

## EFFECTIVENESS OF PROVIDING EDUCATION ON THE ANXIETY OF PATIENTS WHO WILL HAVE PCI PROCEDURES IN THE EMERGENCY ROOM AT HARUM SISMA MEDIKA HOSPITAL IN 2023

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### Abstract

**Background:** Cardiovascular disease is the main cause of death throughout the world. The World Health Organization (WHO) states that every year deaths due to cardiovascular disease reach more than 17.8 million. Meanwhile, data from the Indonesian Ministry of Health in 2023 in Indonesia the death rate due to this disease will reach 650,000 people per year. Coronary heart disease is a type of cardiovascular disease. Coronary heart disease patients require Percutaneous Coronary Intervention (PCI) to improve their quality of life. 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. Based on the results of a preliminary study at Harum Sisma Medika Hospital, data on the number of cases of patients with Coronary Heart Disease (CHD) in 2023 from January to October reached 256 and those referred out for Percutaneous Coronary Intervention (PCI) in the Emergency Room at Harum Hospital numbered 35 patients. And on average, these patients experience anxiety or anxiety when they are informed that Percutaneous Coronary Intervention (PCI) will be carried out. **Purpose of writing:** To determine the effect of providing education on the anxiety of patients who will undergo Percutaneous Coronary Intervention (PCI) in the emergency room at Harum Sisma Medika Hospital, Jakarta. **Writing Method:** The research method used in this research is Pre Experimental Design. This research used a Quasi Experimental design using the "Pre-Test and Post-Test" method with a sample of 55 respondents. **Research Results:** The results of this study show that before and after the intervention of providing education on the anxiety of patients who will undergo percutaneous coronary intervention (PCI) in the emergency room at Harum Sisma Medika Hospital, Jakarta, a P value of  $0.001 < 0.05$  is obtained, which means providing education to patients who will Percutaneous Coronary Intervention (PCI) in the emergency room at Harum Sisma Medika Hospital, Jakarta, was effective in reducing anxiety levels in respondents. **Conclusions and Suggestions:** There is a significant influence on providing education to patients who will undergo Percutaneous Coronary Intervention (PCI) to reduce anxiety before undergoing Percutaneous Coronary Intervention (PCI). It is recommended that all health workers, especially nurses, provide education before carrying out Percutaneous Coronary Intervention (PCI).

**Keywords:** Education, Coronary Heart Disease, Percutaneous Coronary Intervention (PCI).

### Introduction

Cardiovascular disease is the leading cause of death worldwide. The World Health Organization (WHO) states that every year deaths due to cardiovascular disease reach more than 17.8 million. Meanwhile, data from the Indonesian Ministry of Health in 2023 in Indonesia the death rate due to this

disease will reach 650,000 people per year. The World Health Organization (2020) estimates that by 2030, almost 23.6 million people will die from cardiovascular disease, mainly from coronary heart disease. Coronary heart disease is a type of cardiovascular disease.

Coronary heart disease patients require Percutaneous Coronary Intervention (PCI) to improve their quality of life. Percutaneous Coronary Intervention (PCI) of the heart is an action performed for coronary artery disease which functions to open blockages in the coronary arteries due to atherosclerosis, namely the buildup of cholesterol deposits (called plaque) in the arteries.

Based on 2017 heart disease and stroke statistics, the American Heart Association reported that as many as 954,000 patients in the United States had undergone PCI intervention. In Indonesia, the number of PCI intervention patients is expected to increase from year to year to reach 15,000 units per year.

Director of Prevention and Control of Non-Communicable Diseases at the Ministry of Health (Kemenkes) Eva Susanti said that cardiovascular or heart disease is the leading cause of death in Indonesia. "The highest cause of death in Indonesia is stroke with 19.42 percent and ischemic heart disease (heart attack) with 14.38 percent," he said in a press conference related to World Heart Day 2023 which was attended online in Jakarta, Monday (25/9/ 2023). Not only in Indonesia, Eva said that these two cardiovascular diseases are also a global concern, because ischemic heart disease causes 16.17 percent of deaths in the world, while stroke causes 11.59 percent of deaths in the world.

Reperfusion with Percutaneous Coronary Intervention (PCI) is the first treatment for STEMI-NSTEMI patients. Control of heart disease with diagnoses of STEMI and NSTEMI who will undergo Percutaneous Coronary Intervention (PCI) surgery is worsened by the emergence of psychological problems (Gooding et al., 2020). Before undergoing cardiac catheterization, anxiety is a natural emotional (affective) disorder which is characterized by feelings of deep and continuous fear or worry, there is no disturbance in assessing reality, personality is still intact, behavior can be disturbed but is still within normal limits (Hawari, 2016).

The prevalence of anxiety in the coronary heart disease patient population is also quite high, ranging between 15.4% - 67.5% (Bruyninx et al, 2020). Anxiety creates tension, confronting the body relaxes, causes fatigue or even affects the patient's condition (Salzmann et. al, 2021). Anxiety can affect the body on a physiological level by changing the client's vital signs. Apart from that, it can also cause cognitive and behavioral changes, for example anticipating post-operative pain and separation from family, loss of independence, fear of surgery and death (Kassahun et al., 2022).

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. Based on Riskesdas 2018, the national prevalence of coronary heart disease (CHD) is 1.5%. DKI Jakarta Province is ranked 4th in the highest prevalence of heart disease in Indonesia with a percentage of 1.9% (Riskesdas, 2018).

Research results Muliantino, M.R; Mailani, F & Dafri, W. (2023). showed that there was an influence of pre-catheterization education on the knowledge of patients who would undergo cardiac catheterization ( $p < 0.001$ ). Education is effective in increasing patient knowledge before undergoing catheterization procedures and it is important for nurses to provide pre-catheterization education so that patients become more cooperative in the procedure.

Research conducted by Elverinawati Sinaga, Sondang Manurung, Zuriyati, and Agung Setiyadi (2022) obtained results from pre-education univariate data analysis with a standard deviation of 3.80 and post-education standard deviation of 3.361. Meanwhile, bivariate analysis of the average pre- and post-education anxiety using the paired sample t test showed that pre- and post-anxiety levels were at a significant level of 0.000 or  $< 0.05$ , which means that H1 was accepted, namely that there is an influence of health education on the level of action anxiety. cardiac catheterization.

Based on the results of a preliminary study at Harum Sisma Medika Hospital, data on the

number of cases of patients with Coronary Heart Disease (CHD) in 2023 from January to October reached 256 and those referred out for Percutaneous Coronary Intervention (PCI) in the Emergency Room at Harum Hospital numbered 35 patients. And on average, these patients experience anxiety or anxiety when they are informed that Percutaneous Coronary Intervention (PCI) will be carried out.

## Method

### Data Collection

The research method used in this research is Pre Experimental Design. This research uses a Quasi Experimental Design using the "Pre Test" and "Post Test" methods. The Pre Test and Post Test administration in this study was intended to determine the anxiety scale after using health education which can be seen from the results of the HARS questionnaire. This research was conducted from October to December 2023, the required sample size was 30 respondents.

## Result

### 1. Univariate Analysis

**Table 1. Distribution of Age, Gender, Education and Occupation Characteristics of Patients who will undergo Percutaneous Coronary Intervention (PCI) (n=30)**

No	Respondent Characteristics	F	(%)
<b>Age</b>			
1	Age <45 years	0	0
	Age >45 years	30	100
<b>Gender</b>			
2	Male	24	80
	Female	6	20
<b>Education</b>			
3	No School	3	10
	Elementary School (SD)	3	10
	Junior High School (SMP)	5	16.7
	Senior High School (SMA)	14	46.7
	College	5	16.7
<b>Work</b>			
4	Work	15	50
	Doesn't Work	15	50

Primary Data Sources 2023

Based on Table 1 above, all respondents in this study were over 45 years old (100%), most of the respondents were male (80%), some of the respondents had a high school education (46.7%) and some of the respondents were working (50%) and not working (50%)

**Table 2. Distribution of the average frequency of anxiety in patients who will undergo Percutaneous Coronary Intervention (PCI) Before And After Being Given Education (n = 30)**

Anxiety Frequency	N	Mean	Min	Max	Different Means
Before Intervention	30	3.83	2.00	5.00	1.9
After Intervention	30	1.93	1.00	3.00	

Primary Data Sources 2023

Based on table 2 above, it can be concluded that of the 30 respondents who were given educational interventions for patients who were going to undergo Percutaneous Coronary Intervention (PCI), the average frequency of anxiety levels before the educational intervention was carried out was (3.83), the average frequency of anxiety levels before when the educational intervention was carried out was (1.93) and the average difference before and after the educational intervention was (1.9). So it can be concluded that educational interventions for patients who will undergo Percutaneous Coronary Intervention (PCI) can reduce anxiety levels in patients.

## 2. Bivariate Analysis

**Table 3. Normality test**

	Sig
Preintervention	0.088
Postintervention	0.032
Shapiro-Wik	

Primary Data Sources 2023

Based on table 3 above, it can be concluded that the results of the normality test are where the significant value is  $0.032 < 0.05$ , meaning the data is not normally distributed. So the test uses the Spearman Rho test.

**Table 4. Effectiveness of Providing Education on the Anxiety of Patients who will undergo Percutaneous Coronary Intervention (PCI) in the Emergency Room at Harum Sisma Medika Hospital, Jakarta. (n = 30)**

	N	Mean	Std.Deviation	P Value
Preintervention	30	3.83	0.79148	0.001
Postintervention	30	1.93	0.58329	

Primary Data Sources 2023

Based on table 4 above, it can be concluded that the results of the Spearman Rho test before and after the intervention of providing education for the anxiety of patients who were about to undergo percutaneous coronary intervention (PCI) in the emergency room at Harum Sisma Medika Hospital, Jakarta, obtained a P value of  $0.001 < 0.05$ , which means providing education to Patients who will undergo Percutaneous Coronary Intervention (PCI) in the emergency room at Harum Sisma Medika Hospital, Jakarta, are effective in reducing the level of anxiety in respondents.

## Discussion

The results of the Spearman Rho test before and after the intervention of Providing Education on the Anxiety of Patients who will undergo Percutaneous Coronary Intervention (PCI) in the Emergency Room at Harum Sisma Medika Hospital, Jakarta, obtained a P value of  $0.001 < 0.05$ , which means  $H_0$  is accepted, which means providing education to patients who Percutaneous Coronary Intervention (PCI) will be carried out in the emergency room at Harum Sisma Medika Hospital, Jakarta, which will be effective in reducing the level of anxiety among respondents.

Education is a learning process from not knowing about the value of health to knowing or often also called education which is defined as all planned efforts to influence other people, whether individuals, groups or society, so that they do what is expected by educational practitioners. According to the Indonesian Ministry of Health (2021) in health and community nursing, education is defined as an effort in the form of a process for a person or group to improve and protect their health by increasing knowledge, abilities and increasing willingness which is driven by certain factors.

Anxiety or anxiety is a mental condition that is full of worry and fear about what might happen, whether related to limited problems or strange things. The general definition of anxiety is feeling depressed and uneasy and having confused thoughts accompanied by a lot of regret (Alnazly et al., 2021).

HARS (Hamilton Anxiety Rating Scale) An instrument used as a reference to measure and determine the signs and symptoms that occur in someone with anxiety, one of which is HARS. In several previous studies, the instrument was proven to have quite high validity and reliability compared to other anxiety instruments (Zaini, 2019).

The results of this research are in line with those carried out by Elverinawati Sinaga et al (2022) entitled The Effect of Health Education on the Anxiety Level of Cardiac Catheterization Procedures at the Omni Pulomas Hospital, East Jakarta, the results of the paired sample t test with significant values were obtained for pre and post anxiety levels in anxiety level with a significant value of 0.000 or  $< 0.05$ , which means  $H_0$  is accepted. Namely, there is an influence between before and after being given health education on the level of anxiety about cardiac catheterization procedures at Omni Pulomas Hospital, East Jakarta

In the opinion of researchers, education is important before installing Percutaneous Coronary Intervention (PCI), because the majority of patients who will undergo Percutaneous Coronary Intervention (PCI) experience varying levels of anxiety from mild anxiety to very severe anxiety, even though the anxiety is excessive, deep. and can continue to respond to the work of the cardiovascular system becoming heavier, including feelings of palpitations, blood pressure increasing or decreasing, even though this condition can interfere with Percutaneous Coronary Intervention (PCI) procedures, the main requirement for installing Percutaneous Coronary Intervention (PCI) is that the hemodynamic condition must be stable. The nurse's role is very important in alleviating the patient's level of anxiety or fear. Non-pharmacological self-management measures based on the Nursing Intervention Classification (NIC) can be carried out to overcome patient anxiety, namely by providing education before the Percutaneous Coronary Intervention (PCI) procedure.

## Conclusion

Based on the results of research and analysis regarding the effectiveness of providing education on the anxiety of patients who will undergo Percutaneous Coronary Intervention (PCI) in the emergency room at Harum Sisma Medika Hospital, Jakarta.

1. Distribution of characteristics of all respondents in this study who are over 45 years old (100%), the majority of respondents are male (80%), some respondents have a high school education (46.7%) and some respondents work (50%) and not working (50%).
2. On average, from 30 respondents who were given educational interventions for patients who were going to undergo Percutaneous Coronary Intervention (PCI), the average frequency of anxiety levels before the educational intervention was carried out was (3.83), the average frequency of anxiety levels before the intervention was carried out. education is (1.93) and the average difference before and after educational intervention is (1.9). So it can be concluded that educational interventions for patients who will undergo Percutaneous Coronary Intervention (PCI) can reduce anxiety levels in patients.
3. The effectiveness of providing education on the anxiety of patients who will undergo Percutaneous Coronary Intervention (PCI) in the emergency room at Harum Sisma Medika Hospital, Jakarta. The P value obtained was  $0.001 < 0.05$ , which means that providing education to patients who will undergo Percutaneous Coronary Intervention (PCI) in the emergency room at Harum Sisma Medika Hospital, Jakarta, is effective in reducing the level of anxiety in respondents.

## Suggestion

It is hoped that health workers, especially nurses, can provide education to patients who will undergo Percutaneous Coronary Intervention (PCI) so that patients can reduce the level of anxiety before undergoing Percutaneous Coronary Intervention (PCI).

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