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THE RELATIONSHIP BETWEEN DEMOGRAPHIC CHARACTERISTIC AND QUALITY OF LIFE IN PATIENTS WITH CORONARY ARTERY DISEASE

Teguh Santoso[1]*, Suhartini Ismail[2], Untung Sujianto[3], Dwi Susilawati[4]
[1]STIKES Guna Bangsa Yogyakarta, Indonesia
[2,3,4]Universitas Diponegoro, Indonesia
*email: tg.santoso21@gmail.com

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ABSTRACT

Coronary artery disease is one of the non-communicable diseases that lead to the cause of death globally. It not only can disturb of physical, psychological, and social aspects, but also decrease the quality of life (QoL). The perception of QoL is a difference among patients with coronary artery disease. Characteristic demographic can assist patients in identifying and addressing QoL declined. This study examined the relationship between demographic characteristics and quality of life in patients with coronary artery disease. This is a cross-sectional study that reviewed patients with coronary artery disease. Participants were 124 (96 males and 28 females) with purposive sampling. Quality of life was measured with (SF-36) questionnaire. Spearman rho correlation has utilized the relationships between the independent and dependent variables. Spearman rho correlation coefficient analysis indicated that demographic characteristics (age (0.216), gender (0.075), marital status (0.224), and alcohol consumption (0.092)) were not correlated significantly, but education level (0.002), occupation (0.001), income (0.003), and exercise (0.014) were related significantly with quality of life. There was a statistically significant relationship between demographic characteristics and quality of life in patients with coronary artery disease.

BACKGROUND

Coronary artery disease (CAD) is caused by atherosclerosis plaque and or narrowing coronary artery. It is one of disease that responsible leading cause of death in the world. According to World health organization in 2012, 7.4 million people die doe to CAD (World Health Organization, 2017). Base on basic research of health by Ministry of Health in 2013, mortality rate by CAD is 883.447 peoples in Indonesia. Furthermore, in central java the number of people with CAD is 120.447 peoples (Badan Penelitian Dan Pengembangan Kesehatan Kementerian Kesehatan RI, 2013). Coronary artery disease affects to physical, psychological, and social aspects (Molazem, Rezaei, Mohebbi, Ostovan, & Keshavarzi, 2013).

The effect of CAD to physical aspect is men have a higher risk of developing coronary heart disease than women. increasing age can lower testosterone levels. Decreased testosterone levels can increase low-density lipoprotein (LDL) cholesterol levels, thereby triggering the formation of atherosclerotic plaques (American Heart Association, 2017; Mozaffarian et al., 2016). atherosclerotic plaques can result decrease oxygen supply to myocardium, pain, and dyspnea. Previous study explained that CAD patients who suffering chest pain, and dyspnea had low of activities daily living, sexual intercourse, and failed to finished their work (Bimala & Charuwan kritprach, 2011) (Rosidawati et al., 2016).

Phycological effect of CAD is stress, low of mood, anxiety, and depression. Anxiety and depression can to increase cardiac beat, power of atrial and ventricular contractility, and vasoconstriction. That conditions can disrupted of physical functioning and misperception of the disease (Dirksen, Lewis, Heitkemper, Bucher, 2010) (Monahan & Phipps, 2007). Finally, social effect of CAD is decrease of social interactions, hobbies, and stop from working (Rosidawati et al., 2016). Other study explores that

coronary artery disease had high of relapse and hospitalize rate in the word. It indicated decrease of quality of life (QoL) (Sanfilippo et al., 2010). Previous studies reported that coronary artery disease patients had low quality of life (Saengsiri, Thanasilp, & Preechawong, 2014) (Dale et al., 2014). Similarly, in Indonesia, 30% patients with coronary artery disease had low QoL (Yulianti, Kosasih, & Emaliyanti, 2012). Quality of life is a multidimensional concept and different perception among peoples. Many factors related to the quality of life in patients with coronary artery disease. Previous study were examined age, gender, occupation, education level, income, marital status, history of health, alcohol consumption, and exercise associated with quality of life (Mozaffarian et al., 2016; National Institutes of Health, 2015). However, the finding still unclear. Thus, it seemed to be important to identify the relationships between demographic characteristics and quality of life in patients with coronary artery disease.

METHODS

This study was used a cross-sectional descriptive correlational study design. The participants in this study were 96 males and 28 females by purposive sampling according to inclusion and exclusion criteria. The Participants were patients with coronary artery disease who were admitted to the cardiac ward when the study was conducted. The inclusion criteria were artery disease patients admitted in the hospital, age more than equal 35 years old, able to read and write. Artery disease patients with stroke and congestive heart failure were exclusion criteria. Data collected in cardiac ward of Kariadi general hospital of Semarang on July to September 2017. Demographic characteristics questionnaire was structured by researchers and used for gathering demographic characteristics of age, gender, occupation, education level, income, marital status, history of health, alcohol consumption, and physical activities or exercise. Quality of life measurement used Short form 36 (SF-36) Indonesia version with Cronbach's alpha >0,70 (Salim, Yamin, Alwi, & Setiati, 2017). SF-36 consists of 36 questions which are divided into 2 dimensions (physical and mental). The physical domain consists of physical functions, physical roles, pain, and general health. The mental domain consists of mental health, emotional role, social functioning, and vitality. The question in every domain has a code and a score range of 0-100 (Burholt & Nash, 2011). The complete data were analyzed using the statistical program. The relationships between age and quality of life were used Person correlation. The relationships between gender, occupation, education level, income, marital status, history of health, alcohol consumption, and exercise, and quality of life were used Spearman rho correlation coefficient.

RESULTS

In table 1, total participants in this study were 124. The most participants were male 96 (77.4%) with mean age of 55.42 years old. Also, 121 (97.6) participants had married with higher education level is senior high school 47 (37.9%), non-government 49 (39,5%) and had income more than minimal of regional wage 67 (54%). The majority of participants had hypertension 78 (62.9%), never drinking of alcohol 119 (96%), and never exercise 58 (46.8%).

As shown in table 2, education level, occupation, income, and exercise were statistically positive significant associated with quality of life with value <0.005. It indicated that there were relationships between education level, occupation, income, and exercise and quality of life in patients with coronary artery disease.

DISCUSSION

The result demonstrate that the demographic characteristics included education level, occupation, income, and exercise were related quality of life in patients with coronary artery disease.

This study shows that gender was not associated with the quality of life. The participants in this more than 70% is male. In previous study reported men had higher quality of life than women. The reason is unclear but in other study explained that women more often to suffering of psychological distress, have a higher burden of comorbid illnesses and living alone (Rahimian-Boogar & Rostami, 2014) (Kramer et al., 2012).In relation to the marital status was not related with QoL. Prior studies explained that patients living alone had worse quality of life score and impaired familial relationship, having difficulty in home works due to marital stress decreased the QoL significantly (Barbareschi, Sanderman, Kempen, & Ranchor, 2008) (Horsten et al., 2003).

Moreover, education level was related with QoL. In this study, the participants had high education level. Individuals with higher education level indicate better quality of life, have a good network of friends, improve self-efficacy, and maintaining of health. Level of education influences of psychosocial and behavior factors (Colet, Mayorga, & Amador,

Table 1. Demographic Characteristics (N = 124)

Demographic characteristics	Frequency	Percentage (%)
Gender:		
Men	96	77.4
Women	28	22.6
Age (Mean (SD)):	55.42 (8.44)	
35-44	9	7.3
45-54	49	39.5
55-64	46	37.1
≥ 65	20	16.1
Marital status:		
Married	121	97.6
Single/divorce	3	2.4
Education level:		
Primary	28	22.6
Senior high school	47	37.9
University	44	35.5
Illiterate	5	4
Occupation:		
Government employee	27	21.8
Non-government	49	39.5
Retried/unemployed	48	38.7
Income:		
< minimal of regional wage	33	26.6
= minimal of regional wage	24	19.4
> minimal of regional wage	67	54
Health history:		
Diabetic	15	12.1
Hypertension	78	62.9
Diabetic & hypertension	31	25
Alcohol consumption:		
Rare	5	4
Never	119	96
Exercise:		
Overtimes	19	15.3
Rare	47	37.9
Never	58	46.8

Variable a = Spearman Rank Correlation Coefficient
Variable b = Pearson Coefficient Correlation
** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed).

2010). In this study found that occupation associated with QoL. This can be explained the most of the participants in this study are employee. Participants who had occupation may had higher income and to access the medical and rehabilitation activities. Moreover, unemployed patients had better quality of life than employed patients. This is possible that the unemployed patients have greater chance to rehab their functional activity so that it could improve the quality (Singhpoo et al., 2012). Similar, in accordance with previous paper, participant who had higher income indicate better quality of life in physical functioning, mental health, and social aspects. Unemployment and low income were associated with depression and worse QoL (Lemos, Rodrigues, & Veiga, 2015). In contrast, prior studies explore that higher income had higher of stress level (Lundin, Falkstedt, Lundberg, & Hemmingsson, 2014) (Torén et al., 2014).

In this, health history was not associated with QoL. Similarly, with previous study in 2005 explored that past medical history was weakly correlated with quality of life (Rogers, Kenyon, Lowe, Grant, &

Table 2. Relationships between Demographic Characteristic and Quality of Life

Variables	Quality of life	
	Coefficient	p-value
Gender[a]	-0.160	0.075
Age[b]	-0.112	0.216
Marital status[a]	0.110	0.224
Education level[a]	0.273**	0.002
Occupation[a]	-0.291**	0.001
Income[a]	0.267**	0.003
Health history[a]	-0.145	0.108
Alcohol consumption[a]	0.009	0.092
Exercise[a]	-0.221*	0.014

Dempsey, 2005). It is not possible adequately distinguish current from historical issues.

The result of this study explores that alcohol consumption was not relationship with quality of life. In this study, more than 90% of the participant said that never drink. In contrast, Kim in 2013 said that low and moderate alcohol consumption was associated with better QoL and social interactions (Kim et al., 2013). In previous study explain, harmful consumption of alcohol indicated negative health-related behaviors (Kim & Kim, 2015). In this study, exercise was had related with quality of life. Possible explanation, almost of the participant in had limited or minimal physical activities such as regular exercise as effect of the disease. Although, exercise needed to increase nitric oxide in the blood vessel (Lee et al., 2012).

The number of CAD patients in the world and especially in Indonesia continues to increase. The nurse as a one of healthcare provider always stand in front of line should be given excellence services with improve knowledges, skills based on evidence practice. The limitation of this study is instrument to measurement of Quality of life used generic questionnaire (SF-36). The limitation of this study is that it cannot describe the overall characteristics of patients with coronary heart disease globally and clinical characteristics data research is needed.

CONCLUSION

Results showed that there was a relationship between demographic characteristics (level education, occupation, income, and exercise) and quality of life in patients with coronary artery disease. Quality of life is subjective among peoples and need to know affecting it. According to this study, these will help the healthcare provider (nurses) to identify quality of life, promotion of health, exercise especially in CAD patients.

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