievement (Werner *et al.*, 2021). Individuals with high self-confidence in their learning abilities tend to achieve better academic performance. An analysis of the relationship between self-efficacy and quality of life highlights the importance of strengthening individual self-beliefs to improve overall well-being (Du *et al.*, 2022). Efforts to increase self-efficacy through approaches such as skill development, positive experiences, and social support can have a positive impact on quality of life.

Increasing self-efficacy involves a variety of strategies aimed at strengthening an individual's belief in their ability to achieve goals and overcome challenges. Set realistic goals. Setting measurable and realistic goals helps build self-confidence. Break down big goals into smaller, more achievable steps, and celebrate each small accomplishment. Positive experience creation: creating positive experiences can build self-confidence. Start with easier tasks and increase their complexity over time (Oktandora & Hudiyawati, 2023). Repeated success will strengthen self-confidence. Overcoming fears and challenges: fears must be identified or obstacles that may be preventing from achieving the goals. Develop strategies to overcome or face these fears gradually, which will help increase self-confidence. Positive reinforcement: a positive reinforcement must be asserted. Positive thoughts about personal abilities and achievements must be cultivated. Negative self-talk must be avoided, and focus should be on personal achievements and strengths. Skills development: improving skills and knowledge can increase self-efficacy (Wang *et al.*, 2017). Education and training can help individuals feel better prepared to face certain tasks or challenges.

Individual comfort zone must be expanded; going beyond the comfort zone regularly can help expand the boundaries of self-efficacy. New challenges provide opportunities to grow and achieve new achievements. Realistic thinking must be maintained; forming realistic thoughts about one's abilities is key to success. Acknowledge limitations, but also focus on personal strengths and potential. Using role models-watching or working with people who have abilities and expertise in a desired area-can provide inspiration and show that achievement is possible (Zhang *et al.*, 2020). Social support: Getting social support from friends, family, or mentors can provide additional encouragement to build self-efficacy. They can provide support, constructive feedback, and confidence in an individual's abilities. Evaluation and learning from failure: viewing failure as an opportunity to learn and grow is an important aspect of increasing self-efficacy (Pardo *et al.*, 2023). Analyze what can be learned from failures and use the information for future improvements.

Increasing self-efficacy is an ongoing process and requires patience. A combination of these strategies, tailored to individual needs, can help strengthen self-confidence and have a positive impact on goal

achievement and overall quality of life.

The Influence of Anxiety, Self-Efficacy, and Quality of Life in Coronary Heart Disease Patients

Anxiety can often have a negative impact on the quality of life of people with coronary heart disease. Anxiety can increase blood pressure and heart rate, worsen symptoms, and limit physical activity. Anxiety can create a negative cycle in which fear of a heart attack or worry about health causes additional stress, worsening symptoms, and reducing quality of life (Dewi, 2017). High self-efficacy can help individuals manage coronary heart disease more effectively. Confidence in one's ability to follow treatment, adopt a healthy lifestyle, and cope with stress can improve quality of life. Education and support programs that strengthen self-efficacy can provide knowledge and skills to manage illness, reduce anxiety, and improve quality of life. Poor quality of life can worsen anxiety levels and harm self-efficacy. Conversely, improving quality of life can have a positive effect on mental and physical well-being. The approach to improving the quality of life for people with coronary heart disease needs to be holistic, including physical, mental, and social aspects (Nuraeni *et al.*, 2023).

Anxiety management strategies, such as cognitive behavioral therapy or relaxation techniques, can help reduce the impact of anxiety on quality of life (Santiv  nez-Acosta *et al.*, 2020). Health education programs focused on developing self-efficacy can increase individuals' confidence in managing their own conditions. Support from family, friends, or a support group can provide a sense of emotional and social support, which can have a positive influence on quality of life (Jumayanti *et al.*, 2020). The role of health professionals is very important in guiding individuals with coronary heart disease. Providing accurate information, emotional support, and designing appropriate management plans can play a key role.

The relationship between anxiety, self-efficacy, and quality of life in people with coronary heart disease is complex and mutually influencing. Intervention strategies that are holistic and focus on these factors can contribute to improving the well-being and quality of life of sufferers. So, World Health Organization (WHO) suggested the measurement of quality of life as one of the benchmarks of measurement in health and success of therapy, in addition to changes in frequency and severity of illness (Amalia, Said, & Nambiar, 2024).

CONCLUSION

Anxiety can have a significant impact on a person's quality of life. Anxiety can have a negative impact on various aspects of quality of life, including physical, mental, and social aspects. High levels of anxiety can contribute to mental health problems, such as depression, and can worsen certain physical conditions. Anxiety can affect social interactions, harm interpersonal relationships, and limit participation in social activities. Intervention strategies may include cognitive-behavioral therapy, relaxation techniques, and holistic approaches to dealing with stress. Effective treatment needs to understand the complexity of the relationship between anxiety and quality of life and provide appropriate support. High levels of self-efficacy can increase an individual's ability to overcome challenges and achieve goals, thereby improving their quality of life. High self-efficacy plays an important role in health management. Individuals who have high self-confidence in their ability to control health conditions can adopt healthy lifestyles and more effectively manage medical conditions. Increasing self-efficacy can be a key element in efforts to improve an individual's quality of life. Approaches to care and support that strengthen self-confidence can have a positive impact on aspects of a person's well-being and happiness in life.

Conflict of Interest

The authors declare that they have no competing interests.

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