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BALANCED NUTRITION EDUCATION AND NUTRITIONAL STATUS SCREENING OF MALE ADOLESCENTS IN DORMITORY

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ABSTRACT

Introduction: Adolescence is a golden period of reproductive, psychological and intelligence development. During the transition period between childhood and adulthood, biological, emotional, social and cognitive changes occur. Fulfilling nutrition during this period is important. This activity aims to educate teenagers about balanced nutrition and screen their nutritional status.

Methods: This community service activity is carried out by providing education about balanced nutrition through lecture and discussion methods. While screening the nutritional status of adolescents is done through anthropometric measurements of body weight and height. The results of anthropometric measurements were then processed using the BMI formula according to age to obtain a z-score that describes the nutritional status of adolescents. This activity was carried out in dormitory of a high school with 36 young male participants.

Results: Based on verbal observation and evaluation, students can receive and understand the material about balanced nutrition that is given properly. The results of the nutritional status screening showed that 31 of the adolescents in this activity (86%) had good nutrition but there were still students who had problems with thinness (3%), overweight (8%) and obesity (3%).

Conclusion: It is recommended that schools and boarding schools follow up on students who are not in the good nutrition category. Students are directed to consume a balanced diet and physical activity so as to achieve the ideal body weight according to their height and age.

KEYWORDS

adolescents; balanced nutrition; education; nutritional status

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1. INTRODUCTION

Adolescence is a golden period of reproductive, psychological and intelligence development. During the transition period between childhood and adulthood, biological, emotional, social and cognitive changes occur. Physical, emotional and cognitive maturity during adolescence certainly needs to be supported by good internal and external factors. Adolescence is when children begin to find their identity, learn to be independent and socialize more

with their peers and are less dependent on their parents. This condition ultimately becomes an important factor influencing the nutritional status of adolescents. According to 2018 basic health research data, the prevalence of adolescent nutritional status problems is severe thinness: 1.4%, thinness: 6.7%, overweight 9.5% and obese 4% (Kemenkes RI, 2018).

Changes in adolescents include changes in food consumption patterns and behavior, the food and drinks chosen by adolescents will be greatly

influenced by various factors including the influence of friends, for example, parents' consumption patterns, food availability, food choices, costs, beliefs, culture, advertising, and body image. Teenagers are also preoccupied with various daily activities, both academic activities and additional activities and entertainment. Increased activity of course also affects the level of nutritional and fluid intake needs. On the other hand, the many activities that actually cause teenagers to skip meals and choose snacks. Health Law number 36 of 2009 article 136 paragraphs 1 and 2 states that efforts to maintain adolescent health must be aimed at preparing to become adults who are healthy and productive both socially and economically. Efforts to maintain adolescent health, including adolescent reproduction, are carried out so that they are free from health problems that can hinder the ability to lead a healthy reproductive life. To maintain healthy reproduction, efforts to improve nutrition are needed (Suhartini and Ahmad, 2018).

Being away from parents and family certainly makes students more independent, especially in managing habits including food and fluid intake. Adolescents' nutritional status can be influenced by various factors such as eating habits, exposure to social media, and also peers. Bad eating habits as well as exposure to social media and the role of peers can play a role in choosing unhealthy foods (Artadini GM, 2022). Lack of knowledge about nutrition means that teenagers are easily influenced, which can then lead to mistakes in choosing food, thereby increasing the risk of nutritional problems in teenagers. Eating habits during adolescence will have an impact on health in the next phase of life. To be able to go through this development phase well, of course teenagers need to be equipped with sufficient knowledge through education, one of which is the brainstorming method. Brainstorming is a modification of a group discussion method led by a facilitator providing stimulation with stating a

problem, to be then responded to by participants in the form of comments, responses or answers (Tampubolon R, 2020; Munthe NBG et al. 2021). The advantage of this method is that there is more active interaction between participants and instructors, so it can attract participants' focus. Apart from education, regular nutritional status checks are also important in order to detect existing nutritional problems early so that they can be addressed immediately. Therefore, this community service activity provides education to teenagers about balanced nutrition guidelines and nutritional status screening. It is hoped that with good knowledge the adolescent development period can be optimal and this golden phase can be passed well. As well as providing information to the school to follow up on the nutritional status of its students.

2. MATERIAL AND METHODS

This community service activity is carried out face to face involving young men from high school dormitories. The target group for this community service activity is teenage boys, because this group rarely receives special attention regarding their condition and nutritional intake. Implementation of community service activities, namely balanced nutrition education through brainstorming, lectures and interactive discussions with the help of educational media in the form of material displays on LCDs and posters. This method was carried out to increase participants' enthusiasm and explore the extent of their knowledge regarding balanced nutrition. Teenage boys who take part in this activity are allowed to provide responses and questions directly. Apart from education, this activity also assesses nutritional status through anthropometric measurements of body weight and height using digital scales, Bioelectrical impedance analysis and microtoice. Assessment of nutritional status in adolescents is carried out based on the rules in Regulation of the Minister of Health number 2 of 2020, which is seen using the parameter Body Mass

Index according to age. The categorization in this parameter consists of Severe thinness (z-score <-3), thinness (z-score -3 to <-2), Good Nutrition (z-score -2 SD $+1$ SD), Overweight (z-score $>+1$ to $+2$) and Obesity (z-score $>+2$) (Kemenkes RI, 2020).

3. RESULTS

Balanced Nutrition Education

Implementation of balanced nutrition education activities and fluid needs went smoothly according to plan. This activity was attended by approximately 36 students, because there were several students taking exams so they were not in the dormitory. Participants were students aged 15-18 years who attended junior and senior high schools.

Participants were also active in responding to the material presented, as seen from the many questions that continued to be asked until the end of the activity. Some of the questions asked by students related to their experiences and problems related to nutrition and health. For example, complaints about frequent dizziness and pins and needles, is it better to eat before or after exercise, is height just genetic, how to explain people who eat a lot but are still thin, and several other questions. The participants also said that this was the first time they had participated in this nutrition counseling activity so they were very enthusiastic and hoped that there would be more activities like this. At the end of the educational

provision, the presenter also reaffirmed students' understanding of the material verbally. Students are able to answer what is meant by balanced nutrition, what is the "composition of my plate", and the need for fluids for teenagers.

Nutritional Status Assessment

The nutritional status assessment carried out in this community service activity is by measuring height using a microtoise, weighing and body composition using BIA digital scales. The data obtained is then recapitulated and analyzed. The nutritional status parameter used is Body Mass Index according to age according to the anthropometric rules for children contained in Permenkes number 2 of 2020. In addition, the body composition that is seen is the percentage of body fluids and muscles to then be compared with standard values.

Based on the results of the recapitulation of the nutritional status of the community service participants (figure 4), it is known that out of 36 students who took measurements, 1 (3%) student was thinness, three (8%) students were overweight, one (3%) student was obese, and thirty one (86%) students with good nutritional status. While the results of body composition measurements were only carried out on 30 students, the result was that all students had good body fluid composition, namely optimal hydration with a body fluid percentage greater than 60.5%, and normal muscle composition



Figure 1. Implementation of balanced nutrition education



Figure 2. Discussion



Figure 3. Anthropometric Measurements

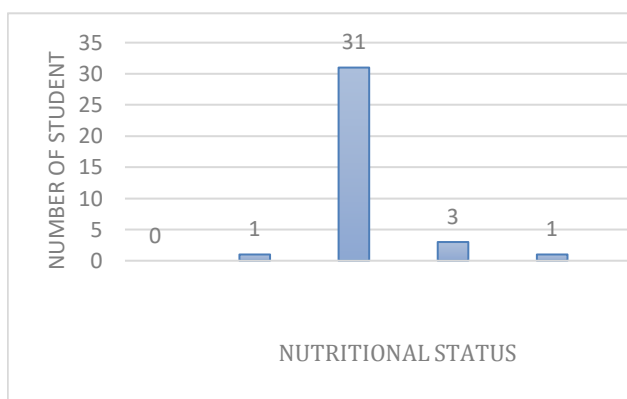


Figure 4. Recapitulation of the Nutritional Status

above 40%. The results of the student's nutritional status assessment will then be reported to the dormitory to be forwarded to the school. So that it can be followed up, especially for malnutrition students so that nutritional intake and other health factors are better monitored.

4. DISCUSSION

According to 2018 Basic Health Research (Riskesmas) data regarding the nutritional status of Indonesian adolescents aged 16-18 years based on the BMI index according to age, there were 8.1% of adolescents with underweight nutritional status (1.4% very thin and 6.7% thin), the prevalence of Nutritional Status normal for adolescents is 78.3%, while for overnutrition problems it is 13.5% (9.5% fat and 4.0% obese). In line with this, Aceh Province data shows the prevalence status of adolescents aged 16-18 years, including very thin 1.34%, thin 4.73%, normal 79.03%, obese 11.40% and obese 3.50% (Kemenkes RI, 2018).

The nutritional status of adolescents is a description of the condition of the adolescent's body which is the result of a balance of nutrient intake and energy expenditure (Khoerunisa D and Istianah I, 2021). Adolescence with high activity certainly requires adequate nutritional intake, not only in quantity but also in quality. Balanced Nutrition Guidelines (PGS) is a guideline that contains daily food composition that contains nutrients in the type and amount according to needs. PGS upholds four pillars related to nutritional behavior to be implemented every day. The four pillars of balanced nutrition are consumption variety of foods, clean and healthy living behavior (PHBS), do physical activity, and maintain regular body weight to maintain normal body weight (Sirajuddin et al., 2019). Guidelines for adolescent nutrition according to the principles of balanced nutrition certainly need to be introduced to adolescents from an early age so that good eating habits are formed.

Nutritional conditions during adolescence will have an impact on a person's health condition into adulthood. Adolescents with more nutritional status have a risk of obesity and degenerative diseases in adulthood (Suha GR and Rosyada A, 2022). Vice versa, malnutrition in adolescence will also affect the quality of a person's health, susceptibility to infectious diseases due to a low immune system. Therefore, the problem of undernutrition or excess in adolescents must be addressed immediately to prevent this. Based on the results of this activity, there were 5 students who had incorrect nutritional status, either undernutrition or overnutrition. There are many factors that can influence the nutritional status of adolescents both internally and externally. Internal factors include knowledge, attitudes and eating behavior, health conditions and genetics, while external factors include activity, the socio-cultural, environment, and economic (Febriani RT, 2019; Indrasari OR and Sutikno E, 2020). This information is conveyed to the dormitory management and also

the school so that they can immediately receive treatment and improve the diet and lifestyle of teenagers whose nutritional problems are identified.

5. CONCLUSION

The results of the nutritional status screening showed that most of the adolescents in this activity had good nutrition but there were still students who had problems with undernutrition, overweight and obesity. It is recommended that schools and boarding schools follow up on students who are not in the good nutrition category. Students are directed to consume a balanced diet and physical activity so as to achieve the ideal body weight according to their height and age.

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