

THE EFFECT OF BALANCED NUTRITION EDUCATIONAL GAME METHODS ON THE BEHAVIOUR OF CONSUMING HEALTHY FOOD IN STUDENT OF THE STATE ELEMENTARY SCHOOL

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ABSTRACT

Health problems in school-age children, especially in terms of nutrition, are still a problem in Indonesia, such as being underweight and overweight, this is caused by physical activity, and vice versa, nutritional status affects children's physical activity. Therefore, dietary problems often experienced by school-age children, such as malnutrition and overnutrition, if these nutritional problems are not treated as early as possible, can affect children's health in the future.

This study is a pre-experimental research design that used one group pre-test and post-test, namely the effect of the balanced nutrition education game method on healthy eating behavior in students of SDN 87 Jambi City, which was carried out one time, before and after giving a balanced nutrition educational game.

The results showed effect of the educational game method on the Wilcoxon test results showed the Asymp Sig (2-tailed) value of 0.000. The balanced nutrition education game method influences the behavior of consuming healthy food at SD Negeri 87 Jambi City in 2022. This is hoped to continue to provide balanced nutrition education using media that researchers for students have created so they can consume healthy balanced nutrition food.

Keywords: Balanced Nutrition Education, Behaviour, Consuming healthy food, Games.

BACKGROUND

Nutrition and health problems can affect children due to lack of nutritional intake, such as delayed growth, obesity, anemia, dental problems, PEM, IDD, anemia, obesity, and so on. Schoolchildren need a variety of foods that can provide energy, protein, carbohydrates, fats, vitamins, and minerals for growth and development (Kemenkes RI, 2017: 231). Based on data from Riskesdas (2018), the nutritional status of children in Indonesia shows an improvement. The proportion of good dietary levels decreased from 37.2% in 2013 to 30.8%. Likewise, poor nutritional

quality and malnutrition balance decreased from 19.6% in 2013 to 17.7%. However, what needs attention is the trend of increasing the proportion of obesity in children since 2007, which was 10.5% in 2007, 14.8% in 2013, and in 2018 it rose to 21.8% (Riskesdas, 2018). Based on the 2018 Basic Health Data (RISKESDAS), it shows that the Jambi Province prevalence of concise children in children aged 5-12 years is 8.9% and short is 17.5%, skinny 3.0% and then 6.0%, obese (obese) 11.4%, and fat 12.2%.

Nutrition education through games effectively increases children's knowledge

about the importance of balanced nutrition. This is evidenced in a study by Israeli et al. (2021), Playing Vegetable Eating Motivation (VEM) on Vegetable Eating Behaviour in Preschool Children. It was found that there was an effect of playing Vegetable Eating Motivation (VEM) on vegetable eating behavior in preschool children.

Balanced nutrition education with the game method is expected to change the behavior of elementary school students to consume healthy food. In addition, through games, it is hoped that children can participate in playing with their peers and make it easier for them to understand and understand the information that has been conveyed about balanced nutrition.

RESEARCH METHODS

This research is a pre-experimental research design that used one group pre-test and post-test, namely The Effect of Balanced Nutrition Educational Game Methods on the Behaviour of Consuming Healthy Food in Students of The state elementary school 87 Jambi City in 2022, which was carried out one time, before and after giving a balanced nutrition educational game. The sample of this study was all students in grades 4 and 5 at SD Negeri 87 Jambi City. Sampling in this study used a total sampling technique of 56 students.

Research tools and materials consisted of questionnaires, data forms, writing instruments, and balanced nutrition educational games, which the researchers themselves made.

Research procedure 1) Creating a balanced nutrition educational game based on the contents of my plate, the researcher made it from flannel which was shaped in such a way that it resembled the original shape, such as staple foods, vegetables, fruits, and side dishes. The researcher made educational games as enjoyable as possible so students could understand more about balanced nutrition and healthy food

behavior. 2) Developing an intervention plan and preparing an intervention plan using research instrument, namely a paper questionnaire and a balanced nutrition education game based on My Plate. 3) The first stage of data collection (Pre-test). The first stage of data collection activities was carried out by giving a questionnaire containing questions about knowledge about healthy food and preparing food pictures based on the contents of my plate before the intervention was carried out on students of SD Negeri 87 Jambi City. 4) The second stage of data collection (Post-test) The second stage of data collection activity was carried out after the intervention was completed by asking questions about knowledge about healthy food and preparing pictures based on **the contents of my plate**.

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the intervention was completed by asking questions about knowledge about healthy food and preparing pictures based on the contents of my plate.

All were used as research samples starting from grade 4 and grade 5. With inclusion criteria: 1) Students can play a balanced nutrition game 2) students are in good health 3) are willing to fill out the questionnaire. And the exclusion criteria are: 1) Students still need to read, and 2) students need to understand balanced nutrition games.

The research tools and materials consisted of data from questionnaires, stationery, and educational games for balanced nutrition, which the researchers themselves made. Research procedures 1) Arrange for research permits 2) conduct a survey of research locations 3) Create a balanced nutrition education game guided by My Plate Contents the researcher makes from flannel fabric which is shaped in such a way that it resembles its original shape such as staple foods, vegetables, fruits fruit and side dishes. In addition, the researchers made educational games as enjoyable as possible so that students could understand more about balanced nutrition and the behavior of consuming healthy food. 4) Develop an intervention plan to prepare an intervention plan in the form of preparation of research instruments, namely questionnaires in paper form and balanced nutrition educational games guided by My Plate's Contents. 5) The first stage of data collection (Pre-test).

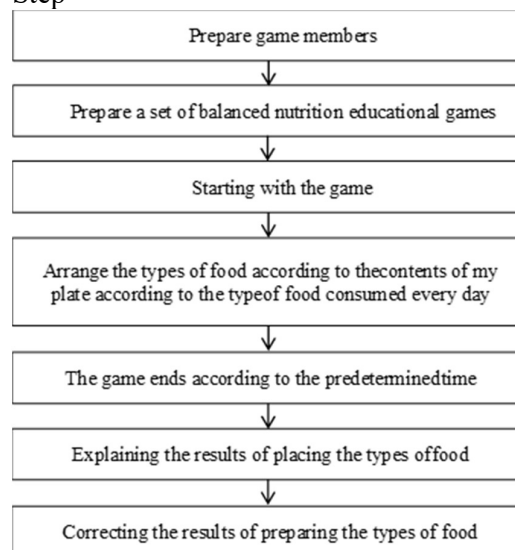
The first stage of the data collection activity was carried out by giving a questionnaire containing questions about knowledge about healthy food and preparing pictures of food based on the contents of my plate before the intervention was carried out to students of SD Negeri 87 Jambi City. 6) The second stage of data collection (Post-test) The second stage of data collection activities was carried out after the intervention was completed by giving a questionnaire containing questions about knowledge about healthy food and

preparing pictures of food based on the contents of my plate. After that, do data analysis from the results of research that has been done.

Making a balanced nutrition educational game

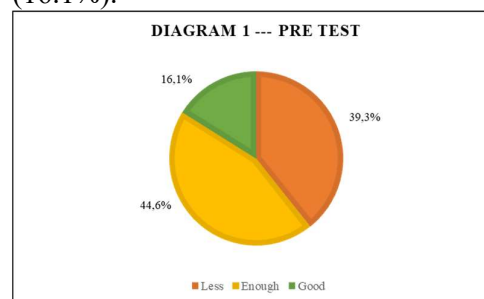


Step

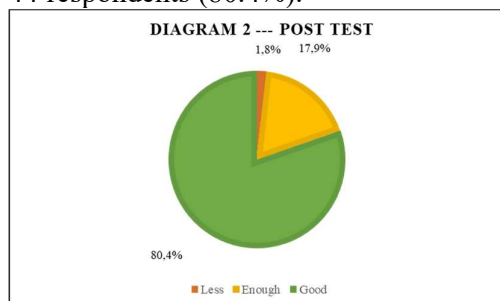


RESULTS AND DISCUSSION

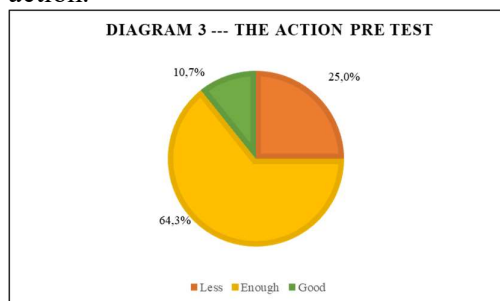
The results of the study showed that the knowledge of respondents before the balanced nutrition education game was carried out by students who had less knowledge was 22 people (39.3%), enough was 25 people (44.6%), and had good knowledge as many as 9 people (16.1%).



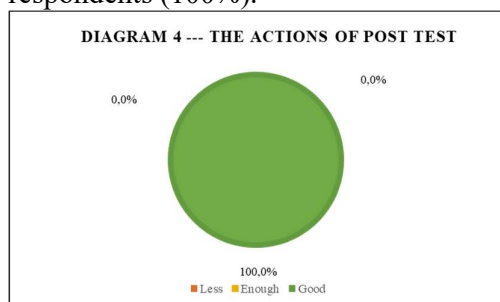
While the knowledge of respondents after the balanced nutrition education game was carried out by students who had less knowledge were 1 respondent (1.8%), 10 respondents (17.9%), and had good knowledge were 44 respondents (80.4%).



While the actions of the respondents before the balanced nutrition education game was carried out. There were 14 respondents (25.0%) who had less action, 36 respondents (64.3%) sufficient, and 6 respondents (10.7%) had good action.



The actions of respondents after a balanced nutrition educational game. Students who have good actions are 56 respondents (100%).



While the effect of the educational game method on the Wilcoxon test results showed the Asymp Sig (2-tailed) value of 0.000 with a significance degree of 0.05. The results of Asymp Sig(2-tailed) 0.000 < 0.05, which means that there is an

influence of balanced nutrition education games on the behavior of consuming healthy food in students of SD Negeri 87 Jambi City.

DISCUSSION

Using the balanced nutrition education game method to deliver information can make children participate in playing with peers and make it easier to understand and understand the information that has been delivered. Thus educational games as a medium for providing health information can be used to increase student's knowledge regarding the behavior of consuming healthy food. This is in line with Nini Titisari's (2018) research on the effect of using educational game media on increasing knowledge of anemia in SDIT Al-Falah Sambi Boyolali. The students showed that the level of expertise of respondents at the pretest regarding anemia mainly was in the excellent category of 24 respondents with presentations of 48%, suitable as many as 19 respondents with an expression of 38%, and less as many as 7 with a display of 14%.

This study shows that respondents' lack of knowledge is caused by a lack of awareness of respondents' lack facilities and infrastructure to obtain information. So it is essential to provide information and counseling, distribute leaflets or apply the provision of information, one of which is using educational games so that students more easily understand the information conveyed to increase knowledge about the behavior of consuming healthy food.

Another media that can be used as a balanced nutrition education media for students is educational games. Educational games are games that are accompanied by learning in their application, so it is hoped that they will be able to improve children's understanding of the learning process (Novaliendry, 2013) because, at school age, children will tend to be more interested in games that are easy to play with bright colors and eye-catching animated images.

Draw attention. That way, the child will understand and remember the material given easier. Based on the results of the study showed that after the balanced nutrition education game was carried out, there was an increase in the knowledge of the respondents before and after the respondent's knowledge increased because of the balanced nutrition education game, making it easier for students to get information about knowledge of consuming healthy food.

Based on the study's results, before the balanced nutrition education game was carried out, respondents had less action about consuming healthy food. The lack of action is caused by the lack of awareness of the respondents and the need for more facilities and infrastructure to obtain information. However, the respondent's actions after the balanced nutrition education game have good actions, which means that after the balanced nutrition education game was carried out, most of the respondents understood the actions that must be taken in consuming healthy food. This can be seen based on the results of the attachment of the type of food the wrong respondent affixed before the balanced nutrition education game was changed to be correct following balanced nutrition guidelines, namely the contents of my plate.

There is a significant effect before and after the balanced nutrition education game on the behavior of consuming healthy food. For example, the median value of knowledge before the balanced nutrition education game was 60, and the median value after the balanced nutrition education game was 90. This indicates a difference and improvement between knowledge before and after the balanced nutrition education game. Moreover, the median value of the action before the balanced nutrition education game was carried out was 70, and the median value after the balanced nutrition education game was 90. This shows differences and improvements between the actions before and after the balanced nutrition education game.

Consuming a balanced diet for school children is very important to fulfill the nutrients from every food they consume and according to the portion of each age level in school children. However, unfortunately, elementary school children (SD) are one of the groups prone to malnutrition. The reasons include low economic levels, unbalanced nutritional intake, and low parental knowledge (Inayah, 2021).

Hikmawati (2016), in her research, found the influence of counseling with nutritional puzzle game media on knowledge, attitudes, and actions for elementary school children. Adiba's (2020) research using the snakes and ladders game also shows that there is a significant influence on students' balanced nutritional knowledge before and after counseling. Research conducted by Hannah et al. (2019) with the media mobile game application "Foodbot Factory" in Ontario, Canada, shows that children who use the Foodbot Factory application have a significant increase in overall nutritional knowledge both from vegetable and fruit knowledge, food protein and wheat meal compared to the control group. Another study from Afra (2018) with a picture card game showed that there was a change in knowledge and attitudes after the picture card media intervention making a balanced nutrition educational game.

CONCLUSION AND RECOMMENDATION

Some respondents have sufficient knowledge before playing a balanced nutrition education game. Most of the respondents have good knowledge after a balanced nutrition education game. Some respondents had sufficient actions before the balanced nutrition education game. Most respondents had good actions after a balanced nutrition education game. Therefore, the balanced nutrition education game method influences the behavior of consuming healthy food in SD Negeri 87

Jambi City in 2022.

The teachers of SD N 87 Jambi City can continue to provide balanced nutrition education using the media that the researchers have created for students to consume healthy, balanced nutritional food.

REFERENCES

- Afra, GN. 2018. Pengaruh Permainan Kartu Gizi Terhadap Perubahan Pengetahuan dan Sikap Gizi Pada Siswa Sekolah Dasar. *Jurnal Gizi dan Klinik* 13 (1). Diakses 10 Juni 2021.
<http://jurnalgizi.unw.ac.id/index.php/JGK/article/view/82>
- Adiba, TR, 2020. Efektivitas Permainan Ular Tangga sebagai Media Penyuluhan terhadap Pengetahuan Gizi Seimbang Siswa. *Preventia: Indonesian Journal of Public Health*. Vol. 5 No. 1, hal. 1-7. Diakses : 15 Maret 2021.
<http://journal2.um.ac.id/index.php/preventia/article/view/14777>
- Hikmawati, Z. 2016. Pengaruh Penyuluhan Dengan Media Promosi Puzzle Gizi Terhadap Perilaku Gizi Seimbang Pada Siswa Kelas V Di Sd Negeri 06 Poasia Kota Kendari Tahun 2016. Skripsi Fakultas Kesehatan Masyarakat Universitas Halu Oleo. Kendari.
- Hannah, MF., et al. 2019. The Effectiveness of the Foodbot Factory Mobile Serious Game on Increasing Nutrition Knowledge in Children. *MPDI International Journal Nutrientns* Vol. 12: 11. Diakses 19 Juli 2021.
<https://www.mdpi.com/2072-6643/12/11/3413>
doi.org/10.3390/nu12113413
- Israeli, Ari Novitasari, and Sri Wulandari. 2020. Bermain Vegetable Eating Motivation (Vem) terhadap Perilaku Makan Sayuran pada Anak Prasekolah. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*. 5.(1) 879-890
- Inayah, 2021. Pengaruh Pendidikan Pedoman Gizi Seimbang dengan Menggunakan Puzzle terhadap Pengetahuan Siswa SD Swasta Al Fitriah Medan
- Kementerian Kesehatan. 2017. *Buku Saku Pemantauan Status Gizi Tahun 2017*. Jakarta, Gerakan Masyarakat Hidup Sehat
- Novaliendry Dony, 2013. Aplikasi game geografi berbasis multimedia interaktif (studi kasus siswa kelas ix smpn 1 rao).
- Riskesdas. 2018. Hasil Utama Riset Kesehatan Dasar. Kementrian Kesehat Republik Indones. 2018
- Titisari, Nini. 2018. *Pengaruh Penggunaan Media Game Edukasi Terhadap Peningkatan Pengetahuan Anemi Pada Siswa Sdit Al-Falaah Sambi Bayolali* (skripsi). Surakarta: Universitas Muhammadiyah Surakarta.