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Quality of Life among Post PCI and CABG Patients with Coronary Heart Disease in Cardiac Outpatient Units Dr. Slamet Garut Hospital

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ABSTRACT
Implementing Percutaneous Coronary Intervention (PCI) and Coronary Artery Bypass Graft (CABG) among CHD patients does not entirely eliminate the risk of recurrence, stenosis, and death. These conditions may affect the patient's physical, psychological, and social condition. Changes in these conditions influence the quality of life. Therefore, this study aimed to identify the quality of life of post PCI and CABG CHD patients.
The study used a quantitative design with a cross-sectional approach. The sampling technique used convenience sampling and obtained 42 respondents for one month. The data collection was conducted at Dr. Slamet Garut's cardiac outpatient unit using the Indonesian version of *the Quality of Life After Myocardial Infarction QLMI (MacNew)* questionnaire. Data were analyzed using quantitative analysis.
Based on the results of the data analysis, overall, respondents had a high quality of life. 71.4% of respondents had a high global quality of life. Whereas 73.8% had a high quality of life in the social domain, 71.4% had a high quality of life in the emotional domain, and 69.0% had a high quality of life in the physical domain.
Most of the respondents had a high quality of life. However, there were identified that nearly one-third of patients had a low quality of life. The lowest score was presented in the physical domain. Thus, these findings indicate the need for support in the physical domain for the patient.

Introduction

Coronary heart disease or CHD is a non-communicable disease with numerous patients in both developed and developing countries. In addition, theWorld Health Organization (WHO) in 2012 showed that 17.5 million people in the world died caused by CHD. Furthermore, it reached 31% of the 56.5 million deaths worldwide (Wahyuni & Prijodiprodjo, 2013). In Indonesia, the prevalence of CHD reached 0.5% or estimated at around 883,447 people in 2013. Based on provinces, West Java was the province with the highest number of CHDs in Indonesia (Kemenkes RI, 2014).

Acute Coronary Syndrome is part of CHD consisting of Myocardial infarction with Elevation Segment ST (STEMI: ST-segment elevation myocardial infarction), myocardial infarction with non-elevation segment ST (NSTEMI: non-ST segment elevation myocardial infarction), and Unstable angina pectoris (STEAM). STEMI indicates the total occlusion of coronary artery blood vessels. This condition requires revascularization to restore blood flow and blood reperfusion as soon as possible. (PERKI, 2015).

There are three revascularization or reperfusion management methods for coronary heart disease patients: Fibrinolysis Therapy, Percutaneous Coronary Intervention (PCI), and Coronary Artery Bypass Graft (CABG). PCI is a non-surgical action performed to open or dilate coronary arteries that have narrowed. At the same time, CABG is a surgical action to restore normal blood flow to the coronary arteries with obstruction. Revascularization with PCI and CABG is more recommended for coronary heart disease patients. Particularly for patients who have ischemic evidence based on supporting examinations. Significant lesions based on the results of coronary angiography compared to revascularization of fibrinolysis (Firdaus et al., 2016).

Various studies state that PCI and CABG improve patients' quality of life than medicaments therapy or fibrinolysis. PCI and CABG are treatment options for CHD patients. It is supported by evidence in a meta-analysis study that systematically analyzed 23 randomized studies of PCI with fibrinolysis. The study concluded that PCI further lowers mortality, reinfarction, and stroke (Firman, 2010).

Another management is through the revascularization of coronary artery bypass graft (CABG). CABG is executed to treat CHD patients, especially those who experience narrowing or blockage of already severe arteries. CABG is performed by taking a blood vessel, either an artery or a vein, to create a new channel for blood flow to the blocked heart. The result improves the blood supply to the heart muscle. Complications that may occur from CABG include stroke, superficial sternum infection, deep sternum infection, acute kidney failure, arrhythmias. Also, patients who perform CABG require more postoperative blood transfusions. In addition, CABG action also has a relatively high mortality rate (Dailila, A., & Ginting, 2017).

Based on Cohen et al. (2011) both PCI and CABG led to significant improvements to patients'quality of life. But the quality of life is slightly better in patients who do CABG compared to PCI.

The purpose of PCI and CABG is to reduce mortality, increase life expectancy and improve the quality of life. Baron et al. (2017) stated that PCI and CABG produced good health status, especially for post PCI patients in the first month.

The quality of life of CHD patients will decrease during the adaptation process even though the revascularization has been executed. These situations are due to changes in clinical, psychological, and spirituality. According to Rosidawati et al. (2016), Post-CABG patients experience bio-psycho-socio-spiritual changes that affect their quality of life. While, according to Zhao (2008) (Hutagalung et al., 2014), patients with PCI will be facing some related problems in their quality of life, including depression and anxiety.

The quality of life is essential to be explore. Hence, it is one of the indicators of accomplishment in interventions that have been carried out. In addition, patient quality of life data is the basis for considering or formulating

the next appropriate intervention for the patient (Supriyadi, Wagiyo, &Widowati, 2013).

Nurses as a health profession that interacts with patients more than other health workers is beneficial in improving patients' quality of life.

Research on patients' quality of life with coronary heart disease post PCI and CABG has previously been performed in Indonesia and in West Java. However, one of the West Java districts with a high number of CHD has not been investigated related to this issue. Therefore, the study aimed to identify the quality of life of CHD patients undergoing PCI and CABG among CHD patients in the outpatient cardiac unit of Dr. Slamet Garut Hospital.

Method

The research method used is quantitative descriptive. The variable in this study is the quality of life of CHD patients post-action PCI and CABG. The number of respondents in this study was 42 people, of which post PCI patients amounted to 32 people and post-CABG patients 10 people.

Sampling using teknik *convenience sampling.* The instrument used in this study was a MacNew questionnaire, which modified the QLMI questionnaire developed by Höfer, Lim, Guyatt, & Oldridge in 2004. The instrument is used to measure the quality of life of heart patients, contains 27 items and is divided into three domains: physical, emotional, and social. This questionnaire has been tested for its validity and reliability.

Results

This study on quality of life in coronary heart disease patients was conducted on 42 patients post PCI and CABG in the cardiac outpatient unit of dr. Slamet Garut Hospital. Data collection was conducted from March 25, to May 16, 2019.

Table 1.2 Quality of Life of Post- PCI and CABG Globally (n= 42)

Quality of Life Globally	PCI	CABG	Frequency (f)	Percentage (%)
Tall	22	8	30	71,4
Low	10	2	12	28,6
Total	32	10	42	100

Based on table 1.2, more than half of respondents have a high quality of life (71.4%), and a small percentage of respondents have a low quality of life as many as 12 respondents (28.6%)

Table 1.3 Quality of Life of Coronary Heart Disease Patients Post- PCI and CABG In Each Domain (n=42)

Quality of Life in the Emotional Domain	PCI	CABG	(f)	%
High	22	8	30	71,4
Low	10	2	12	28,6
Total	32	10	42	100

Tabel 1.3 showed that quality of life in the emotional domain mostly falls into the high category (71.4%) while a small percentage (28.6%) are low category.

Table 1.4 Distribution of Quality of Life Frequency of Coronary Heart Disease Patients Post-action PCI and CABG In Physical Domain (n = 42)

Quality of Life in the Physical Domain	PCI	CABG	(f)	%
High	21	8	29	69,
Low	11	2	13	31,0
Total	32	10	42	100

Tabel 1.4 showed that the quality of life in the physical domain in both PCI and CABG categories fall into the high category (69.0%) and 31% fall into the low category.

Table 1.5 Quality Frequency Distribution Living Patients with Coronary Heart Disease Post-action PCI and CABG On The Social Domain (n = 42)

Quality of Life in the Social Domain	PCI	CABG	(f)	%
Tall	23	8	31	73,8
Low	9	2	11	26,2
Total	32	10	42	100

Table 1.5 showed that more than half of respondents had a high quality of life in the social domain (73.8%), and a small percentage fell into the low quality of life category (26.2%).

Table 1.6 Quality of Life and Characteristics of Coronary Heart Disease Patients Post PCI and CABG in cardiac outpatient unit of the Hospital dr. Slamet Garut (n = 42)

Category	Global Quality of Life				
	Tall		Low		Total
	F	%	F	%	%
Age					
(17-25 years)	0	0	1	8,3	2,4
(26-45 years)	5	16,7	1	8,3	14,3
(46-65 years)	20	66,7	6	50,0	61,9
(> 66 years old)	5	16,7	4	33,3	21,4
Gender:					
Man - Man	21	80,8	5	19,2	65,9
Woman	9	56,2	7	43,8	34,1
Marital Status:					
Marry	30	78,9	8	66,7	90.5
Not married yet	0	0	1	8,3	2,4
Divorce	0	0	3	25,0	7,1
Types of Revascularization:					
PCI	22	68,8	10	31,2	100
CABG	8	80	2	20	100

Tabel 1.6 indicates the quality of life in the elderly mainly falls into the category of high quality of life. The male sex has a higher quality of life than the quality of female response. Married Respondent has a higher quality of life than unmarried or divorced respondents.

Discussion

The research results on global quality of life or overall quality of life showed a high quality of life. PCI and CABG revascularization are factors that cause the quality of life of CHD patients in the cardiac outpatient unit of Dr. Slamet Hospital high. However, some proportion of patients had low quality of life.

The results reinforce previous research conducted by Weintraub et all (2008). Weintraub stated that of the 35,539 CHD patients who had undergone PCI experienced a significant improvement in quality of life4. Another study state the similar condition with 120 patients who performed CABG (Bonaros et al., 2009). Abdallah et al. (2013) further mentioned that patients undergoing CABG have a better quality of life for longer than patients who undergo PCI.

Although post PCI or CABG patients' quality of life was mainly in a high category, some respondents were low. Elderly factors can influence it. This is reinforced by Kristoffreson, et al (2005) in his research that old age affects patients' quality of life.

Based on the quality of life domain. Respondents' quality of life in the physical, emotional, and social aspects showed that most were in the high quality of life category.

The physical domain in this study became the lowest-valued domain compared to the social and emotional domain. It can happen because most respondents have vulnerable ageg elderly 46-65 years and elderly >66 years. This happens because in the elderly physical strength will decrease. These results strengthen the study of Anggraini, D., & Andini (2018), which stated that post PCI CHD patients have a low quality of life in the physical domain due to old age. Based on respondents' answer indicators found that fatigue became the most felt symptom in the physical domain.

Emotional aspect are domains with high quality of life categories. After the PCI and CABG are performed, patients will gain improvements in the physical condition and decrease angina symptoms compared to before PCI and CABG. This situation support the emotional condition stable. The results of this study are in line with research conducted by Rosidawati et al., (2016) which said almost all respondents post-CABG expressed happiness

because they could be healthy again and reunited with family. Furthermore, Gustad, et al., (2014) stated that in non-revascularization, CHD patients usually have a low quality of life on the physical and emotional aspects.

In addition, almost all respondents had a partner. This condition improves the patient's emotional condition as part of social support. According to Pante and Kriptacha (2011), individuals who do not have a partner experience anxiety and higher emotional tension compared to those who already have a partner.

Furthermore, the good emotional aspect is also influenced by spirituality. In this study, all respondents were Islam and believe that having in God and considering the pain experienced is a test and surrenders

The research results on social domains had a high category with a percentage reaching 78.3%. The result was related to PCI and CABG revascularization. Following revascularization, patient activities, including social activities, can be re-acted. This situation allows them to interact well with family, friends, the patient's environment, and the environment where the patient is taking road treatment. According to Ivan Nyklicek (2014), patients who had done revascularization showed a great improvement in the psychological and social quality of life.

Based on this study, it was identified that social domains are the highest percentage of domains compared to other domains. The results of this study are different from the results of previous studies. According to R.Hutagalung, (2014) social domains are the lowest scoring domains compared to other quality of life domains. Another study in Italy conducted by Baldi et al (2016) showed that the lowest score of quality of life was in the social domain. Differences in these results can occur due to socio-cultural differences where the socio-cultural conditions of patients are high with a culture of togetherness.

Conclusions

Quality of life Post PCI and CABG patients in cardiac outpatient unit Dr Slamet Garut mainly were in the high category. Furthermore, based on the quality of life score, the highest to the lowest scores were social, emotional, and physical domains.

Weaknesses of research

Researchers did not consider other causes into the analysis. Such causes include: lifestyle after PCI or CABG action and treatment adherence.

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