



The effect of self-management education on quality of life of clients with coronary heart disease

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ABSTRACT

Coronary Heart Disease (CHD) is still the number one cause of death in the world with 17.3 million deaths each year. CHD provides an impact in the form of physical and psycho-emotional symptoms, it will affect the quality of life of the client and self-management is a controlling factor to increase client satisfaction in living life. This study aims to identify the influence of education about self- management on the quality of life of clients with coronary heart disease in the Poly Heart of RSUD Dr. Drajat Prawiranegara Serang. Quasi-experimental research with one-group design pre-post test. The number of samples is 25 CHD clients with the method of taking using purposive sampling. Data collection tool to measure quality of life using the WHOQOL BREF instrument. Univariate analysis is presented in the form of mean, standard deviation, percentage and frequency distribution, while bivariate analysis uses t-dependent test (paired sample t-test). Univariate analysis results obtained mean \pm SD of quality of life before being given self-management education 38.52 ± 5.53 . While the mean quality of life after being given education was 59.64 ± 3.067 . The results of the bivariate analysis obtained the mean \pm SD difference of 21.12 ± 6.26 with p value = 0,000. There is an influence of self-management education on quality of life for clients with coronary heart disease. Nursing staff should be able to apply health education to CHD clients as a medium for the development of interventions in the event of decreased quality of life experienced by CHD clients.

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Pengaruh edukasi tentang self management terhadap kualitas hidup pasien dengan penyakit jantung koroner

ABSTRAK

Penyakit Jantung Koroner (PJK) masih menjadi penyebab kematian nomor satu di dunia dengan 17,3 juta kematian setiap tahun nya. PJK memberikan dampak berupa gejala fisik dan psikoemosional, hal tersebut akan mempengaruhi kualitas hidup klien dan self management merupakan faktor pengendali untuk meningkatkan kepuasan klien dalam menjalani hidup. Penelitian ini bertujuan untuk mengidentifikasi adanya pengaruh edukasi tentang self management terhadap kualitas hidup pada klien dengan penyakit jantung koroner di Poli Jantung RSUD dr. Drajat Prawiranegara Serang. Penelitian berjenis quasi eksperimen dengan pre-post test one-group design. Jumlah Sampel sebanyak 25 klien PJK dengan metode pengambilan menggunakan purposive sampling. Alat pengumpulan data untuk mengukur kualitas hidup menggunakan instrumen WHOQOL BREF. Analisis univariat disajikan dalam mean, Standar deviasi, persentasi dan distribusi frekuensi, sementara, analisis bivariat menggunakan uji t-dependent (paired sample t-test). Hasil analisis univariat didapatkan nilai

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mean±SD kualitas hidup sebelum diberikan edukasi self management 38,52 ± 5,53. Sementara nilai mean kualitas hidup setelah diberikan edukasi didapatkan 59,64±3,067. Hasil analisis bivariat didapatkan nilai selisih mean±SD sebesar 21,12±6,26 dengan p value=0,001. Ada pengaruh edukasi self management terhadap kualitas hidup pada klien dengan penyakit jantung koroner. Tenaga keperawatan sebaiknya dapat menerapkan edukasi kesehatan kepada klien PJK sebagai media untuk pengembangan intervensi pada kejadian penurunan kualitas hidup yang dialami oleh klien PJK.

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Introduction

Coronary heart disease (CHD) or coronary artery disease is a disease that occurs due to the accumulation of abnormal lipids or fatty material and fibrous tissue in blood vessel walls (Smeltzer, & Bare, 2013). Data from the *American Heart Association in Heart Disease* (AHA) in 2018, identified that heart disease remains the number 1 cause of death in the world with a prevalence of 17.3 million deaths annually, that number is expected to increase to more than 23.6 million in the year 2030 (AHA, 2018).

The Ministry of Health of the Republic of Indonesia in 2018 recorded that more than 75% of deaths from heart and blood vessel disease occur in developing countries with low to moderate income. Even more worrying, the current trend of heart disease is not only suffered by the elderly population, but also found at a young age (The Ministry of Health of the Republic of Indonesia, 2018). Those are reinforced by what was recorded in Riskesdes in 2018, revealing that the prevalence of heart disease in Indonesia is 1.5% or around 1,017,290 people, while the prevalence of heart disease in Banten Province alone reaches 1.4% or around 48,621 people (Riskesdes, 2018). Based on preliminary data it was found that in 2019 the number of CHD cases in RSUD dr. Dradjat Prawiranegara reaches 181 clients who experience an increase in the number of new cases every month, the first case being diagnosed with CHD by medical personnel.

Coronary heart disease has several major risk factors such as age, gender, high blood pressure, race, hyperlipidemia, and smoking, as well as small risk factors such as obesity, lack of physical activity and diabetes mellitus (Majid, 2017). This is evidenced has been identified by Wahyuni, Nurrachmah, and Gayatri (2012) research, in his research that clients with CHD obtained by 68% of clients have low knowledge about risk factors causing CHD. This is reinforced has been found by other researchers Nuraeni, Mirwanti, Anna, Prawesti & Emaliyawati (2016) who suggest that the factors that influence the quality of life in CHD clients in this study are anxiety, depression, and cardiac revascularization.

Deiwi and Widaryati (2015) explained that coronary heart disease has an impact in the form of physical and psycho-emotional symptoms, and this will affect the quality of life in CHD clients. Mufarokhah., Putra, and Dewi (2016), suggested that through the application of *self-management* in patients with coronary heart disease will be able to significantly improve coping rates. Improvements also occurred in the intention and compliance of treatment of patients with coronary heart disease to be at a good level. The good quality of life can occur because of a learning

process through structured education, especially using booklets specifically designed by previous researchers according to the needs of patients with coronary heart disease. Booklet media can provide information visually so that it can be easily understood. Quality of life is also influenced by an increase in the patient's self-confidence in his ability to lead a life after being diagnosed with coronary heart disease (Pratiwi, 2019).

Improving the quality of life is the goal of health management in CHD clients. Health management must have effective self-management that is beneficial for increasing client satisfaction in living life (Galson, 2009). Quality of life for CHD clients is very closely related to how the application of education carried out by nurses. Nurses have a role as educators to improve client understanding of coronary heart disease both from bio, psycho, social and spiritual, to how to modify risk factors to create a healthy lifestyle and quality of life (Indrawati, 2014).

Preliminary survey results of researchers in the study through a brief interview conducted on several CHD clients in cardiac polyclinic Dr.Dradjat Prawiranegara Serang Hospital found clients only rely on drugs to treat coronary heart disease, they lack understanding about *self-management* of coronary heart disease sufferers, especially about lifestyle modification, nutrition intake and physical activity in CHD clients who control treatment at cardiac polyclinic in Dr.Dradjat Prawiranegara Serang Hospital. Seeing the above description, researchers are interested in conducting research on the application of education about *self-management* of quality of life for CHD clients in dr.Dradjat Prawiranegara Serang Hospital.

Method

This research is Quasi experimental type with *pre-test* and *post-test one-group design*. The study was conducted at Banten Provincial Hospital on April 29 - May 11, 2019. The population in this study was a client who controls cardiac surgery with a medical diagnosis of coronary heart disease with a sample of 25 respondents with demographic data including age, gender and education level respondent. The type of sample used in this study is *Non-probability sampling* with a sampling method using *purposive sampling*. The data collection tool used was a quality of life questionnaire created by WHO, the *World Health Organization Quality of Life (WHOQOL) BREF*. This instrument is structured to identify several components in the application of quality of life consisting of physical,

psychological, social and environmental health domains adopted and translated by Mardiaty, and Joewana (2004), with the reliability coefficient values of previous studies ranging from $r = 0.66 - 0.87$.

The data collection process is carried out first by coordinating with related rooms, and then the researcher begins by selecting client data according to predetermined sample criteria: the client is diagnosed with coronary heart disease, aged 30-75 years, willing to be involved in research and can communicate well and not illiterate. Next, the researcher approaches the respondent and gives *informed consent* to the respondent and distributes the instrument sheet to the respondent. Researchers began to provide *self-management* education interventions containing aspects of how to control the intake of nutrients from both types of food, how to serve food, regulate the correct portion of food and physical activity that can be recommended and applied for patients with coronary heart disease to respondents through media booklets.

Furthermore, the researchers made a time contract for filling out *the post-test* questionnaire after 2 (two) weeks of intervention. Then the researcher came back to the respondent's house to provide a *post-test* by filling out a quality of life questionnaire provided by the researcher. This research had previously passed the proposal test and obtained a research permit from the RSUD Committee dr. Dradjat Prawiranegara Serang with letter number 009/TU.1225/IV/2019 issued on April 25, 2019. Analysis of data in this study is divided into two, namely univariate and bivariate analysis. Univariate analysis is displayed in the form of mean, standard deviation, percentage, and frequency distribution. While for the previous bivariate analysis, a data

normality test was performed by comparing the *skewness* value divided by the standard error with the result that the *skewness* value before being given education (pre-test) was -1.532 and the *skewness* value on the quality of life variable after being given education (post-test) was -0.216. So it can be stated normally distributed data, thus researchers determine statistical tests using *paired sample t-test*.

Results and Discussion

Table 1
Characteristics of respondents based on age, gender and education

Variable	f	%
Age		
30-60 year	17	68.0
>60 year	8	32.0
Gender		
Male	7	32.0
Female	18	72.0
Education		
High (\geq SMA)	8	32.0
Low (\leq SMP)	17	68.0

Table 1 showed the data obtained that the majority of respondents obtained in the category of middle adulthood (30-60 years) amounted to 17 respondents (68.0%), and female respondents were 18 respondents (72.0%) while, for the characteristics of education most are low educated (\leq SMP) as many as 17 respondents (68.0%).

Table 2
A description of the average quality of life of clients before and after the intervention was given

	Mean \pm SD	SE	Min-Max
Quality of life (before get the intervention of <i>self-management</i>)	38,52 \pm 5,531	1,106	25-47
Quality of life (after get the intervention of <i>self-management</i>)	59,64 \pm 3,067	0,613	53-66

Table 2 shows the average quality of life of clients with CHD before the intervention was obtained, the mean value \pm SD = 38.52 \pm 5.531 with a range of 25 - 47. While the average value of quality of life after the intervention was obtained the mean value \pm SD = 59, 64 \pm 3,067 with a range of 53-66.

Data analysis using Dependent T test (paired sample t-Test) aims to determine the effect of self-management education on quality of life in clients with coronary heart disease in cardiology polyclinic RSUD dr. Dradjat Prawiranegara Serang (Table 3).

Tabel 3.
Differentiate in average quality of life before and after intervention

Difference of clients quality of life with CHD	Deviation Mean \pm SD	SE	df	T	p value
Quality of life of clients with CHD before and after the intervention of <i>self-management</i>	21,12 \pm 6,26	1,253	24	16,850	0,001

Table 3 shows the difference in the average quality of life before and after intervention in CHD clients obtained the mean value \pm SD which is 21.12 \pm 6.26 and the standard error 1.253 with a p-value of 0.000, so it can be proven that there are differences in the average quality of life before and after intervention is given which can be concluded that the influence of *self-management* education has an influence on quality of life.

Distribution of the amount of quality of life of respondents before being given education about *self-management* in dr. Dradjat Prawiranegara Serang shows the

tendency of respondents to use pharmacological therapy without non-pharmacological therapy, while the average respondent has poor self-management and causes the quality of life of the respondent to be poor, and previously the respondent was never given health education. The average quality of life results before the educational intervention was given in table 2 with a mean \pm SD of 38.52 \pm 5.53.

This study is in line with research conducted by Pratiwi, Maulana, and Hastuti (2018), which identified 38 respondents who obtained results that the quality of life of

respondents before being given education was 79.42%, and most respondents said they had never been educated about the disease.

Health education is the development and provision of commands through controlled learning habits, so that conducive behavior is obtained to always live healthy for individuals, families, groups and communities (Dotcherman & Bulechek, 2008). According to Edelman and Mandle (2002) in Widiastuti (2012) the purpose of health education is to ensure that a person can obtain optimal health through his own efforts.

Clients of CHD at Cardiology Polytechnic Hospital dr. Dradjat Prawiranegara attack still many assume that CHD symptoms arise enough to only be given drugs to eliminate them and do not know how to prevent CHD symptoms occur. The role of nurses in these conditions is very much needed in helping CHD clients to understand how to manage themselves so as not to impact on complications from CHD, and also requires strong knowledge and confidence of CHD clients in undergoing therapy or treatment.

From table 2, the difference in mean before and after *self-management* education intervention was given from 38.52 to 59.64, there was a difference between the values of 21.12. thus it can be concluded that there is a difference in quality of life for CHD clients before and after being educated with the media booklet.

Providing self-management education with media booklets on CHD clients at the heart polyclinic of Dr. Dradjat Prawiranegara Regional Hospital conducted personally, ie researchers came to the client one by one and provided education while after filling out the pretest questionnaire. The clients are very enthusiastic in providing this education. There are some clients who only know how to care for CHD after being given education. Most of the client's knowledge about CHD is only limited to drugs and avoiding foods that contain oil, while for the management of clients with other CHD such as sports, managing stress and healthy lifestyles is rarely done. Clients can receive education from researchers well even though there are some clients do not understand what is explained by researchers and ask for repeated explanation of the educational material.

Self-management encourages clients to use available resources to overcome symptoms experienced especially in chronic illness clients, *self-management* facilitates clients for prevention and treatment activities and collaboration with other health workers is needed, with health education will encourage client independence so that they manage illness independently (Warsi., Wang., LaValley., Avorn., & Solomon, 2004). Research conducted by Mufarokhah, Putra & Dewi (2016), explains that the provision of *self-management* interventions to CHD clients can increase the level of coping,

intention and compliance with client treatment for coronary heart disease significantly better.

Based on the analysis results in Table 3, using the *Paired Sample T test*, the p-value is $0,000 < \alpha = 0,05$, which means that there is a significant influence in providing education about self-management on quality of life for clients with coronary heart disease in cardiac polyclinic, dr. Dradjat Prawiranegara Serang. Increased knowledge gained in CHD clients in RSUD dr. Dradjat Prawiranegara Serang obtained *significant results*, increased client confidence towards the management of CHD support from family and people closest to can affect the improvement in the quality of life of CHD clients.

This study is in line with the research of Ghisi., Abdallah, and Grace (2014), which said that educational intervention in heart care increases client knowledge and facilitates behavior change. Educational interventions in cardiac care have been shown to increase physical activity, and lead to healthier dietary habits and smoking cessation, medication adherence or more balanced psychosocial well-being.

This research is strengthened by research conducted by Nur'aeni and Belinda (2018) explaining in the results of her study that CHD clients are in great need of information about the needs of the anatomy and physiology of the heart, needs about drug information, information needs about lifestyle, needs about dietary information, and the need for symptom management, the educational need for psychological factors, and the need for physical activity. In addition, other information that is most needed by clients is related information where the client's family can learn detailed information about CPR.

Conclusions and Recommendations

The provision of *self-management* education in this study has a good impact on the quality of life of clients with coronary heart disease, and it is hoped that CHD clients can take care at home and comply with therapies that will have an impact on suppressing mortality and complications of coronary heart disease.

Nursing staff should be able to apply health education to CHD clients as a medium for the development of interventions in the event of decreased quality of life experienced by CHD clients. The need for further research related to the quality of life of the coronary heart client by developing interventions in addition to providing education about *self-management* and testing the effectiveness of educational giving interventions about *self-management* to other problems in the health field.

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