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BALANCED NUTRITION EDUCATION IN SCHOOL-AGE CHILDREN: A COMMUNITY SERVICE

[1*]Rizqie Putri Novembriani, [2]Nina Rini Suprobo, [3]Elisa Danik Kurniawati, [4]Winny Kirana Hasanah

[1,2,3] Department of Public Health Sciences, Faculty of Sports Science, State University of Malang
[4] Department of Physical Education Health and Recreation, Faculty of Sports Science, State University of Malang

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E-mail:
[1*]rizqie.putri.fik@um.ac.id,
[2]nina.rini.fik@um.ac.id,
[3]elisa.danik.fik@um.ac.id,
[4]winnykirana.fik@um.ac.id

ABSTRACT

Investing in child nutrition is critical to human resource quality because nutrition is a source of future growth, cognitive development, academic performance, and productivity. Nutrition education is one of the efforts to promote a healthy diet for life and should be started as early as possible. This community service activity aims to increase the understanding and awareness of school-age children regarding balanced nutrition. This activity was carried out at the Sobyor Nature School, Tulungrejo Village, Bumiaji District, Batu City, East Java. The results of the activity showed an increase in the knowledge score of the participants after health education was carried out using the method of lectures, discussions, and puzzle games. More community service activities involving parents and schools are expected to expand health education efforts.

1. Introduction

Children are an investment for a country because they will be the generation that determines the quality of the nation in the future. To ensure a quality generation, children must be allowed to grow and develop well. Daily nutrient intake is one factor that influences optimal child growth and development [1]. Malnutrition is still one of the most serious health issues among preschoolers and schoolchildren (6-11 years old) and adolescents (12-18 years old), and it is a major contributor to child mortality in many low- and middle-income countries in the Near East and North Africa region. At the same time, the rapid rise in the prevalence of childhood overweight and obesity is concerning [2].

Anthropometric parameters and indices commonly used to assess children's nutritional status are indicators of Weight According to Age (BB/U), Height According to Age (TB/U), and Body Mass Index by Age (BMI/U). In the Riskesdas report (2018), it is known that the prevalence of nutritional status (TB/U) in children, 7% of boys aged 5-12 years are in the very short category, 17.5% are short, and the rest fall into the normal category. In girls aged 5-12 years, 6.4% of these included very short, 16.4% short, and 77.2% normal. The same report also shows that there is still a high percentage of boys aged 5-12 years who are very thin, thin, obese, and obese, namely 2.8%, 7.3%, 10.4%, and 10.7%, respectively. Meanwhile, 2% of girls aged 5-12 years have very thin nutritional status, 6.2% are thin, 11.2% are obese, and 7.7% are obese [3].

Obesity has been described as a global epidemic by the World Health Organization (WHO) due to its high and increasing prevalence in almost all countries. Obese children are more likely to become obese adults, which increases the risk of developing health complications such as cardiovascular disease and metabolic syndrome, which are the leading causes of death in many countries [2]. Meanwhile, malnutrition in children can result in children becoming weak, easily tired, and having a poor immune system, making them susceptible to illness, all of which have an indirect impact on their learning process at school [1].

The lack of nutrition and health knowledge is one of the causes of low-quality of food consumption, particularly in school-age children [1]. Unhealthy dietary habits such as skipping breakfast, low intake of nutritious foods (such as fruits, vegetables, and milk), high intake of foods high in calories, sugar, and sodium, as well as lack of nutritional knowledge, are the main factors for the high problem of

malnutrition among school-age children and adolescents in most countries [2]. The Indonesian government itself has made efforts to overcome this problem by compiling Balanced Nutrition Guidelines that have received input from experts, across sectors, across programs, and professional organizations [4]. The Balanced Nutrition Guidelines have been introduced and socialized to the community, but people's behavior in terms of balanced nutrition has not been fully achieved. As a result, socialization, counseling, training, counseling, as well as education and balanced nutrition practices, are still required [5]. Therefore, this community service activity aims to increase knowledge about the nutrition of school-age children as an effort to improve the quality of human resources from an early age.

2. Methods

This activity was held on Sunday, December 11, 2022 at 13.00 WIB at the Sobyor Nature School, Batu City. The method of implementing educational activities is a lecture with power point media, discussion, and ends with a game. The targets in this activity are some students at Sobyor Nature School and all of the male sex. Students are divided into four groups of 3-4 students each. The details of the implementation of this activity are as follows:

1. Field survey to analyze the situation and briefly study the characteristics of students at the Sobyor Nature School of Batu City as the target audience.
2. Determination of the timing of the implementation of activities with the Coach of the Sobyor Nature School.
3. Preparation of documents and activity equipment that support community service activities together with all team members.
4. The stages of carrying out activities are as follows:
    a. Before the activity started, pre-test forms were distributed to the audience who attended the community service activity, to measure the level of student knowledge related to school children's nutrition before the counseling was carried out.
    b. The next activity is a discussion related to favorite foods and balanced nutrition.
    c. The activity continued with the presentation of material using power point media regarding various nutrients and examples of food, balanced nutrition, My Plate, and how to choose healthy and clean food.
    d. Discussion session.
    e. Jigsaw puzzle game: My Plate.
    f. Evaluation: Fill out the post-test form by the audience.
    g. Handover a poster of Balanced Nutrition Messages to Sobyor Nature School.

3. Results and Analysis

This community service activity was carried out at the Alam Sobyor School, Batu City. The number of participants involved was 14 children. This activity begins with the preparation, implementation, and evaluation stages. The educational method carried out is by lectures using power points, discussion, and through puzzle games. The material presented was the types of nutrients and their functions, examples of foods that contain each type of nutrient, balanced nutrition, My Plate, and how to choose clean and healthy snacks.

Children of school age (ages 6 to 12) require healthy food and nutritious snacks. They have a stable but slow growth rate and can eat 4 to 5 times a day (including snacks) [6]. My Plate is a food serving guide for every meal. From the visual of the contents of my plate, you can see the recommendation to eat healthily, namely on 1/2 plate consisting of 2/3 staple food and 1/3 side dishes, and on 1/2 part of the plate the rest consists of 2/3 vegetables, 1/3 piece. In addition to information about the proportion of each type of food in a one-meal dish, My Plate also reiterates the pillars of balanced nutrition including the importance of washing hands with soap, doing physical activity 30 (thirty) minutes per day, drinking 8 (eight) glasses of water a day, monitoring weight regularly, and limiting the consumption of sugar, salt, and fat so as to reduce the risk of diabetes and obesity [7].

After the presentation of the material and discussion session, the activity continued with a game to compile the My Plate puzzle. In this game, participants are divided into six groups. This game is given to children to make it easier for them to understand the balanced nutrition material which was explained during the counseling. Before the game begins, a picture of the My Plate is fully shown to the participants. Then, each group should arrange the pieces of the My Plate image and paste them in the space provided. The result is very satisfying because almost any group can solve the puzzle in a

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predetermined time.

After providing education through presentations, discussions, and games, it is known that there is an increase in knowledge scores in the audience. The audience experienced an increase in the pre-test knowledge score, in which at the beginning of the activity 6 children had a good category (42%), average category of 4 children (29%), and a deficient category of 4 children (29%), increasing to 10 children (71%) with good category, 4 children (29%) with average category, and no child with deficient category during post-test. The difference in knowledge scores before and after education can be seen in Figure 1.

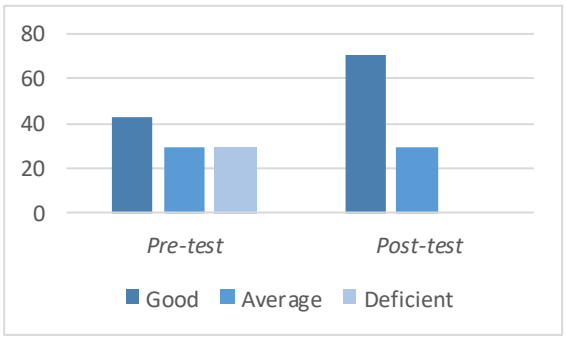

Figure 1. Differences in Knowledge Scores Before and After Education

There are various ways that can be done in order to increase nutritional knowledge in children, one of which is by providing education. Educational activities can be carried out by various methods, for example by lectures and games. This method is both interesting and effective so that it is easily accepted by the child.

The game method was chosen to increase enthusiasm and avoid boredom that can be experienced by participants. The selection of media used also has an impact on increasing the participant's knowledge score on the material presented. This is in line with research conducted by Hikmawati (2016) which states that nutrition education through puzzles can improve students' knowledge, attitudes, and behaviors about balanced nutrition [8]. Other studies have also found that game media makes it easier for participants to understand the material pleasantly [9]. The game is able to give happiness to the child. When the child feels happy, all aspects of the child's development will develop properly, his emotions will be more stable, and he is easier to communicate with [10].

A person's food-related behavior depends on food preferences, level of nutritional knowledge, as well as the type of food available. As they get older, children will make more food choices, so adequate nutritional knowledge and information can make them good agents of change. Encouraging the consumption of nutritious foods means not only educating children about the benefits of a healthy diet, but also harnessing cultural and social aspirations, such as educating families and schools, to change attitudes and practices throughout society [11].

To achieve maximum results in improving healthy eating habits, families play a critical role because they serve as role models for children and can create a supportive environment for children's health [[12]]. A study implemented a program to educate children about how the foods they choose can affect their bodies. The education program runs for six months. The program not only focuses on children, but also covers the family and school environment. As a result, the program successfully reduced the BMI of the children involved. They have been able to make sound decisions about healthy eating and physical activity [13].

According to the Food and Agriculture Organization, schools can contribute significantly to the country's efforts to address food insecurity, poverty, and various types of nutritional problems. Schools are an ideal setting for nutrition programs because nutrition and education are inextricably linked to diet, hygiene, and exercise, all of which influence the formation of nutritional status during the school years, as most eating habits and behavioral patterns are formed during childhood and adolescence [2].

Schools are also ideal for reaching many people, including school staff, families, and communities. Children can be considered enthusiastic and capable communicators with both peers and family, allowing them to communicate the information they learn in school about balanced nutrition to their families and the larger community. They can act as change agents if they are appropriately encouraged and informed. Therefore, schools can play an important role in reaching out to the community and promoting healthy

eating.

Figure 2. Education With Lecture Method and Puzzle Game

Figure 3. Poster Handover to the School

School gardens, school meals, school food and nutrition policies, nutrition education in school curricula, sanitation, and other activities that contribute to improving the health and nutrition of school-age children are examples of food and nutrition interventions in schools [14]. Through all of these interventions, students can improve their diets, develop healthier food practices, and disseminate them to their families and communities.

4. Conclusion

Good nutritional status in school-age children is a national investment because the younger generation holds the key to the country's long-term development. To achieve good nutritional status in school-age children, significant efforts in nutrition fulfillment are required. Balanced nutrition education in children is an example of the effort that can be made to instill a balanced nutritional diet in school-age children.

Improving school-age children's nutrition, knowledge, and healthy dietary practices is an important aspect that requires additional attention, particularly with regard to the integration of nutrition education into the school curriculum, both formal and non-formal schools. Holistic school nutrition programs and policies are key to achieving children's human rights to food, education, and health. Schools can also encourage supporting activities such as school gardens and other agricultural-based activities. In the future, it is hoped that community service activities will also involve parents and schools. The involvement of parents and schools is considered necessary as a form of support and active participation from parents and schools in changing health behaviors.

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