INTERNATIONAL JOURNAL OF SOCIAL HEALTH
https://ijsh.ph/index.php/rp
Volume 3 Number 7 July 2024

Predictor of Self-Management of Coronary Heart Patients at TK II Iskandar Muda Hospital Banda Aceh

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KEYWORDS
Predictor, Self Management, CHD Sufferers

ABSTRACT
Coronary heart disease (CHD) is characterized by blockage of the blood vessels around the heart caused by arteriosclerosis. Cardiovascular disease is one of the main causes of death cases in the world. Patients with coronary heart disease (CHD) due to blockage of blood vessels in the heart need to do self-management to find out Predictors of self-management of coronary heart patients at Tk II Iskandar Muda Hospital, Banda Aceh. Research The type of research is observational using the Cross-sectional. The population is patients with coronary heart disease who visit the Cardiology Polyclinic of Kindergarten II Iskandar Muda Hospital Banda Aceh. Sampling using accidental sampling. Data analysis includes univariate, bivariate, and multivariate with the help of computer devices. Not There is an influence of age on self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh ($p>0.05$), availability influence of gender, distance of residence, knowledge, length of suffering from diseases, living conditions, environmental support, and family support for self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh ($p<0.05$). The predictor that most affect self-management in patients with coronary heart disease is gender (Exp(B) 38,485. Gender and family support are the most influential predictors of self-management of CHD patients.

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INTRODUCTION

Coronary heart disease (CHD) is characterized by blockage of the blood vessels around the heart caused by arteriosclerosis. Cardiovascular disease is one of the main causes of death cases in the world (Buja & Schoen, 2022). The formation of plaque in the arteries or blood vessels in the heart is the cause of coronary heart disease (CHD). The plaque consists of high cholesterol levels, then there is also calcium, as well as various other substances in the blood vessels of the heart. This stage is called hardening of the arteries or atherosclerosis and or atheroma.

The main risk factors for this disease are high blood pressure, smoking, not ideal weight, foods that have high cholesterol levels, and also lack of exercise. CHD causes approximately 17.7 million deaths and is one of the largest causes of death cases in the world according to WHO data. The incidence of deaths from cardiovascular diseases around Southeast Asia is estimated to reach 3.5 million people and around 52% of the total number is caused by myocardial infarction for Indonesia there are 1.25 million deaths due to coronary heart disease out of a total population of 250 million people.

WHO says that every year deaths due to cardiovascular diseases reach more than 17.8 million. Meanwhile, according to data from the Indonesian Ministry of Health in 2023 Indonesia will reach 650 deaths due to this disease. 000 inhabitants per year. In the research study conducted, by the ARIC Community Surveillance Study, from 1995 to 2014, 28,732 patients were diagnosed with Acute Myocardial Infarction and treated at four facilities in the United States, it is known that as many as 8,737 (30%) patients with Myocardial Infarction studied are still young, namely 35-54 years old. There was an increase in the proportion of young IMA in 2010-2014 by 32%, when compared to 19995-1999

IMA at a young age of 27%. (P= 0.002), and the most common occurred at a young age in the female gender.

Based on data from the World Health Organization (WHO) in December 2023, 85% of deaths in the world are caused by strokes and heart attacks, which are more likely to occur in men > 45 years old and women > 50 years old. Data from the Indonesian Ministry of Health from September to December 2023 Cardiovascular diseases result in deaths reaching 651,481 people per year, consisting of 331,349 deaths due to stroke, 245,343 deaths from coronary heart, 50,620 deaths due to hypertension, and other cardiovascular diseases. One of the things that a person with coronary heart disease must pay attention to is self-management. Self-management in patients with coronary heart disease (CHD) has a very important role in optimizing their health and quality of life. People with CHD need to be actively involved in managing their health conditions by adopting a healthy lifestyle, monitoring risk factors such as blood pressure and cholesterol levels, and maintaining adherence to predetermined treatment plans.

Through targeted lifestyle changes, such as a balanced diet and regular exercise, people with CHD can control health risk factors such as diabetes, high blood pressure, and being overweight (Rippe & Angelopoulos, 2019). Regular monitoring of health conditions also allows for early detection of changes that may require further medical attention. Stress management is also a focus on self-management, with people with CHD able to develop strategies to overcome emotional challenges that can trigger heart attacks. Adherence to the medication prescribed by medical personnel is key to controlling symptoms and preventing complications (Brown et al., 2016). In addition, a better understanding of coronary heart disease and the role of sufferers in its management is also a positive result of self-management. By actively engaging in self-management, people with CHD can improve their quality of life, reduce the risk of recurrent heart events, and live healthier and more meaningful lives. Therefore, self-management is not only a medical imperative but also an integral approach that gives CHD sufferers greater control over their own health conditions.

Among the factors related to the self-management of CHD sufferers are individual factors including age and education. Self-management Heart disease involves the active role of the individual in caring for himself, and age and gender can affect this process. As we age, the body tends to experience a decline in functions, including heart function, which can make heart disease management more complex.

Residences, both urban and rural, have a potentially significant impact on lifestyles, access to health services, and the availability of resources that support self-management. Empirical research shows that living in urban areas can provide certain advantages for people with CHD in terms of self-management. Urban areas often have better access to health facilities, such as hospitals, cardiac rehabilitation centers, and community health care centers. This accessibility can facilitate the participation of people with CHD in cardiac rehabilitation programs, obtain relevant health information, and get easier medical support.

Scientific research on the influence of housing on the self-management of people with CHD can provide the necessary insights for policy designers to create an environment that supports disease management. This includes providing access to health facilities, sports facilities, and green open spaces in urban areas. In rural areas, a more focused approach to strengthening health services and the formation of communities that support self-management also needs to be considered.

Living conditions involve a number of variables, including housing type, social environment, and accessibility to health resources, all of which can have a significant impact on the success of self-management of people with CHD. An important aspect of Living conditions is the type of housing where people with CHD live. A home that is friendly to health conditions, for example, can provide an environment that supports the adoption of healthy behaviors. People with CHD who live at home with good accessibility, including heart-healthy bathing facilities, may be better able to adhere to their self-care routines. Conversely, less supportive housing conditions, such as steep stairs or the availability of unhealthy food around the house, can be an obstacle to effective self-management (Schrauben et al., 2022). The influence of living conditions on the self-management of CHD sufferers is also reflected in

their daily diet. Residences that have easy access to markets or healthy food stores can provide better food choices for people with CHD. Conversely, if they live in an area with limited access to healthy food, the risk of an unbalanced diet may increase, affecting the control of health risk factors such as blood pressure and cholesterol levels. In addition to the above factors, education is also able to be a predictor of patient self-management.12 Study conducted by (Tokunaga-Nakawatase, Taru, Tsutou, Nishigaki, & Miyawaki, 2019) found that educated patients had improved asthma management skills and knowledge about treatment, but similar improvements were also seen in uneducated patients. Further education is related to knowledge, according to (Kueh, Morris, & Kuan, 2015) found that diabetes knowledge was related to self-management ($p<0.05$) in patients.

Another factor that is suspected to be a predictor of patient self-management is the length of time suffering from the disease. The length of suffering from coronary heart disease can affect the patient's self-management strategy. Patients who have suffered from the disease for a long time may develop a deeper understanding of the symptoms and associated risks, allowing them to better adapt to the necessary lifestyle changes. However, over time, patients can also experience physical and mental fatigue, which can affect consistency in carrying out a self-management plan. Therefore, the self-management approach in coronary heart disease patients must take into account the variability of experiences and needs that may change over time, so as to provide appropriate support to improve their quality of life.

The research objectives have been clearly stated, but the benefits and implications of the research have not been clearly explained. Other critical factors influencing the self-management of individuals with heart disease include family and environmental support. Family support contributes significantly by providing motivation, emotional backing, and active participation in adopting healthier lifestyles. Moreover, families play a pivotal role in stress management, reinforcing adherence to self-management strategies, and serving as collaborative partners throughout the treatment process. Meanwhile, environmental support encompasses accessible healthcare facilities, promoting conducive physical environments, and delivering essential educational resources. Improving access to healthcare, fostering healthier surroundings, and enhancing knowledge about managing heart disease can profoundly empower patients in their self-care efforts.

METHOD

This research is a Cross sectional study to find out the predictors of Self-management coronary heart patients at Kindergarten II Iskandar Muda Hospital Banda Aceh. This study was carried out at Kindergarten II Hospital Iskandar Muda Banda Aceh. The population in this study was patients with Coronary Heart Disease who visited the Cardiology Polyclinic of Kindergarten II Hospital Iskandar Muda Banda Aceh. Sampling using accidental sampling namely CHD patients who went to Kesdam Hospital in March 2024 and 234 CHD patients were selected. Data analysis includes univariate, bivariate, and multivariate analysis.

RESULT AND DISCUSSION

Characteristics of Respondents

The characteristics of the observed respondents include age, gender, education, occupation, and marital status, in full in Table 4.1 below:

Table 1.
Distribution of Frequency of Age, Gender, Education, Occupation, and Marital Status at Iskandar Muda Kindergarten II Hospital Banda Aceh

Characteristic	Category	Sum	
		f	%
Age	Adult	184	78,6
	Elderly	50	21,4
Gender	Man	91	38,9

	Woman	143	61,1
Education	Intermediate	158	67,5
	Tall	76	32,5
Work	Teacher	5	2,1
	IRT	19	8,1
	Student	44	18,8
	Freelancer	40	17,1
	Pensioner	50	21,4
	Farmer	12	5,1
	Civil servants	64	27,4
Marital Status	Unmarried	34	14,5
	Divorce	44	18,8
	marry	156	66,7

Source: Data processed (2024)

Based on Table 1, it can be seen that in terms of age, the majority of respondents are classified as adults (78.6%), with most of the sample being female (61.1%). In terms of education, the majority of respondents have secondary education (67.5%), most of them work as civil servants (27.4%) and students (18.8%). The marriage status of the respondents showed that the majority of them were married (66.7%).

Univariate Analysis

The following are the results of the full univariate data analysis:

Table 2.
Respondent Frequency Distribution Based on Distance to health services, living conditions, knowledge, length of suffering, family support, Environmental support, history of illness and insurance ownership and self-management.

Variable	Sum	
	f	%
Distance from Health Services		
Far	121	51,7
Near	113	48,3
Housing Conditions		
Living Alone	35	15,0
Living with family, children or other family members	199	85,0
Knowledge		
Not Good	103	44,0
Good	131	56,0
Long Suffering		
New	100	42,7
Old	134	57,3
Family Support		
Less Support	141	60,3
Support	93	39,7

Environmental Support		
Less Support	149	63,7
Support	85	36,3
History of Hypertension		
Yes	49	20,9
Not	185	79,1
History of Diabetes		
Yes	160	68,4
Not	74	31,6
Insurance		
BPJS	174	74,4
Self-sufficient	60	25,6
Self-Management	**Sum**	
Not Good	145	62,0
Good	89	38,0

Source: Data processed (2024)

Table 2 shows that in the variable of distance from health services, the majority of respondents (51.7%) reported that they get health services from far away. Then, regarding housing conditions, most respondents (85.0%) live with family, children, or other family members. Meanwhile, in terms of Knowledge, 56.0% of respondents have good knowledge. Furthermore, in terms of suffering from the disease for a long time, most respondents (57.3%) have suffered from the condition for a long period of time. Support from family is also quite significant, with 60.3% of respondents feeling that they do not receive adequate support. Based on the variable Environmental support, the majority of respondents (63.7%) also felt that they lacked support from their surrounding environment. Then, related to diabetes history, the majority of respondents (68.4%) had a history of diabetes. And finally, in terms of Insurance, the majority of respondents (74.4%) have insurance through BPJS.

Bivariate Analysis

The results of data processing are as follows:

Table 3.
Relationship of Age, Gender, Education, Knowledge and Length of Suffering from Distance Illness, Living Conditions, Family Support, Environmental Support With Self-Management of Coronary Heart Disease Patients at Tk II Iskandar Muda Hospital Banda Aceh

Variable	Self-Management				Total	*P value* ($\chi 2$)[a]	OR 95% CI
	Good		Not good				
	n	%	n	%			
Age							
Adult	69	37,5	115	62,5	184	0,874	1,11
Elderly	20	20,0	30	60	50		(0,58-2,10)
Gender							
Man	35	24,5	108	75,5	143	0,000	4,50
Woman	54	59,3	37	59,3	91		(2,55-7,93)
Education							
Intermediate	81	51,3	77	48,7	158	0,000	0,11
Tall	8	10,5	68	89,5	76		(0,05-0,48)
Knowledge							

Not Good	7	6,8	96	93,2	103	0,000	22,95
Good	82	62,6	29	37,4	131		(9,85-53,42)
Long suffering							
New	71	71,0	29	29,0	100	0,000	0,06
Old	18	13,4	116	86,6	134		(0,03-0,12)
Distance							
Far	57	47,1	64	52,9	121	0,003	0,44
Near	32	28,3	81	71,7	113		(0,25-0,76)
Living conditions							
Living with family							89,01
Living alone	55	27,6	144	72,4	199	0,000	(11,89-666,16)
	34	97,1	1	2,9	35		
Family support							
Less Support							
Support	15	10,6	126	89,4	141	0,000	32,17 (15,68-68,24)
	74	79,6	19	20,4	93		
Environmental Support							
Less Support	25	16,8	124	83,2	149	0,000	15,11
support							(7,86-25,05)
	64	75,3	21	24,7	85		

[a]Test Pearson Chi Square ($\chi 2$) due to categorical data

Based on Table 3 in this study, it can be concluded that there are several factors that affect the self-management of coronary heart disease patients. The factor that did not have a significant effect was age, where there was no significant difference in self-management between the adult and elderly age groups. Meanwhile, the factors that have a significant influence are gender, where men have a 4.5 times greater chance of having good self-management than women. Education also influenced, where respondents with secondary education had a 0.11 times greater chance of having good self-management compared to respondents with higher education.

Knowledge is another influential factor, where respondents with poor knowledge have a 22.95 times greater chance of having good self-management compared to respondents with good knowledge. Long-term illness also had an effect, where respondents who had recently suffered from the disease had a 16.67 times higher chance of having good self-management compared to respondents who had suffered from the disease for a long time. The distance of residence from health facilities also affects, where respondents who live close to health facilities have a 2.27 times higher chance of having good self-management compared to respondents who live far from health facilities. Housing conditions also played a role, where respondents who lived alone had an 8,901 times higher chance of having good self-management compared to respondents who lived with family.

Another factor is family and environmental support. Respondents who received less family support had a 3,217 times higher chance of having good self-management compared to respondents who received family support. Meanwhile, respondents who received less environmental support had a 1,511 times higher chance of having good self-management compared to respondents who received environmental support.

Multivariate Analysis of Logistic Regression Test

Inferential statistical analysis in the study uses logistic regression analysis. In this study, the dependent variable is dichotomous, so the test of the hypothesis is carried out using a logistic regression test. The results of the multivariate analysis can be seen in Table 4.

Table 4.
The Most Dominant Factors in Self-Management of CHD Patients

Variable	Model 1 AOR (95% CI)	Model 2 AOR (95% CI)	Model 3 AOR (95% CI)
Age	`		
Adult	0,52 (0,19-1,42)		0,64 (1,44-2,90)
Elderly	1		1
Gender			
Man	22,33 (6,66-74,80		35,30 (7,70-161,66)
Woman	1		1
Education			
Intermediate	0,06 (0,01-0,22)		1,51 (0,01-165,88)
Tall	1		1
Knowledge			
Less	28,67 (7,26-113,17)		15,90 (2,99-84,51)
Good	1		1
Long suffering			
New	0,14 (0,5 5-0,36)		0,18 (0,05-0,66)
Old	1		1
Distance			
Near		0,91 (0,39-2,09)	1,15 (0,34-3,82,)
Far		1	1
Living conditions			
Alone		2,02 (0,50-1,18)	0,06 (0,00-2,86)
Family		1	1
Family Support			
Less supportive		28,20 (5,33-148,98)	28,48 (2,72-298,30)
Support		1	1
Environmental Support			
Less supportive		0,83 (0,15,4,51)	1,02 (0,34-3,82)
Support		1	1
R2	0,708	0,638	0,820

Source: Primary Data, Processed in 2024

Based on the analysis of table 4 about the most dominant factors in the self-management of people with coronary heart disease (CHD), it can be concluded that there are several main variables that affect the self-management of people with CHD. Overall, the most dominant variables were gender, knowledge, and family support. Male patients have a much higher risk of having poor self-management compared to female patients. This can be seen from models 1 and 3, which show a risk of 22.33 times and 35.30 times higher in male patients. In addition, the patient's knowledge is also a very important

factor. Patients with less knowledge had 28.67 times (model 1) and 15.90 times (model 3) higher risk of having poor self-management compared to patients with good knowledge.

Family support is also a dominant factor in the self-management of people with CHD. Patients with poor family support had a 28.20 times higher risk (model 2) and 28.48 times (model 3) of poor self-management compared to patients who received family support.

Other factors such as education, length of suffering, and distance of residence also showed significant influences, although not as strong as gender, knowledge, and family support. Overall, efforts to improve self-management of people with CHD must focus on increasing knowledge, providing strong family support, and paying attention to gender differences in self-management approaches.

1. The Relationship between Age and Self-Management of Patients with Coronary Heart Disease

The results showed that there was no significant relationship between the age variable and self-management in patients with coronary heart disease, with a p-value of more than 0.05 (p = 0.874). This indicates that the age factor does not significantly affect the level of self-management in patients with coronary heart disease. Although there was a slight variation in the proportion of self-management among age groups, the difference was not considered statistically significant (Li, Jiang, & Lin, 2014). Several factors may explain why age is not related to self-management in people with CHD. One of them is the variation of individuals in response to their disease conditions. While age can be a risk factor for the development of CHD, an individual's response to their condition can be influenced by a variety of other factors, such as lifestyle habits, knowledge, social support, and psychological well-being. Therefore, some people may be able to develop effective self-management strategies despite being in an older age group.

The results of this study are not linear with the research conducted by Muaffikah, which concludes that there is a relationship between the characteristics of Age with self-management (p-value =0.031). Although some studies suggest that self-management tends to improve with age, there is also evidence suggesting significant individual differences in age-responsive responses. Some individuals may gain adequate experience and skills in self-management as they age, while others may face new challenges or changes in their health conditions (Sattoe et al., 2015). Coronary heart disease (CHD) is one of the major challenges in the field of public health. CHD occurs due to narrowing or blockage of blood vessels that supply blood to the heart muscle, which can lead to heart attacks and death. The main risk factors include smoking, diabetes, hypertension, dyslipidemia, as well as an unhealthy lifestyle such as foods high in saturated fat and lack of physical activity.

2. Gender Relationship with Self-Management of Coronary Heart Disease Patients

The results showed that there was a significant relationship between sex and self-management in patients with coronary heart disease, with a p-value of less than 0.05 (p = 0.000). These findings indicate that men tend to have a better level of self-management compared to women in dealing with CHD conditions. This may be related to differences in psychological and behavioral responses between the two sexes, including differences in managing stress, adhering to medication, and adopting a healthy lifestyle (Magrin et al., 2015). Social and cultural factors may also play a role in these differences, with women likely to be more likely to seek social support and adopt more proactive health behaviors.

The results of this study also provide a deeper understanding of the role of gender in the self-management of patients with coronary heart disease (Guo & Harris, 2016). The proportion of female patients who reported having good self-management was higher compared to male patients. These findings are consistent with previous research showing that women tend to be more active in managing their health conditions, including the management of chronic diseases such as coronary heart disease. Factors such as awareness of health risks, more frequent use of health services, and stronger social support may play a role in this trend.

The results of this study are in line with the research by (Afiyanti, 2021) who found that women were more likely to follow medical recommendations and implement the lifestyle changes necessary to manage the disease.5 In addition, have higher levels of participation in cardiac rehabilitation programs and have better levels of adherence to recommended drug therapies and treatment plans.17 These findings confirm that social and psychological factors, including gender roles, play an important role in

the management of coronary heart disease. Nonetheless, some studies have also highlighted that factors such as biological differences and differences in perception of symptoms can influence responses to disease management between men and women. Research by Santos et al. found that women were more likely to experience different symptoms and more often were unaware of the symptoms of coronary heart disease, which can affect the level of adherence to disease management.

3. The Relationship between Living Distance and Self-Management of Coronary Heart Disease Patients

The results showed that there was a significant relationship between residential distance and self-management in patients with coronary heart disease, with a p-value of less than 0.05 (p = 0.003). The results of the study showed that there was a significant difference in self-management between coronary heart disease patients who lived nearby and those who lived far from healthcare centers. These findings provide important insights into how accessibility to health services can affect an individual's ability to manage their health conditions (Arakelyan et al., 2021). People who live close to healthcare centers tend to have lower levels of self-management compared to those who live far away. This may be due to several factors, including physical or geographic accessibility limitations, transportation costs, or population density in areas closer to healthcare facilities. These limitations can hinder an individual's ability to access timely care or get the necessary support in disease management.

On the other hand, patients who live far from healthcare centers have a higher tendency to have good self-management. This may be because those who live in remote or rural areas tend to develop self-sufficient strategies for managing their health conditions, such as relying on local resources or traditional knowledge in self-care (Rivera, 2023). Additionally, limited accessibility can encourage individuals to be more proactive in monitoring their own health conditions and taking necessary preventive measures. This study makes a valuable contribution to the understanding of the importance of accessibility to health services in the management of chronic diseases such as coronary heart disease. The finding that individuals who live close to healthcare centers tend to have lower self-management compared to those who live far away provides a picture that is in line with some previous research.

Previous research by (Karim, Dewi, & Hijriyati, 2022) demonstrated that physical accessibility to health services can affect patient adherence to treatment and disease management. They found that patients who lived in remote areas or had limited access to healthcare facilities tended to have lower levels of adherence to treatment, which in turn could affect their health outcomes. The findings are in line with the results of this study, which suggests that accessibility also affects an individual's ability to self-manage coronary heart disease.

4. The Relationship between Living Conditions and Self-Management of Coronary Heart Disease Patients

The results showed that there was a significant relationship between housing conditions and self-management, with a p-value smaller than 0.05 (p = 0.000). The results of this study highlight significant differences in self-management between people with coronary heart disease (CHD) who live with family or other family members compared to those who live alone (Liu et al., 2023). The majority of sufferers living in a family environment (72.4%) reported having good self-management, indicating the potential for social and practical support they may receive from their domestic environment. The presence of family members or other family members can provide emotional and physical resources that support the patient in adhering to a healthy treatment plan and lifestyle (Collado-Mateo et al., 2021). Meanwhile, only a small percentage of people living alone (2.9%) reported having good self-management, reflecting the potential limitations in social and practical support they may experience in managing their health conditions.

The results of this study are in line with the findings of several previous studies that explored the relationship between housing conditions and chronic disease management. For example, research by (Shang et al., 2023) showed that patients with medical conditions who lived alone were less likely to have difficulties in managing their disease compared to those who lived with family or other family members. These results confirm the importance of social and environmental support in improving the independence and quality of life of patients facing health challenges. Other studies by (Jankowska-

Polańska et al., 2020) also found that patients with chronic diseases who lived in a stable family environment had higher rates of adherence to care and better health outcomes than those who lived alone. Support provided by the family can include assistance in medication management, dietary supervision, and motivation to engage in the physical activity necessary to manage chronic illness.

5. The Relationship between Education and Self-Management of Coronary Heart Disease Patients

The results showed that there was a significant relationship between education and self-management in patients with coronary heart disease, with a p-value of less than 0.05 (p = 0.000). The results of this study illustrate a clear pattern between education levels and self-management skills in coronary heart disease (CHD) patients. It was found that most patients with higher education reported having good self-management, while the proportion of those who had difficulty in self-management was very low. This shows that a high level of education significantly contributes to the patient's ability to manage their health condition (Świątoniowska, Sarzyńska, Szymańska-Chabowska, & Jankowska-Polańska, 2019). Previous research has described the relationship between education and self-management in various chronic health conditions, including CHD. These results consistently show that individuals with higher levels of education tend to have better self-management abilities. A study by (Aini, Mashfufa, Setyowati, & Marta, 2022) found that patients with higher education were more likely to follow their treatment plan and implement lifestyle changes suggested by medical personnel compared to individuals with low education.

6. The Relationship of Knowledge with Self-Management of Coronary Heart Disease Patients

The results showed that there was a significant relationship between knowledge and self-management, with a p-value smaller than 0.05 (p = 0.000). This study explores the relationship between knowledge and self-management skills in people with certain diseases. The findings showed that the majority of patients with good knowledge (93.2%) reported having good self-management, while only a small percentage (6.8%) admitted to having poor self-management. On the other hand, patients with poor knowledge have the opposite proportion, where the majority (62.6%) have difficulties in self-management. The results of the chi-square test showed that there was a significant relationship between knowledge and self-management, with a p-value smaller than 0.05 (p = 0.000). Previous research has investigated the relationship between knowledge and self-management in various chronic health conditions (Mackey, Doody, Werner, & Fullen, 2016). A study by Saqila & and Muflihatim (2021) found A relationship between knowledge and self-management with a p-value of 0.013< α 0.05. Similar findings were also reported by Wilandari et al. (2021) in a study of hypertensive patients, where a good knowledge of the disease was associated with better adherence to treatment plans and lifestyle changes recommended by medical personnel.

7. Long-Term Relationship with Suffering from Disease with Self-Management of Coronary Heart Disease Patients

The results showed that there was a significant relationship between the length of suffering from the disease and self-management in patients with coronary heart disease, with a p-value of less than 0.05 (p = 0.000). The findings from the study show that there is a significant relationship between the length of suffering from the disease and the ability to self-manage in CHD patients. The results of the data analysis showed that the longer a person suffers from coronary heart disease, the more likely it is that their ability to manage the health condition will get better or worse.

8. The Relationship between Family Support and Self-Management of Coronary Heart Disease Patients

The results showed that there was a significant relationship between family support and self-management in patients with coronary heart disease, with a p-value of less than 0.05 (p = 0.000). The results of the study show the importance of family support in the management of health conditions in patients with coronary heart disease (CHD). Statistical analysis showed that there was a significant relationship between family support and the self-management ability of CHD patients, with a p-value of less than 0.05 (p = 0.000). These findings underscore the important role of the family environment in supporting patients in managing their health conditions (Mendes, Crespo, & Austin, 2016).

9. **The Relationship between Environmental Support and Self-Management of Coronary Heart Disease Patient**s

The results showed that there was a significant relationship between environmental support and self-management in patients with coronary heart disease, with a p-value of less than 0.05 (p = 0.000). The results of the study showed a significant relationship between environmental support and self-management in patients with coronary heart disease (CHD), with a p-value of less than 0.05 (p = 0.000), strengthening the understanding of the importance of environmental factors in the management of chronic health conditions. Environmental support, including support from friends, co-workers, and the community, can have a significant impact on a person's ability to overcome the challenges associated with CHD (Bay, Lämås, Berghammer, Sandberg, & Johansson, 2021).

CONCLUSION

No effect of age on self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p>0.05). There is an effect of gender on the self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p<0.05). There is an effect of distance of residence on the self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p<0.05. There is an effect of education on the self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p<0.05). There is an influence of knowledge on the self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p<0.05). There is an effect of the length of suffering from the disease on the self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p<0.05. There is an effect of residence on the self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p<0.05). There is an effect of environmental support on the self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p<0.05. There was an effect of family support on the self-management of coronary heart patients at Tk II Iskandar Muda Hospital Banda Aceh (p<0.05). The predictor that most affect self-management in patients with coronary heart disease is gender (Exp(B) 38,485

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