

IMPLEMENTATION OF DISCHARGE PLANNING CARDIAC CATHETERIZATION ON THE READINESS OF ACUTE CORONARY SYNDROME PATIENTS

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ABSTRACT

This study aims to see the effectiveness of implementing cardiac catheterization removal in admitting patients with acute coronary syndrome at Immanuel Hospital Bandung. This type of research is quasi-experimental with nonequivalent pre- and post-test control groups only. The research results obtained by implementing cardiac catheterization removal planning in the intervention group effectively admitted patients with acute coronary syndrome at Immanuel Hospital Bandung. There was no significant difference between the control group and the intervention group in the patient's readiness to carry out the discharge plan but within a period of <30 days in the control group, there were data on three patients who were readmitted, while in the intervention group, there were no readmissions. In conclusion, planned-release cardiac catheterization is effective in patients with acute coronary syndrome.

Keywords: Discharge Planning, Cardiac Catheterization, Readmission, Acute Coronary Syndrome

INTRODUCTION

Acute Coronary Syndrome (ACS) is a major cardiovascular problem because it causes high hospitalization rates and death rates. ACS occurs as a result of the continuation of coronary heart disease that is not detected early, which begins with the occurrence of myocardial ischemia over a prolonged period of time and total or partial occlusion which is potentially fatal and is often called a heart attack. The diagnosis of ACS, which is part of coronary heart disease, is something frightening for the patient, so that concerns arise about the next life and reduces the quality of life, patients tend to be passive about life and the activities they undertake (Lutfian et al., 2022).

Patients suffering from acute coronary syndrome often complain of chest pain that can radiate to the left or right arm. Pain will not go away with rest. Pain can also spread to the neck, jaw or teeth, left shoulder, ulnar part of the arm and fingers, as well as the back or shoulders of the legs. Other symptoms that arise include feelings of anxiety, panic (feeling that you will die), difficulty breathing, changes in the quality and frequency of the pulse, cold and clammy skin and the patient experiencing cyanosis (Davranovna et al., 2022).

Physical symptoms and physical limitations after ACS may have an impact on several variables such as health status, level of adaptation, emotional role, social adaptation, anxiety and depression. This is because ACS is a serious cardiovascular incident which also affects the health quality of life for both the patient and his family due to the intense progression of heart disease and repeated admissions to health facilities (Ridwan et al., 2022).

As many as 10% of treated coronary heart disease patients experience readmission. It is estimated that one of the causes of re-treatment may be the patient's unpreparedness to go home, with the average patient suffering from Coronary Heart Disease experiencing re-treatment from the previous treatment in 3 to 6 months. Discharge planning is a process carried out to assess and prepare patient needs in accordance with the plans that will be carried out to facilitate patients to receive health services while the patient is in hospital until the patient returns home (Rashidi et al., 2022). Actions taken in discharge planning include providing psychosocial information to referral information. The lack of knowledge or inability of patients and families regarding how to care at home has an impact on health problems or the patient's unpreparedness to face discharge after the patient has been treated in hospital. This causes an increased risk of complications and results in re-hospitalization (readmission).

Research result Eghbali et al., (2022) stated that the implementation of a discharge program was effective in increasing hope and cardiac self-efficacy of CABG patients and the use of a discharge plan was recommended to improve the outcomes of these patients. The quality of life of patients with coronary heart disease is said to be good if revascularization has been carried out, namely an action to open blockages that occur in patients with CHD. The action can be in the form of thrombolytic therapy, Percutaneous Coronary Intervention (PCI), Coronary Artery By Pass Graft (CABG) and cardiac catheterization. After the revascularization procedure is carried out, the family must monitor the patient's daily condition by monitoring medication taking, the patient's lifestyle and taking him to health services to check the patient's health status (Ardianti et al., 2022).

Cardiac catheterization is a supporting examination by inserting a long, thin and flexible tube, also called a catheter, into the left and right heart and coronary arteries with the aim of examining the structure and function of the heart and detecting blockages in the coronary blood vessels. Blockages in coronary arteries can be prevented by changing risk factors in patients with coronary heart disease (Ahmed et al., 2023). This procedure has minimal side effects and is routinely carried out in the treatment of patients with heart problems in special hospitals. However, this is often unknown to patients so that patients have high fear, anxiety and psychological stress about undergoing cardiac catheterization (Arvandi et al., 2023). The cardiac catheterization procedure consists of inserting a long, thin catheter tube through a blood vessel which is then directed towards the coronary blood vessels in the heart (Damluji et al., 2023).

Several previous studies have been carried out as a comparison with the research carried out. First, Eghbali et al., (2022) with the title Planned discharge program effectiveness on cardiac self-efficacy and hope in patients undergoing coronary artery bypass graft surgery: A quasi-experimental study, research conducted experimentally with the results of implementing an effective discharge program in increasing hope and cardiac self-efficacy in CABG patients and the use of plans discharge is recommended to improve the outcome of these patients. Second, Giatrininggar & Meilina, (2023) with the title Optimizing Nursing Management Functions in Discharge Planning in Heart Failure Patients, the research method uses case studies with interviews, the results obtained by audio visual media help nurses in increasing knowledge about the implementation of discharge planning and the updated heart failure discharge planning form. Third, Aisyah et al., (2023) Using experimental methods, the results obtained showed an influence on readiness to go home between patients who were given discharge planning and discharge planning with leaflet media or not. Even though there is previous research with similar variables, types of research and research instruments with this research, the research results obtained are different due to differences in time and place in the research.

Considering that implementing a discharge planning program is important to improve the quality of life of patients before going home and to prepare patients for going home as well as increasing patient safety and reducing readmissions. So the researchers conducted research with the aim of seeing the effectiveness of implementing cardiac catheterization discharge planning on the readmission of acute coronary syndrome patients at Immanuel Hospital Bandung. The benefit of this research is education in implementing the discharge planning program on the readiness to go home for patients with acute coronary syndrome, which consists of personal status, knowledge, coping abilities and support.

RESEARCH METHODS

Research Design

The research design that will be used in this research is a quasi-experimental pre and posttest only nonequivalent control group, where in the design there are no restrictions on randomization if including in the treatment group or control group using research and development methods (Research and Development), method used produce particular product.

Data was collected through the RHDS questionnaire and analyzed using the Independent T test. The data analysis technique uses univariate and bivariate analysis as well as creating a development strategy to produce a standard operational procedure product design through the pre-development stage through a cardiac intervention expert consultant.

Research Population and Sample

A sample of 50 people was obtained using consistent sampling technique. Divided into 25 control groups and 25 intervention groups.

Research Location and Time

The research was conducted at Immanuel Hospital Bandung.

RESEARCH RESULT

Univariate Analysis

Table 1
Implementation of Discharge Planning
in Acute Syndrome Patients Undergoing Cardiac Catheterization

Group	N	Readmission	Present (%)
Intervention	25	3	6
Control	25	0	0

Based on the results of the research above, it can be stated that in the group that received treatment, there were no patients who were readmissions, while in the group that did not receive treatment there were 3 patients who were readmissions.

Bivariate Analysis

Table. 2
Effectiveness of Implementing Discharge Planning
on Readmission of Cardiac Catheterization Patients

Group	N	Mean	elementary school	S.E	p-value
Intervention					
Pretest/Posttest	25	-2,905	.68929	.13786	0,000

Control					
Pretest/Posttest	25	-3.138	.35401	0.7080	0,000

Based on Table 2, it was found that the application of cardiac catheterization discharge planning in the intervention group was effective in the readmission of patients with acute coronary syndrome at Immanuel Hospital Bandung. There was no significant difference between the control group and the intervention group in patient readiness in implementing discharge planning.

DISCUSSION

Implementation of Discharge Planning in Acute Syndrome Patients

Based on the results of the study, it can be stated that in the group that received treatment, there were no patients who were readmissions, while in the group that did not receive treatment there were 3 patients who were readmissions. According to Sahashi et al., (2022) Discharge planning that is carried out optimally will provide a better process for patients resulting in changes in the behavior of patients and their families in interpreting their health condition. Acute coronary syndrome patients who are treated in hospital usually experience serious physical problems such as chest pain due to myocardial ischemia, which is the problem most frequently complained of by patients, patients will also experience anxiety, body image disturbances which can cause patients to experience loss of biopsychosocial aspects.

Psychosocial values greatly influence patient recovery. There is a large influence of the implementation of discharge planning on the psychosocial information support provided and the implementation of psychosocial information is categorized as good. Implementation of discharge planning must always be carried out by nurses to help patients and families in preparing for the patient's return home. Implementation of discharge planning must be given to the people closest to the patient (Riu & Djalil, 2022). Based on research results Muliantino et al., (2023) states that providing clear and complete information to patients is an effective intervention in increasing patient knowledge, reducing their symptoms of anxiety and fear. Nurses have an important role in health education for patients.

This is also supported by research Malliarou et al., (2022) which states that the patient's refusal to undergo cardiac catheterization is related to knowledge about the disease and knowledge about the catheterization procedure. Patients will agree to undergo the procedure after they receive an explanation regarding the procedure to be carried out. Patients who will undergo cardiac catheterization need information about this invasive procedure so that it does not cause psychological stress. Through discharge planning, nurses motivate patients to take medication properly and nurses ensure that patients with acute coronary syndrome need psychosocial information such as motivating patients to undergo treatment, taking medication regularly, inviting and explaining to the family in patient care, calming patients when they are anxious, and listening. patient complaints related to the disease. This action is taken to minimize patient illness and reduce the number of hospital admissions.

Nurses will be able to minimize patient hospitalization by teaching patients and their families about their needs for health information. Nurses provide teaching regarding information that can cause the patient's condition to decline. Actions taken to treat sudden chest pain, avoid fatty foods, provide balanced nutrition for the body, provide information regarding perceived complications along with their management and do physical activity, but only light ones so that the chest pain does not recur (Searls et al., 2023).

Most patients understand discharge planning regarding medication, laboratory results, food diet and therapy schedule. Discharge planning can reduce patient care days, prevent

recurrence, improve the development of the patient's health condition and reduce the burden of family care. All actions taken can make it easier for the patient to increase the body's metabolism so that the patient's general condition will be better, thereby influencing the healing process for patients with acute coronary syndrome so that the pain they feel will decrease and restore their physical and functional condition with the aim of allowing the patient to return to normal activities (Lutfian et al., 2022).

Effectiveness of Implementing Discharge Planning on Readmission of Cardiac Catheterization Patients

Based on the research results, it was found that the application of cardiac catheterization discharge planning in the intervention group was effective in the readmission of acute coronary syndrome patients at Immanuel Hospital Bandung. There was no significant difference between the control group and the intervention group in patient readiness in implementing discharge planning. According to Hoo et al., (2023) The discharge planning program provided from the time the patient enters the hospital can improve the development of their health condition and help the patient achieve an optimum quality of life before being discharged. The ignorance or inability of patients and families regarding how to care at home has an impact on health problems or the patient's unpreparedness to face discharge after the patient is hospitalized. This causes an increased risk of complications and results in re-hospitalization.

This is in line with the results of research conducted by Eghbali et al., (2022) The mean age of participants in the control group was $91/9 \pm 86/91$ and in the intervention group was $33/7 \pm 7/58$. There were no significant differences between the demographic characteristics, cardiac self-efficacy, and hope scores of control and intervention group participants. After the intervention, there were statistically significant differences between the two groups at discharge and 1 month later in hope and cardiac self-efficacy scores ($p = 0.001, 0.0001$). In this study, the implementation of a discharge program was effective in improving hope and cardiac self-efficacy of CABG patients and the use of a discharge plan was recommended to improve the outcomes of these patients.

This research was also supported by Aisyah et al., (2023) Before the control group, of the 10 respondents, most of the 6 people (60%) were not ready to go home and 4 people (40%) were not ready to go home. After the control group, the majority of those ready to go home were ready and not ready as many as 5 people (50%). The results obtained were that out of 10 respondents, 3 people improved after the discharge planning intervention compared to before the intervention was given. analysis: using the independent t test. There was an influence on readiness to go home between patients who were given discharge planning and who were not given discharge planning using leaflets.

The purpose of discharge planning is to identify specific needs to maintain or achieve maximum health function after discharge. Discharge planning is carried out collaboratively because it is a multidisciplinary service and each team must work together, the actions or plans that will be carried out after returning home are adjusted to the knowledge of the personnel or resources and facilities available in the community, discharge planning is carried out in each system or health service setting (Sobti et al., 2022).

The discharge planning program also includes phase one cardiac rehabilitation, namely providing CHD health education including counseling, diet management, risk factor modification, and stress management plus physical exercise. Cardiac rehabilitation, especially physical exercise in CHD patients, will help reduce total cholesterol and LDL cholesterol levels, the main cause of CHD. Reducing cholesterol helps to reduce blockage of coronary arteries, where reduced blockage can result in adequate oxygen supply. Then, continuing with reducing

damage to heart muscle cells which results in reduced chest pain, the oxygen supply to the tissue becomes adequate too. Feelings of tiredness and weakness turn into vigor and more energy. Thus, phase one cardiac rehabilitation is believed to reduce pain, provide strength and energy, and influence the patient's physical readiness and readiness to go home (Iqbal et al., 2023).

The effect of cardiac rehabilitation is not only to reduce physical symptoms but also to reduce psychosocial symptoms such as anxiety and stress resulting from CHD attacks. Physical exercise can increase muscle tone, reduce tension, increase relaxation, reduce the risk of cardiovascular disease, and improve cardiovascular function. Physical exercise carried out effectively can increase the release of endogenous opioids which creates a feeling of well-being to reduce anxiety and stress (Helmark et al., 2022).

Development Strategy carried out to Improve the Implementation of Discharge Planning for Cardiac Catheterization Patients

The Self Care Deficit Theory explains that nursing efforts to meet individual needs by recognizing and fulfilling their needs, namely through a supporting educational nursing system. The educational support system is provided in the form of guidance, namely to meet personal needs by providing physical and psychological encouragement to patients, as well as teaching patients about procedures and aspects of action so that patients can carry out self-care independently after returning home. Discharge planning is an effort to prepare or empower patients to be able to care for themselves to achieve physical, psychological and social readiness (Bagheri et al., 2022).

Post-heart attack patients who were prepared for their return home by being given counseling and health education as well as sharing experiences of the disease organized in the form of counseling groups from the start of the hospital until they went home were found to be effective in increasing the patient's readiness to go home physically, psychologically, socially and spiritually. This readiness directly improves the quality of life of CHD patients because post-heart attack patients often experience a decrease in quality of life which can have an impact on reducing heart health (Block et al., 2022).

Health education is provided to patients to meet patient needs so that the quality of service increases and is maintained. Education to patients and families is provided by Professional Care Providing staff (PPA) which begins with an assessment of the educational needs of patients and families, providing the knowledge needed during the care process and the knowledge needed after the patient is discharged to another health service or home (Sania et al., 2022).

The discharge planning process is carried out continuously by involving Professional Care Providers (PPA) who are facilitated by the Patient Service Manager (MPP). The role of a nurse manager is needed in implementing effective and efficient discharge planning. The use of audio visual media is expected to make it easier for nurses to understand the material provided and can be stored on the computer or cloud to make it easier for nurses to access the material. At this stage, the role of the head of the room becomes important, especially in providing direction to nurses in using modified forms so that the implementation of discharge planning can run well (Lestari et al., 2023).

Video content is useful in increasing knowledge about discharge planning in heart failure patients, 100% of participants understand more about discharge planning in heart failure patients after watching the video, and 84% believe discharge planning can be implemented well. Education using videos can improve knowledge and clinical skills in nursing students. The use of videos can stimulate visual thinking through stimulation from writing, graphics or images.

The results of the strategy evaluation can be used by the hospital as a consideration in modifying strategies in developing plans, setting goals and objectives, identifying support systems, involving parties who will be affected by changes, setting time targets, developing appropriate strategies, and implementing changes (Muliantino et al., 2023).

The strategy for implementing discharge planning innovation can be carried out using Kurt Lewin's theory of change approach, namely unfreezing, movement and refreezing. The first stage or unfreezing involves collecting data and analyzing the problem to determine an important change to make, as well as how to convince group members to get involved in the change. The second stage (movement), identification, planning and implementing appropriate strategies are carried out. The strategy chosen was to conduct outreach to nurses using audio-visual media. The final stage or refreezing is the stage where all system changes that have been made are frozen or stabilized so that they are at the status quo. Forms that have been modified can be reviewed and if necessary can be modified again before being implemented as a standard for implementing discharge planning for patients (Giatrininggar & Meilina, 2023).

CONCLUSION

Based on the research results, a conclusion can be drawn, namely that the application of cardiac catheterization discharge planning in the intervention group was effective in the readmission of acute coronary syndrome patients at Immanuel Hospital Bandung. There was no significant difference between the control group and the intervention group in terms of patient readiness in implementing discharge planning, however, within a period of <30 days, the control group had data on 3 patients who had readmissions, whereas in the intervention group there were no readmissions. Implementing optimal discharge planning which is equipped with educational media needed by patients is effective in increasing patient knowledge and also preventing readmissions in patients with acute coronary syndrome.

SUGGESTION

In accordance with the era of digitalization, it is necessary to develop discharge planning by further researchers using social media to be able to reduce readmissions in other heart cases and there is a need to develop guidelines or SOPs related to patient discharge with the latest literature and theoretical sources. Also provide educational media for patients and families with audio visual facilities and complete educational media regarding cardiac catheterization and other diseases.

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