

Quality of Life in Patient Post Percutaneous Coronary Intervention (PCI)

Siti Lestari and Tri Sunaryo

Nursing School of Polytechnic of Health, Surakarta, Indonesia

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Abstract: Acute myocardial infarction is the result from the occurrence of acute coronary occlusion with prolonged ischemia, then ultimately causes cell damage and myocardial infarction. To overcome stenosis or narrowing the blood vessel, it need a PCI or Percutaneous Coronary Intervention. These conditions often have impact on the quality of life. This study was intended to identify factors that affecting the quality of life of patients myocardial infarction treated with PCI. This cross-sectional study was conducted among 30 respondents who participated in this study. Chi-square was conducted to analyze the effect of age, marital status, social support and coping mechanism toward the quality of life with $\alpha = 0.05$. Statistical test result showed the relationship of gender and QoL obtained $p = 1.00$, age and QoL $p = 0.72$, married status and QoL $p = 1.00$, and coping mechanism and QoL $p = 0.003$. We can conclude that there was relationship between social support, coping mechanism and the quality of life, but no relationship between age, sex, marital status and the quality of life.

1 BACKGROUND

Acute myocardial infarction is a disease which affects the patient in a to a great degree distressing way. It is described as a threat that leads to a life crisis in one's entire life and it is additionally a high family stretch particularly for the couple (Eriksson, 2010). The frequency of AMI is high and it is the main source of death in the elderly moreover. According to WHO in the world 14 million people die annually (WHO, 2011). Myocardial infarction is also known as heart attack. It is a condition of heart muscles death when one or more coronary arteries which supply oxygen-rich blood to the heart muscle turns out to be all of a sudden blocked (Compare & Zarbo, 2013). Blockage results from plaques made of fats and cholesterol. The accumulation of this plaque is known as coronary artery disease. The accumulation of plaque is a process and also can produce chest pain symptom known as angina pectoris (Herman & Walsh, 2011). A myocardial infarction occurs when a plaque burst all of a sudden and it causes a fast aggregation of coagulating factors at the crack site which drives a sudden block of blood stream in the coronary supply route. Sudden obstruction prevents blood reaching the heart muscle. The heart muscles

start to die if there is no vital supply of oxygen-rich blood. The longer the obstruction persists, the greater the amount of heart muscle dies.

Myocardial Infarction is a medical emergency. If not treated on time it may lead changeless harm of heart muscles (Linda F. Browna, Kurt Kroenkeb, C, Dale E. Theobaldd, Jingwei Wub, C, And Wanzhu Tub, 2011) and Maddox, 2011). Some of the medical management used in this case are oxygen inhalation ,anti arrhythmic drugs, in severe cases administer I/V Morphine sulphate and diazepam as required, I/V Heparin to prevent from thromboembolism but it is not necessary for mild case, pain relief (Nitro-glycerin for active pain), prevention and treatment of any complications that may arise, Immediate administration of aspirin and physical exercises ought to be limited. The other non-surgical treatment is angioplasty which is also known as Percutaneous Coronary Intervention (PCI) (Linda F. Browna, Kurt Kroenkeb, C, Dale E. Theobaldd, Jingwei Wub, C, And Wanzhu Tub, 2011).

Health-related quality of life is an increasingly important outcome measure in the management and care of patients with chronic diseases, such as myocardial infarct, coronary artery disease (CAD), when the main treatment aim is not only to reduce mortality rates, but also to enhance indications and

capacity to perform day by day exercises. Health-related quality of life in nature is multifaceted, in view of the subjective impression of patient's health, and incorporates physical as well as mental and social functioning.

Various studies related to quality of life have been done, but there has not found a specific research on the factors influence the quality of life of patients AMI with PCI, especially research that conducted by nurses. Nurses have a very important role in the long term, by knowing the results of research on factors that affect the quality of life, nurses can arrange interventions to improve quality of life, so that nursing intervention becomes more comprehensive and can improve restoration, and quality of life of AMI patient after PCI

The majority of scientific literature indicates that health-related quality of life in AMI patients significantly improves over a half year after intense acute coronary; nonetheless, the magnitude of changes in quality of life is once in a while surveyed. It has been suggested that improvement in health-related quality of life may shift contingent upon patients' age, gender, or treatment method. This study aims to identify the relationship between gender, age, marital status, social support, coping and quality of life in patient post PCI.

2 METHODS

A survey method using cross-sectional research design was utilized in this study. Samples were 30 patients Myocardial Infarct treated with minimum 3 months post PCI, selecting by purposive sampling with certain criteria. Data collection of this study was carried out for 4 months from May to August 2017. The instrument measuring quality of life was adopted from the 36-Item Short Form Survey Instrument (SF-36). Descriptive statistics and inferential statistics were applied to the data. Paired T test was used to analysis the influence of age and quality of life, while to analyze the influence of gender, marital status, mechanism coping and social support toward quality of life, statistical was used Chi-square.

3 RESULTS

There were about 30 patients participated in this study. Most of them were male, and the quality of life as shown in the following table 1. From Table 1 we can see that 60% or 18 people has a good quality of

life, while the remaining 40% (12 people) is very good. Most of respondents in the study was male 21 people or 70%, while 9 people (30%) was female.

Table 2 depicts a cross tab analysis on association between gender and quality of life among patient MI with PCI. In the whole, the result shows that male had good quality of life for 13 people (61.9%) and quality of life was very good 8 people (38.1%), while female had good quality of life as many as 5 people (55.6%) and 4 people (44.4%) with excellent quality of life. Based on the statistical test results obtained p value of 1.00 ($\alpha = 0.05$) so it can be concluded that gender is not related to quality of life.

Table 3 display the distribution of respondent by age. The average age of respondents was 51 years with a standard deviation of 9.4 years. The youngest age is 30 years old and 70 years old. Further analysis was conducted to determine the association between age and quality of life, as show in the following Table 4 that showed the average age of respondents with good quality of life was 50.67 years with a standard deviation of 10.33 years, whereas in patients with excellent quality of life the average age was 52.17 with a standard deviation of 8.19. Statistical test results obtained p value of 0.72 means age factor is not related to quality of life.

From Table 5 we can see that most of the respondents were married with 28 people or 93.3%, while 2 people (6.7%) were not married. Result analysis to prove the relationship between marital status and quality of life could be see in Table 6. Statistical test results obtained p value of 1.00 ($\alpha = 0.05$) so it can be concluded that married status is not related to quality of life.

Table 7 reports the mechanism coping of respondents. More than half percent or 16 people (53.3%) have excellent coping mechanism, 12 (40%) have good coping mechanism, while 2 people (6.7%) have medium coping mechanism. Result of Statistical analysis can be seen in Table 8. Table 8 indicate that respondents with medium degree coping mechanisms have good quality of life (100%). While respondent with good coping mechanism is 11 people (91.7%) and have good quality of life and 1 person (8.3%) very good. Respondents with excellent coping mechanism have good quality of life 5 people (31.3%) and 11 people (68.8%) are very good.

Furthermore, in statistical test the relationship between coping mechanism and quality of life obtained $p = 0.003$, so it can be concluded that coping mechanism related to quality of life. Then, people with good coping mechanisms have a 0.67 chance to improve quality of life.

Table 9 displays half of all respondents had a good of social support, while 10 people (33.3%) had very good social support and 5 (11.7%) had moderate social support. Respondents with the level of social support are having good quality of life of 5 people (100%) and the respondent with social support at good level has good quality of life 12 (80%) and 3 (20%) very good. While respondents with very good social support level have quality of life good 1 person (90%) and 9 person (90%) very good. In the statistical test the relationship of social support and quality of life obtained p value 0,000 so it can be concluded that social support is related to quality of life. And people with good social support have a 0.67 chance to improve the quality of life.

Table 1: Distribution of respondents

Category	Frequency	Percentage
Quality of Life		
Not Good	0	0
Moderate	0	0
Good	18	60
Very Good	12	40
Total	30	100
Gender		
Male	21	70
Female	9	30

Table 2: Cross tab analysis between gender and quality of life

Gender	Quality of life				OR 95% CI	P Value
	good		very good			
	N	%	N	%		
Male	13	61.9	8	38.1	1.3	1.00
Female	5	55.6	4	44.4		
Total	18	60	12	40		

Table 3: Distribution of respondents by age

Variabel	Mean	Standar Deviasi	Minimal Maksimal
Age	51.4	9.40	30-70

Table 4: The average age of respondents with good quality of life

Quality of Life	Mean	SD	SE	P Value	N
Good	50.89	10.33	2.44	0.72	18
Very good	52.17	8.19	2.36		12

Table 5: Distribution of respondents by marital status

Marital Status	Total	Percentage
Married	28	93.3
Not married	2	6.7
Total	30	100

Table 6: Cross tabulation analysis on association between marital status and quality of life

Marital status	Quality of life				OR 95% CI	P Value
	Good		Very good			
	N	%	N	%		
Married	17	60.7	11	39.3	1.55	1.00
no marry	1	50	1	50		
total	18	60	12	40		

Table 7: Respondent distribution based on level of mechanism of coping

Coping Mechanism	Total	Percentage
Not Good	0	0
Moderate	2	6.7
Good	12	40.0
Excellent	16	53.3
Total	30	100

Table 8: Cross tabulation between coping mechanism and quality of life

Coping Mechanism	Quality of Life				OR 95% CI	P Value
	Good		Very Good			
	N	%	N	%		
less	0	0	0	0	0.67	0.003
moderate	2	100	0	0		
good	11	91.7	1	8.3		
very good	5	31.3	11	68.8		
total	18	60	12	40		

Table 9: Distribution of respondents based on social support

Social Support	Total	Percentage
Not Good	0	0
Moderate	5	11.7
Good	15	50.0
Very Good	10	33.3
Total	30	100

4 DISCUSSION

The mean age of respondents was 51.4 years with a standard deviation of 9.40. The youngest age 30 years and oldest 70 years. This indicates that the age of the respondent is in the early adult range to the elderly, where the range is at risk for experiencing

various diseases, including myocardial infarction. According to basic health research data 2013, the prevalence of coronary heart disease increases with age, the highest at age 65-74 years.

The results of this study are in line with a study conducted on 88 patients by (Panthee, Kritpracha, & Chinnawong, 2011) that the average of coronary heart disease patients was 57.43, with the youngest age 28 years and the oldest 85 years. Another study conducted Wang et al., (2016), of 128 patients indicated that the average patient aged 55.4 with a standard deviation of 9.5. Similarly, in a study conducted Kroemeke, (2016) the mean age of heart patients was 52.26 with a standard deviation of 7.08. Furthermore, the study conducted by (Ginny Brunton et al., 2015) describes the age factor as a risk factor.

Statistical test results obtained p value of 0.72, it means that age factor is not related to quality of life. This is in line with a study conducted by Ruijie Li, et al, (2012) on 624 MI patients with PCI with 60 years of age (73.6%), 60-79 years (55.7%) and over 80 years (21.3%). The result is that older patients experience an increase in physical health best compared to younger.

According Rubbyana (2012) that quality of life is a subjective perception of the individual against the physical, psychological, social, and environmental conditions in everyday life that happened. WHO describes the quality of life as an individual perception of their position in life in the context of the culture and value system where they live and live in relation to their life goals, expectations, standards and the focus of their lives. This concept covers several broad dimensions: physical health, psychological health, social and environmental relations.

Most of the gender in this study were men, 21 people or 70%. This happens because men have a risk of heart disease than women. This is also in line with a research conducted by Bosworth in 2000 with 4278 patients and 63% of whom are men. Similarly, studies conducted by (Panthee, Kritpracha, & Chinnawong, 2011) on 88 patients and 72.7% of them are men. The data suggest that men are at greater risk than women. This is in accordance with a study conducted by (N, Suryadipradja, & Shatri, 2005), that MI occurs mostly in men compared with women with a ratio of 2.5-3: 1.

Then, Statistical test results obtained p value of 1.00 ($\alpha = 0.05$) so it can be concluded that sex is not related to quality of life. This is in line with research conducted by (Kristofferzon ML, Löfmark R, 2005) that there is no difference in the quality of life between men and women. Similarly, the study conducted by Kose and Martha, 2016 showed no

difference in the quality of life between men and women. Similarly, the study conducted by (Kose, & Marta, 2016) showed no difference in the quality of life between men and women.

Judging from the marital status, most of the patients were married and still have a partner of 93% and do not have a partner as much as 7%. This result is in accordance with the study conducted by Chan, Chau & Chang, 2005 from 115 patients 80% in married status.

Furthermore, statistical test results obtained p value of 1.00 ($\alpha = 0.05$) so it can be concluded that married status is not related to quality of life. However, since the partner is one of the support systems that will be able to provide positive support for the partner and will decrease anxiety, as the study conducted by (Panthee, Kritpracha, & Chinnawong, 2011) patients who have no partner found more anxiety than those who have a partner.

Coupling mechanism is a pattern to withstand tensions that threaten him or solve problems. The existence of personal and life-threatening problems will lead to both adaptive and non-adaptive reactions, where the problem will create anxiety for the individual. This is in accordance with the opinion of Kroemeke (2016) that experience or experience life-threatening diseases such as MI will certainly lead to stress.

Furthermore, strategies typically used by individuals include coping that focuses on problem solving or problem solving focused coping, as strategies where individuals are actively seeking problem solving to eliminate stressful conditions or situations. In addition, other strategies that can be used are emotionally focused or emotion-focused coping, where the individual involves attempts to regulate his emotions in order to adapt to the impact that will result in a condition of stress. The way the individual handles stressful situations is determined by the individual's own resources and how much stress he experiences (Ahyarwahyudi, 2010).

In statistical test, the relationship between coping mechanism and quality of life obtained p value 0.003 so that it can be concluded that coping mechanism related to quality of life, with positive correlation, the better coping mechanism the higher quality of life client. Furthermore, people with good coping mechanisms have a 0.67 chance to improve quality of life. This is in accordance with studies conducted Panthee, Kritpracha, & Chinnawong, (2011) that coping is correlated with quality of life. Coping mechanism especially coping strategy-oriented problem or problem focused coping related to the quality of life, especially the dimensions of function

and health. In this case, more men use this strategy than women. The study also found that problem focused coping strategies have a positive effect while coping strategies avoid having negative effects. In males, according to Kristofferzon ML, Löfmark R (2005) often coping mechanisms are optimistic, self-reliant and confrontational. Nevertheless, the study conducted by Kose, & Marta (2016) showed different results, there was no significant correlation between quality of life with coping strategies in men and women.

Social support will be effective in treating psychological pressures in difficult times and pressing, for example in MI patients often experience distress and anxiety. The prevalence of anxiety and depression in MI varies (Wang et al., 2016) Social support also helps strengthen immune function, reduce physiologic responses to stress and strengthen functions to respond to chronic diseases (Taylor & Broffman, 2011).

The result of statistical test on the relationship between social support and quality of life is obtained p value 0,000, so it can be concluded that social support is related to quality of life. People with good social support have a 0.67 chance to improve the quality of life. The results of this study are in line with the study conducted by (Lett HS, Blumenthal JA, Babyak MA, Catellier DJ, Carney RM, Berkman LF, Burg MM, Mitchell P, Jaffe AS, 2007) that positive social support is associated with improving quality of life and increasing outcomes of patients with Coronary Heart Disease. Furthermore, Chung, Moser, Lennie and Rayens, 2009 explain the lack of social support and depression affect the decline in quality of life. Social support will improve the quality of life if depression is also handled properly.

5 CONCLUSIONS

There is no relationship between age, gender and marital status with quality of life of MI patients with PCI. On the other hand, study found that there was relationship between social support, coping mechanism with quality of life of MI patients with PCI.

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