Knowledge, attitude, and behaviour about healthy snacks selection with health literacy in primary school students at the rural area

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Abstract. There are many kinds of snacks offered at elementary schools. Snacks that offered or sold in the school area sometimes are not healthy snacks. The aims of this study to conduct the relationship of knowledge, attitude, and behavior about healthy snacks selection with health literacy at elementary school students in rural area. This study used a quantitative method with cross sectional approach. Data analysis used univariate and bivariate analysis using SPSS 22 software. Most of the respondents were 11 years old as many as 31 people (52%). Most respondents as many as 34 people (56.67%) have a high knowledge. Majority of respondents have a positive attitude as many as 60 people (100%), 34 respondents (57%) selected healthy snacks, 60 respondents (53.3%) get health information from the teacher at school. Knowledge, attitudes, and behavior are related to the health literacy of elementary school students in rural areas (p = 0.000). Most students (32 = 53%) have health literacy insufficient. Counseling and discussion about health is needed, especially the selection of healthy snacks for elementary school students by health workers, school teachers, parents and the distribution of health information media, especially print media about the selection of healthy snacks.

1. Introduction

Currently there are various kinds of snacks offered especially at elementary schools. Snacks offered or sold in the school area are not always healthy snacks that have a function for the child's growth and development, but there are many snacks that contain preservatives, artificial coloring, artificial sweeteners, even ingredients that should not be human consumption, especially school children basic that requires nutrition in the stage of growth and development.

Children are the nation's next generation. The quality of the nation in the future is determined by the quality of children today. Efforts to improve the quality of human resources must be made early, systematically and continuously. The optimal development of school-aged children depends on the provision of nutrition with good quality and quantity and correctness. Problems often arise, especially in feeding that is not true and distorted. These deviations cause interference with many organs and body systems of children. Foodborne diseases are a major public health problem in many countries. This disease is not considered a serious disease, so it is often overlooked.

Snack food is food prepared and sold by street vendors on the streets and other public places that are directly eaten or consumed without further processing or preparation. The term food is not far from the term junk food, fast food, and street food because the term is part of the term food snacks [1]. Children need a special attention to select the snacks at school. Because there are many snacks that sold contain preservatives, artificial coloring, artificial sweeteners, also many additional ingredients. Food safety for school snacks need to be given more attention because it plays an important role in the growth and development of school children. Snacks are often the source of poisoning, because these foods are usually the products of the home food industry that cannot guarantee the quality of processed products [1].

Snacks food often contain more carbohydrate elements and contain little protein, vitamins, or
minerals. Due to the incompleteness of nutrition in snacks, then basically snacks may not replace breakfast or lunch. Children who consume a lot of food from their stomach will feel full because of the dense calories that enter the body. While nutrients such as protein, vitamins and minerals are still lacking. The positive impact of the snack food itself can replace the energy lost during activities at school, as for the negative effects of snacks that arise diarrhea and poisoning due to cleanliness is less guaranteed [2].

Snack is a common thing done by children. In one aspect, snacks have positive aspects and in other aspects snacks can also have negative meaning. The range between breakfast and lunch is relatively long so children need additional nutritional intake between the two meals. The selection of snacks is a manifestation of behavior that reflects toward good and bad behavior. Factors that influence the formation of behavior in the form of internal and external factors. Factors that influence behavior are divided into three groups, namely related factors, personal factors related to decision making, and socioeconomic factors [3]. One internal factor that influences behavior is knowledge. This knowledge specifically includes, intelligence, perception, emotions, and motivation from the outside. Education and knowledge are indirect factors that influence one's behavior. Knowledge acquired by a person cannot be separated from education. Knowledge that is supported by adequate education, will instill good habits.

Mothers who have extensive knowledge can choose and give their children to choose good snacks. Nutrition knowledge is also very influential on attitudes and behaviors in choosing food, especially in choosing the right foods, nutritious, balanced and provides the basis for good and right nutritional behavior concerning one's eating habits [3], [4]. One of the results of a study conducted by Setiawan on fifth grade students at Karangasem III Elementary School in Surakarta showed that the level of nutrition was still less than 51, 16% of 43 students and known to many street food sellers both within and around the school and many siseyang buy these snacks. SDN Petung 02, Bangsalsari, is known as SDN which is in the countryside and far from the city. The majority ethnic group is a thick Madurese tribe. This is related to low human resources in areas that are still less accessible to health programs. Evidenced by the large number of parents who only graduated from elementary school and those who did not graduate from elementary school, so it has an impact on the way parents take care in fulfilling nutrition in children and choosing the right food for children.

There are street vendors selling freelyn around the school and they sell behind the school so students easily get the variety of snacks and snacks that they want without seeing the nutritious. Based on the preliminary survey, the researcher wanted to find out whether there was a relationship between children's knowledge, attitudes, and behavior towards the selection of snacks that were related to health literacy children's in choosing healthy snacks.

2. Research Methods

This research used a quantitative methods. This type of research was observacional research with cross sectional approach. The sampling technique used total sampling method with the amount of sample were 60 students. The independent variables of this study are knowledge, attitudes, and behavior, while the dependent variable is health literacy. Data analysis used univariate analysis and bivariate analysis using Chi-square test with SPSS 22 software.

3. Result

The study was conducted on all students who were recorded as class participants in the Respondents. Respondents have a total of 60 students, with details of the number of female students of 30 and 30 male students. The number of samples needed in this study were 60 students. This research was conducted by conducting interviews with 5th grade students using a questionnaire. After conducting interviews with all respondents, the completed questionnaire was recapitulated and then analyzed, and the results were described as follows:

| Table 1. Frequency Distribution of Respondent Characteristics based on Age and Gender |
|-------------------------------------------------|
| No. Characteristics of Respondents | Frequency (n) | Percentage (%) |
|-----------------------------------|---------------|----------------|
| 1 Age 10 years                   | 29            | 48             |
Based on the table 1. It shows that the age distribution of class students, most respondents at the age of 11 years as many as 31 people (52%), and for the results of the sex distribution showed that the amount of sex distribution between male and female are balance as many as 30 people are male and 30 people are female.

Table 2. Frequency Distribution of Respondents’ Knowledge in the Selection of Healthy Snacks

| No. | Knowledge | Frequency (n) | Percentage (%) |
|-----|-----------|---------------|----------------|
| 1   | High      | 34            | 56.67          |
| 2   | Midle     | 23            | 38.33          |
| 3   | Low       | 3             | 5              |
| Total|           | 60            | 100            |

Based on the table 2. It shows that most of the fifth grade students Respondents have high knowledge about the selection of healthy snacks that is 34 people (56.67%) while 3 people (5%) grade V students have low knowledge about the selection of healthy snacks. This means that grade V students have answered questions about choosing healthy snacks correctly as many as 4-5 questions and for class V students who have low knowledge have answered correctly as many as 0-1 questions about choosing healthy snacks.

Table 3. Frequency Distribution of Respondents’ Attitudes in Selection of Healthy Snacks

| No. | Attitude | Frequency (n) | Percentage (%) |
|-----|----------|---------------|----------------|
| 1   | Positive | 60            | 100            |
| 2   | Netral   | 0             | 0              |
| 3   | Negative | 0             | 0              |
| Total|          | 60            | 100            |

Based in the table 3. Can be seen that in class V students the respondents overall have a positive attitude that is as many as 60 people (100%).

Table 4. Frequency Distribution of Respondents’ Behavior in the Selection of Healthy Snacks

| No. | Behavior | Frequency (n) | Percentage (%) |
|-----|----------|---------------|----------------|
| 1   | Good     | 26            | 43             |
| 2   | Midle    | 34            | 57             |
| 3   | Bad      | 0             | 0              |
| Total|          | 60            | 100            |

Based on the table 4. It shows that most of the fifth grade students of Respondents make selection of healthy snacks with enough as many as 34 people (57%) while 26 people (43%) choose healthy snacks well.

Table 5. Frequency Distribution of Information Sources as Health Literacy Respondents in the Selection of Healthy Snacks

| Information Sources | Never | Every Time | 2-3times | >3times |
|---------------------|-------|------------|----------|---------|
| n                   | %     | n          | %        | n       | %       |

3
Based on the table 5. It shows that print media and parents are the source of health information obtained by respondents, as many as 60 people (53.3%) and radio is the source of information health that was never obtained by all respondents. A score of 0 is given if the respondent has never reached a health information source, score 1 if only reaches a health information source once, score 2 if reaches a health information source 2-3 times, and score 3 if reaches a health information source more than three times. The minimum total score is 0 and the maximum score is 24. Then the total score is used to assess the health literacy respondent's. Then the health literacy is respondent's categorized into four categories: not enough (score 0-5), problematic (score 6-11), sufficient (score 12-17), and very good (score 18-24). Distribution of categories is health literacy respondents' presented in table 6 below:

| Health Literacy | Frequency (n) | Percentage (%) |
|-----------------|---------------|----------------|
| Excellent       | 0             | 0              |
| Sufficient      | 1             | 2              |
| Problematic     | 27            | 45             |
| Inadequate      | 32            | 53             |
| Total           | 60            | 100            |

Based on the table 6, it shows that in general 32 people (53%) had health literacy insufficient and 1 person (2%) had health literacy sufficient. No respondent has health literacy very good.

Based on Table 7, the results of statistical tests on knowledge and Health Literacy show the value of \( p = 0.000 \) (< 0.05) which means there is a significant relationship between knowledge and health literacy. Statistical test results on attitude and health literacy show the value of \( p = 0.000 \) (<0.05) which means there is a significant relationship between attitude and health literacy. The results of statistical tests on behavior and health literacy show the value of \( p = 0.000 \) (<0.05) which means there is a significant relationship between behavior and health literacy.
4. Discussion
Community food security means meeting the energy and nutrition of each member of daily food and consumption intake. Failure to meet these requirements leads to malnutrition in the community, which is characterized by the emergence of nutritional problems among vulnerable nutrition groups, such as low weight in infants, malnourished children, including stunting [5]. Based on the results of research conducted obtained poor knowledge related to the selection of healthy snacks as many as 3 people (5%). Then the test results are chi-square obtained ($p=0.000$) which means there is a relationship between knowledge and health literacy of healthy snacks in respondents. This is in line with research conducted by Purtiantini (2010) which shows that there is a relationship between respondents' knowledge and healthy snack selection behavior [6].

The test result of relation between attitude and health literacy is ($p=0.000$) which means there is a relationship between knowledge and health literacy of healthy snacks in the Respondents. Romdiyatin in Maulana (2008) states that ignorance about food ingredients can cause the selection of snacks that are wrong and the lack of nutritional knowledge will cause indifference to certain foods [8].

The test result of relation between behavior and health literacy is ($p=0.000$) which means there is a relationship between behavior and health literacy of healthy snacks in Respondents. This is also in line with Rosa's research (2011) which states that eating behavior in the family must also be considered, eating frequency together in the family, eating a balanced nutritional habits, not getting used to sweet foods or drinks, getting used to eating lots of fruits or vegetables between meal times and so on [9]. In addition to the school environment, families can also form eating habits for children. These eating habits are formed since in the care of parents, especially mothers. Lack of knowledge about the development of children's eating behavior has been studied among mothers. Mothers report experiencing anxiety and stress during breastfeeding [10]. This has an impact on children's improper eating behavior.

Sorensen et al (2012) had shown that health literacy underlies the formation of knowledge, skills and motivation in forming healthy behavior, increasing access to health services, and relate to disease prevention and health promotion [11]. The level of knowledge, skills and motivation formed through health literacy will shape the behavior of access to health services, participation in efforts to improve public health and influence empowerment efforts [12]. The results showed that most students have health literacy insufficient. Students express several obstacles that cause their health literacy has not been good. One of them is counseling about health. According to them health workers in the area of the school environment and where they live is still rarely done health education, especially regarding the selection of healthy snacks.

In addition, health workers have not yet reached the school environment to meet students and teachers to provide health information. The students also hope that they have good health literacy by means of local teachers and health workers more often holding counseling and discussions about health, especially regarding healthy snacks. This is in line with research by Tedjasari et al (2014) which revealed that knowledge about nutritious food from community program actors, such as posyandu cadres and nutrition cadres, and midwives play an important role in efforts to prevent and correct malnutrition in young children, especially from low to middle income groups [5]. Simmich (2009) shows that economic factors can affect a person's ability to obtain health services, so that it can influence someone in understanding, and accessing health information [13]. Research by Ng & Omariba (2010) also shows that there is a relationship between low income and health literacy[14].

5. Conclusion
There is a relationship between behavior and health literacy student's as respondents regarding the selection of healthy snacks. Counseling and discussion about health, especially the selection of healthy snacks are more often held by health workers, school teachers, parents of students and cooperation between the whole. In addition, the distribution of health information media, especially
print media (leaflets and posters) about the selection of healthy snacks and the provision of activities to support Health Literacy such as a reading corner program in each class.

Acknowledgements
The author like to thanks to the General Directorate of Higher Education, The Ministry of Research Technology and Higher Education Republic Indonesia. The Department of Research and Society Empowerment of Jember University is also gratefully acknowledged, and also for the students in primary school of “Petung 02” at Bangsalsari Subdistrict in the Jember District as as the respondent of this research.

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