E-ISSN - 2477-6521
Vol 7(3) October 2022 (557-564)

Jurnal Endurance : Kajian Ilmiah Problema Kesehatan
Avalilable Online http://ejournal.kopertis10.or.id/index.php/endurance

SELF-MANAGEMENT KNOWLEDGE REPORTED BY HOSPITALIZED PATIENTS WITH CARDIOVASCULAR DISEASE

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Submitted :21-08-2022, Reviewed:09-10-2022, Accepted:21-10-2022
DOI: http://doi.org/10.22216/jen.v7i3.1501

ABSTRACT

Patients living with cardiovascular diseases have different ways to solve their various problems. self-management was being a part of strategies in maintaining their health status. Knowledge of self-management was important in changing patient's behaviour. This study aimed to identify self-management knowledge reported by hospitalized patients with cardiovascular disease. This was a descriptive quantitative study. Eighty inpatients with cardiovascular disease were recruited by accidental sampling. Self-administered questionnaire were used to measure the knowledge of self-management and demographic characteristic in hospitalized patients with cardiovascular diseases. Data were analyzed using Chi-square test. The results showed that generally hospitalized patients with cardiovascular disease have high knowledge of self-management. But in specific knowledge such as salt restriction, glucose target, side effect while patients stop to smoking and ways to overcome these side effect. The further analyses showed that there was no significant relationship between demographic characteristics (educational level, long of time in suffering illness, participating in educational programme) and knowledge of self-management in hospitalized patients with cardiovascular disease (p > 0,05). Majorities of hospitalized patients with cardiovascular disease have known the information related their illness, but for more specific behaviour knowledge was limited. Improving behaviour knowledge of self-management was essential point to maintain health status of patients with cardiovascular disease.

***Keywords** : knowledge, self-management, patient with cardiovascular disease*

INTRODUCTION

Cardiovascular disease was one of the chronic illnesses as the most prevalent and costly of all global health problems. It was ongoing health condition that can be controlled but not cured (Qiu et al., 2021;Wenger et al., 2022). This conditions also required the patients to assume more responsibility for their self-management (Barnason et al., 2017).

Self-management was an active cognitive process undertaken by the patients to manage their illness (Wright et al., 2003). Studies suggested that self-management can reduce costly hospital readmission, complications of illness and also help patients achieve healthier outcomes and better quality of life (Mead et al., 2010; Meng et al., 2014).

Our previous study found total self-management among 374 patients with

cardiovascular disease was 77.7 (SD = 9.96), with the lower aspect of home monitoring blood pressure (6.73). The patients have abilities in self-management implementation, but they were still lack of adequate knowledge (Muliantino et al., 2022).

Self-management of cardiovascular disease requires patients to have knowledge of their disease process and management (Barnason et al., 2017). Previous study showed that there was an inadequate general knowledge among patients with cardiovascular disease including heart failure and hypertension (Hwang et al., 2014; Bilal et al., 2015). Knowledge of their health status and awareness of risk is an essential first step in self-management (Riegel et al., 2017). Other study showed that patients with cardiovascular disease have some barriers to implemented self-management, one of primary barrier was inadequate information and limited skill in self-management implementation. Having insufficient information about their health, health care and medication was common problem after their initial diagnosis (Mead et al., 2010). Conversely, lack of patient's knowledge was associated with poor compliance, feelings of lack of control, and dis-empowerment with regards to health, and may contribute to hospital readmission. When individuals have inadequate understanding of their current health status and their risk for future condition, it would be caused inadequate engagement to self-management (Wright et al., 2003; Riegel et al., 2017). Despite the above studies, there is sparse literature about knowledge of patients with cardiovascular disease about how they manage their health status. This study aimed to identify self-management knowledge reported by hospitalized patients with cardiovascular disease.

METHOD

This was quantitative study with cross-sectional design. Total 80 inpatients with cardiovascular disease from Cardiovascular Centre Hospital in West Sumatera were conducted using accidental sampling technique. Inclusion criteria included 1) diagnosed with cardiovascular disease, 2) inpatient during this study, 3) the ability to give informed consent. Patients with moderate and high level of pain, uncompleted questionnaire were excluded. This study was conduct in July until August 2022.

Data collection using questionnaire, self-administered questionnaire (SAQ) was used to evaluate knowledge of self-management consist of 24 questions including illness knowledge (risk factors, sign and symptom, medication, consultation and complication) and behaviour knowledge (the level of blood pressure blood glucose and cholesterol target, diet, weight monitoring, exercise, stress management and quit smoking). This questionnaire using Likert scale, the answer consist of "do not know", "no", and "yes" , with score 0, 1 and 2. This instrument was developed by researchers based on existing literature. The validity test was carried out. The socio-demographic questionnaire used to evaluated education level (junior high school, senior high school, university), long suffered from illness (new : < 1 year and old: ≥ 1 years), and participating in educational programme (yes and never). We provided the informed consent for all respondents in this study.

Data analysis used descriptive statistic (percentage and frequency). Further analysis used Chi Square test to identified the relationship between characteristic demographic and knowledge of self-management in hospitalized patients with cardiovascular disease ($p < 0.05$). This study

was approved by Health Research Ethics Committee Dr.M.Djamil Hospital (number: LB.02.02/ 5.7/ 194. 2022).

RESULT AND DISSCUSION

There were 80 hospitalized patients with cardiovascular disease participated in this study. In this study we identified demographic characteristic of respondents including educational level, long of time in suffering illness, and participating in educational programme. This study found that there were 31 respondents (38.8%) have senior high school level of education. Most of them were not a new patient with cardiovascular disease (55%) and only 7.5% respondents have participated in educational programme related to their illness (Table 1)

Table 1. Demographic Characteristic

Variable	n (%)
Education Level	
Junior high school	24 (30.0)
Senior high school	31 (38.8)
University	25 (31.3)
Long suffered from illness	
New	36 (45.0)
Old	44 (55.0)
Participating in educational programme	
Yes	6 (7.5)
Never	74 (92.5)

Detail knowledge of respondents about self-management in cardiovascular disease was described in the table 2. More than half of respondents have known the information related to their illness, including risk factors, signs and symptoms of their illness. There were 83.8% respondents have known about modified risk factors can be changing such as life style, diet and physical activities. Most of them also know signs and symptoms of current events of heart disease including chest pain, feeling of discomfort in the upper body area, dyspnea, shortness of breath, sweats, nausea and fatigue (90%).

The result showed that knowledge of health behaviour in most of respondents have known the important of maintaining and controlling blood pressure in the range of target under 140/ 90 mmHg. In term of diet, this study founded that most of respondents have known salt restriction was important thing for patients with cardiovascular disease (85%), and just 20% respondents have known about amount of salt that they could consumption per day (5 gram).

There were 88.8% respondents have known that fatty foods should be avoided such as shrimp, squid, offal, skin of chicken, coconut milk and fried peanuts because of containing high cholesterol. However, only 53.8% of respondents have known about target of LDL that patient must maintain was <100 mg/dl. About 37.5% respondents do not know about normal level of blood glucose for patients with diabetes co-morbidities, including fasting blood glucose level and post prandyal blood glucose level and also the importance of weigh and body mass index in the normal range.

Most of respondents already know that smoking can damage blood vessels, causing high blood pressure and heart disease (87.5%). But only 37.5% of them have known of nicotine withdrawal when quitting smoke

and 42.5% respondents do not know about the ways to deal with withdrawal symptoms.

Most of respondents already know the important thing related to drugs for patients with cardiovascular disease, importance of consulting with health provider and the symptoms of current event. There were 25% respondents do not know the complications of cardiovascular disease.

Table 2. Knowledge of self-management in Hospitalized Patients with Cardiovascular Disease

Knowledge of self-management	n (%)		
	Don't know	No	Yes
Life style, diet and physical activity are risk factors of cardiovascular disease which can be changing.	10 (12.5)	3 (3.8)	67 (83.8)
The signs and symptoms of cardiovascular disease that must be aware including chest pain, discomfort of the upper body, dyspnea, shortness of breath, sweats, nausea and fatigue.	3 (3.8)	5 (6.3)	72 (90.0)
Blood pressure was important to be maintained in the normal range under 140/ 90 mmHg.	6 (7.5)	4 (5.0)	70 (87.5)
Fresh fruits or frozen fruits are recommended for patient with cardiovascular disease and avoid the fruits that serve with milk and butter.	12 (15.0)	12 (15.0)	56 (70.0)
Salt restriction is very important to maintain the stability of blood pressure.	8 (10.0)	4 (5.0)	68 (85.0)
The amount of salt consumption per day for patient with cardiovascular disease is 5 gram or 5/6 teaspoon.	33 (41.3)	31 (38.8)	16 (20.0)
Low fat and low cholesterol diet to achieve the target of LDL <100 mg/dl	17 (21.3)	20 (25.0)	43 (53.8)
Type of fatty foods that should be avoid are shrimp, squid, offal, chicken skin, coconut milk, fried peanuts because of contain high cholesterol.	5 (6.3)	4 (5.0)	71 (88.8)
Skim milk is type of milk that recommended for heart disease patient and full cream should be avoided.	15 (18.8)	16 (20.0)	49 (61.3)
The recommended food processing method for heart patients are boiling, stir-frying, steamed or grilled.	7 (8.8)	4 (5.0)	69 (86.3)
Normal level of blood glucose of patient with Diabetes Mellitus is 91-120 mg/dl for fasting blood glucose level and 136 - 160 mg/dl for post prandial blood glucose level.	30 (37.5)	15 (18.8)	35 (43.8)
Patients with cardiovascular disease need to maintain mass body index in the range 18,5 -24,9 kg/m2 and weigh regularly every month.	30 (37.5)	20 (25.0)	30 (37.5)
Stress can lead an increasing blood pressure	6 (7.5)	2 (2.5)	72 (90.0)
Sharing hobbies or doing activities that you are enjoying can reduce stress	8 (10.0)	3 (3.8)	69
Regular exercise at least 30 minutes every day or equivalent of 150 minutes per week (such as walking, jogging, cycling) to maintain health status of cardiovascular	2 (2.5)	6 (7.5)	72 (90.0)
Smoking can damage blood vessels, causing high blood pressure and heart disease	3 (3.8)	7 (8.8)	70 (87.5)
One of the ways to smoking is by delaying smoking the first cigarette 2 hours every day from the previous day	22 (27.5)	15 (18.8)	43 (53.8)
The symptom of nicotine withdrawal when quitting smoke are dizziness, sleep disturbance, difficulty concentration, depression, restlessness, and increase appetite	29 (36.3)	21 (26.3)	30 (37.5)
Drinking water slowly and take a deep breathing can reduce nicotine withdrawal symptoms	34 (42.5)	19 (23.8)	27 (33.8)
Quitting smoking can be done by reducing the number of cigarettes every day gradually up to zero (0) until specified day.	14 (17.5)	12 (15.0)	54 (67.5)
Cerebrovascular disease/ stroke and kidney failure are further consequences that can occurs to patients with cardiovascular disease	20 (25.0)	5 (6.3)	55 (68.8)
Drug name, dose, function, time of use, how to use, and the side effects of the drug are important thing that patients should know	11 (13.8)	4 (5.0)	65 (81.3)
Patients are advised to consult if their stock of drugs is nearing out regularly.	8 (10.0)	5 (6.3)	67 (83.8)
A specific chest pain likely being crushed a heavy load or shortness of breath in sleeping position are the symptom that should be watched out and consult immediately to health care facilities.	4 (5.0)	3 (3.8)	73 (91.3)

Further analysis showed that there was no significant relationship between educational level and knowledge of self-management among patients with cardiovascular disease (p = 0.819). There were 16.3% respondent with high educational level still have low knowledge of self-management. Essentially, the higher level of education, the higher individual knowledge. There were 15% respondents with junior high school educational level have high knowledge of self-management. This study also founded that there was no significant relationship between long suffered from illness and knowledge of self-management in patients with cardiovascular disease (p = 0.875). And also, there was no significant relationship between participating in educational programme and knowledge of self-management in patients with cardiovascular disease (p = 0.297).

Table 3. Relationship of Demographic Characteristic and Knowledge of self-management Level

Variable	Knowledge of self-management		*p value*
	High n (%)	**Low n (%)**	
Education Level			*0.819*
Junior high school	12 (15%)	12 (15%)	
Senior high school	13 (16.3%)	18 (22.5)	
University	12 (15%)	13 (16.3%)	
Long suffered from illness			*0.875*
New	17 (21.3%)	19 (23.8)	
Old	20 (25.0)	24 (30.0)	
Participating in educational programme			*0.297*
Yes	4 (5.0%)	2 (2.5%)	
Never	31 (41.3)	41 (51.2%)	

In this study we founded that inpatients with cardiovascular disease have adequate knowledge of self-management. In generally, majorities in patients with cardiovascular disease have known about their illness such as their disease process, risk factors, signs and symptoms, complication, medication adherence and also needs of consultation with health care provider.

Knowledge of illness is crucial aspect in self-management implementation. As their knowledge of disease improves, the awareness of doing health behaviour will require ongoing attention. Adequate knowledge of self-management would improve self-motivation to implementing health behaviour. Other study explained that adequate knowledge of self-management meaning the ability to achieve the feeling being “at ease with oneself”. Hospitalized

patients in Chinese were reported that new behaviour adoption is desire knowledge (Blaur et al., 2015; Qiu et al., 2021;Wenger et al., 2022).

The findings of this study also identified that hospitalized patients with cardiovascular disease also have a good knowledge about health behaviour. They knew about blood pressure monitoring, blood pressure target, weight monitoring, healthy diet consists of salt restriction, low fat diet and low cholesterol diet, physical activity and stress reduction. But they have limited knowledge related to the target of blood glucose and blood cholesterol when they are doing self-monitoring in the home. In other hand, most of them known that smoking can caused blood vessel damage and raise up the blood pressure. But they still have lack knowledge about the ways to quit smoking and side effects while people quitting smoking (nicotine withdrawal).

These aspects are related with life style modification that required in patients' self-management. Modification of health behaviours is complex and requires intervention from individual, community and health care system. The part of solution is healthy life style promotion by health care provider. Previous study showed that modifiable risk factors such as smoking, intake fruits and vegetables and physical activity are related with myocardial infarction. Other study have explained that most of patients with cardiovascular disease would change their life style, eating more reasonably and healthier, and also controlling or quitting smoking after they were diagnosed (Kris-Etherton et al., 2021; Qiu et al., 2021).

We also founded that there was no significant relationship between educational level, long of time in suffering illness, participating in educational programme and knowledge of self-management among inpatients with cardiovascular disease. This findings was contradicted with the previous study from Zeng et al with showed that educational level and receipt of disease education are significant factors of knowledge among patients with heart failure. (Zeng et al., 2017). Although majority of respondents in this study have high level of education, but their major were not in health science. And half of them were a new patient with cardiovascular disease, so they don't have a long time in exposed with the information of their illness.

CONCLUSION

Overall patients with cardiovascular disease have good knowledge of self-management, but in several aspects, they still do not know adequately including salt restriction, normal level of glucose, target of body mass index, and side effects of nicotine addiction while they were quitting to smoke. More specific educational effort of behaviour health related to patients with cardiovascular disease need to be improving for an optimally self-management implementation.

ACKNOWLEGDEMENT

This work was supported by grant form Universitas Andalas (grant numbers: T/26/UN.16.17/PT.01.03/KO-RDP/2022).
The researchers would like to thank supporting of Research Centre of Universitas Andalas, Faculty of Nursing and Dr.M.Djamil Hospital in this study.

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