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The Optimal Nutrition Education for Adolescents at Al Kautsar Junior High School Kartasura

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ABSTRACT

Adolescents tend to have poor eating habits that lead to nutritional deficiencies that make them vulnerable to current and future health problems, such as decreased concentration in learning, decreased productivity, and increased risk of comorbidities when they become adults. Teenagers have poor eating behaviors such as consuming foods that are not in accordance with food guidelines, consuming fast food, high-fat foods, sweet drinks, skipping breakfast, and rarely consuming vegetables and fruit. This behavior can be caused by low knowledge, peer influence, parents, increasing fast food centers, mass media and body image. Providing education is very important in increasing the knowledge of adolescents. The purpose of providing this education is to increase the knowledge and awareness of adolescents about the importance of implementing optimal nutrition as an effort to prevent nutritional problems in adolescents.
Nutrition optimal education activities for SMP Special Program (PK) Al Kautsar, Junior High School students went well and smoothly according to the schedule. Participants enthusiastically took part in a series of nutrition education activities through animated videos, as well as actively participated in question and answer discussions. This activity received full support from the school to fill in the mentoring activities that are routinely held at PK Al Kautsar Middle School. Nutrition education with optimal nutrition material for adolescents can increase adolescent knowledge by 10.78 points, with an average value of knowledge before being given education of 59.2 and an average value of knowledge after being given education of 70. It is hoped that by increasing knowledge it will improve adolescent food consumption patterns so that good nutritional status can be achieved.

Keywords: Adolescents, Education, Eating Behavior.

1. Introduction

Adolescence is a critical period in life, because physical and psychological changes occur in a short time. Adolescents will experience puberty hormonal changes in regulating appetite, satiety, body fat distribution, and increasingly asserting independence from parents which will affect their eating behavior. Irregular eating behavior results in nutritional deficiencies so that they are vulnerable to health problems in the present and future (Diethelm et al., 2014) the main objective of which is to obtain comparable data on a variety of nutritional and health-related parameters in adolescents aged 12.5-17.5 years. Setting Eight cities in Europe. Subjects The initial sample consisted of 3528 European adolescents. Among these, 1,590 adolescents (54% female) were female. The 2018 Basic Health Research (Riskesdas) data shows that overnutrition among adolescents reached 19.5%, an increase of 1.4% compared to 18.1% in 2013. The prevalence of underweight remains quite high at 16.8% (Ministry of Health, 2018).

Nutritional problems that occur during adolescence are characterized by increased energy and nutrient needs, as well as changes in dietary habits. The increasing prevalence of obesity in adolescents is caused by the consumption of high-fat foods and decreased physical activity, especially among urban adolescents. These nutritional problems will lead to various health problems such as decreased concentration in learning, decreased physical fitness that will affect productivity, and will increase the risk of comorbidities in adulthood such as cardiovascular disease, hypertension, hyperlipidemia, type 2 diabetes, and certain cancers (Moreno et al., 2014).

In addition to genetic factors, eating behavior and lifestyle are also major determinants of nutritional problems. Eating behavior in adolescents is influenced by various factors such as lack of knowledge, peer influence, food availability, parental influence, food preferences, and increasing Fast food centers, beliefs, mass media, and body image (Das et al., 2017) Adolescence is divided into three developmental periods: early adolescence (10–14 years of age. The results of the study stated that eating behaviors that can cause weight gain are consuming foods that do not comply with food guidelines, as well as tending to consume fast food, high-fat foods, sweet drinks, skipping breakfast, and often consuming outside food compared to home-cooked food, as well as a lack of consumption of vegetables and fruit. Physical activity also contributes to weight gain, when at home children spend more time on sedentary activities such as watching television and other electronic media. These activities become entertainment for teenagers compared to doing physical activities or exercising (Hills et al., 2011). Studies in Ethiopia show that factors that influence the incidence of wasting and stunting include menstrual status, food availability/food insecurity, and the availability of latrines (Hadush et al., 2021). They have been considered as a low-risk group for poor health and nutrition problems than the young children or the very old. This study aimed to assess the prevalence of nutritional status and associated factors among Adolescent girls in Afar, Northeastern Ethiopia, 2017. Methods: A school-based cross-sectional study design was conducted among 736 adolescent girls from February 15 to March 5, 2017, in Afar, Northeastern Ethiopia. Multi-stage sampling technique was used to select study participants. A pretested and structured interviewer-administered questionnaire and anthropometric measurements were used to collect the data. The collected data were entered into Epi Data version 3.1 and exported to SPSS version 20.0 for further statistical analysis. Body Mass Index for age (thinness.

Nutrition education is one effort to improve adolescent eating behavior, because someone with good nutrition knowledge tends to follow healthy eating behaviors. Eating behaviors formed in adolescence tend to continue into adulthood. Research (Raikar

et al., 2020) states that a lack of knowledge about the nutritional value of various food groups is a major contributor to nutritional problems in developing countries, because nutritional knowledge provides adolescents with the provision to choose healthy foods and understand that food is related Nutrition and health are closely linked. Nutrition is a crucial factor in determining the level of health, both physical and mental development. Optimally meeting nutritional needs will achieve a normal nutritional state. Optimal nutritional adequacy plays a role in growth, psychological and sexual maturity, and cognitive development (Salem & Said, 2018). Nutritional and health issues in adolescents can certainly disrupt their productivity and academic achievement. Both overnutrition and undernutrition are still

2. Method

Community service activities were carried out at the Al Kautsar Kartasura Special Program (PK) Middle School. Health education was provided to adolescents about optimal nutrition, aimed at increasing their knowledge and awareness of the importance of implementing optimal nutrition. The methods used were lectures, posters, and animated videos about optimal nutrition for adolescents. The target group for this activity was 39 7th grade adolescents. The material presented regarding the concept of optimal nutrition included the 4 pillars of balanced nutrition and 10 messages of balanced nutrition, as well as the concept of "isi piringku" (my plate) for adolescents. The educational activities were carried out using media that was attractive to adolescents. The activity lasted for 1 hour, beginning with a pretest and ending with a posttest to determine the increase in knowledge after being given the nutritional education material. In addition, there were discussion and question and answer sessions to help adolescents better understand the material presented. The enthusiasm of the participants was quite good, with questions about optimal nutrition and the concept of "isi piringku" (my plate) was quite good.

3. Results and Discussion

Adolescence is a period of development that begins at puberty and ends in adulthood. Adolescents experience hormonal changes during puberty, which influence their eating behavior. Currently, adolescents tend to spend more time outside the home, so they consume more food, such as fast food, than home-cooked meals. This eating behavior can lead to nutritional deficiencies, which can lead to various health problems, including reduced concentration in school, decreased physical fitness, which can impact productivity, and increased risk of comorbidities in adulthood. Besides food intake, adolescents' nutritional status is also influenced by physical activity.

Currently, a sedentary culture/low physical activity has become a trend among adolescents due to advances in information technology. Adolescents are more likely to be inactive (known as "mager"). This lack of physical activity results in reduced energy expenditure. Nutrient intake increases, but energy expenditure decreases, leading to obesity/overweight among adolescents. Besides obesity, there is also the problem of malnutrition in adolescents, especially those who consume less than their daily needs and who lack a varied diet. A nutrition education program with the theme of optimal nutrition was held on Friday, September 16, 2022, at Al Kautsar Junior High School, Kartasura. The time and location were chosen to align with the school's schedule, which is Friday, as there are no classes scheduled on that day but are instead filled with mentoring activities. Therefore, the extension team conducted the educational program during that time as a mentoring activity at Al Kautsar Junior High School, providing nutrition education to students.

The educational process lasted almost an hour, using animated videos containing optimal nutrition for adolescents and a question-and-answer discussion. Participants were also given a pre-test questionnaire to

complete before the presentation and a post-test questionnaire after the presentation.

Table 1. Schedule of Activities

Time	Schedule of Activities
08.00 - 08.05	Opening
08.05 - 08.15	Pretest Implementation
08.15 - 08.25	Provision of Materials
08.25 - 08.40	Q&A Discussion
08.40 - 08.50	Posttest Implementation
08.50 - 08.55	Closing

Figure 1. Training Participants

The educational material focused on the four pillars of balanced nutrition and the ten key messages of balanced nutrition to achieve a healthy and optimal life, as well as to increase productivity and improve student achievement. Following the presentation, a question-and-answer session was held to help students deepen their understanding. Students were enthusiastic and actively participated in the discussion and Q&A session, asking several questions.

The target group for this educational activity was 39 seventh-grade students at SMP PK Al Kautsar Kartasura. Participants were selected based on the potential for adolescents to suffer from nutritional problems caused by unhealthy lifestyles such as overeating, fast food/junk food consumption, lack of physical activity, and staying up late.

The activity proceeded smoothly and satisfactorily according to schedule. All participants completed the pretest and posttest questionnaires and participated in the nutrition education program using animated videos. Participants also actively participated in the question-and-answer session. In addition to evaluating the educational process, the output was also evaluated using a pretest and posttest. The pretest and posttest aimed to determine the level of improvement in adolescents' knowledge and understanding of the material before and after participating in the nutrition education program. The results of the pretest and posttest are shown in Table 2 below.

Table 2. Pretest and Posttest Scores of Optimal Nutrition Education Participants

Numb.	Name	Pretest	Posttest	Improvement
1	AFR	60	80	20
2	AH	70	90	20
3	AKB	40	40	0
4	AKH	40	40	0
5	ALT	60	60	0
6	ALV	60	80	20
7	ARS	70	70	0
8	ATH	50	50	0
9	AI	60	60	0
10	AS	50	80	30
11	CA	60	70	10
12	DA	60	70	10
13	DAL	40	50	10
14	DP	50	50	0
15	EA	70	70	0
16	GA	70	70	0
17	HA	40	50	10
18	IZ	70	80	10
19	IL	50	60	10
20	IRN	60	70	10
21	MDI	60	90	30
22	MFD	60	80	20
23	MFR	60	80	20
24	MFA	50	70	20

Numb.	Name	Pretest	Posttest	Improvement
25	MI	50	70	20
26	MK	70	80	10
27	MN	60	70	10
28	MIF	70	80	10
29	NA	60	80	20
30	NAR	50	60	10
31	NAM	60	70	10
32	NAW	60	80	20
33	RA	70	70	0
34	REY	70	80	10
35	RIC	70	90	20
36	RFQ	70	80	10
37	SA	80	80	0
38	WF	50	60	10
39	YS	60	70	10
Rata-rata		59.23077	70	10.76923

The evaluation of the educational activities showed an increase in adolescents' knowledge about optimal nutrition, with an average score of 10.78 points, with an average score before the education session of 59.2 and a score after the education session of 70. This increase in knowledge indicates that animated video media is quite effective in increasing student knowledge. This increased knowledge is expected to shape adolescents' behavior in adopting a healthy lifestyle in accordance with the material presented, thus optimal growth and development in adolescents. The pre- and post-test results revealed that 11 participants did not experience an increase in knowledge after the nutrition education session. Therefore, the educational process or presentation of animated video media needs to be repeated to ensure the material is better understood and remembered by participants.

Furthermore, based on the post-test results, there were questions that were still answered incorrectly by the majority of participants, such as those on protein sources, the concept of "fill my plate," and the recommended maximum daily sugar intake. Therefore, future education sessions should emphasize these topics to ensure better understanding by participants.

The results of research on communication, information and education in Tasik Malaya, show that counseling and screening of film media can increase the knowledge of target female adolescents at At Taufik Junior High School and Ibnu Siena Junior High School Tasik Malaya, the results of the pre-test and post-test of female adolescents experienced an increase in knowledge of 100%. Likewise, the results of the examination with Hb levels showed that 32% of adolescents at At Taufik Junior High School and 41% of adolescents at Ibnu Siena Junior High School experienced anemia (Saragih et al., 2018). Education about balanced nutrition for adolescents in Bedingin Wetan Village can significantly increase knowledge about balanced nutrition (Ramadhani & Khofifah, 2021).

Figure 2. Question and Answer Discussion Process

The results showed that the community service activities focused on optimal nutrition at SMP PK Al Kautsar Kartaasura were beneficial in increasing students' knowledge of the importance of optimal nutrition. The school hopes that similar community service activities can be implemented continuously, with materials tailored to students' needs.

Research in Semanggi Pasar Kliwon District found an increase in knowledge about balanced nutrition among mothers of undernourished toddlers, both using booklets and lectures without media (Pratiwi

& Puspitasari, 2017). Similarly, research in Baluwarti, Surakarta City, found an increase in knowledge about balanced nutrition among elementary school students using flashcards (Maslakah & Setiyaningrum, 2017).

4. Conclusion and Suggestions

Conclusion

Optimal nutrition education activities for adolescents at SMP PK Al Kautsar Kartasura went well and smoothly according to the activity schedule. Participants were enthusiastic in participating in educational activities using animated video media, participants also played an active role in filling out pretest and posttest questionnaires as well as question and answer discussions. Nutrition education with optimal nutrition material for adolescents resulted in an increase in knowledge with an average of 10.78 points, with an average pretest score of 59.2 and an average posttest score of 70. This education is expected to improve adolescents' eating patterns and lifestyles so they can maintain normal body weight and improve student learning concentration and academic achievement.

Sugestions

In accordance with the ongoing nutritional education process, nutritional education activities need to be carried out repeatedly and emphasize certain materials so that the material is better understood and remembered so that all participants experience increased knowledge and understanding.

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