

ISSN 2597- 6052DOI: <https://doi.org/10.56338/mppki.v7i10.5982>**MPPKI****Media Publikasi Promosi Kesehatan Indonesia**
*The Indonesian Journal of Health Promotion***Research Articles****Open Access****Balanced Nutrition Education with Animated Video Media and Smart Plate Practice on Increasing Knowledge of Students of SMPN 3 Hamparan Perak****Riana Fraulein Simamora^{1*}, Bina Melvia Girsang²**¹Mahasiswa Program Studi Ilmu Keperawatan Universitas Sumatera Utara | rianafraulein610@gmail.com²Dosen Program Studi Ilmu Keperawatan Universitas Sumatera Utara | binamelvia@usu.ac.id* Corresponding Author: rianafraulein610@gmail.com**ABSTRACT**

Introduction: Adolescence is the period when nutritional problems are most likely to occur because the growth and development of the body accelerates and requires more energy. In addition, adolescents prefer to follow changes in lifestyle and diet that are not necessarily healthy, causing various nutritional problems.

Objective: This education is carried out to encourage students to make positive knowledge changes in accordance with a balanced diet during adolescence. Educational activities were carried out in the classroom which were attended by 60 students of class VIII of SMPN 3 Hamparan Perak.

Method: This research method is a survey research design using Pre-Post Test Design. The subjects in this study were students of SMPN 3 Hamparan Perak class VIII in Tandam Hulu I Village. The sampling method used purposive sampling technique with a sample size of 60 respondents. Data collection was obtained using a questionnaire. Questionnaire filling is done 2 times, namely filling out the pre and post test questionnaires.

Result: The results of the analysis using the Paired Sample T Test showed that the average value of student knowledge before counseling was 12.02 and after counseling increased to 12.25. The test results show that there is an increase in students' knowledge about balanced nutrition with an interesting and effective method to help understand the concept of nutrition so as to make students more concerned about what they eat.

Conclusion: There is an effect of balanced nutrition education using animated video media and smart plate practice on increasing the knowledge of SMPN 3 Hamparan Perak students.

Keywords: Teenagers; Education; Balanced Nutrition

INTRODUCTION

An epidemiologic transition is currently taking place in almost all developing countries, including Indonesia with an increase in the prevalence of non-communicable diseases (NCDs). Heart disease, cancer, chronic respiratory disease and diabetes are the four major non-communicable diseases in the world. Based on the WHO report (2023) states that non-communicable diseases (NCDs) account for 41 million annual deaths worldwide 74% of all deaths.

The majority of NCD-related deaths (17.9 million per year) are due to cardiovascular disease, followed by cancer (9.3 million), chronic respiratory disease (4.1 million) and diabetes (2.0 million, including kidney disease-related deaths). More than 80 percent of all NCD-related premature deaths are caused by these four disease categories. Many factors, such as population aging, rapid and unplanned urbanization, and the globalization of unhealthy lifestyles, contribute to the development of these diseases. Obesity, high blood pressure, elevated blood lipids, and elevated blood glucose are symptoms of poor diet and inactivity (1).

Adolescence is the transitional period from childhood to adulthood, which usually begins at puberty. It is an important phase in life characterized by biological, psychological, emotional, and social changes (2). During adolescence, healthy nutrition is essential to achieve optimal growth and development. Playing outdoors, being active in sports, and being exposed to diseases are signs of healthy school-age adolescents. Adolescents must maintain a balanced nutritional intake to avoid various nutritional problems, such as malnutrition (lack of protein and energy), anemia, iron deficiency, vitamin A deficiency, and iodine deficiency (3).

Dietary behavior is the most important factor that can affect a person's nutritional status. This is due to the fact that the amount and quality of food consumed is not balanced between the food intake required to meet the body's needs. A healthy diet will result in a normal or healthy weight, prevent infections, increase productivity, and protect the body from disease and premature death (4).

Data shows that the prevalence of nutritional status (IMT/U) in early adolescents is 2.8%, with overweight or obesity at 27.2%. (Indonesian Ministry of Health, 2018). Labuhan Batu City has the highest prevalence of Nutritional Status (IMT/U) in adolescents in North Sumatra Province, with 15.63% incidence of overweight, overweight, and obesity, with a very thin prevalence of 0.56%. Deli Serdang Regency had a prevalence of overweight of 36.20% and a prevalence of very thin of 1.37%.

Through the implementation of a balanced diet, various causes of nutritional disorders can be prevented and overcome. However, the 2018 Riskesdas results show that around 96.45% of adolescents consume less vegetables and fruits. In addition, it was found that 43.8% of adolescents consumed fatty foods more than once every day, and that there was an increase in sugar and salt consumption. About 42.7% of the population adopted clean and healthy living behaviors, such as new hand washing, and about 49.6% of adolescents lacked exercise (5).

The very broad process of changing behavior so that a person can adopt good eating habits in daily life is called education. The WHO states that the main goal of nutrition education is to promote positive behavior change related to food and nutrition. This includes providing information on balanced nutrition as a guideline for eating, exercising, living clean and maintaining a normal weight. To achieve this goal, appropriate nutrition education is required. In order for nutrition education to be well-received by its targets, effective and efficient media are needed (6).

In an effort to optimize the delivery of Balanced Nutrition messages to students, appropriate communication, information and education are needed. The KKNT DS-23 team also conducted educational activities through educational videos and demonstrations of the practice of Fill My Plate in fulfilling balanced nutrition for one meal.

The objectives of the community service activity program carried out are: 1) Improving nutritional knowledge: teaching students about the importance of a balanced diet and the nutrients necessary for healthy growth and development. 2) Understanding the concept of Contents of My Plate: helps students understand the concept of contents of my plate by using the smart nutrition plate as a guide when eating. 3) Improving the ability to choose healthy foods: provides students with skills in choosing healthy foods, including identifying foods that fall into the groups of carbohydrates, proteins, vegetables, fruits, and fats. 4) Increase health awareness: helps students understand that a balanced diet contributes to their physical and mental health. 5) Encouraging healthy eating behavior: encouraging students to apply their knowledge in practice, i.e. in the selection and measurement of food portions during meals. 6) Reduce the risk of nutritional problems: reduce the risk of nutritional problems such as obesity or undernutrition in students by improving their understanding of body mass index calculation. 7) Changing eating habits: helping students to change their eating habits and choose healthier foods consistently with the checklist in the balanced nutrition pocket book.

METHOD

This research method is a survey research design using Pre-Post Test Design. The subjects in this study were students of SMPN 3 Hampan Perak class VIII in Tandam Hulu I Village. The sampling method used purposive sampling technique with a sample size of 60 respondents. Data collection was obtained using a questionnaire. Questionnaire filling is done 2 times, namely filling out the pre and post test questionnaires.

This study aims to evaluate the effectiveness of balanced nutrition education through a combination of animated video media and Smart Plate practice on improving student knowledge at SMPN 3 Hamparan Perak. By integrating these two methods, it is expected that students can better understand and apply the principles of balanced nutrition in their daily diet.

Animated videos have the ability to present material in a more interesting and understandable way compared to traditional methods. In addition, a hands-on approach, such as using the Smart Plate concept, can also strengthen students' understanding of balanced nutrition. Piring Pintar is a visual method that illustrates how to arrange daily meals with the right proportions to meet nutritional needs, based on recommendations from the Ministry of Health.

Activity Stages

Community service is carried out in three stages:

Preparation and debriefing, the preparation was to visit an elementary school and ask permission from the school to socialize the importance of Balanced Nutrition education. An internal meeting was held by the KKNT DS-23 team and the preparation of the tools needed to conduct socialization before carrying out the work program.

Activity Implementation, the methods used in this activity include: animation video playback, lectures and demonstrations.

Before getting into the material the KKNT DS-23 team did the first ice breaking by singing and demonstrating the song 4 pillars of balanced nutrition.

The pre-test was given to students who attended counseling containing statements about balanced nutrition. (The results of the pre-test were recapitulated to be a reference regarding the readiness of students before the material provided).

Screening of the animation video that has been made by the DS-23 KKNT team which is 10 minutes long.

Then to clarify in depth, a lecture was held to explain balanced nutrition including the 4 pillars of balanced nutrition, calculation of body mass index (BMI) as well as video playback and real examples were taken for the application of how to calculate (BMI).

Demonstration of filling my plate with appropriate innovation of smart nutrition plate as a reference for one meal. Furthermore, three videos were played to clarify the filling of food in the smart nutrition plate that has been made by the DS-23 KKNT team.

A question-and-answer session given by the KKNT DS-23 team to test students' understanding of the material provided.

Followed by the second ice breaking, namely headbanz games where 2 teams of students are asked to guess the picture cards related to balanced nutrition material then all teams that come forward get a balanced nutrition pocket book.

The post-test was conducted after the counseling event to determine the success of the absorption of the material in students, by observing how much the students' knowledge increased.

Handover of souvenirs to partners in the form of gifts containing balanced pocket books as well as smart nutrition plates and posters.

Documentation attended by the principal, teachers, class VIII students and the DS-23 KKNT team. And providing snacks to class VIII students in the form of honey which was distributed to 60 students.

Report Generation

Community service reports are made to be published in the form of journals.

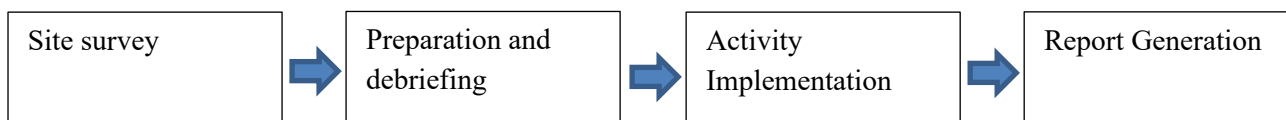


Figure 1. Methods of Implementing Balanced Nutrition Education Activities with Animated Video Media and Smart Plate Practice on Increasing Student Knowledge of SMPN 3 Hamparan Perak

RESULTS

The work program activities of the DS-23 KKNT team with the theme “Balanced Nutrition Education with Animated Video Media and Smart Plate Practice on Increasing the Knowledge of SMPN 3 Hamparan Perak Students” which have been carried out at SMPN 3 Hamparan Perak with a sample of VIII grade students attended by 60 people. The characteristics in this study consist of gender and age. The results of research related to the characteristics of respondents are shown in the table:

Table 1. Frequency Distribution Based on Respondent Characteristics

Variable	Total	
	n	%
Gender		
Male	29	48,3
Female	31	51,7
Age		
13 Years	45	75
14 Years	14	23,3
15 Years	1	1,7

The results showed male respondents (48.3%) and female respondents (51.7%). Respondents who attended counseling were 13 years old (75%), 14 years old (23.3%), and 15 years old (1.7%).

The implementation of the activity began with the introduction of the DS-23 KKNT team members. Then ice breaking was done first for about \pm 5 minutes. During ice breaking, students were very enthusiastic about following the movements and songs of the 4 pillars of balanced nutrition guided by the team. The spirit of the students has been collected, then the distribution of pre-tests to test knowledge before education is carried out. The animation video that has been made by the team is displayed on the projector screen with a duration of \pm 9 minutes. Furthermore, to make it clearer from the animated video, the team conducted a lecture with additional material using powerpoint so that students understand more.

A demonstration of the contents of my plate using the appropriate innovation of this smart nutrition plate as a reference for one meal and a video of filling the plate was also shown. After all the material was delivered, the second ice breaking was done by doing headbanz games divided into 2 groups to guess the cards given. The first group tried to give clues to the guessing group according to the card given by the team. Students look very competitive and happy to do demonstrations as well as guessing. Both groups also received a balanced nutrition pocket book for participating in the game.

Furthermore, a post test was conducted to test students' knowledge after being given material as a reference for their understanding of the educational activities that had been carried out. Closing the activity, the KKNT DS-23 team handed over souvenirs, documentation with the school academic community and finally distributed snacks in the form of honey sachets to students who had attended the counseling.



Persiapan



Perkenalan

Ice breaking:
Menyanyikan 4 Pilar Gizi Seimbang

Pre test

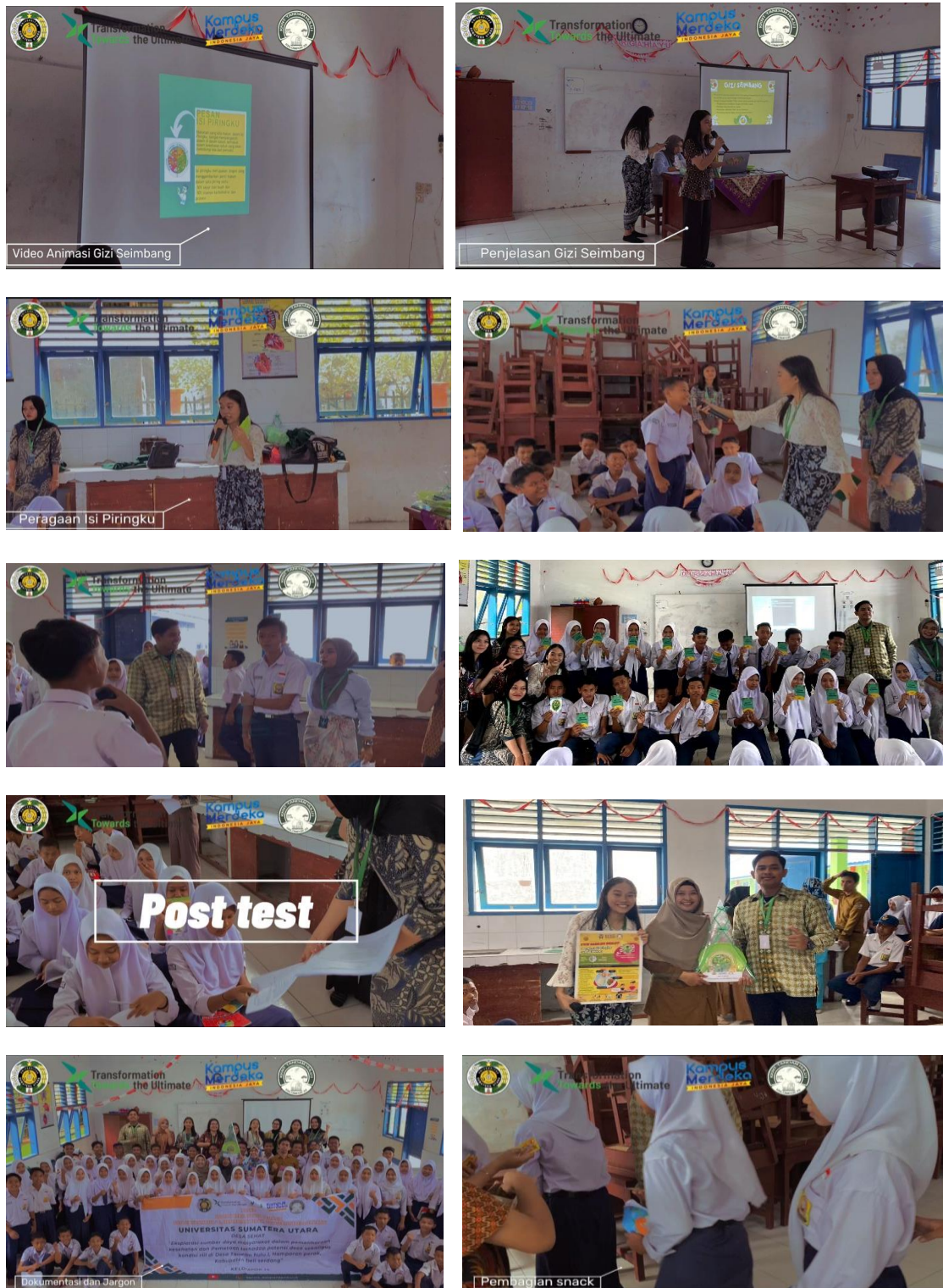


Figure 2. Documentation of Balanced Nutrition Education Activities with Animated Video Media and Smart Plate Practice on Increasing Student Knowledge of SMPN 3 Hamparan Perak

Statistical tests using the Paired Sample T Test test whose results can be seen in table 2. Based on table 2, the results show that there is a difference in the average value of students' knowledge before counseling is 12.02 and after counseling it increases to 12.25. The test results show that there is an increase in students' knowledge about balanced nutrition with an interesting and effective method in understanding the concept of nutrition so as to make students more concerned about what they consume.

Table 2. The Effect of Providing Balanced Nutrition Education with Animated Video Media and Smart Plate Practice on Increasing Student Knowledge

	Student Knowledge (n=60)	
	Mean	Standar Deviation (SD)
Pretest	12.02	1.702
Posttest	12.25	1.348

DISCUSSION

Ignorance or lack of information about proper nutrition can lead to nutritional problems. It is very important for a person to be informed about their nutritional problems. Education on balanced nutrition is essential for everyone as it can affect their nutritional status. A person's nutrition knowledge can affect their attitude and behavior when choosing food, which in turn will impact the nutritional state of the adolescent.

The level of nutrition anxiety affects a person's appetite and decision-making in food choices, which in turn affects their nutritional status (7). A person's knowledge is influenced by two variables: the environment and social context of daily life, as well as internal characteristics such as family, occupation, and education (8). The results of the study demonstrated that students' comprehension increases when instruction is given through pen and paper and video piracy tactics. According to Tuzzaroh (2015), study time, media, and procedures are the things that have the biggest detrimental effects on students' acquisition of knowledge during their schooling (9).

Understanding gizi is essential for assisting people in forming healthy eating habits, as it will have a detrimental effect on their capacity to select the types and amounts of food they want to eat (10). People who are well-versed in gizi will recognize the nutritional importance of each meal they consume (11). The ability to choose healthy food, recognize the advantages of particular food items, and comprehend the gizi content of that meal can all be impacted by an individual's level of gizi knowledge. The less time spent on activity, the greater the change in obesity. Also, the more activity one does, the more calories are expended by the body to reach the ideal level (12). Moreover, their age is very draining due to the activities carried out in school.

Then adolescence occurs very rapid growth and development. Female adolescents who begin to experience menstruation and the maturation of other reproductive organs. Male adolescents who have begun physical changes to reach the maturity of their reproductive organs. By educating students as early as possible, it is hoped that it can prevent nutritional problems that have an impact on the future. The method created by the KKNT DS-23 team starts from playing animated videos that are easily accepted by students because they are interesting, lectures that help understand clearly about balanced nutrition guidelines, namely the 4 pillars of nutrition.

The findings of this study are in line with those of Syakir's (2018) investigation, which discovered that gizi intervention with media animasi affected postmenopausal women's awareness and alterations regarding anemia (13). According to Hesditan's (2014) study, there were variations in the participants' pre- and post-intervention understanding of Pedomam Umum Gizi Seimbang (PUGS) when using cardboard media (14). The pupils then demonstrated that they were more receptive to my instructions and eager to participate in the piring exercise that I conducted on a daily basis. This is in line with studies by Indah et al. (2021), which discovered that people's perceptions of what is sweet and sour are greatly influenced by the media (15).

It is proven based on the results of the study after conducting statistical tests using the Paired Sample T-test test, the results show that there is an increase in knowledge with an average pre-test result of 12.02 and post-test of 12.25 although it is not significant because it may have been learned in school subjects. However, the KKNT DS-23 team has tried to make interesting educational methods as evidenced by the enthusiasm of students in participating in all the series of activities provided.

CONCLUSION

The work program of the DS-23 KKNT team in conducting counseling "Balanced Nutrition Education with Animated Video Media and Smart Plate Practice on Increasing Student Knowledge at SMPN 3 Hamparan Perak" was successfully implemented. This counseling also succeeded in increasing or increasing student knowledge as shown from the pre-test average of 12.02 to 12.25 in the post-test results. There is an effect of balanced nutrition education using animated video media and smart plate practice on increasing the knowledge of SMPN 3 Hamparan Perak students.

This counseling was carried out by playing animated videos, lectures and demonstrations. With this interesting and effective method, students understand the need for nutrient intake needed by the body must be equal or balanced with the needs of the nutrients they consume. Students understand the concept of nutrition and know how to fill my plate in one meal so that it makes them more concerned about the intake that is eaten should not be less or more in order to avoid nutritional problems is one of the achievements expected by the team.

SUGGESTION

The results obtained from the implementation of the extension work program “Balanced Nutrition Education with Animated Video Media and Smart Plate Practice on Increasing Student Knowledge at SMPN 3 Hamparan Perak” are very good. The team hopes that this program can be continued to all junior high school students without exception so that they know better about fulfilling their nutrition in their daily lives, especially those who are also experiencing body development.

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