

THE EFFECTIVENESS OF EARLY DETECTION OF HEART DISEASE AND HEALTH PROMOTION ON ATTITUDE AND LIFESTYLE CHANGES OF RESIDENTS AT RISK OF HEART DISEASE POST-COVID-19 PANDEMIC

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ABSTRACT

During the Covid-19 pandemic, heart disease patients were at very high risk of experiencing severe complications if exposed to the virus. This is because any infection, including Covid-19, can worsen cardiovascular diseases such as recurrent coronary heart disease or chronic heart failure. One important effort in preventing cardiovascular diseases is to identify the cardiovascular risk factors in each individual. There are several models for detecting risk, one of which is the Jakarta Cardiovascular Score. Health promotion is also an effort to manage modifiable risk factors for heart disease. Health promotion is expected to prevent risky behaviors that lead to an increase in heart disease incidence in the long term. This study aims to assess the effectiveness of early detection and health promotion in changing the attitudes and lifestyles of residents at risk of heart disease post-Covid-19 pandemic. The research method used in this study is a quasi-experimental design with one group of 30 respondents. The study was conducted in the working area of the Pasar Minggu District Health Center in Jakarta. The results showed that after the intervention, which included early detection and health promotion, there was a change in attitude by 0.8 points, from 88.13 (before intervention) to 88.95 (after intervention). The T-test results showed a p-value of 0.004, indicating a statistically significant difference between before and after the intervention. The respondents' lifestyle also changed by 5.5 points, from 66.03 (before intervention) to 71.62 (after intervention), with a p-value of 0.004, indicating a statistically significant difference between before and after the intervention.

KEYWORDS Heart Disease, Early Detection, Attitude and Lifestyle



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INTRODUCTION

The era of globalization is an era where everything is developing rapidly, including technology. Technological advances at this time cause information to be received easily and quickly. This easy-to-receive information can lead to lifestyle changes. Lifestyles, which include patterns of food consumption and physical activity, tend to imitate westernized styles that are considered a lifestyle of modern society, namely lack of physical activity and high consumption of foods containing fat, sodium, and sugar, and low consumption of foods containing fiber (Rumambi et al., 2018). (Rumambi et al., 2018).

Cardiovascular disease, especially coronary heart disease (CHD), is a disease that causes global health problems throughout the world, including in Indonesia. CHD to date remains the number one cause of death in the world (Brunier, 2020). Epidemiological data in Indonesia based on shows 26.4% of deaths are caused by CHD. This figure is expected to increase further, even in 2020 the death rate will reach 10 times. Epidemiologic data in the United States shows 185,000 deaths each year are caused by CHD. (Brunier, 2020). The 2014 Sample Registration System (SRS) survey in Indonesia showed that CHD was the highest cause of death at all ages after stroke, which amounted to 12.9%, also based on the results of the 2014 National Health Insurance budget utilization survey, it also topped the claims submitted by health providers in Indonesia.

Heart disease has a very high morbidity and mortality, including spending more than 50% of the Social Security Organizing Agency (BPJS) funds in the last 4 years. Based on the results of the Basic Health Research (Riskesdas) 2013, the prevalence of coronary heart disease based on a doctor's diagnosis was 0.5% while based on a doctor's diagnosis or symptoms was 1.5%. Meanwhile, the prevalence of coronary heart disease in West Java based on diagnosis and diagnosis/symptoms was 0.5% and 1.6%, respectively. CHD not only impacts on mortality, but also on morbidity and limitations on the quality of life of sufferers. The 2018 Riskesdas data shows that the incidence of heart disease in Indonesia is increasing year by year with a prevalence of 1.5%. This means that 15 out of 1,000 people in Indonesia suffer from heart disease. (Indonesian Ministry of Health, 2018)

The average hospital report during the pandemic showed that 16.3 percent of patients admitted from the Covid-19 isolation room had comorbid or coincident cardiovascular disease. (Indonesian Association of Cardiovascular Specialists, 2020). During the pre-pandemic period, it was reported that the average rate of hospital mortality due to heart attack was 8 percent, but during the pandemic, this rate was reported to have increased to 22-23 percent. In addition to acute complications, COVID-19 infection is also associated with an increased risk of long-term CV.

Cardiovascular disease risk factors consist of preventable and non-preventable risk factors. Preventable risk factors consist of risk factors that clearly influence the occurrence of CHD. Preventable risk factors include hypertension, smoking, and diabetes mellitus. (LeMone & et al, 2016). Efforts to prevent cardiovascular disease in the last 10 years can be estimated by calculating the current cardiovascular score. The Jakarta Cardiovascular Score is a modification of the Framingham Score. The Jakarta Cardiovascular Score has a sensitivity of 77.9%

and a high specificity of 90%. It also provides a positive predictive value of 92.2% and a negative predictive value of 72.8%. (Tiksnadi et al., 2018).. The score is based on gender, age, blood pressure, smoking, diabetes, body mass index and weekly physical activity. District

Health promotion should also be considered for residents identified as being at risk of heart disease 10 years in the future.(Handayani, 2010). Behavior change can be done with various strategies, which are preceded by changes in knowledge and attitudes. Changes in knowledge are done one of them with the method of health counseling (Nurmala, Ira; Rahman, 2010). (Nurmala, Ira; Rahman, Fauzie; Nugroho, adi; Erlyani, Neka; Laily, Nur; Yulia Anhar, 2018)..

RESEARCH METHOD

The research design in this study used a quasi-experimental design, with the aim of seeing the effectiveness of early detection of heart disease and health promotion on changes in attitudes and lifestyles of residents at risk of heart disease after the Covid-19 pandemic.

This study used a pre test and post test design, which is a measurement only done before and at the end of the intervention. Pre test was conducted on the intervention group to determine the baseline data that will be used to determine the effect of the independent variable. Post test was conducted on the intervention group and control group after the intervention. The measurement results of the two groups were compared.

For attitude and lifestyle variables, an evaluation was carried out with a time span of giving the pretest and post test of 30 days. This is in accordance with the evaluation theory that the distance between two measurements is at least 2 (two) weeks for knowledge and at least 1 month for behavior.

RESULT AND DISCUSSION

This study was conducted with the aim of knowing the effectiveness of early detection of heart disease and health promotion on changes in attitudes and lifestyles of residents at risk of heart disease after the Covid-19 pandemic. Respondents involved in this study totaled 30 people.

In this study, the gender of respondents was all female. This happened because at the time of data collection it was deliberately not coincided with the elderly guide post or Posbindu PTM. The purpose of making separate activities for more concentration in carrying out interventions and filling out existing questionnaires. This is somewhat beyond the prediction that only those who can attend are female.

The planned age distribution was at a productive adult age between 20 and 50 years. This study took all respondents who came at that time. The mean age of respondents was 43.33 with a variation of 5.23 years. The youngest respondent in the intervention group was 34 years old and the oldest was 52 years old.

Table 1. Respondent Characteristics

Variable	n	%
Education		
1. Higher Education	4	13.3
2. HIGH SCHOOL		
3. SMP	23	76.7
4. SD	3	10.0
Early detection		
1. Low	13	43.3
2. Medium	13	43.3
3. High	4	13.3

The most dominant distribution of respondents' education level was 23 high school graduates (76.7%). Junior high school graduates 10%). College graduates are 13.3%.

The results of the examination of early detection of cardiovascular disease using the Jakarta cardiovascular disease risk distribution score can be seen from the results between low and medium risk respondents have the same number of 13 people each (43.3%). Only 4 people (13%) of respondents were at high risk. This is probably because many of the average respondents are in the range of 40 years. The risk of heart disease will increase with age(Tiksnadi et al., 2018)..

Combining the medium and high risk groups will illustrate that at around 40 years of age, the risk of disease is higher. This will make the morbidity rate increase. The government's effort to address this is to change the factors that can be changed.(Reamy et al., 2018)

Table 2. Knowledge

Knowledge	Mean	SD	P value
Before intervention	13.47	2.4	0.000
After intervention	15	1.5	

Based on the knowledge table. It can be seen that the provision of health promotion in the intervention group can increase respondents' knowledge by 1.5 points, namely from 13.47 (before intervention) to 15 (after intervention). The T test results obtained p value=0.000 means that statistically there is a significant difference between before intervention and after intervention.

Health Promotion provides knowledge to the community on how to prevent cardiovascular disease. Increased knowledge is expected to be followed by changes in attitude and behavior (Rumambi et al., 2018). The knowledge of respondents in the study about heart disease was seen to be still in the category of less. It is hoped that after receiving the results of early detection and receiving health promotion can increase knowledge which ends with a change in lifestyle that becomes healthier. The attitude of respondents in this study has shown a good attitude that reflects the desire to live healthier.

Table 3. Attitude

Attitude	Mean	SD	P value
Before intervention	88.13	2.7	0.004
After intervention	88.95	7.6	

Based on the attitude table. It can be seen that the provision of health promotion can change the attitude of respondents by 0.8 points, namely from 88.13 (before intervention) to 88.95 (after intervention). The T test results obtained p value=0.004 means statistically there is a significant difference between before and after the intervention.

Table 4. Lifestyle

Lifestyle	Mean	SD	P value
Before intervention	66.03	12.9	0.004
After intervention	71.62	8.5	

Based on the lifestyle table, it can be seen that the provision of health promotion in the intervention group can change the lifestyle of respondents by 5.5 points, namely from 66.03 (before intervention) to 71.62 (after intervention). The T test results obtained p value=0.004 means that statistically there is a significant difference between before the intervention and after the intervention. Almost all of them experienced an increase. This is in accordance with the purpose of providing health promotion. Good knowledge increases motivation to make lifestyle changes.

Discussion

This study obtained data from the results of early detection using the Jakarta Cardiovascular score where half of the respondents were at moderate to high risk. The risk group is dominated by those at moderate risk. Moderate risk in respondents occurs on average due to Body Mass Index values that fall into the overweight category and lack of activity. A body that has excess fat will indirectly cause other changes in the body, so the risk of developing heart disease will increase. Risk factors occur in women who have a waist circumference of more than 89 cm and men 102 cm which is very vulnerable to heart disease.

Overweight and obesity status is associated with a higher risk of overall heart disease and heart disease subtypes such as coronary heart disease and heart failure. These findings are similar to a previous study by S. Khan(Khan et al., 2018) which showed an increased risk of heart disease in overweight and obese respondents. The difference with this study is that the risk assessment did not use the Framingham score but used the Jakarta Cardiovascular score (JKI). Assessment using JKI here is not carried out by checking cholesterol levels but only checking blood sugar at any time (Ridwanmo et al., 2020).(Ridwanmo et al., 2020).

In this study, most respondents also appeared to be lacking in physical activity. Lack of physical activity causes an imbalance of nutrients in the body where fat remains deposited. The activities carried out on average are only routine daily activities that do not include those devoted to exercise.

The results showed that early detection of heart disease risk followed by health promotion was effective in changing attitudes and lifestyles. This can be seen from the increase in knowledge before and after health promotion. Increased knowledge will be able to change attitudes and then lifestyle as an effort to prevent or develop heart disease in the future.

CONCLUSION

Early detection of the risk of heart disease needs to be done so that anticipatory action can be taken immediately, especially in people who have a history of degenerative disease. Health promotion is best implemented as soon as possible risk is detected to prevent the possibility of heart disease in the next few years.

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