

The Relationship Between Self-Care and Quality of Life in Patients With Coronary Artery Disease in Siloam Hospital Lippo Village

Sunanto Ng¹, Karin Pratiwi Oktaviani²

¹Department of Cardiology and Vascular Medicine, Faculty of Medicine, Pelita Harapan University, Tangerang, Indonesia

²Faculty of Medicine, Pelita Harapan University, Tangerang, Indonesia

Abstract

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Correspondance : Sunanto Ng

E-mail : sunanto.ng@uph.edu

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Background:

Coronary artery disease not only contributes to high mortality but also substantially impairs quality of life. Although self-care is recognized as a key component of chronic disease management, empirical evidence integrating disease-specific self-care assessment and symptom-based quality of life measurement in Indonesian populations remains limited.

Methods:

This analytical observational study employed a cross-sectional design involving 50 outpatients with CAD at Siloam Lippo Village Hospital (June–September 2023). Self-care was assessed using the Self-Care of Coronary Heart Disease Inventory (SC-CHDI), while quality of life was measured using the Seattle Angina Questionnaire (SAQ). Data were analyzed using the Chi-square test with a significance level of $p < 0.05$.

Result:

A total of 60% of participants demonstrated good self-care and quality of life. A significant association was observed between self-care and quality of life ($p = 0.038$; $OR = 4.125$; 95% CI: 1.235–13.782). Clinical factors including hypertension ($p = 0.007$), diabetes mellitus ($p < 0.001$), and angina severity grade ($p = 0.002$) were also significantly associated with quality of life.

Conclusion:

Self-care is a key determinant of quality of life in patients with CAD. Notably, the use of disease-specific instruments (SC-CHDI and SAQ) provided a more sensitive and clinically relevant assessment of the relationship between self-care behaviors and patient-reported outcomes, supporting the implementation of patient-centered care strategies in clinical practice.

Introduction

Coronary artery disease (CAD) is one of the leading causes of morbidity and mortality worldwide, including in Indonesia.¹ Globally, cardiovascular diseases account for the largest proportion of deaths from non-communicable diseases, with CAD as the primary contributor. In Indonesia, the high prevalence of risk factors—such as hypertension, dyslipidemia, diabetes mellitus, smoking, and sedentary lifestyle—exacerbates the burden of this disease. Furthermore, urbanization and changing lifestyle patterns have increased

the incidence of CAD among the working-age population, affecting not only individual health but also national productivity and economic burden.²

Beyond its impact on mortality, CAD carries significant long-term consequences for patients' quality of life.³ Patients with CAD frequently experience symptoms such as chest pain (angina), dyspnea, fatigue, and physical activity limitations that substantially affect daily functioning and psychological well-being. Quality of life is now recognized as an important indicator in evaluating treatment

outcomes, as it reflects patients subjective perceptions of their health status rather than relying solely on objective clinical parameters.⁴ Modern CAD management, therefore, focuses not only on reducing mortality but also on improving patients' quality of life.

Quality of life in patients with CAD is influenced by multiple interacting factors, including clinical condition, psychological status, social support, and the patient's capacity for self-care.⁵ Self-care is defined as an individual's ability to maintain health stability, monitor changes in their condition, and take appropriate action to manage disease symptoms independently.⁶ In the context of CAD, self-care encompasses medication adherence, lifestyle modification, and the ability to recognize and respond to symptoms at an early stage. Numerous studies have demonstrated that adequate self-care is associated with reduced symptom frequency, improved disease control, and enhanced quality of life.⁷

Despite the extensive discussion of self-care in the international literature, studies specifically evaluating the relationship between self-care and quality of life in patients with CAD in Indonesia remain scarce—particularly those employing standardized, disease-specific instruments such as the Self-Care of Coronary Heart Disease Inventory (SC-CHDI) and the Seattle Angina Questionnaire (SAQ). This gap in the literature is significant, given that differences in social, cultural, and healthcare system contexts may influence self-care behaviors and patients' perceptions of quality of life. Therefore, this study aimed to analyze the relationship between self-care and quality of life in patients with CAD at Siloam Lippo Village Hospital, with the expectation of contributing to the development of a more comprehensive, patient-centered management approach.

Material And Methods

This study employed an analytical observational design with a cross-sectional approach. The study population consisted of all outpatients with CAD receiving care at Siloam Lippo Village Hospital during the period from June to September 2023. The study sample was drawn using random sampling, with a minimum of 30 respondents required. Inclusion criteria comprised outpatients with CAD who had experienced symptoms within the preceding month and were willing to participate. Exclusion criteria included patients who did not complete the questionnaire in full or declined to participate.

Two validated questionnaires were used as instruments in this study: the Self-Care of Coronary Heart Disease Inventory (SC-CHDI) and the Seattle Angina Questionnaire (SAQ). The SC-CHDI was used to assess self-care capacity across three domains, maintenance, monitoring, and management using a 4-point Likert scale. The SAQ was used to evaluate CAD-specific quality of life across domains including physical limitation, angina frequency, treatment satisfaction, and quality of life perception.

Data collection was conducted by asking respondents to complete an informed consent form and the questionnaires independently. Confidentiality of all obtained data was ensured. Data analysis comprised univariate analysis to describe the frequency distribution of respondent characteristics and study variables, and bivariate analysis using the Pearson or Spearman correlation test to evaluate the relationship between self-care and quality of life. A statistical significance level of $p < 0.05$ was applied throughout.

Result

This study involved 53 respondents with CAD receiving outpatient care at Siloam Lippo Village Hospital during the period from June to September 2023. Three respondents were excluded for not meeting the inclusion criteria (i.e., absence of symptoms within the preceding month),

resulting in a final analyzed sample of 50 respondents.

The majority of respondents were older than 60 years of age (56%), male (68%),

and had a high level of education (76%). The distribution of respondent characteristics is presented in Table 1.

Table 1. Respondent Characteristics (n = 50)

Characteristics	n (%)
Age	
>60 years	28 (56%)
<60 years	22 (44%)
Gender	
Male	34 (68%)
Female	16 (32%)
Education	
High Education Level	38 (76%)
Low Education Level	12 (24%)

The majority of respondents demonstrated a good level of self-care (60%). An identical distribution was

observed for quality of life, with 60% of respondents classified as having a good quality of life.

Table 2. Self-Care Level of Respondents

Category	n (%)
Good	30 (60%)
Poor	20 (40%)

Table 3. Quality of Life Level of Respondents

Category	n (%)
Good	30 (60%)
Poor	20 (40%)

Bivariate analysis using the Chi-square test revealed a significant association between self-care and quality of life ($p=0.038$). Respondents with poor self-

care had a 4.125 times greater risk of having a poor quality of life compared with those with good self-care (OR=4.125; 95% CI: 1.235–13.782).

Table 4. Association Between Self-Care and Quality of Life

Self-Care	Good	Poor	Total	OR (95% CI)	p-value
Good	22 (44%)	8 (16%)	30	4.125 (1.235-13.782)	0.038
Poor	8 (16%)	12 (24%)	20		

In the self-care domain analysis, the majority of respondents achieved good scores in self-care maintenance (58%) and self-care confidence (60%), while self-

care management showed a balanced distribution between good and poor scores.

Table 5. Self-Care Domain Scores (SC-CHDI)

Domain	Good n(%)	Poor n(%)
Maintenance	29 (58%)	21 (42%)
Management	25 (50%)	25 (50%)
Confidence	30 (60%)	20 (40%)

Analysis of quality of life domains revealed variation across dimensions. Physical limitation was relatively better

compared with other domains, while angina stability and frequency tended to be poor in the majority of respondents.

Table 6. Quality of Life Domain (SAQ)

Domain	Good n(%)	Poor n(%)
Physical Limitation	31 (62%)	19 (38%)
Angina Stability	13 (26%)	37 (74%)
Angina Frequency	21 (42%)	29 (58%)
Treatment Satisfaction	24 (48%)	26 (52%)
Quality of Life Perception	22 (44%)	28 (56%)

Bivariate analysis also showed that sex ($p=0.804$) and education level ($p=0.893$) had no significant association with quality of life ($p>0.25$); therefore, both variables were not included in a multivariate model.

Of the five risk factors analyzed, three demonstrated significant associations with

quality of life: hypertension ($p=0.007$), diabetes mellitus ($p<0.001$), and CCS angina grade ($p=0.002$). By contrast, dyslipidemia ($p=0.289$) and history of PCI/CABG ($p=1.000$) did not show significant associations.

Table 7. Association Between Risk Factors and Quality of Life

Risk Factor	OR (95% CI)	p-value
Dyslipidemia	5.1 (0.4-53.1)	0.289
Hypertension	1.95 (1.4-2.6)	0.007
Diabetes Mellitus	21.0 (3.8-113.8)	<0.001
PCI/CABG	0.91 (0.2-3.4)	1.000
CCS Angina	-	0.002

Discussion

This study demonstrated a significant association between self-care and quality of life in patients with coronary artery disease (CAD). However, this finding should not be interpreted as a simple linear association; rather, it must be situated within a more complex conceptual framework integrating the self-regulation model of chronic illness, the biopsychosocial approach, and the patient-centered care paradigm. Within this perspective, self-care is not merely a health behavior but a dynamic adaptive process that involves the interplay of cognitive capacity, emotional regulation, and patients' physiological status in responding to chronic disease.⁶

Theoretically, these findings are consistent with the middle-range theory of self-care of chronic illness, which emphasizes three core components: maintenance, monitoring, and management.⁸ These three domains form a feedback loop that determines the effectiveness of patients' responses to

changes in clinical condition. In this context, quality of life is influenced not only by objective symptom control but also by the patient's subjective interpretation of those symptoms.^{4,9} Instruments such as the Seattle Angina Questionnaire (SAQ) specifically capture the dimensions of functional limitation and angina frequency,^{10,11} suggesting that the observed association may be mediated by a combination of reduced symptom burden and changes in patients' perception of their illness.

From a mechanistic perspective, the relationship between self-care and quality of life can be explained through three principal pathways. First, the biological pathway, whereby self-care enhances adherence to pharmacological therapy and lifestyle modification, contributing to atherosclerotic plaque stabilization and reduction of myocardial ischemia.^{12,13} Second, the behavioral pathway, encompassing physical activity, a healthy diet, and smoking cessation as primary determinants of cardiovascular risk.^{13,14}

Third, the psycho-cognitive pathway, in which self-care improves self-efficacy and perceived control, which play important roles in reducing anxiety related to cardiac events and sudden death.^{5,6} This is consistent with evidence showing that quality of life in CAD is often more strongly influenced by the perceived threat of disease than by objective clinical indicators.⁹

Although the majority of the literature supports a positive relationship between self-care and quality of life,^{15,16} considerable heterogeneity exists across studies. Some studies indicate that the effect of self-care becomes non-significant after controlling for factors such as depression, comorbidities, and disease severity.¹⁷ This raises an important question: whether self-care is an independent determinant or merely a proxy for more fundamental psychosocial variables. In this context, the present study contributes by demonstrating that self-care retains a meaningful association even within a real-world clinical setting.

Nevertheless, these results must be interpreted critically, with consideration of the possibility of a bidirectional relationship and endogeneity bias. Not only does self-care influence quality of life, but a better quality of life may also enhance patients' capacity to engage in self-care.⁶ Patients in better physical and psychological condition tend to have greater energy, motivation, and cognitive functioning. Consequently, the observed association may reflect a reinforcing cycle rather than a unidirectional causal relationship. The cross-sectional design of this study does not allow disentangling of these mechanisms.

Furthermore, these findings must be understood within a broader structural context. Self-care is not a standalone determinant; it is shaped by social factors such as education, socioeconomic status, health literacy, and access to healthcare services.^{18,19} In developing country settings such as Indonesia, where disparities in healthcare access exist, the effectiveness of self-care may be moderated by limitations in the healthcare

system. In other words, even patients with good self-care practices may not achieve optimal quality of life if they are not supported by adequate access to therapy and services.

Compared with previous studies, the present study offers methodological and contextual contributions. Its primary novelty lies in the simultaneous use of disease-specific instruments—SC-CHDI and SAQ—in an Indonesian population. This approach differs from the majority of studies that employ generic quality of life instruments,²⁰ thereby enabling a more sensitive and clinically relevant assessment of the relationship between self-care behaviors and patients' symptom experiences.^{10,11} Additionally, this study reinforces evidence that self-care plays a role not only in hard clinical outcomes but also in subjective outcomes, which are increasingly recognized as important indicators in the evaluation of modern healthcare.^{21,22}

The implications of these findings are multidimensional. At the clinical level, the results support the integration of self-care-based interventions into routine CAD management, with an emphasis on enhancing self-efficacy⁶ rather than relying on passive patient education alone. At the system level, the findings underscore the importance of developing community-based programs to improve health literacy and patient empowerment.²³ Personalized intervention approaches are also relevant to optimize clinical outcomes.

This study, however, has several limitations. The cross-sectional design restricts causal inference, the relatively small sample size may affect statistical power, and the use of self-report instruments may introduce subjectivity bias. Future research is therefore recommended to employ longitudinal designs and more robust analytic approaches, such as structural equation modeling, to explore causal relationships and mediation pathways more comprehensively.

Overall, this study affirms that self-care is an important determinant of quality of life in patients with CAD, yet it cannot be

separated from the broader biopsychosocial context. These findings simultaneously advocate for a shift from the conventional biomedical approach toward a more holistic, adaptive, and patient-centered model of care.

Conclusion

This study demonstrates a significant association between self-care and quality of life in patients with coronary artery disease (CAD) at Siloam Lippo Village Hospital. Patients with good self-care levels tended to have better quality of life and a lower risk of poor quality of life compared with those with poor self-care. These findings confirm that self-care is an important factor in enhancing the quality of life of patients with CAD, primarily through symptom control, improved treatment adherence, and increased self-confidence in disease management. In addition, clinical factors—specifically hypertension, diabetes mellitus, and angina severity grade—were significantly associated with quality of life, whereas demographic factors such as sex and education level did not demonstrate a meaningful association. Taken together, these findings affirm that self-care is an integral component of patient-centered CAD management; therefore, interventions focused on improving self-care through education, empowerment, and ongoing support should be optimized as effective strategies for enhancing patients' quality of life.

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References

1. Maharani A, Sujarwoto, Praveen D, Oceandy D, Tampubolon G, Patel A. Cardiovascular disease risk factor prevalence and estimated 10-year cardiovascular risk scores in Indonesia: The SMARTHealth Extend study. *PLoS One*. 2019;14(4):e0215219.
2. Uli RE, Satyana RPU, Zomer E, Magliano D, Liew D, Ademi Z. Health and productivity burden of coronary heart disease in the working Indonesian population using life-table modelling. *BMJ Open*. 2020;10:e039221.
3. Santoso T, Sujianto U, Susilawati D. Factors affecting quality of life in patients with coronary artery disease. *Indonesian Journal of Nursing Practices*. 2017;1(3):133–9.
4. Aigner M, Förster-Streffleur S, Prause W, Freidl M, Weiss M, Bach M. What does the WHOQOL-Bref measure? *Soc Psychiatry Psychiatr Epidemiol*. 2006;41:81–6.
5. Nuraeni A, Anna A, Praptiwi A, Nurhamsyah D. Illness cognition and depression among patients with coronary heart disease. *Belitung Nurs J*. 2021;7(4):304–10.
6. Richard AA, Shea K. Delineation of self-care and associated concepts. *Journal of Nursing Scholarship*. 2011;43(3):255–64.
7. Herdiman H, Harsono H. The relationship between self-care and quality of life among coronary heart disease patients after receiving percutaneous coronary intervention: A systematic review. *KnE Life Sciences*. 2021:155–171.
8. Vaughan Dickson V, Lee CS, Yehle KS, Mola A, Faulkner KM, Riegel B. Psychometric testing of the Self-Care of Coronary Heart Disease Inventory (SC-CHDI). *Res Nurs Health*. 2017;40(1):15–22.
9. Cepeda-Valery B, Cheong AP, Lee A, Yan BP. Measuring health-related quality of life in coronary heart disease: The importance of feeling well. *Int J Cardiol*. 2011;149(1):4–9.
10. Spertus JA, Winder JA, Dewhurst TA, Deyo RA, Prodzinski J, McDonnell M, et al. Development and evaluation of the Seattle Angina Questionnaire: A new functional status measure for coronary artery disease. *J Am Coll Cardiol*. 1995;25(2):333–41.
11. Thomas M, Jones PG, Arnold SV, Spertus JA. Interpretation of the Seattle Angina Questionnaire as an outcome measure in clinical trials and clinical care: A review. *JAMA Cardiol*. 2021;6(5):593–9.
12. Infante T, Forte E, Schiano C, Cavaliere C, Tedeschi C, Soricelli A, et al. An integrated approach to coronary heart disease diagnosis and clinical management. *Am J Transl Res*. 2017;9(7):3148–66.
13. Petrie JR, Guzik TJ, Touyz RM. Diabetes, hypertension, and cardiovascular disease: Clinical insights and vascular mechanisms. *Canadian Journal of Cardiology*. 2018;34(5):575–584.
14. Deng B, Guo M. Risk factors and intervention status of cardiovascular disease in elderly patients with coronary heart disease. *Health*. 2020;12(7):857.
15. Herdiman H, Harsono H. The relationship between self-care and quality of life among coronary heart disease patients after receiving percutaneous coronary intervention: A systematic review. *KnE Life Sciences*. 2021:155–171.
16. Rad MG, Ghanbari-Afra L, Hoseini MHM, Afra MG, Asayesh H. Effectiveness of a self-care program on the quality of life in patients with coronary artery disease undergoing cardiac rehabilitation: A randomized clinical trial. *Journal of Education and Health Promotion*. 2021;10.
17. Bayliss EA, Steiner JF, Fernald DH, Crane LA, Main DS. Descriptions of barriers to self-care by persons with comorbid chronic diseases. *Ann Fam Med*. 2003;1(1):15–21.

18. Degàno IR, Marrugat J, Grau M, Salvador-González B, Ramos R, Zamora A, et al. The association between education and cardiovascular disease incidence is mediated by hypertension, diabetes, and body mass index. *Scientific Reports*. 2017;7(1):12370.
19. Nur'aeni A, Mirwanti R, Anna A, Nurhidayah I. Determinant factors of depression in patients with coronary heart disease. *Jurnal Keperawatan Padjadjaran*. 2019;7(3).
20. Haraldstad K, Wahl A, Andenæs R, Andersen JR, Andersen MH, Beisland E, et al. A systematic review of quality of life research in medicine and health sciences. *Quality of Life Research*. 2019;28:2641–50.
21. Martin AJ, Stockler M. Quality-of-life assessment in health care research and practice. *Eval Health Prof*. 1998;21(2):141–56.
22. Lalonde L, Clarke AE, Joseph L, Mackenzie T, Grover SA. Health-related quality of life with coronary heart disease prevention and treatment. *Journal of Clinical Epidemiology*. 2001;54(10):1011–1018.
23. Chow C, Atkins E, Islam S, Lung T, Conroy K. Reducing the burden of cardiovascular disease in Indonesia. Newtown: The George Institute for Global Health; 2017. p. 1–42.

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