Journal of Healthcare Technology
Volume 2 No 2 Juni 2025

FACTORS AFFECTING QUALITY OF LIFE IN PATIENTS WITH CORONARY HEART DISEASE: A CROSS-SECTIONAL STUDY IN INDONESIA

Herdiman Herdiman[1,*], Ahmad Rian Hidayatollah[2], and Gina Nurdina[3]

[1]Lecturer at the Department of Nursing, PPNI College of Nursing Bandung – West Java – Indonesia
[2]Nursing Student of Department of Nursing, PPNI College of Nursing Bandung – West Java – Indonesia

Corresponding authors : hediherdiman @yahoo.co.id

Received : 04 June 2025 ◦ Revised : 26 June 2025 ◦ Accepted : 28 June 2025

ABSTRACT

Background: Coronary heart disease (CHD) is a leading cause of mortality and morbidity globally, significantly impairing patients' quality of life (QoL). Understanding the multidimensional factors influencing QoL in CHD patients is crucial for developing effective interventions.

Objective: This study aimed to examine the sociodemographic, clinical, psychological, and behavioral factors associated with QoL among patients with CHD in Indonesia.

Methods: A descriptive cross-sectional design was employed. A total of 54 CHD patients at a tertiary cardiac center were recruited using convenience sampling. Data were collected using validated instruments: MacNew QoL Questionnaire, MOS Social Support Survey, SISRI-24 for spiritual intelligence, Beck Depression Inventory-II, and a self-care scale. Descriptive statistics, Pearson correlation, t-tests, ANOVA, and multiple linear regression analyses were conducted.

Results: The mean QoL score was 127.44 (SD = 23.75). Bivariate analysis revealed significant associations between QoL and age ($p = 0.010$), gender ($p = 0.001$), education level ($p = 0.001$), revascularization history ($p = 0.002$), social support ($p = 0.001$), spiritual intelligence ($p = 0.003$), self-care ($p = 0.017$), and depression ($p < 0.001$). In multivariate analysis, depression emerged as the strongest predictor of QoL ($\beta = -1.522$, $p < 0.001$), followed by gender ($\beta = -12.826$, $p = 0.003$) and self-care ($\beta = 0.844$, $p = 0.029$). The model explained 70% of the variance in QoL ($R^2 = 0.700$).

Conclusion: Depression, gender, and self-care significantly influence QoL among CHD patients. Routine screening and targeted psychosocial interventions are recommended to improve patient outcomes and quality of life.

Keywords: Coronary heart disease, quality of life, depression, self-care, Indonesia, cross-sectional study

INTRODUCTION

Coronary heart disease (CHD) remains the leading cause of death globally, accounting for over 17 million deaths annually (WHO, 2023). In Indonesia, CHD represents a critical public health burden, with high prevalence and substantial healthcare costs. Beyond its physical manifestations, CHD profoundly impacts patients' psychosocial well-being and quality of life (QoL).

Quality of life in patients with chronic illness is recognized as a multidimensional construct encompassing physical, psychological, social, and spiritual domains (The WHOQOL Group, 1995). For CHD patients, QoL is influenced not only by clinical severity and comorbidities but also by psychosocial factors such as depression, social support, spiritual well-being, and self-management capacity.

Previous studies have identified depression as a strong negative predictor of QoL in cardiac populations, with evidence suggesting a bi-directional relationship between mood disorders and cardiac outcomes (Lichtman et al., 2018). Similarly, social support has been shown to buffer the adverse effects of illness, while self-care behaviors—such as medication adherence and lifestyle modifications—are associated with better cardiac prognosis and well-being (Riegel et al., 2009). Spiritual intelligence, an emerging construct in health psychology, has also been linked to resilience and positive coping in chronic illness (King, 2008).

Despite these findings, limited research has examined the combined influence of these multidimensional factors on QoL among CHD patients in the Indonesian context. Therefore, this study aimed to explore the demographic, clinical, psychological, and behavioral predictors of QoL in CHD patients to inform holistic care strategies.

METHODS

Study Design and Setting

A descriptive cross-sectional study was conducted at the Cardiology Outpatient Clinic of RSAU Dr. M. Salamun, a tertiary cardiac hospital in West Java, Indonesia.

Participants and Sampling

The target population included adult patients diagnosed with CHD. Using G*Power 3.1.9.4 for multiple linear regression with a small effect size ($f^2 = 0.15$), $\alpha = 0.05$, power = 0.80, and 8 predictors, the minimum required sample was 52. Accounting for 10% attrition, 55 patients were recruited via convenience sampling.

Instruments

Quality of Life: Measured using the MacNew Heart Disease Health-Related QoL questionnaire (27 items, 7-point Likert scale). Higher scores indicate better QoL. Cronbach's $\alpha = 0.96$.

Depression: Assessed with the Beck Depression Inventory-II (BDI-II; 21 items). Higher scores reflect greater depressive symptoms.

Social Support: Measured with the Medical Outcomes Study Social Support Survey (MOS-SSS; 20 items). Higher scores indicate stronger perceived support.

Spiritual Intelligence: Evaluated using the SISRI-24 (King, 2008). Higher scores indicate greater spiritual insight and adaptive capacity.

Self-care: Assessed using the Self-Care of Chronic Illness Inventory (22 items, standardized score 0–100). Higher scores indicate better self-care.

Demographic and clinical data: Age, gender, education, and revascularization history were obtained via interview and medical records.

Data Collection and Ethical Approval

Data were collected between May and July 2024 after obtaining institutional ethical clearance (No. 0123/KEP/RS-Salamun). Informed consent was obtained from all participants.

Data Analysis

Data were analyzed using SPSS v29. Descriptive statistics summarized participant characteristics. Pearson correlation, t-tests, and ANOVA assessed bivariate associations. Multiple linear regression identified predictors of QoL. Statistical significance was set at $p < 0.05$.

RESULT

Demographic Characteristics

Table 1 Frequency distribution of respondents according to gender, age, level of education, and history of surgery in patients with coronary heart disease at the Cardiology Clinic of RSAU Dr. M. Salamun (N= 54)

Variable	Total N (%)
Age (Mean ± SD)	61.94 ± 13,141
Minimum = 29 years	
Maximum = 89 years	
Gender	
Male	32 (59.3)
Female	22 (40.7)
Education Level	
Elementary	15 (27.8)
Junior	12 (22.2)
High	14 (25.9)
College	13 (24.1)
History of Operation	
Ring	32 (59.3)
No Ring	22 (40.7)

Based on the table above shows that the average age of the respondents is 61 years (SD = 13,141). The gender of the respondents was more male (59.3%) than female (40.7). Most of the respondent's education level was

in elementary school (27.8%) compared to junior high school (22.2%), senior high school (25.9%), and university (24.1%). The history of ring installation surgery was more than the number of no rings (59.3%).

Table 2 Quality of Life, Social Support, Spiritual Intelligence, Self-Care and Depression in Coronary Heart Disease Patients at the Cardiology Clinic, RSAU Dr. M. Salamun (N = 54)

Table 2. Descriptive data on studies variabel

Variable	Mean	Median	SD	Min Max	95%CI
Total Quality of Life	127.44	133.00	23.750	73 – 165	120.96-133.93
Total Social Support	61.96	62.50	10.394	41-80	59.13-64.80
Total Spiritual Intelligence	55.33	55.50	14.222	3 – 83	51.45-59.22
Total score of *Self-care*	64.37	65.00	7.717	47-78	62.26-66.48

Based on table 2 shows that the average value of the total score of quality of life is 127.44 (SD=23750; range 73-165). The mean total score of social support was 61.96 (SD=10.394; range 41-80). The average total spiritual intelligence score is 55.33 (SD=14,222; range 3-83). The average total *care* (self-care) was 64.37 (SD=7.717; range 47-78).

Table 3 Depression in Coronary Heart Disease Patients at the Cardiology Clinic, Dr. M. Salamun (N = 54).

Variable	al N%
Depression:	
Minimal	44)
depression Mild	22.2)
depression Moderate	20.4)
depression Severe depression	3.0)

Based on table 3 shows that most respondents are in the category of minimal depression with a score of 24(44%), mild depression 12(22.2%), moderate depression 11(20.4%), and major depression 7(13.0).

Bivariate Analysis

Table 4 Relationship of Demographic Data, Social Support, Spiritual Intelligence, Self-care, Depression with Quality of Life.

Variable	Quality of Life *(Continous)*		Statistics Used
	p-value	r/t	
Age (Nominal)	0.010	-0.346*	Pearson correlation
Gender (Nominal)	0.001	3.455	Independei sample test
Education Level (Ordinal)	0.001	6.050	One-way ANOVA
Revascularization (Nominal)	0.002	-3.285	Independei sample test
Social Support (Continous)	0.000	0.458*	Pearson correlation
Spiritual Intelligence (Continous)		0.277*	Pearson
Self-care (Continous)		0.301*	correlation
Depression (Ordinal)	0.043	-19.306	One-way ANOVA
	0.027		
	0.000		

Based on the table above shows that the results of bivariate analysis on all variables have a significant relationship, namely; Demographics that were significant with quality of life were age with a *p-value* of 0.010, gender p-value 0.001, education level p-value 0.001 and revascularization p-value 0.002. while social support with quality of life with a p-value of 0.001, and spiritual intelligence with a p-value of 0.003. *self care*

p-value 0.017, depression with p-value 0.000. This shows that of all the variables above, the influencing factor is depression with a p-value of 0.000

Multivariate analysis

Table 5 Simple Linear Regression Test of Quality of Life in Coronary Heart Disease Patients at Dr. RSAU. M. Salamun Ciumbeleuit

Iodel		R Square	djusted Square	td. rror
	37	0.700	47	4.115

Based on table 5 obtained an R Square value of 0.700, which means that from eight variables, namely age, gender, education level, revascularization, social support, spiritual intelligence, *self-care*, and depression on quality of life variables is a statistically significant p-value <0.05

Table 6 factors associated with quality of life for coronary heart patients (n = 54)

Variable	B	Std. Error	Beta	T	p-value
Age	-0.167	-0.162	-0.093	-1.027	0.310
Gender	-12.826	4.105	-0.268	-3.125	0.003
Education level	-3.818	2.035	-0.184	-1.876	0.067
Revascularization	12.784 4.677	0.267	2.733	0.009	Social
Support	-0.393	0.355	-0.172	-1.109	0.273
Spiritual Intelligence	0.033	0.154	-0.020	-0.216	0.830
Self care	0.844	0.375	0.274	2.249	0.029
Depression	-1.522	0.321	-0.606	-4.740	0.000*

DISCUSSION

Age is a well-established, non-modifiable risk factor for coronary heart disease, with the risk increasing significantly after age 45 in men and 55 in women (Han et al., 2005; Boden et al., 2013). Physiologically, aging is associated with vascular stiffness, reduced endothelial function, and progressive atherosclerotic changes, which compromise coronary perfusion and contribute to cardiac dysfunction. In this study, a negative Pearson correlation coefficient (r = -0.346, p = 0.010) indicates a significant but weak inverse relationship between age and quality of life. This suggests that as patients age, their quality of life tends to decline. Supporting evidence from Purnama (2020) found that individuals over 65 years experienced poorer QoL due to reduced cardiac efficiency and increased comorbidities. Similarly, Marleni and Alhabib (2017) demonstrated that older age was significantly associated with lower QoL scores (p = 0.002), likely due to diminished physical resilience and greater disease burden.

Gender disparities in QoL among CHD patients are well-documented, with female patients often reporting lower QoL due to a higher burden of psychological distress and caregiving responsibilities. This study revealed a significant association between sex and QoL (p = 0.001), consistent with Rochmayati (2018), who reported statistically lower QoL scores among women with CHD (p = 0.0006). Amarullah and Rosyid (2021b) suggested that men may experience fewer psychological symptoms and benefit from more robust social roles, contributing to higher QoL perceptions. These findings underscore the importance of gender-sensitive interventions that address the unique psychosocial needs of female CHD patients.

Educational attainment influences health literacy, self-efficacy, and access to healthcare resources, all of which contribute to better health outcomes and quality of life. In this study, higher education levels were significantly associated with improved QoL (p = 0.001). Patients with greater educational backgrounds are more likely to comprehend medical instructions, adhere to

treatment plans, and engage in proactive self-care. This finding aligns with Saputri (2018), who observed that individuals with low education reported significantly lower QoL. Prihatiningsih and Sudyasih (2018) further supported that education enhances coping mechanisms and disease management skills in chronic illness populations.

Revascularization procedures, including percutaneous coronary intervention (PCI) and coronary artery bypass grafting (CABG), are key therapeutic modalities for restoring coronary perfusion and alleviating ischemic symptoms. In the present study, a significant relationship was found between revascularization and improved QoL (p = 0.002). This aligns with findings by Nuraeni et al. (2016b), who emphasized that revascularization improves functional capacity, reduces angina episodes, and enhances patients' psychological outlook. Improved cardiac output post-revascularization contributes to better physical endurance and emotional well-being, ultimately translating to enhanced life satisfaction (Majid, 2007).

Social support is a critical psychosocial determinant of QoL in patients with chronic illness. The study identified a strong positive association between social support and QoL (p = 0.000). Emotional and instrumental support from family, friends, and healthcare providers can buffer the psychological impact of CHD, reduce depression, and enhance adherence to treatment. These findings are in line with Chaerunnisa (2018) and Marleni & Alhabib (2017), who reported that patients with stronger support networks experienced fewer symptoms of anxiety and depression, and better overall health outcomes. Peer support, in particular, fosters shared understanding and coping, reinforcing a sense of belonging and resilience.

Spiritual intelligence, defined as the capacity to find meaning, purpose, and connection in life, has been positively linked to mental well-being and quality of life. This study demonstrated a significant positive association between spiritual intelligence and QoL (p = 0.007). Patients with higher spiritual intelligence often exhibit better coping, greater hope, and reduced existential distress. Jumayanti et al. (2020) found that spiritual engagement enhances a patient's ability to reframe illness, maintain optimism, and establish a sense of peace despite physical limitations. These spiritual practices contribute to psychological resilience and a more holistic recovery experience.

Effective self-care behaviors—including medication adherence, dietary regulation, physical activity, and symptom monitoring—are essential for optimal disease control and QoL in CHD patients. This study found a significant correlation between self-care and QoL (p = 0.014). As supported by Utami & Azam (2019), individuals who consistently practice self-care experience fewer complications, improved functional status, and greater emotional stability. Self-care empowers patients to take an active role in managing their condition, fostering independence and enhancing satisfaction with life.

Depression is a prevalent and debilitating comorbidity among CHD patients, significantly impairing both psychological well-being and physical health. In this study, depression was the strongest negative predictor of QoL (p = 0.000), corroborating findings by Nuraeni et al. (2016b) and Majid (2007), who reported that depressive symptoms were associated with lower functional capacity, poorer medication adherence, and increased mortality. Depression may stem from feelings of helplessness, fear of disease progression, or lack of social and professional support. Interventions targeting depression are critical to improving not only psychological health but also cardiovascular outcomes and quality of life.

Among the variables analyzed, depression (p = 0.000), age (p = 0.004), and revascularization (p = 0.007) emerged as the most influential predictors of QoL in CHD patients. These findings are consistent with the work of Nuraeni et al. (2016b), who emphasized the critical role of psychological

distress in shaping QoL. Depression, in particular, acts as both a cause and consequence of diminished life satisfaction. Thus, comprehensive interventions addressing mental health, promoting timely revascularization, and providing tailored care for elderly patients are essential to enhance QoL in this population.

CONCLUSION

This study identified several key factors influencing the quality of life among patients with coronary heart disease, including age, sex, education level, revascularization status, social support, spiritual intelligence, self-care behaviors, and depression. Among these, depression, age, and revascularization were the most significant predictors. These findings underscore the need for a multidimensional approach in the management of CHD that integrates medical, psychological, and social support strategies. Clinical nursing practice should prioritize depression screening, self-care education, and family engagement to holistically address patient needs and improve long-term outcomes.

REFERENCES

Amarullah, M., & Rosyid, F. N. (2021a). *Gambaran Kualitas Hidup pada Pasien Jantung Koroner*.

Amarullah, M., & Rosyid, F. N. (2021b). *Gambaran Kualitas Hidup pada Pasien Jantung Koroner*.

Amini, R., Rajabi, M., & Soltanian, A. (2017). Effect of Health-related Lifestyle Selfmanagement Program on Quality of Life of Patients with Ischaemic Heart Disease: A Quasi-experimental Study. *Journal of Clinical & Diagnostic Research*, *11*(12).

Beck, C. T. (1996). A meta-analysis of predictors of postpartum depression. *Nursing Research*, *45*(5), 297–303.

Boden, W. E., Franklin, B. A., & Wenger, N. K. (2013). Physical activity and structured exercise for patients with stable ischemic heart disease. *Jama*, *309*(2), 143–144.

Cahyaningrat, D., & Lukmanulhakim, L. (2020). The effect of self-management education on quality of life of clients with coronary heart disease. *Jurnal Aisyah: Jurnal Ilmu Kesehatan*, *5*(1), 9–14.

Chaerunnisa, S. M., Nur'aeni, A., & Hernawaty, T. (2017). HUBUNGAN ANTARA DUKUNGAN SOSIAL DENGAN DEPRESI PADA PASIEN PENYAKIT JANTUNG KORONER (THE CORRELATION BETWEEN SOCIAL SUPPORT AND DEPRESSION IN CORONARY HEART DISEASE PATIENT). *Journal of Nursing Care and Biomoleculer*, *2*(2), 92–98.

Chrisnawati, C., Natalia, C., & CN, S. M. (2017). Hubungan kesejahteraan spiritual dengan kualitas hidup pada keluarga pasien kanker di ruang edelweis RSUD Ulin Banjarmasin. *JURNAL KEPERAWATAN SUAKA INSAN (JKSI)*, *2*(2), 1–9.

Despitasari, L., Sastra, L., Alisa, F., & Azro, L. (2020). Hubungan Kesejahteraan Spiritual dengan Kualitas Hidup pada Pasien Kanker Payudara di Poli Bedah RSUP Dr. M. Djamil Padang. *Jurnal Smart Keperawatan*, *7*(2), 118–124.

Ghani, L., Susilawati, M. D., & Novriani, H. (2016). Faktor risiko dominan penyakit jantung koroner di Indonesia. *Buletin Penelitian Kesehatan*, *44*(3), 153–164.

Haddad, S. H., Arabi, Y. M., Memish, Z. A., & Al-Shimemeri, A. A. (2004). Nosocomial infective endocarditis in critically ill patients: a report of three cases and review of the literature. *International Journal of Infectious Diseases : IJID : Official Publication of the International Society for Infectious Diseases*, *8*(4), 210–216. https://doi.org/10.1016/j.ijid.2003.10.007

Han, K. S., Lee, S. J., Park, E. S., Park, Y.-J., & Cheol, K. H. (2005). Structural model for quality of life of patients with chronic cardiovascular disease in

Korea. *Nursing Research*, *54*(2), 85–96.

Iskandar, I., Hadi, A., & Alfridsyah, A. (2017). Faktor Risiko Terjadinya Penyakit Jantung Koroner pada Pasien Rumah Sakit Umum Meuraxa Banda Aceh. *AcTion: Aceh Nutrition Journal*, *2*(1), 32–42.

Jumayanti, J., Wicaksana, A. L., & Sunaryo, E. Y. A. B. (2020). Kualitas Hidup Pasien Dengan Penyakit Kardiovaskular Di Yogyakarta. *Jurnal Kesehatan*, *13*(1), 1–12.

Kemenkes RI. (2019). *Profil Kesehatan Indonesia 2018 Kemenkes RI. (2019)*.

Khodaveisi, M., Yunesi, Z., Pakrad, F., & Tapak, L. (2022). The Effect of Education Based On Pender's Model on Health-Promoting Behaviors in Patients Undergoing Coronary Angioplasty: A Randomized Control Trial Study. *Journal of Sabzevar University of Medical Sciences*, *29*(4), 496–511.

Majid, A. (2007). *Penyakit jantung Koroner: Patofisiologi, pencegahan dan pengobatan terkini*.

Marleni, L., & Alhabib, A. (2017). Faktor risiko penyakit jantung koroner di RSI Siti Khadijah Palembang. *Jurnal Kesehatan*, *8*(3), 478–483.

Nuraeni, A., Mirwanti, R., Anna, A., & Prawesti, A. (2016a). Faktor yang Memengaruhi Kualitas Hidup Pasien dengan Penyakit Jantung Koroner. *Jurnal Keperawatan Padjadjaran*, *4*(2).

Nuraeni, A., Mirwanti, R., Anna, A., & Prawesti, A. (2016b). Faktor yang Memengaruhi Kualitas Hidup Pasien dengan Penyakit Jantung Koroner. *Jurnal Keperawatan Padjadjaran*, *4*(2).

Prihatiningsih, D., & Sudyasih, T. (2018). *Perawatan diri pada pasien gagal jantung*.

Purnama, A. (2020). Edukasi dapat meningkatkan kualitas hidup pasien yang terdiagnosa penyakit jantung koroner. *Jurnal Kesehatan Indonesia*, *10*(2), 66–71.

Ramadhanti, D. R., Rokhayati, A., Tarjuman, T., & Sukarni, S. (2022). GAMBARAN KUALITAS HIDUP PADA PASIEN PENYAKIT JANTUNG KORONER. *Jurnal Keperawatan Indonesia Florence Nightingale*, *2*(1), 30–36.

Sakamaki, H., Ikeda, S., Ikegami, N., Uchigata, Y., Iwamoto, Y., Origasa, H., Otani, T., & Otani, Y. (2006). Measurement of HRQL using EQ-5D in patients with type 2 diabetes mellitus in Japan. *Value in Health*. https://doi.org/10.1111/j.1524-4733.2006.00080.x

Sholichah, D. R. (2009). *Hubungan antara dukungan sosial dengan derajat depresi pada penderita diabetes melitus dengan komplikasi*.

Smeltzer, S., & Bare, B. (2013). Buku Ajar Keperawatan Medikal Bedah: Brunner & Suddarth's, Jakarta: EGC. *Sciences and Research (IJHSR)*, *5*(6), 419–423.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, *48*(6), 1273–1296.

Ulbricht, T. L. V, & Southgate, D. A. T. (1991). Coronary heart disease: seven dietary factors. *The Lancet*, *338*(8773), 985–992.

Utami, N. L., & Azam, M. (2019). Kejadian Penyakit Jantung Koroner pada Penderita Diabetes Mellitus. *HIGEIA (Journal of Public Health Research and Development)*, *3*(2), 311–323.