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Self-Regulated Intervention Model Of Pain Index And Total Cholesterol Levels Of Coronary Heart Disease Patients

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ABSTRACT

Background: Coronary heart disease has a serious impact on the psychological, social, physical, economic and cultural aspects of individuals, patients with coronary heart disease.

Aim : to analyze the effect of self monitoring on the level of pain, to analyze the effect self diagnostic on total cholesterol levels and to analyze self regulated intervention to recurrence of coronary heart desease patients

Methods: This study used a quasy-experimental type intending to look at the pain index and lipid profile levels of patients with coronary heart disease using a cross-sectional approach. The population in this study were all patients with coronary heart disease who were treated Jombang General Hospital with a total of 305 respondents

Result: Based on the formulated hypothesis, the t-test used is one-tailed. The reference value is to compare the T statistics value of the Outer Model with the T table. If the value of T statistics> from the value of the T table, it can be concluded that there is a significant effect of indicators on the construct. So that the indicator deserves to be in the self-regulatory intervention model. Based on the value of T table = $T_{n-1\,;\,\alpha} = T_{194;\,\alpha\,=\,5\%} = 1.65$ which comes from table T with degrees of freedom (number of data - 1) = (n-1) = 195-1 = 194, and fault tolerance (α) which is used 5%, so that the T table value is 1.65.

Conclusion: Self-regulatory factors for coronary heart disease patients were measured by indicators of self-monitoring, self-diagnosis, recurrence, level of pain, and total cholesterol. Based on the measurement model testing, it was concluded that only three indicators could explain the self-regulatory factors for coronary heart disease patients, namely self-monitoring, self-diagnosis, and level of pain.

Keywords: Self-Regulatory Intervention, Pain Index, Total Cholesterol

INTRODUCTION

Self-regulation is a process of self-control in controlling behavior and monitoring behavior to achieve certain goals by using strategies and involving physical, cognitive, motivational, and social elements. Coronary heart disease patients mostly have low self- management starting from recognizing and assessing health status to determining personal relevance, because they are chronic and progressive, and often experience recurrence and high mortality (Stewart, 2012).

The recurrence rate ranges from 29-59% within 6 months after hospital discharge and tends to have a low quality of life, very high management costs and a prognostic outlook similar to that of other chronic diseases despite being treated with various therapeutic strategies, resulting in patients with heart disease. coroners cannot manage their health care needs independently, especially the transition period from being hospitalized to before home treatment (Stewart, 2012).

Coronary heart disease has a severe impact on the psychological, social, physical, economic and cultural aspects of an individual, a person with coronary heart disease tends to try to adapt as best they can, but often they do not have the knowledge and skills to make decisions and act accordingly so that the process is needed. according to the patient's condition, because self-regulatory intervention produces an integrated relationship between the time the patient is hospitalized and the care given after the patient is discharged. Coronary heart disease requires serious attention because if it is not treated early, it will result in the disruption of daily activities and result in continuous recurrence (Putri 2012).

Failure to provide and document the planning of return will be at risk of disease severity, life threats, and physical dysfunction. In planning for discharge, it is necessary to communicate well and directed so that what is conveyed can be understood and useful for nursing at home (Nursalam, 2014).

Data World Health Organization (WHO) predicts that in the future will come to 80% of deaths from cardiovascular disease will occur in Negar a flourish. By 2020, that 36% of all cases of death will be due to cardiovascular disease (He, 1998). The decline in the incidence of coronary heart disease in developed countries mainly occurs due to the success of prevention efforts, in addition to advances in medical science and technology as well as the affordability of health services by all levels of society and support from community nurses when patients are in transition from hospital to home (Sarvasti, 2012).

Coronary heart disease is a disease that is a health problem. WHO estimates that 15 million people worldwide die from coronary heart disease per year, which is 30% of total deaths in the world. Furthermore, more than 7 million of these deaths were due to coronary heart disease, 500 thousand from strokes, and 691 million experiencing hypertension (Muchtar, 2010).

The high prevalence of coronary heart disease from year to year is increasingly showing, this is due to several factors related to self-regulation and people's behavior that tend to experience shifts such as smoking, drinking alcohol, eating fatty foods, stress and lack of physical activity and these factors can at risk for coronary heart disease (Hermansyah, 2012).

Self-regulatory intervention requires patients to focus on the self-regulation process to obtain healing and prevent relapse, this has a very big role for patients and their families while patients are still being treated at the hospital or home, this can increase knowledge, have a concern for managing care independently, knowing about drugs and signs of danger that indicate potential complications (Rofi'i, 2013).

Model of self-regulation is an act that is specific to chronic disease patients which aims to facilitate the transition from hospital to home, understand and improve the management of patients with chronic diseases, including coronary heart disease, continue between hospital care and service community. Effective self-regulatory planning is essential to ensure continuity of nursing and prevent disease recurrence (Naylor et al, 1992).

Self-regulation Intervention is designed based on the theoretical process of self-regulation and incorporates basic principles of behavior modification to help individuals make lifestyle changes that aim to increase their adaptability and behavior changes that will have an impact on shortening the length of the hospital stay and reducing the relapse rate. patients and has become one of the program activities in the system of providing nursing care to patients, but in its implementation, it is not yet appropriate and not optimal (Rofi'i , 2013).

AIM :to analyze the effect of self monitoring on the level of pain, to analyze the effect self diagnostic on total cholesterol levels and to analyze self regulated intervention to recurrence of coronary heart desease patients

RESEARCH MATERIALS AND METHODS

This study used a quasy experimental type intending to look at the pain index and lipid profile levels of patients with coronary heart disease using a cross-sectional approach. The population in this study were all patients with coronary heart disease who were treated in the Kemuning room at Jombang General Hospital with a total of 305 respondents. The sample in this study were some patients with coronary heart disease who were treated in the yellow room of Jombang General Hospital with the following criteria: having gone through an acute phase/attack, cooperative patients, age between 45-75 years old, awareness of compos mentis. Large sample in this study using the rule of thumb that as many as 195 samples by using technic sampling consecutive sampling.

The independent variable in this study is self regulatory-intervention. The dependent variables in this study were recurrence and lipid profile levels in coronary heart disease patients. Collecting data using standard operating procedures (SOP) and checklists on self-regulatory intervention questionnaires on recurrence and total cholesterol levels. The statistical test used is the PLS (Partial Least Square) approach which was carried out with the help of Smart PLS version 2 software for windows.

RESEARCH RESULT

General data

Table. 1 Frequency Distribution of Respondent Characteristics by Age, Education, Sex and Length of Suffering from Coronary Heart Disease

No.	Characteristics	Category	Frequency	
			n	%
1	Age	40 - 50 Years	27	14
		51 - 60 Years	63	32
		61- 75 years	105	54
2	Education	Basic	172	88
		Intermediate	20	10
		High	3	2
3	Gender	Male	100	51

		Women	95	49
4	Long suffered	13 years old	163	83
		> 3 years	32	17
5	Number of attacks	First	74	38
		Second	65	32
		More than two times	57	29

Based on table 1, more than half (54%) of respondents are 61-75 years old, almost all respondents have a basic education, more than half (51%) of respondents are male and almost all respondents(83%) had coronary heart disease between 1 - 3 years.

Self-regulatory description of coronary heart disease patients

Table 2: Frequency Distribution of Coronary Heart Disease Patients for Self-Regulatory Diseases

No.	Parameter	Category	Frequency	
			n	%
1	Self-monitoring	Well	13	7
		Enough	39	20
		Less	143	73
2	Self-diagnosis	Well	13	7
		Enough	13	7
		Less	169	86
3	Recurrence	Yes	121	62
		Not	74	38
4	Pain index	No Pain	65	33
		Light	39	20
		Moderate	52	27
		Weight	39	20
5	Total	<200mg / dl	45	2

cholesterol			4
	> 200mg / dl	150	7
			6

Based on table 2 that most (73%) self-monitoring of coronary heart disease patients is lacking, almost all respondents (86%) self-diagnosis of coronary heart disease patients is lacking, most (62%) coronary heart disease patients experience recurrence, with index pain almost half (33%) was painless, and the total cholesterol level of most (76%) cholesterol level was more than 200 mg/dl.

Data analysis

There are two basic tests, namely 1) testing the measurement model (outer model) to determine the validity and reliability of the indicators measuring latent variables 2) testing the structural model (inner model) to determine the accuracy of the model. Before testing the model, it can be reiterated that the research instrument as a data collection tool is valid and reliable.

Convergent validity test

The criteria that an indicator meets the conventional validity test is if the value of the loading factor (outer loading)> 0, 5. The full output factor loading value is presented as follows:

Table 3: Value of Loading Factor (Outer Loading) of Initial Self Regulatory Intervention Model

Variable	Indicator	Loading Factor	Validity
Self-regulatory	Self-monitoring	0.73615	Valid
	Self-diagnoses	0.906367	Valid
	Recurrence	0.235238	Invalid
	Pain index	0.597461	Valid
	Total cholesterol	0.041226	Invalid

Test the significance of the indicator fisheries

This test will test the significance of the indicator's influence on the construct. The test tool uses the t-test. Based on the formulated hypothesis, the t-test used is one-tailed. The reference value is comparing the T statistic value of the Outer Model with the T table. If the value of T statistics> from the value of the T table, it can be concluded that there is a significant effect of indicators on the construct. So that the indicator deserves to be in the self-regulatory intervention model. Based on the value of T table = $T_{n-1\,;\,\alpha} = T_{194;\ \alpha = 5\%} = 1.65$ which comes from table T with degrees of freedom (number of data - 1) = (n-1) = 195-1 = 194 , and fault tolerance (α) which is used 5%, so that the T table value is 1.65.

Structural model analysis (Inner Model)

The structural model analysis aims to examine the effect of the relationship between the independent constructs on the dependent constructs. The influence of this relationship has a coefficient value because it is structural in nature, the coefficient value is then known as the path coefficient.

The path coefficient in a structural model also known as the Inner Weight is indicated by the result of the structural path coefficient. But before that, we have to test the relationship between the independent construct and the dependent construct. Where the test results between these constructs will answer the formulation of the hypothesis in this study, namely self-regulatory intervention to reduce pain index and total cholesterol levels in patients with coronary heart disease.

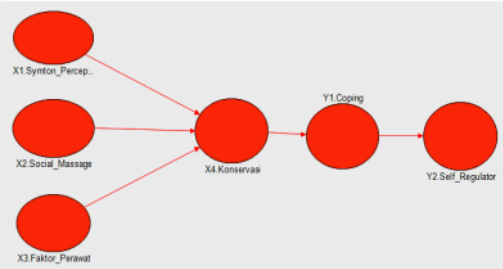

Figure 1 Path Diagram of the Self Regulatory Model

DISCUSSION

Respondent characteristics

The majority of coronary heart patients who were the sample of respondents ranged from 61 to 75 years of 54%, with the majority of patients who graduated from primary school education with 88% of respondents. The distribution of sex in coronary heart patients is almost equal between men and women, namely 51% male and 49% female. The duration of the disease suffered by the majority of patients ranged from 1 - 3 years, which was about 83%. Furthermore, the number of attacks experienced by respondents was quite varied, with 38% experiencing the first attack, 32% twice as much, and 30% more than two attacks.

Self-regulatory factor

Self-regulatory factors in patients with coronary heart disease are used to determine the response and behavior that can improve the integrity of patients who aim to maintain life against coronary heart disease conditions. These factors include indicators of self-monitoring, self-diagnosis, recurrence, pain index, and total cholesterol. Based on the results of the description, it is known that coronary heart patients have less response and behavior in self- monitoring, amounting to 73% of respondents. This is also the same for responses and behavior in self-diagnosis, as many as 86% of respondents are in the poor category. While the response and behavior to recurrence experienced, 62% of respondents had self-regulated themselves. Furthermore, the response and behavior to the pain index felt by the

patient, namely 33% felt no pain and 27% felt moderate pain. Meanwhile, 76% of the respondents had a response to cholesterol that had cholesterol of more than 200 mg/dl.

Self-regulatory factors are measured by 5 indicators, namely self-monitoring, self-diagnosis, recurrence, pain index, and total cholesterol. Based on the test of the validity of the measurement model (test convergent, test discriminant, tests of significance) concluded that indicators of self-monitoring, self- diagnosis and the index of pain, was able to explain the factors of self-regulatory, because the value of the loading fax tor more than 0, 5 (test convergent), value cross-loading <from the loading factor value (discriminant test) and the value of T-statistics> T-table (significance test). While indicators of recurrence and cholesterol total, based on the three tests the validity of the above conclusion not able to explain the factors of self-regulatory. So it can be concluded that the indicators that can explain the self-regulatory factors are self-monitoring, self-diagnosis, and pain index.

Self-monitoring is needed by the patient himself because it is necessary to monitor himself, a vigilant attitude that can prevent a recurrence. Furthermore, it requires an attitude of attention by the patient himself in conducting self-monitoring (Baumeister, 1994). Coronary heart disease patients will experience the most critical time when there is an acute heart attack when the patient is in a state of severe pain and danger of cardiac arrest. The patient's family response is to be aware of how to call emergency services (Maynard, 1993). Self-regulatory behavior from patients that can be done is controlling cholesterol by doing diet and exercise, reducing the amount of fat eaten daily (Smeltzer, 2002).

The response and behavior of coronary heart patients in carrying out self-regulatory will be successful if they perform self-monitoring discipline by monitoring themselves, being alert to relapses. Furthermore, by controlling cholesterol, dieting, and not eating fatty foods. Then when there is a severe attack of pain, it is necessary to respond quickly from the family to call emergency services.

Self-monitoring of coronary heart disease patients

Rose, P .; Kim, J. (2011) argues that constructive self-monitoring will identify that ones whose monitors are bad may be more vulnerable to information and environmental mentality. This can be a problem if environmental culture is part of the organization's decision-making process. Self-monitoring high motivated to achieve the high social status of low self-monitors.

Self-monitoring is a concept related to the concept of impression management or the concept of self-regulation (Snyder & Gangestad, 1986). This theory focuses on individual self-control to manipulate other people's images and impressions of themselves in social interactions (Shaw & Costanzo, 1982). Individuals, both consciously and unconsciously, always try to show a certain impression about themselves to others when interacting with their social environment.

According to Snyder (Watson et al ., 1984), self-monitoring is an attempt by individuals to show themselves in front of others by using the clues that exist in themselves or clues in the vicinity. Based on this concept, Mark Snyder proposes the concept of self-monitoring, which describes the process experienced by each individual in displaying impression management in front of others. Snyder & Cantor (Fiske & Taylor. 1991) define self-monitoring as an individual's way of planning, acting, and managing. decisions in behaving in social situations. This is reinforced by the opinion of Robbin (1996)

which states that self- monitoring is a personality trait that measures an individual's ability to adjust his behavior to external situational factors.

According to Baron & Byrne (2004) self- monitoring is an individual level in managing their behavior based on external situations and other people's reactions (high self-monitoring) or the basis of internal factors such as beliefs, attitudes, and interests (low self-monitoring). Based more opinions that have been expressed by experts in the above it can be concluded that self-monitoring is an individual's ability to present himself to others by using the instructions on himself and instructions the surroundings to obtain the information required to behave by the conditions and situations faced in their social environment.

Self-diagnosis of coronary heart disease patients

Better Health Channel (2008) suggests that self-diagnosis is the process of diagnosing, or identifying, a medical condition in oneself. This can be helped by some social media, past personal experiences, or recognizing symptoms or medical signs of a condition that a previous family member had. For internet searches, it is helpful to find out medical terms for various signs and symptoms.

One of the greatest dangers of self-diagnosis in psychological syndromes is that we may miss out on medical illnesses masquerading as psychiatric syndromes. Self-diagnosis also undermines the role of the doctor and is not the best way to initiate the relationship. Then there's the fact that we can know and see ourselves, but sometimes we need a mirror to see ourselves more clearly. By diagnosing ourselves, we may miss something we can't see. Another danger of self-diagnosis is that patients may think that there is something more wrong with us than there is. Self Diagnovision sis also a problem when the patient is in a state of denial about the patient's clinical symptoms.

Comparison of the self-diagnosis behavior of coronary heart patients between the intervention group and the control group, using an independent T-test. Based on the T-test, it is known that T-count ≥ T-table, it can be concluded that there are significant differences in the self-diagnosis behavior of coronary heart patients between the intervention group and the control group.

Based on the average value, it is known that the self-diagnosis behavior in the intervention group = 2, 2, and the control group = 1.35. Furthermore, the value of 2, 2 are rounded to 2, which is in the fairly good category, while 1.35 is rounded to 1, which is in the poor category. So it was concluded that the self-diagnosis behavior in the intervention group was better than the control group.

Pain level

Comparison of the pain response rate of coronary heart patients between the intervention group and the control group, using an independent T-test. Based on the test results, it is known that the T-count ≥ T-table, it can be concluded that there is a significant difference in the level of pain response between coronary heart patients in the intervention group and the control group.

Based on the average value, it is known that the pain response level in the intervention group = 1.85 and the control group = 2.75. Furthermore, the value 1, 85 is rounded to 2, with the category of mild pain, while 2.75 is rounded to 3, which is in the category of moderate pain. It was concluded that the level of pain pad a group intervention is lighter than the control group.

Implication to practice

The contribution of this study which provides a direct contribution to the healing process of coronary heart patients is based on the results of the second phase of research. The result is the self regulatory intervention model provides more effective results in healing coronary heart patients, compared to the self regulatory control model.

This can be seen from the indicators of self-monitoring, self-diagnosis of patients in the intervention group who carried out routine monitoring, self-diagnosis compared to control group patients. So that patients in the intervention group experienced only mild pain, while the patient group in the control group experienced more pain, namely moderate pain. This reinforces the statement of Sawicky (1999), that self regulatory intervention has also been successful among a number of chronic disease groups

Conclusion

Self-regulatory factors for coronary heart disease patients, measured by indicators of self-monitoring, self-diagnosis, recurrence, pain levels, and total cholesterol. Based on the measurement model testing, it was concluded that only three indicators could explain the self-regulatory factors for coronary heart disease patients, namely self-monitoring, self-diagnosis, and level of pain.

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