

ANALYSIS OF THE USE OF ROY'S ADAPTATION NURSING THEORY IN HEART DISEASE PATIENTS

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ABSTRACT

Background: The heart as an important organ cannot be protected from diseases that can attack it. One of the deadliest diseases in the world is heart attack. **Objective:** This research aims to determine the behavioral response of heart disease patients which gives rise to individual adaptive responses to maintain individual adaptation in heart disease patients. **Method:** This research uses a qualitative method with a qualitative descriptive approach. The sampling technique is purposive sampling. Data collection methods were in-depth interviews and observation sheets from Calista Roy. Data analysis using the content analysis method. The informants in this study with heart disease in the Siloam Hospital Palembang Inpatient Room were 4 people (2 men, 2 women) and 1 Key Informant. **Results:** The results of this study emerged 7 themes, namely lack of knowledge about heart disease, signs and symptoms felt by patients, heart patients' efforts to treat their disease, compliance with treatment regimens, healthy diet and lifestyle, obstacles in maintaining their health, and hospital facilities and actions for heart disease patients. The research results show that there is an adaptive response from heart disease patients which can improve patient integrity and be able to carry out activities that are favorable to survival. However, it was still found that participants lacked knowledge regarding their disease, so there was still non-compliance with the treatment regimen. **Conclusions:** The use of Roy's adaptive nursing theory in providing nursing care to patients with heart disease makes it easier for nurses to detect the patient's situation in adapting to heart disease. **Keywords:** nursing theory, adaptation, heart disease

Introduction

One of the important organs in the human body is the heart. The human heart is located in the chest cavity and has 4 chambers. These chambers are the right and left ventricles and the right and left atria, where the ventricles are below the atrium. In the heart there are valves which are useful to prevent blood mixing. The heart enters the cardiovascular system, where this system has circulation, for example there is pulmonary circulation.(Cf et.al., 2024).

The heart, as an important organ, cannot be protected from diseases that can attack it. One of the deadliest diseases in the world is heart attacks, where new cases of heart disease itself are 43.32% with a death rate of 12.91%. Epidemiological data of the population in Europe and America who are diagnosed with heart failure is 1-2%. Meanwhile in Asia it ranges from 1.2% to 6.7%. It is reported

that 4.2 million Chinese people suffer from heart failure and every year 500,000 new people are diagnosed with heart failure. Indonesia has a higher prevalence than European and American populations which reach 5% of the total population. More than 80% of cardiovascular disease incidence is caused by Ischemic Heart Disease (IHD) and stroke which has an impact on increasing morbidity and mortality rates. IHD is the main underlying factor in heart failure, increasing the risk of heart failure 8-fold with a risk of 65% in men and 48% in women (Romano et al., 2023). In other sources it is also stated that in 2014 people with heart disease in Indonesia numbered 61,682 people and will continue to increase (Riskesdas, 2018).

In South Sumatra, cases of heart disease are also increasing. Based on data from the South Sumatra Central Statistics Agency, in 2015 there were 3,102 cases of heart disease in South Sumatra. In 2016 cases of heart disease also increased, there were 3,981 cases of heart disease. In 2017, heart disease cases in South Sumatra experienced a significant increase from previous years, there were 5,553 cases of heart disease in South Sumatra. And in 2021, heart disease cases in South Sumatra will experience a drastic increase of 18,490 cases (Riskesdas, 2023).

This number is certainly a large number. The number one cause of death in the world is cardiovascular disease, where 4 million people die in Europe every year due to cardiovascular disease. Heart attack is one of the categories of CHD (Coronary Heart Disease). In Indonesia, CHD is one of the number one causes of death. Where in 2002 CHD cases, acute myocardial infarction was the cause of death at 13.49%. The prevalence of incidents also increases every year (Riskesdas, 2018).

This high mortality rate means that acute myocardial infarction requires more attention and prompt treatment. A heart attack is a condition where coronary artery blood flow stops so that the heart muscle experiences a lack of oxygen, causing an infarction. So a heart attack is also called an acute myocardial infarction (AMI). This heart attack is an urgent emergency so proper and fast treatment is needed which is useful so that heart damage is not too severe (Sherly & Mathivanan, 2023).

Heart disease can attack anyone who has not adopted a healthy lifestyle. There are other internal and external factors. Lifestyles, such as smoking and following a diet that is not healthy for the body, are also a lack of physical activity that the body needs. Tobacco in cigarettes can cause a decrease in oxygen levels in the blood and cause the blood to tend to clot, thus encouraging the formation of plaque. Physical problems, such as increased blood pressure and increased fat in the blood, can trigger the accumulation of cholesterol on the walls of blood vessels. Apart from that, diabetes is caused by increased blood glucose levels (Díez & Butler, 2023).

This is related to the Calista Roy Theory or commonly known as the Roy Adaptation method, which is a nursing theory which describes how individuals or humans are able to improve their health by maintaining adaptive behavior and being able to change ineffective behavior. In Calista Roy's theory, humans are holistic creatures who interact constantly with environmental changes as an adaptive system as a single unit that has input, control, output and feedback processes. (Seah et al., 2019).

In this study, the use of Roy's Adaptation nursing theory was very useful for nurses in conducting initial assessments in patients newly diagnosed with heart disease. By using this theory, nurses can deeply examine the patient's understanding of heart disease, the patient's psychology when suffering from heart disease, the readiness of the patient and family in the treatment regimen. In addition, after using the application of Roy's Adaptation theory, nurses can plan appropriate nursing interventions according to the needs of each patient. Because each patient has different adaptations when diagnosed with heart disease. This theory helps nurses in assessing, analyzing and providing more specific planning for patients and their families until the patient returns home. So that patients and families also get the right understanding for treatment and patients are able to adapt

to accept their condition well. The advantage of Roy's Adaptation nursing theory compared to other theories is that Roy's Adaptation nursing theory focuses on patients who are just adapting to their disease conditions, teaching patients to be able to accept positively and build patient confidence to recover or maintain good health.

Based on the results of a preliminary study on December 5 2022, through interviews with researchers with the head of the inpatient room at Siloam Hospital, Palembang, it was stated that the basic management provided in this room was to provide patient education to take medication regularly, check on time, and motivate patients to do sports activities. according to the patient's condition. The number of patients with heart disease from the last three months, namely September-November 2022, was 62 people. Based on the background above, researchers are interested in conducting research on the use of the Roy Adaptation Model in heart disease patients at Siloam Sriwijaya Hospital.

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Method

The research method used in this research is a qualitative research method with a qualitative descriptive method. Researchers will study or conduct structured interviews and in-depth interviews using the stages of Roy's Adaptation which consist of the self-concept adaptation model, which is related to the patient's adaptation system to changes in physiological needs, self-concept, role function, and interdependence relationships while suffering from heart disease. This research was conducted using the content analysis method. The first stage, the results of the in-depth interview and the results of Calista Roy's assessment sheet observations were converted into an interview transcript or verbatim. Next, create a meaning unit from the transcript results. After getting the meaning unit, it is then converted into coding. After obtaining the coding, it was changed to categorical, and the categorical results were made into themes.

In this study, the media used were interview guidelines and assessment instruments based on Roy's Adaptation nursing theory in in-depth interviews. The length of time for interviews with patients is approximately 15-20 minutes 3-4 times within 1 week, this interview is conducted during the patient's treatment period and when the patient's condition is good. The length of the interview with the nurse is approximately 30-45 minutes in one interview session. Interviews were conducted during the patient's treatment period until the patient was scheduled to be discharged. Interviews were conducted 4 times in 1 week.

This research was conducted in the Inpatient Room at Siloam Sriwijaya Hospital. This research was conducted for 1 month, namely on December 9 2022-January 9 2023. The number of sample participants/informants in this study was 5 heart patients, consisting of 2 men, 2 women and 1 informant who was considered an expert in treating patients. heart disease, with the inclusion criteria for informants being heart disease patients being treated in the inpatient ward at Siloam Sriwijaya Hospital, aged over 18 years, patients able to communicate well, patients in Compos Mentis condition, patients who have just been diagnosed with heart disease for the first time. The inclusion criteria for key informants were senior nurses who often treat heart disease patients. The exclusion criteria for this study were patients suddenly experiencing decreased consciousness and patients who were scheduled to go home. The sampling technique used in this research is a purposive sampling technique, namely selecting a sample from the population that matches what the researcher desires so that the sample can represent previously known characteristics of the population.

Results

This qualitative research was carried out by means of in-depth interviews with 4 heart disease patients, 2 men and 2 women, as well as 1 key informant who was a nurse who had worked in the cardiac cathlab field for more than 5 years. All participants were inpatients at Siloam Sriwijaya Hospital Palembang and senior nurses at the Cathlab at Siloam Sriwijaya Hospital Palembang. Researchers selected participants after conducting a survey of heart patients and observations at Siloam Sriwijaya Hospital, Palembang.

Table 1. Calista Roy Assessment Results in Heart Disease Patients

No.	Informant	The nursing service system according to Roy	
		Adaptive	Maladaptive
1	P1	Adaptive	-
2	P2	Adaptive	-
3	P3	Adaptive	-
4	P4	Adaptive	-

Based on the results of the study using Roy's observation sheet, it was found that informant P1 found out about his illness after the patient had received his illness (heart disease) as evidenced by the patient checking at the Community Health Center and taking the regular heart medication given. Informant P2 had minimal knowledge of his illness, but informant P2 was able to understand his illness by communicating with his wife to find a solution to relieve his illness by going to the hospital to take relief measures for his illness. Informant P3 was lying weak and only found out about his

illness with symptoms of chest tightness, coughing. . fainted, and the patient immediately went to the hospital to have a check at Catlab. After that, fluid withdrawal was immediately carried out near the left side of the chest, and the patient resigned himself to receiving treatment. Informant P4 did not feel that he had any complaints before, but when he experienced problems such as weakness in his body and his arms could not be lifted and his legs could not be moved, the patient was responsive and immediately checked his condition at the nearest hospital or clinic and now takes time to rest and exercise. The results of in-depth interviews conducted by researchers were grouped based on the questions asked. In-depth interviews were carried out to obtain data related to heart disease patients, to be seen more clearly in Figure 1 below.

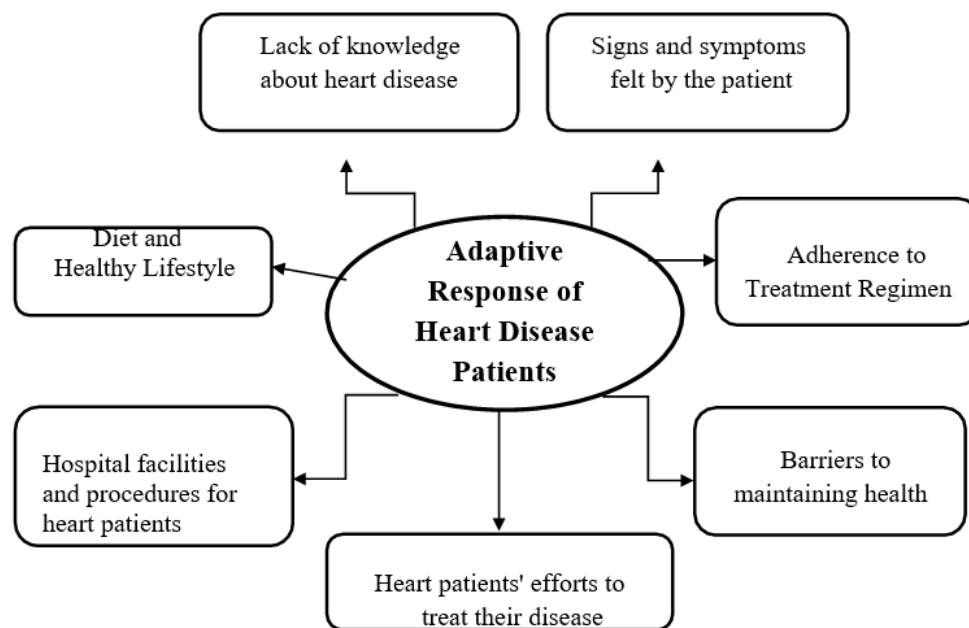


Figure 1. Themes of research results

Discussion

The output of an adaptation system is behavior that can be observed, measured, or expressed subjectively. The output of this system can be an adaptive response or a maladaptive response. The output of a system is behavior that can be observed, measured or subjectively reported both from within and outside. This behavior is feedback to the system. Roy categorizes output as a response that is not maladaptive. Adaptive responses can increase a person's integrity and be able to carry out goals related to survival, development, reproduction and excellence. Meanwhile, maladaptive responses are behaviors that do not support this goal. Roy has used a form of coping mechanism to explain a person's control process as an adaptive system(Alligood, 2014).

Of the four informants, both informant 1, informant 2, informant 3 and informant 4 can all be categorized as informants who produce Adaptive output, because all informants indicated that when they felt symptoms of heart disease, they were willing to take action to make their situation better by seeking treatment. go to the Community Health Center or go straight to the hospital for a check-up, and regularly take their medication according to what the doctor recommends. Informant 1, when he had heart disease, immediately went to the community health center for treatment, Informant 2, when he felt chest pain, immediately went to the hospital, informant 3, when he felt chest pain,

immediately went to the hospital for treatment and Informant 4 also immediately went to the hospital for treatment and regularly took part in exercise. heart. Based on the analysis of the theme findings, 7 themes were found related to heart disease patients.

Knowledge about heart disease

Knowledge about heart disease is how the participant understands heart disease, diligently carries out check-ups, and knows about cardiac rehabilitation. One effort that can be made to reduce this prevalence is through primary and secondary prevention by increasing patient awareness of identifying risk factors and carrying out preventive management.

Nurses have a role as educators to increase clients' understanding of coronary heart disease and how to modify risk factors to create a healthy lifestyle and quality of life. Therefore, it is very important for patients to have knowledge and a positive attitude about coronary heart disease and how to prevent it (Kadek et al., 2023). Having a positive self-perception, motivation to want to make lifestyle changes, having sufficient financial resources to support the change process, family support in every decision taken by CHD sufferers, also supports the success of the patient's ability to carry out secondary prevention of CHD risk factors. (Henning, 2020).

Often access is difficult to reach and long distances to hospitals or clinics cause CHD patients to be reluctant to have their heart health checked regularly, so that when symptoms such as chest pain appear, CHD patients just rest, assuming that the pain will soon subside. In reality, some chest pain cannot go away just by resting.

Signs and symptoms felt by the patient

Signs and symptoms felt by patients include chest pain, shortness of breath, coughing and no appetite. Heart failure has become a major problem in the field of cardiology due to the increasing number of sufferers and the incidence of readmissions as well as death and disability. The cause of the increasing problem of heart failure is that risk factors for coronary heart disease are still frequently found, such as the number of smokers, diabetes, hypercholesterolemia, hypertension and obesity. In the extremities there was edema of the lower legs, there was deformity in both arms and the left leg. Laboratory examination revealed a decrease in protein of 5.96 g/dL and albumin of 3.00 g/dL. Echocardiography (ECG) examination revealed atrial fibrillation and left ventricular hypertrophy (LVH). Ultrasound examination revealed ascites and hepatomegaly and chest x-ray examination revealed heart enlargement and pulmonary edema.

Complaints of shortness of breath can be divided into cardiac or non-cardiac, where in cases there are complaints of shortness of breath when doing activities (dyspnea d'effort), increased shortness of breath when in a sleeping position (orthopnea), coughing at night, shortness of breath that gets worse at night (Paroxysmal Nocturnal Dyspnea) and crackles were obtained (Porumb et al., 2020).

Symptoms of heart failure include shortness of breath, swelling and fatigue that last for a long time affecting the functional status and life that the patient lives every day. Low functional status will cause a decrease in the patient's self-care ability (Riccardi et al., 2022).

Heart patients' efforts to treat their disease

The efforts of heart patients to treat their disease as expressed by participants according to the area where they live include the treatment history of heart disease patients and then participants will decide to go to a doctor's clinic or hospital. Self-care that can be done for heart failure patients includes taking medication regularly, exercising regularly, and reducing salt consumption in the diet. There is an improvement in the quality of life in heart disease patients who carry out self-care independently (Tok Yildiz & Kaşıkçı, 2020).

Compliance with the treatment regimen

Compliance with the treatment regimen expressed by participants was taking the medicine

given by the health center and taking the medicine if there were complaints. Disobedient behavior in everyday life is common. However, non-compliant behavior in the health sector is very dangerous. Moreover, failure to comply with the doctor's instructions in following therapy can cause a number of undesirable consequences, such as: longer illness or worsening medical conditions, the patient needing hospital or home care or extreme consequences, namely death.

Compliance is an important component in treatment, especially in long-term therapy for chronic diseases, compliance with medication use plays a very important role in the success of therapy.(Groenewegen et al., 2020).

Diet and healthy lifestyle

Diet and healthy lifestyle for participants includes, Diet is included in Lifestyle, if in hospital there are nutritional considerations. If you have been discharged from the hospital, you must maintain your diet. Maintain your lifestyle, starting from eating, exercising regularly, and giving up the habit of smoking. Dietary compliance is the level of awareness of coronary heart disease sufferers regarding daily food habits.

Disobedient behavior will increase the risks associated with health problems and further worsen the disease you are suffering from. After undergoing treatment at the hospital and CHD can be controlled, the patient will try gradually to return to a better lifestyle and daily activities such as regulating diet, compliance with planned therapy programs to minimize the occurrence of relapses caused by fatigue, and any strenuous activity that could have an adverse impact on the patient should be avoided(Deswal et al., 2022).

Barriers to maintaining health

Barriers to maintaining health among participants include: Difficulty taking medication, neglected office work, difficulty taking medication if nauseous and the problem is that patients do not take medication regularly and do not live a healthy life. Patients must be aware of the obstacles felt by heart failure patients so that they can adjust their schedule by making appointments so that obstacles such as busy children, living alone, if they want to control appointments with children can be overcome and increase family education and patient motivation to maintain their health and adapt to failure. The heart became better because there were participants who still did not accept that they had heart failure.

Factors that influence compliance with self-care, such as compliance with taking medication in heart failure patients, are the distance from home to the place of treatment, knowledge and family support. Education is provided to increase knowledge and support for heart failure patients. Lack of knowledge and inactivity of heart failure sufferers in recognizing the disease and self-management(Qayyum et al., 2023).

Hospital Facilities and Actions for Heart Patients

Hospital facilities and actions for heart patients on participants include SOPs from the hospital, there are standard procedures for special Catlab rooms for heart disease and education for heart patients by Cathlab nurses. Lack of recognition of signs and symptoms will have a worse impact on patient decision making in seeking and planning treatment for themselves.

Patients must monitor symptoms, adhere to medication, diet and exercise regimens and manage symptoms by recognizing changes and responding by adjusting behavior or by seeking appropriate help.(Castillo-mayén et al., 2021). Patient self-management is associated with a reduced risk of death and fewer hospital admissions. however, there is little certainty regarding the benefits of some aspects of self-care, such as lifestyle choices and fluid restriction (Reed et al., 2022).

Conclusions

From the results of Roy's Nursing Theory Study on 4 informants, the author can conclude that these 4 informants have Adaptive Responses that can increase patient integrity and are able to carry out goals related to survival and reproductive development. Based on the results of interviews, data analysis and data discussion, the author reached conclusions, namely 7 themes of research results regarding Roy's Adaptive Nursing Theory for heart disease patients, namely knowledge about heart disease, signs and symptoms felt by patients, heart patients' efforts to treat their disease, compliance with the regimen. treatment, healthy diet and lifestyle, obstacles to maintaining health, hospital facilities and actions for heart patients.

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