

Overview of the Level of Knowledge About Risk Factors for Coronary Heart Disease in Students in Grades VIII-2 SMP Negeri 1 Pancur Batu

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ABSTRACT

Coronary heart disease is a type of non-communicable disease and is one of the diseases that need to be considered. can be influenced by an unhealthy lifestyle from adolescence. This study aims to uncover students' understanding of factors that can increase the risk of coronary heart disease at SMP Negeri 1 Pancur Batu. This study uses a quantitative method with a descriptive design and a cross-sectional approach. The research sample amounted to 25 students in grades VIII-2 who were selected using the total sampling technique. Data collection was carried out using a questionnaire containing 15 questions about risk factors for coronary heart disease. The results showed that the majority of respondents were at the level of knowledge in the good category, which reached 16 students (64%), while the sufficient category included 7 students (28%), and the category lacked 2 students (8%). However, risky behaviors such as lack of exercise, consumption of fast food, late sleep, and excessive use of gadgets were still found. The conclusion of this study shows that the level of students' knowledge about the factors that increase the likelihood of coronary heart disease is considered adequate, but a healthy lifestyle still needs to be improved by providing health education from an early age.

INTRODUCTION

Coronary heart disease (CHD) is one of the non-communicable diseases that remains the leading cause of death worldwide. This condition arises due to a narrowing or blockage of the coronary blood vessels that reduces the flow of blood and oxygen to the heart muscle, thus affecting the function of the heart. The World Health Organization (WHO) notes that cardiovascular disease causes about 20 million deaths each year, and the majority of these are caused by coronary heart disease and stroke (1).

In Indonesia, coronary heart disease is increasingly a health issue that is increasing in line with changes in people's lifestyles. A diet that contains a lot of fat and sugar, lack of physical activity, smoking habits, being overweight, high blood pressure, and diabetes mellitus are some of the factors that can increase the likelihood of coronary heart disease. In addition, the increase in the use of technology that causes sedentary behavior in adolescent groups also contributes to an increase in risk factors for cardiovascular disease (2).

Coronary heart disease is a condition that arises as a result of the process of atherosclerosis in the coronary blood vessels, resulting in a decrease in blood flow to the myocardium. The risk of this disease is divided into two groups, namely factors that cannot be changed, such as age, gender, and family history, and factors that can be modified, such as hypertension, smoking habits, diabetes, dyslipidemia, obesity, lack of physical activity, unhealthy diet, and stress levels (3).

The results of a literature review conducted by Leutualy and his colleagues show that there are several factors related to the occurrence of recurrent attacks in patients suffering from coronary heart disease. These factors include smoking habits, high blood pressure, physical activity levels, diet, and adherence to taking medications. Based on statistical analysis, these factors have a significant relationship, so the management of risk factors is a very important aspect in efforts to prevent coronary heart disease (4).

Knowledge is one of the elements that influence an individual's health behavior. Individuals who have a good understanding of the risk factors for coronary heart disease are usually better able to live a healthy lifestyle, such as exercising regularly, eating a nutritious and balanced diet, avoiding cigarette smoke, limiting the consumption of fast food, and maintaining good sleep patterns. On the other hand, a lack of knowledge can result in a person not being aware of the importance of prevention efforts from an early age (5).

Various previous studies indicate that health education can improve public understanding of coronary heart disease and risk factors. Muzaenah and Sriyati (2024) noted that module-based teaching had a positive impact on increasing respondents' understanding of risk factors for coronary heart disease (6). In addition, research by Leslie and Priyana (2024) also shows that there are still people who have an inadequate understanding of risk factors for coronary heart disease, so sustainable health promotion efforts are needed (7).

Adolescence is a crucial phase in the development of a healthy lifestyle. In this phase, a person begins to establish habits that can have an impact on health as adults. Habits such as eating ready-to-eat foods, sugary drinks, lack of movement, excessive use of gadgets, and irregular sleep patterns can be a risk of coronary heart disease if done continuously (8).

SMP Negeri 1 Pancur Batu is a junior high school that has students in their early teens. Looking at the phenomenon that often occurs around schools, many students still have the habit of eating instant food, exercising less, spending more time with electronic devices than physical activity, and have not fully realized the importance of maintaining heart health through a healthy lifestyle. This situation indicates that understanding the risk of coronary heart disease needs more attention.

In addition, many students think that coronary heart disease only affects older people, so they are less aware that the risk can start to appear as early as adolescence. Actually, developing healthy living habits from a young age is one of the important efforts to reduce the number of cases of non-communicable diseases later in life.

RESEARCH METHODS

This study is a quantitative study with a descriptive design that uses a cross-sectional method. The purpose of this study is to identify the understanding of risk factors for coronary heart disease among students of SMP Negeri 1 Pancur Batu. This research was conducted at SMP Negeri 1 Pancur Batu in June 2026, and data collection took place on June 13, 2026. The target of this study is all students of grade VIII-2 at SMP Negeri 1 Pancur Batu.

The sample selection technique used is total sampling, which means that all members of the population are taken as samples for research. In this study, the number of samples taken was 25 respondents consisting of students in grades VIII-2 at SMP Negeri 1 Pancur Batu with early adolescence.

The instrument used for this study is a questionnaire that measures knowledge about risk factors for coronary heart disease, which is compiled based on theoretical studies and relevant literature sources. The questionnaire consists of 15 questions that include an understanding of the importance of maintaining heart health, physical activity, fast food intake, consumption of vegetables and fruits, sugary or fizzy drinks, the impact of exposure to cigarette smoke, healthy sleep patterns, and the use of electronic devices related to heart health. Each correct answer will get a score of 1, while an incorrect answer will get a score of 0. The total scores obtained by participants were then divided into categories of knowledge levels: good (76–100% or 12–15), adequate (56–75% or 9–11), and poor ($\leq 55\%$ or 0–8).

Data collection was carried out by giving questionnaires directly to all respondents after they received an explanation of the research objectives and how to fill out the questionnaire. All respondents participated in the study voluntarily and their identities were kept confidential.

The data that has been collected is then through the process of editing, coding, data input, and data cleaning before analysis. The data analysis process was carried out univariate to explain the distribution of frequency and the percentage of respondents' knowledge about risk factors for coronary heart disease. The results of the analysis are presented in the format of frequency distribution tables and descriptive explanations.

RESULTS AND DISCUSSION

This research was carried out on students in grades VIII-2 of SMP Negeri 1 Pancur Batu with a total of 25 students. Information was obtained through filling out a questionnaire that discussed knowledge about risk factors for coronary heart disease.

Table 1. Characteristics of Respondents by Gender

Gender	n	(%)
Women	10	40%
Male	15	60%
Total	25	100%

According to the table presented, most of the participants were women with a total of 15 people (60%), while men numbered 10 people (40%).

Table 2. Distribution of Respondents' Answers

No.	Statement	Ya	No
1.	I feel that maintaining heart health is not too important because heart disease usually occurs in old people.	3	22
2.	I feel that my body remains healthy even though it is rare exercise or move a lot.	10	15
3.	In one week, I spend more time sitting, playing gadgets, or lying down than I do do sports or physical activity.	12	13
4.	I feel like eating fast food is normal. as long as it tastes good and is easy to get.	12	13
5.	I'm still trying to figure out how to eat fast food even though I know it. These foods are not good if consumed too often.	10	15
6.	I know the benefits of fruits and vegetables, but often Feeling like eating without fruits and vegetables is not a problem.	11	14
7.	In my daily life, I often choose snacks, food instant, or fried instead of fruits and vegetables.	13	12
8.	I feel like a sweet or fizzy drink won't had a bad impact during my young age.	7	18
9.	I often choose sweet or fizzy drinks over water when eating or gathering with friends.	11	14
10.	I know the dangers of cigarette smoke , but feel The impact is not too influential if you only inhale smoke from other people.	4	21
11.	I stay around people who smoke even though The smoke was distracting.	10	15
12.	I feel like sleeping late at night is not a problem as long as can still carry out activities the next day.	11	14
13.	I often cut back on sleep time because of playing gadgets, watching, or other activities at night.	12	13
14.	I feel like I have been using gadgets for a long time is common for teenagers my age.	16	9
15.	I often use gadgets until I forget time so that the time to move, exercise, or rest becomes reduced.	13	12

Table 3 Respondents' Knowledge Levels

Gender	n	(%)
Good	16	60%
Enough	7	28%
Less	2	8%
Total	25	100%

Based on the table shown, the majority of participants had an understanding in the good category of 16 people (64%). There are 7 people (28%) who are in the adequate category, while 2 people (8%) are in the poor category.

The results of the study showed that most of the students in grades VIII-2 of SMP Negeri 1 Pancur Batu had a good level of knowledge about risk factors for coronary heart disease. This can be seen from the majority of respondents who obtained scores in the good category. Good knowledge of heart disease risk factors is very important because it can help adolescents implement a healthy lifestyle from an early age.

Most respondents have understood that heart disease does not occur in parents and know that cigarette smoke is harmful to health. In addition, the majority of respondents also understand the importance of maintaining a healthy body through a healthy lifestyle. However, there are still some behaviors that are risky to heart health, such as lack of exercise, frequent consumption of fast food, sugary drinks, late night's sleep, and excessive use of gadgets.

The findings of this study are in line with research conducted by Yuliaji Siswanto and Ita Puji Lestari (2020) which revealed that many adolescents have an adequate understanding of non-communicable diseases and behavioral risk factors. However, there are still unhealthy behaviors among adolescents, such as lack of

physical activity and an unhealthy diet. This study also shows that knowledge level can have a major effect on an individual's health behavior (9).

The results of this study are in line with the findings obtained by Rachmawati et al (2024) which revealed that understanding diet is related to the risk of heart disease among adolescents. The study states that adolescents who have minimal understanding tend to show unhealthy eating habits, such as choosing fast food more often and consuming less fruits and vegetables. Similar findings were also seen in this study, where there were still respondents who preferred snacks, fried foods, and sugary drinks to healthy foods (10).

In addition, this study is also in line with research by Ii Solihah and Amelia Arnis (2021) which discusses health education on the control of risk factors for heart disease among adolescents. The research revealed that health education can increase adolescents' understanding of heart disease risk factors and the importance of implementing a healthy lifestyle from a young age. In this study, it was also found that students who have good knowledge tend to be more aware of the importance of maintaining a diet, doing physical activity, and avoiding exposure to cigarette smoke (11).

The use of electronic devices too much is also one of the behaviors that are common among participants. Some students argued that excessive use of these devices is normal, and a number of respondents admitted that they often sacrifice their breaks in order to play with gadgets. This habit can result in reduced physical activity as well as problems with sleep patterns, which can ultimately affect physical health in the long run.

In general, the findings of the study indicate that students' understanding of risk factors for coronary heart disease is adequate, but the implementation of a healthy lifestyle still needs improvement. Therefore, there is a need for regular health education programs in schools that explain the importance of physical activity, a good diet, enough sleep, and reducing the use of gadgets to reduce the risk of heart disease since adolescence.

CONCLUSION

Based on research on understanding of risk factors for coronary heart disease among students in grades VIII-2 of SMP Negeri 1 Pancur Batu, it can be concluded that the majority of respondents have a good understanding of risk factors for coronary heart disease. Of the 25 respondents, 16 students (64%) were in the good understanding category, 7 students (28%) were in the sufficient category, and 2 students (8%) were in the poor category.

The results of the study revealed that most students have realized the importance of maintaining heart health, knowing the risks of cigarette smoke, and understanding that coronary heart disease does not only affect the elderly. Even so, there are still some habits that have the potential to increase the risk of coronary heart disease, such as lack of physical activity, frequent consumption of fast food and sugary drinks, irregular sleep patterns, and excessive use of electronic devices.

Coroners can be said to be adequate, but the application of healthy behavior still needs to be improved. Therefore, regular health education is needed in the educational environment regarding the significance of exercising, adopting a healthy diet, getting enough rest, avoiding exposure to cigarette smoke, and limiting time using electronic devices. This aims to enable students to practice a healthy lifestyle since adolescence as a preventive measure for coronary heart disease in the future.

SUGGESTION

Based on the results of the research, schools are expected to increase health education activities on a regular basis regarding risk factors for coronary heart disease and the implementation of a healthy lifestyle. The education needs to focus on the importance of regular physical activity, consumption of balanced nutritious food, adequate rest, avoiding exposure to cigarette smoke, and limiting the use of electronic devices. With continuous educational efforts, it is hoped that the knowledge that students already have can be followed by healthier behavior changes so that it can help prevent the occurrence of coronary heart disease in the future.

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