

Description of Knowledge, Behavior of Vegetable and Fruit Consumption, and Nutritional Status in Class X Students in Public High School 1 Porong Sidoarjo

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ABSTRACT

In Indonesia, according to the 2018 Basic Health Research report, the majority of the population above the age of 5, which is around 95.5%, still consumes vegetables and fruits below the recommend levels. When a person's knowledge and behavior are not optimal, then they will have difficulty maintaining the balance of food intake they consume. The purpose of the study was to determine the description of knowledge, fruit vegetable consumption behavior and nutritional status in class X students at SMA Negeri 1 Porong. This was a descriptive study. The Sampling method used was simple random sampling with a total samples size of 40 people. The results showed that the knowledge level of respondents in the poor category was 18 adolescents and in the good category was 11 adolescents. Most adolescents (34) exhibited poor vegetable consumption behavior, while the majority (21) demonstrated good fruit consumption behavior. The nutritional status of most respondents had good nutritional status as many as 25 adolescents. In Conclusion, adolescents in SMA Negeri 1 Porong have knowledge about vegetables and fruits in the poor category, poor vegetable consumption behavior, good fruit consumption behavior and good nutritional status.

INTRODUCTION

A person's nutritional knowledge influences their attitudes and behaviors when making food choices, which in turn affects their nutritional condition¹. One can expect better nutritional conditions in those who have a higher level of nutritional knowledge². Deep *Theory of Planned Behavior* (TPB), intention is a factor that affects a person's eating consumption behavior³. There are several aspects that affect the behavior of vegetable and fruit consumption including mass media exposure and the availability of vegetables and fruits at home⁴. By conducting repeated nutrition education, it can increase children's knowledge and behavior in consuming fruits and vegetables⁵. Food consumption plays an important role in determining a person's nutritional status. The nutritional status of underfed adolescents is worse. This can happen because the body needs nutrients from animal foods, plants, carbohydrates, and vegetables to be in good health and function properly^{6,7}.

Based on a 2018 Basic Health Research report, about 95.5% of the population over the age of five still consume fewer vegetables and fruits than recommended⁸. In East Java, around 93.94% of the population aged five years and above and around 91.44% of the population of Sidoarjo Regency

who are still consuming vegetables and fruits are under the recommendation⁹. The intake of vegetables and fruits is very low in Indonesia, which may be due to a lack of awareness of the health benefits of these foods. This is supported by Farisa's research showing that respondents with a strong understanding of this food consume fruits and vegetables in a good percentage (54.5%). As many as 42% of respondents have poor consumption¹⁰.

The results of a preliminary study at SMA Negeri 1 Porong on 16 students showed that 9 students (56.25%) had sufficient knowledge about the consumption of vegetables and fruits. In terms of behavior, 68.75% of students consume vegetables, while 31.25% of students rarely consume them. Meanwhile, 56.25% of students rarely consume it, mainly because fruit is not available in their homes. Regarding nutritional status, 10 students (62.5%) had good or normal nutritional status, 5 students (31.25%) were overweight, and 1 student (6.5%) was obese.

The purpose of conducting this research is to describe knowledge, fruit and vegetable consumption behavior and nutritional status in grade X students at SMA Negeri 1 Porong.

MATERIALS AND METHODS

This research is an example of descriptive research, which is intended to describe in detail the phenomena that occur in society.¹¹ This descriptive research aims to provide an overview of the knowledge and behavior of fruit vegetable consumption along with nutritional status in class X students at SMA Negeri 1 Porong which was conducted in September 2023 - February 2024. The population in this study involved all X grade students at SMA Negeri 1 Porong which amounted to 396 students. From this population, 40 samples were selected through the Simple Random Sampling technique, which ensures that each individual in the population has an equal opportunity to be selected as a sample. This sample technique uses the formula from Arikunto, 2010 with the formula $(n = 10\% \times N)^{11}$. The sample criteria in this study are students who are active in class X SMA Negeri 1 Porong, have the ability to communicate well, and are willing to participate as respondents. This sample technique uses the formula from Arikunto, 2010 with the formula $(n = 10\% \times N)^{11}$. The sample criteria in this study were students who were active in class X SMA Negeri 1 Porong, had the ability to communicate well, and were willing to participate as respondents. Data collection techniques using primary data and secondary data. Primary data collection methods can be obtained from filling out identity (name, age, gender, and address) and anthropometric measurements including body weight and height. In addition, interviews were also conducted directly with sources using questionnaires and SQ-FFQ forms. The data that has been collected is processed by univariate analysis which aims to see the frequency distribution of each variable.

There is a narrative table used to display the frequency distribution and percentage of the univariate analysis used to study the nature of each variable in detail.

RESULT

The results of this study obtained the characteristics of the respondents, namely gender and age, level of knowledge related to vegetables and fruits, vegetable consumption behavior of respondents along with the nutritional status of SMA Negeri 1 Porong students.

Respondent Characteristics by Gender and Age

Table 1. Distribution of Gender Frequency to Students at SMA Negeri 1 Porong Sidoarjo in 2024

Gender	n	%
Men	15	37.5
Woman	25	62.5
Total	40	100

Source: Primary Data, 2024

Based on table 1, it can be seen that out of 40 students, the majority of students in class X are female, as many as 25 students (62.5%) and 15 students are male (37.5%).

Table 2. Age Frequency Distribution for Students at SMA Negeri 1 Porong Sidoarjo in 2024

Age	n	%
15	14	35
16	24	60
17	2	5
Total	40	100

Source: Primary Data, 2024

According to Table 2 of a total of 40 respondents, the majority of class X students are 16 years old, namely 24 students with a percentage of 60%.

Respondent's Knowledge Level

Table 3. Distribution of Knowledge Frequency to Students at SMA Negeri 1 Porong Sidoarjo in 2024

Knowledge	n	%
Good	11	27.5
Enough	11	27.5
Less	18	45
Total	40	100

Source: Primary Data (2024)

Based on the data listed in table 3, it can be concluded that out of the 40 students who participated, 18 students (45%) had a lack of knowledge.

Vegetable and Fruit Consumption Behavior Level

Table 4. Distribution of Frequency of Vegetable Consumption Behavior among Students at SMA Negeri 1 Porong Sidoarjo in 2024

Vegetable Consumption	n	%
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Behavior		
Good	6	15
Less	34	85
Total	40	100

Source: Primary Data (2024)

Based on the data from table 4, it was concluded that of the 40 adolescents surveyed, the majority had poor behavior in consuming vegetables; As many as 34 teenagers, or about 85%. And on average, each student out of 40 teenagers consumed 118.7 grams of vegetables per day.

Table 5. Distribution of Fruit Consumption Behavior Frequency among Students at SMA Negeri 1 Porong Sidoarjo in 2024

Fruit Consumption Behavior	n	%
Good	21	52.5
Less	19	47.5
Total	40	100

Source: Primary Data (2024)

Based on the data in table 5, it is found that of the 40 students surveyed, the majority have good fruit consumption behavior; A total of 21 students, or around 52.5%. On average, the fruit consumption of each student out of 40 students surveyed was 266.5 grams per day.

Respondent's Nutritional Status Level

Table 6. Distribution of Nutritional Status Frequency to Students at SMA Negeri 1 Porong Sidoarjo in 2024

Nutritional Status	n	%
Malnutrition	0	0
Undernutrition	3	7.5
Good Nutrition	25	62.5
More Nutrition	7	17.5
Obesity	5	12.5
Total	40	100

Source: Primary Data (2024)

Based on the data in table 6, Of the 40 respondents, 25 students had good nutritional status, with a percentage of 62.5%, 7 students had overweight, with a percentage of 17.5%, 5 students were obese, with a percentage of 12.5%, and 3 students had poor nutritional status, with a percentage of 7.5%.

DISCUSSION

Respondent Characteristics

The results showed that the majority of respondents were women, namely 25 adolescents (62.5%) and 16-year-old students (60%), based on research conducted on 40 respondents based

on gender and age characteristics. These students belong to a group of teenagers between the ages of 10 and 24.

Knowledge

The results of the respondents' research on the level of knowledge showed that 18 students (45%) had insufficient knowledge. This is due to the fact that children are not provided with enough knowledge about the health benefits of eating fruits and vegetables, as well as the components that make them up and their importance to the body¹². A person who does not know about fruits and vegetables may be trapped in a repetitive and unbalanced diet, relying on less nutritious and sometimes unhealthy foods^{13, 14}. This is in line with a previous study conducted by Sambe on SMAN 5 Gowa students, which found that 88.5% of students had poor understanding and 11.5% had excellent knowledge¹⁵. Malnutrition can occur as a result of ignorance about diet. The perception of respondents that they have never received counseling or instruction before is the cause of their lack of understanding¹⁶.

Vegetable Consumption Behavior

The results of the measurement in consuming vegetables, there were 34 students with a percentage of 85% who tended to have less behavior. The results of interviews with respondents whose vegetable consumption behavior is included in the "less" category showed that students only ate small portions of vegetables that did not meet their needs and the low consumption of vegetables of respondents was caused by a lack of daily vegetable consumption. Some students even only consume gravy from vegetables. vegetables with only the gravy. In addition, the lack of variety in vegetable processing makes students prefer fast food, sweet foods, and savory dishes over vegetables that have a less appetizing flavor, compared to vegetables that they think have a less appetizing flavor. The home environment continues to have an impact on the purchasing patterns of teenagers. The availability of fruits and vegetables in the home and other aspects of the family environment contribute to other aspects of fruit and vegetable intake that do not meet WHO standards¹⁷. The results of the research conducted by Qibtiyah students in Tangerang found it difficult to eat vegetables because their families often provided fast food such as noodles, nuggets, and sausages³. In addition, some students have food preferences. sausages, nuggets, and noodles This is in line with a previous study conducted by Wulandari which found that 83.9% of students were included in the poor category in terms of vegetable consumption¹⁸. Teenagers' poor eating habits and their dislike for the taste of vegetables are the causes¹⁹. The low consumption of vegetables among students is due to several variables, including peer pressure, parental support, media exposure, knowledge, and preferences^{20, 21}.

Fruit Consumption Behavior

Fruit consumption behavior in 40 resonances, the majority showed fruit consumption in the good category with a total of 21 students (52.5%). Based on the results of interviews with respondents, students who have good fruit eating habits do this because fruit has a delicious and sweet taste both processed and unprocessed. One aspect of choosing food is the availability of food, especially fruit. It can be difficult for a person to like fruit if there is no one around. Another reason why respondents enjoy eating fruit is because their parents enjoy processing fruit at home into snacks such as salads, juices, and desserts¹⁸. But some students have less fruit consumption behavior, because fruit is rarely available at home, they may only eat fruit once a month or once every three months. As a result, their fruit-eating habits become less²². The results of this study are the same as the previous research conducted by by Purwita in Badung, where 56.10 percent of students showed good fruit consumption behavior, because they knew the important benefits of fruit consumption²³. Similar findings were also seen in research conducted by Sari and colleagues in students in the South Coast, where 88% of students showed good fruit consumption behavior because they had healthy eating habits²⁴.

Nutritional Status

The results of the study related to nutritional status stated that out of 40 respondents, 25 students (62.5%) had good nutritional status and 7 students (17.5%) had more nutritional status. The majority of students have a good nutritional status, which may be due to their preference for foods high in macronutrients including fats, proteins, and carbohydrates. In addition, some students are obese and overweight. This is caused by poor eating habits, such as a preference for fast food that is high in fat, salt, and carbohydrates. In addition, there is not enough physical exercise to balance it. Infection disorders and food consumption are two variables that affect nutritional status. Consuming fruits and vegetables are one type of food intake. A person's nutritional status is largely determined by the amount of food they consume²⁵. A healthy diet can guarantee that the body receives the amount of nutrients it needs to maintain its regular functions. This is in line with research conducted by previous researchers, namely Purwita in one of the schools in Badung. Of the 82 students surveyed, 59 showed a percentage of 71.95% good or normal, 3 showed a percentage of 3.66% less, 12 showed a percentage of 14.63% more obese, and 8 showed a percentage of 9.76% obese²³.

CONCLUSION

Based on the analysis of data from 40 samples, from the level of knowledge, most of the students in class X have a low level of knowledge, namely 18 students (45%), while 11 students (27.5%) have a sufficient level of knowledge. Meanwhile, from the level of behavior, a total of 21 students (52.5%) had good vegetable consumption behavior, and 21 students (52.5%) had good fruit consumption behavior, while 19 students (47.5%) had poor fruit consumption behavior. And from the level of nutritional status, 25 students (62.5%) have good nutritional status, 7 students (17.5%) are overnourished, 5 students are obese (12.5%), and 3 students (7.5%) are undernourished.

Based on the results of the study, it is hoped that school institutions can teach students about how to consume vegetables and fruits and knowledge about the topic, for students it is hoped that they can increase the desire to consume vegetables and fruits by applying new habits, such as combining vegetables and fruits with foods they like. Meanwhile, researchers can then focus their research on attitudes and factors that affect the consumption of vegetables and fruits²⁶.

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