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Factors Related to the Quality of Life of Patients with Coronary Heart Disease at Saiful Anwar General Hospital, Malang

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Abstract

Most coronary heart disease (CHD) patients experience a decrease in quality of life that can worsen the prognosis. To the best of our knowledge, no previous study has identified the quality of life of CHD patients in Saiful Anwar General Hospital and its predictors. Hence, this study was conducted to determine the factors related to the quality of life of patients with CHD at Saiful Anwar General Hospital. A cross-sectional study was conducted by selecting 90 patients diagnosed with CHD in 2019 purposively. The instruments used in this study were the DASS-21, SF-36 and social support. Data were analysed using univariate and bivariate with binary logistic regression. The study found that the quality of life of patients with CHD has an average value of 63.29. As many as 88.9% of CHD patients were categorized as having a good quality of life. There was no relationship between the independent variables and the quality of life. Further research needs to be done on potential variables related to the risk factors of the CHD patients' quality of life, which can subsequently be used as a guideline for optimizing and improving the patients' quality of life.

Keywords: coronary heart disease, risk factors, quality of life

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1. Introduction

In 2015 as many as 17.2 million deaths which was an increase in disease cases from in 2005. WHO predicts the death rate for heart disease and stroke will reach 23.6 million in 2030 if prevention efforts are not immediately carried out [1]. The prevalence of heart disease in 2018 based on the diagnosis of doctors in Indonesia is 1.5 percent of the total population with a total of 17,559 residents in Malang Regency who are reported to suffer from heart disease. Of the total, 9,915 of them had coronary heart disease, while the remaining 7,644 had heart failure. Coronary heart disease is a disease that is feared both in Indonesia and in the world. This disease is caused by impaired coronary blood

flow due to decreased oxygen supply to the heart muscle / myocardium which can lead to death if damage occurs [2, 3].

The majority of CHD patients have a low quality of life can have an impact on psychological factors such as depression, anxiety, stress that affect lifestyle such as dietary behaviour, physical exercise, medication [4]. This is in accordance with reports from 58 couples studied that there are differences in stress levels, and anxiety which is a psychological factor and can correlate with quality of life and can affect the decline in quality of life [5]. Measurement of the quality of life of patients with coronary heart disease can use the *Medical Outcomes Study 36-Items Short Form Health Survey* (SF-36). The average quality of life in all patients was calculated in 2 domains, physical domain and mental domain. Each domain consists of 4 sub areas, each sub area consists of several questions. Sub area in the physical domain consists of physical function, physical role, pain and general health, while the mental domain consists of mental health, emotional role, social function and vitality [6].

This research was conducted at the Cardiology Polyclinic of RSUD Dr. Saiful Anwar Malang is a hospital that acts as a referral centre for coronary heart disease in East Java Province. Based on the background above, it can be concluded that many factors are related to the quality of life of patients with coronary heart disease, so researchers are interested in analysing what factors can be related to the quality of life of patients with coronary heart disease in RSUD Dr. Saiful Anwar Malang City.

2. Material and Method

The research method used in this study is quantitative. Study design used *cross-sectional*. The research was conducted at the Cardiac Polyclinic at the Regional General Hospital Dr. Saiful Anwar Malang City. In this study the number of coronary heart disease patients recorded in the data at the Cardiac Polyclinic of the Regional General Hospital Dr. Saiful Anwar Malang in 2019 of 800 patients. Based on this number, after adjusting for inclusion criteria, the patient was diagnosed with coronary heart disease or other concomitant diseases (heart complications) in 2019, able to communicate well, get permission from the cardiac clinic and the patient was willing to be involved in the study. While the exclusion criteria include patients experiencing chest pain, shortness of breath, and difficulty working with. Based on the inclusion results only 90 patients were obtained, so the number of samples in this study were 90 people. The type of data used in this study is primary data with questionnaire instruments used to assess depression, anxiety, stress using the DASS-21 questionnaire (*Depression, Anxiety, and*

Stress Scale) which can be used as a screening tool for referral to health services as a diagnosis more precisely, research on depression, anxiety, and stress using the DASS questionnaire is still rare to use in Indonesia [7]. Family support in this study was measured using a standard questionnaire containing social support in the family using a Likert scale with positive questions and was declared valid with a r table value of 0.301 and declared reliable with a value of *Cronbach Alpha* 0.628 [8]. The quality of life questionnaire used was the *Medical Outcomes Study 36-Items Short Form Health Survey* (SF-36) made in the United States. This questionnaire totalled 36 statements with 8 aspects namely physical function, physical role, pain, general health, social function, emotional role, vitality and mental health. SF-36 values range from 0-100 with values of 0-50 as poor quality of life and 51-100 as good quality of life [9]. The analysis used was a Bivariate analysis *Chi-Square* using SPSS 23 (*Statistical Product and Service Solution*). If there are some requirements that are not fulfilled, will be conducted *Fisher Exact Test* or *Yates Correction* [10]. This study has received *ethical clearance* from the Health Research Ethics Commission of the Regional General Hospital Dr. Saiful Anwar Malang City with No: 400/270 / K.3 / 302/2019.

3. Results

The number of men as many as 50 people (55.6%) is greater than the number of women as many as 40 respondents (44.4%). The average age of patients ranged from 46-55 years with a minimum limit of 26 years and a maximum of 76 years. The results of the study related to age characteristics at the age of 56 - 65 years (elderly) as many as 34 patients (37.8%). The majority of respondents did not work as many as 64 respondents (71.1%) and worked as many as 26 respondents (28.9%). The marital status is divided into two groups namely married as many as 83 respondents (92.2%) and widows / widowers as many as 7 respondents (7.8%). Patients with coronary heart disease who experienced heart failure as many as 32 respondents experienced heart failure (35.6%) and 58 respondents (64.4%) did not have the disease. Depression is divided into two: 71 respondents (78.9%) have severe depression and 19 respondents (21.1%) have mild depression. Anxiety in respondents was divided into two, those who experienced mild anxiety were 82 respondents (91.1%) and those who experienced severe anxiety were 8 respondents (8.9%). Stress in patients with coronary heart disease that is not experiencing stress as much as 90 respondents (100.0%). Social support in patients with coronary heart disease that has high social support as many as 90

respondents (100.0%). The frequency distribution of respondents can be seen in Table 1.

Table 1: Distribution of characteristics of respondents.

Variables	Category	Frequency (n)	Percentage (%)
Sex	Male	50	55.6
	Women	40	44.4
Age (yr)	20–45	12	13.3
	46–65	60	66.7
	>65	18	20
Employment status	Working	26	28.9
	Not working	64	71.1
Marital status	Married	83	92.2
	Widows/ widowers	7	7.8
Heart failure	Yes	32	35.6
	No	58	64.4
Depression	Mild	71	78.9
	Severe	19	21.1
Anxiety	Mild	82	91.1
	Severe	8	8.9
Stress	No	90	100
Social support	High	90	100

Source: Author's own work.

In table 2, it is known that the quality of life is poor as many as 10 respondents and the quality of life is good as much as 80 respondents. In the domain of quality of life is divided into two domains namely the physical domain and mental domain. In the physical domain consists of bad physical function as many as 15 respondents and good physical function as many as 75 respondents. In the category of bad physical limitations as many as 70 respondents and good physical limitations as many as 20 respondents. In the category of bad body pain as many as 22 respondents and the category of good body pain as much as 68 respondents. In the category of poor general health category as many as 63 respondents and good public health as many as 27 respondents. While the mental domain consists of bad vitality categories of 14 respondents and 76 respondents have good vitality. In the category of bad function as many as 31 respondents and 59 respondents have good physical function. In the category of bad emotional limitations as many as 8 respondents and 82 respondents had good emotional limitations. In the category of poor mental health as many as 3 respondents and 87 respondents have good mental health.

TABLE 2: Overview of patients' quality of life.

	Poor		Good	
	n	%	*n*	%
Quality of life	10	11.1	80	88.9
Domain of quality of life				
Physical domain				
Function	15	16.7	75	83.3
Physical limitations	70	77.8	20	22.2
Body pain	22	24.4	68	75.6
General health	63	70	27	30
Mental domain				
Vitality	14	15.6	76	84.4
Social functions	31	34.4	59	65.6
Emotional limitations	8	8.9	82	91.1
Mental health	3	3.3	87	96.7

Source: Author's own work.

From the bivariate analysis (Table 3), there is no statistical relationship between the variables contained in this study with the quality of life of patients with coronary heart disease in RSUD DR. Saiful Anwar Malang, but there are 2 domains of quality of life namely the physical domain and mental domain that have a strong relationship is in the physical domain, namely the physical function sub-domain with work ($p = 0.031$), and the body pain sub-domain with depression ($p = 0.035$), while the mental domain that has a strong relationship is the mental health sub-domain with age ($p = 0.002$), for other sub domains do not have a strong relationship with quality of life. In the stress variable and social support, POR values and p values are not obtained due to constant / fixed numbers so that the status of coronary heart disease patients in RSUD DR. Saiful Anwar Malang is known to have normal / good stress value and high social support value, due to good quality of life management.

4. Discussion

The mean age of CHD patients at the Heart Polyclinic at the General Hospital Dr. Saiful Anwar Malang is 56.71 years with the youngest age 26 years and the oldest 76 years. The results showed 60 patients (66.7%) aged 48 - 65 years (elderly) were the most treated. The age range is at risk of developing coronary heart disease. This is in line with Remita's study (2014). It was reported that 33.2% of patients aged > 75 years had poor quality of life compared to patients aged 18-24 years, only 7.5% had poor quality of life of 172 patients with age 56-66 years vulnerable affected by CHD [11]. The risk of

Table 3: Bivariate analysis.

Variable	Quality of life				POR	95% CI	Sig.
	Poor		Good				
	n	%	*n*	%			
Sex							
Male	8	16	42	84	3.61		0.175
Female	2	5	38	95		0.72–18.11	
Age (yr)							
20–45	1	10	11	13.8			
46–65	8	80	52	65	1.69	0.19–14.94	0.62
>65	1	10	17	21.3			
Employment status							
Working	1	3.8	25	96.2	4.09	0.49–34.06	0.27
Not working	9	14.1	55	85.9			
Marital status							
Married	8	9.6	42	84	3.75	0.62–22.56	0.62
Widowed	2	28.6	5	71.4			
Depression							
Mild	1	5.3	18	94.7	2.61	0.31–22.02	0.68
Severe	9	12.7	62	87.3			
Anxiety							
Mild	0	0	8	100	0.87	0.81–0.95	0.59
Severe	10	12.2	72	87.7			
Stress							
No	10	11.1	80	88.9	–	–	–
Social support							
High	10	11.1	80	88.9	–	–	–

Source: Author's own work.

POR: prevalence odds ratio.

other diseases was found in CHD patients at the Heart Clinic of Saiful Anwar Hospital Malang, namely *Chronic Heart Failure* (CHF) or known as heart failure. CHF is one of the complications of CHD, this occurs because in CHD patients the ability to pump blood is weakened so that it can result in the accumulation of fluid in several parts of the body [12].

There are results which state that there is no relationship between age and quality of life because a value = 0.62 is obtained, but there is a relationship between age and the domain of mental health quality of life obtained p value = 0.002. From these results it can be seen that the older a person is, the quality of life decreases, this is due to changes in mental health. This is consistent with the theory that the tendency

for emotional disorders is influenced by the age and stage of an individual's life [13]. Reported figures ranging from 24 - 47% experience high emotional mental disorders in patients with chronic diseases. The figure found in people with heart disease and tuberculosis is 34%. The high incidence is closely related to the chronic disease of the respondents [14].

The number of men in this study were 50 people (55.6%) while in women there were 40 people (44.4%). This is in line with case reports of 69 patients (71.88%) and 27 patients (28.12%) of the 90 patients [15]. The tendency for men to experience more CHD cases is because they are more likely to live with CHD risk factors such as alcohol and smoking [16]. The results of further analysis show there is no relationship because p value 0.175 is obtained. The absence of differences in quality of life between male and female patients affected by quality of life management shows a value of 63.29 with a good quality of life score. This study is in line with other studies that found age variables tend not to be related to the quality of life of haemodialysis patients or have a weak and insignificant relationship [17]. Other research conducted by states there is no difference between the quality of life of men and women [18].

The division of work categories includes work and not working. The proportion of work, most respondents do not work with a total of 64 people (71.1%) and 26 people work (28.9%). The majority of respondents did not work in line with the PJK report that 68.4% of respondents did not work or were pensioners, while those who had worked status were 57.9% of respondents [19]. The result of p value is 0.27, meaning that there is no relationship between work and quality of life, but there is a relationship between work and the domain of quality of life physical function, p value = 0.031. The difference is seen from respondents who do not have jobs whose quality of life is worse than respondents who work. The occurrence of changes in physical function that decreases in patients > 55 years who do not work caused by limited physical activity. This study is in accordance with the statement of the relationship of activity level with physical function in old age [20].

The marital status of respondents in this study 92.2% had a partner and 7.8% were not paired. The results show there is no relationship between marital status and quality of life of patients. The p value is 0.62 which means there is no difference or relationship between age and quality of life. This study is in line with research which states there is no difference in marital status, where married people have a better quality of life than not getting married [18].

The result of p value is 0.68, meaning that there is no difference or relationship between age and quality of life, but there is a relationship between depression and the

domain of quality of life of body pain, p value of 0.035. This is in line with the theory of Clark (2010), about body pain in chronic illness is an emotional reaction and also depressive behaviour towards life experiences. If sufferers believe that pain, depression, and disability cannot be prevented and controlled, they will experience a more negative affective response, increased and more chronic pain, and even more physical and psychosocial impairment [21].

The p value is 0.59, meaning that there is no difference or relationship between anxiety and quality of life. The absence of differences in quality of life is influenced by quality of life management indicating a value of 63.29 with a good quality of life score. The results of this study are in line with statements regarding patients with good quality of life who are not affected by depression, conversely with patients who are depressed tend to have poor health and quality of life [22]. Another report stated that at the time of the pre-test there were 75% of CHD patients with mild anxiety and 25% were with severe anxiety [23].

There is no value for p value because the final results on the questionnaire get constant or constant numbers. The lack of relationship between stress and quality of life in this study was caused by the management of quality of life of CHD patients having an average value of 63.29 which indicates that patients have a good quality of life. This is similar to reports of normal stress levels of 86.7% and mild stress levels of 13.3% in CHD patients [24]. The stress experienced by the patients in this study was at a constant or constant value. This means that patients at RSSA Cardiac Clinic have normal stress because of good quality of life management so that it does not affect the quality of life of patients.

There is no value for p value because the final results on the questionnaire get constant or constant numbers. The lack of relationship between stress and quality of life in this study was caused by the management of quality of life of CHD patients having an average value of 63.29 which indicates that patients have a good quality of life. Although social support has no relationship with quality of life, social support is a support system that can help patients to reduce anxiety and depression. These results are in line with reports that analysed 106 CHD patients found 58 patients with high social support and 48 patients with low social support [25].

In this study in broad outline there is no relationship between the dependent and independent variables. There are 2 domains of quality of life that have a strong relationship is the physical domain namely the physical function with work sub-domain (p = 0.031), and the body pain sub-domain with depression (p = 0.035), while the mental domain that has a strong relationship is the mental health sub domain with age (p =

0.002), for other sub domains it has no relationship with quality of life. This happens because of the lack of researchers in the difference in the treatment of patients on certain days due to limited time which can lead to information bias. It is expected that future researchers, especially on variables that have not been studied, conduct further research to look for other variables that are more likely to be risk factors for CHD to reach patients who have poor quality of life, by making more detailed observations or conducting research *door-to-door* with optimal time. due to predictions in this study CHD patients have a good quality of life management.

5. Conclusion

The majority of CHD patients in Saiful Anwar General Hospital had a good quality of life. Based on each domain of quality of life, most of CHD patients had poor quality in physical limitations sub-domain and general health sub-domain. All independent variables that were analysed in this study (sex, age, employment status, marital status, heart failure, depression, anxiety, stress, social support) had no significant association with quality of life. Further research needs to be done on potential variables related to risk factors for the quality of life of CHD patients. Then, it can be used as guidelines in optimizing and improving the quality of life of patients. The results of this study can provide benefits for nurses, especially in the cardiac polyclinic Dr. Saiful Anwar Malang City in providing nursing care to patients with coronary heart disease which is related to the factors that affect the patient's quality of life. Carrying out further research, especially on variables that have not been researched, and conducting further research to find other variables that are more potential to become risk factors for CHD through recording primary data such as distance and other socio-economic conditions.

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Conflict of Interest

The authors state that there is no conflict of interest.

References

[1] WHO. (2013). *About Cardiovascular Disease*. Geneva: World Health Organization Geneve.

[2] Riskesdas. (2018). *Report on Basic Health Research Results (Riskesdas) Prevalence of Coronary Heart Disease*. Jakarta: intimedia.

[3] Wardani, H. (2010). *Sports and Coronary Risk*. Retrieved from http://karya-ilmiah.um.ac.id/index.php/karya-dosen-fik/article/download/6492/4233.

[4] Kripracha, C. and Panthee, B. (2011). Anxiety and Quality of life Patients with Myocardial Infarction. *Nurse Media Journal of Nursing*, vol. 1, issue 1, pp. 105-5.

[5] Chung, M. L. (2009). The Effects of Depressive Symptoms and Anxiety on Quality of Life in Patients with Heart Failure and their Spouses: Dyadic Dynamics Testing using Actor-Partner Interdependence. *Journal of Psychosomatic Research*., vol. 67, issue 1, pp. 29-35.

[6] Loretz, L. (2010). *Primary Care Tools for Clinicians A Compendium of Forms, Questionnaires, and Rating Scale for Everyday Practice*. St. Louis: Mosby, Inc.

[7] Astutik, E., *et al*. (2020). Depression, Anxiety, and Stress among Students in Newly Established Remote University Campus in Indonesia. *Malaysian Journal of Medicine and Health Science*., vol. 16, issue 1, pp. 270-7.

[8] Nursalam, E. S. (2019). Knowledge, Family Support and Self-Reliance Capital when Caring for Low Birth Weight Babies. *Nurse Journal*., vol. 14, issue 1, pp. 10 – 5.

[9] Nazir, K. A. (2010). *Assessment of Quality of Life of Patients After Coronary Bypass Surgery Undergoing Phase III Rehabilitation Using SF-36*. Jakarta: UI.

[10] Notoatmodjo, S. (2012). *Health Research Methodology*. Jakarta: Rineka Cipta.

[11] Steigelman, K. L. (2010). Religion, Relationships and Mental Health in Midlifewomen Following Acute Myocardial Infarction. *Issues in Mental Health Nursing*., issue 27, pp. 141–59.

[12] Karikaturijo, K. G. (2010). *Coronary Heart Disease*. Jakarta: Veterans National Development University.

[13] Angela, S. N. (2018). Relationship between Work Stress and the Emergence of Emotional Mental Disorder Trends in Nurses Directly Involved with People with Mental Disorders at a Hospital in Jakarta. *Journal of The Indonesian Medical Association*. Vol. 68, issue 1, pp. 1 -10.

[14] Widakdo, G. (2013). Effects of Chronic Disease on Emotional Mental Disorders. *National Journal of Public Health*., vol. 7, issue 7, pp. 309 - 15.

[15] Gabriella, N. (2017). TD Evaluation of Drug Use in Patients with Coronary Heart Disease in the Rsup Inpatient Installation Prof. Dr. RD Kandou Manado. *Scientific Journal of Pharmacy – UNSRAT*, vol. 6, issue 4, pp. 55 - 66.

[16] Syukri, A. P. (2011). *AP Profile of Coronary Heart Disease in IRINA F Heart Prof. Dr. RD Kandou Manado*. Manado: Faculty of Medicine, UNSRAT.

[17] Handayani, R. S. and Rahmayanti, E. (2013). Factors That Are Related to the Quality of Life of CKD Patients Underwent Hemodialysis. *Journal of Nursing*. Vol. 9, issue 2, pp. 238-45.

[18] Appulembang, Y. E. S. and Dewi, F. (2017). Development of Urban Community Quality of Life Measurement Tools. *Muara Journal of Social Sciences, Humanities, and Art*., vol. 1, issue 1, pp. 272-7.

[19] Diastutics, D. (2016). Proportion of Characteristics of Coronary Heart Disease in Active Smokers Based on Smoking Characteristics. *Periodical Journal of Epidemiology*, vol. 4, issue 3, pp. 326-37.

[20] Clouston, S. B. (2013). The Dynamic Relationship between Physical Functions and Cognition in Longitudinal Aging Cohorts. *Epidemiologic Reviews*, vol. 35, issue 1, pp. 33–50.

[21] Clark, M. R. (2010). *TG Pain and Depression: An Interdisciplinary Patient-Centered Approach*. Basel: Karger.

[22] Cruz, L. N. (2010). FM Depression and Anxiety as an Indicator of Quality of Life in Patients with Chronic Disease: Data from Brazil. *Social Psychiatry: Psychiatry Epidemiology*, issue 45, pp. 953-61.

[23] Lestari, D. (2015). Effect of Murottal Therapy on the Anxiety Level of Patients with Coronary Heart Disease in the ICCU room of RSUD Dr. Soedarso Pontianak. (Undergraduate Thesis, Padjadjaran University, 2015).

[24] Anggraini, S. D. B. (2014). Religious Coping with Stress on Students. *Journal of Psychology*, vol. 2, issue 1, pp. 1 – 14.

[25] Rouhi-Balasi, L. (2018). Rolls of Social Support on Specific Quality of Life in Patients with Angina Pectoris. *Annals of Medical and Health Science Research*, issue 8, pp. 44-7.