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Fanleaflet-Based Educational Innovation to Improve Knowledge of Obesity Prevention in Elementary School Children

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ABSTRACT
Obesity is a condition of abnormal or excessive fat accumulation in the body that can lead to several individual health risks. Obesity is caused by several factors, including genetic factors, body metabolism, diet, physical activity, socioeconomic status, traditions and culture, as well as environmental factors such as parents, peers, and the surrounding environment. One way to increase students' knowledge is through health education using fanleaflets that are easy to understand and engaging. This study aims to see how much education about healthy eating using fanleaflets affects students' knowledge in efforts to prevent obesity among students at SDN 2 Manyaran. This study used a pre-experimental design with a one-group pretest-posttest approach. The study sample consisted of 35 students in grades 3, 4, and 5, selected using a random sampling technique. Data collection was done using a knowledge questionnaire before and after providing education, then analyzed using a Paired Sample t-test. The study results showed that the knowledge scores before the intervention were mostly in the poor category for almost all students and increased after the intervention. The Paired Sample t-test results showed a p-value < 0.001, indicating a difference in knowledge scores before and after education using fan leaflets. Thus, education based on fan leaflets is effective in improving knowledge about obesity prevention among elementary school children. Fan leaflet media can be used as one of the alternative health promotion media in schools to increase knowledge about obesity prevention.

Keywords: Elementary School Students, Fan Leaflet, Health Education, Obesity, Knowledge.

INTRODUCTION

Obesity is a condition of abnormal or excessive fat accumulation in the body that can lead to several health risks for individuals. The nutritional problems faced by developing countries like Indonesia today are not only undernutrition but also overnutrition. Children in low-income countries often get inadequate nutrition, while at the same time they are used to consuming foods that are high in fat and sugar, and this eating pattern, combined with a lack of physical activity, results in an increase in obesity rates among children (Dwi et al., 2023)

Right now, obesity has become a global health problem with a prevalence that keeps rising, both in developed and developing countries. Some factors like diet, an unhealthy lifestyle, and lack of physical activity are known to contribute greatly to the risk of obesity (Makmun & Risdayani, 2018).

According to a report (World Health Organization, 2021), the prevalence of children and teenagers aged 5-19 who are obese has increased fourfold to 18% in 2016 from just 4% in 1975. Obesity continues to rise in both developed and developing countries. According to the 2018 Basic Health Research, the prevalence of obesity among children aged 5-12 in Indonesia is 9.2%, while the prevalence of overweight is 10.8% (Kementerian Kesehatan RI, 2018).

Childhood obesity is still a serious problem because its causes are complex and involve many factors. Addressing childhood obesity needs to be done in an integrated way, as the

earlier the intervention, the better the outcome. When managing a diet to lose weight, it's important to remember that children are still growing and developing. Since school children spend most of their time at school, their eating habits are greatly influenced by the school environment (Al Rahmad et al., 2021)

Elementary school-aged children are among the groups most at risk of obesity because this is the age when they start forming eating habits that can carry into adulthood. Eating patterns high in fat and sugar but low in fiber are often a major reason for weight gain that's hard to control. A lack of understanding about balanced nutrition and the importance of physical activity makes kids more likely to choose instant or fast foods that are high in calories but low in essential nutrients (Yuliani, 2023).

An unbalanced diet causes an energy imbalance in the body, where excess energy intake is stored as body fat (Damayanti, 2022). In the long run, obese children are at higher risk of non-communicable diseases like type 2 diabetes, hypertension, and even coronary heart disease as adults. That's why childhood obesity, especially in elementary school kids, can't be ignored (Oktaviani et al., 2023).

Obesity is caused by several factors, including genetic factors, body metabolism, eating habits, physical activity, socioeconomic status, traditions and culture, as well as environmental factors like parents, peers, and the surrounding environment (Suryamulyawan KA & Arimbawa IM, 2019). A person's behavior, such as eating habits, physical activity, and lifestyle, reflects their knowledge. The more positive and high someone's knowledge is, the more it can lead to a change in attitude. Over time, attitudes become more positive, which results in changes in behavior, such as eating habits, physical activity, and other lifestyle choices. Healthy behavior is related to preventing obesity (Jannah & Kusumaningrum, 2021).

Based on the screening results conducted in the working area of Tiron Health Center, Manyaran Village has a total of 147 obesity cases among children, consisting of 36 boys and 111 girls. Compared to the total number of obesity cases in the village, this means the prevalence reaches around 24.5% of all obesity cases in the observed area. This figure shows that almost one in four recorded obese children comes from Manyaran Village. This situation makes Manyaran Village one of the areas with the highest obesity cases compared to other villages (Laporan Puskesmas Tiron, 2025).

Efforts to prevent obesity in schools can be done in various ways, for example by providing engaging and not boring education about the dangers of obesity, as well as organizing fun physical activity programs. With increased knowledge about a healthy lifestyle at school, it is hoped that children can get used to habits that have a positive impact on their health in the future (Setiowati et al., 2025). Nutrition education for elementary school children should be done using engaging media so that the delivery of the material can be easily and enjoyably understood. Various media used to support and assist in counseling methods include visual media, which can convey messages in the form of visual communication symbols that need to be understood, such as in fanleaflets (Whitney, 2023).

Considering these conditions, SDN 2 Manyaran was chosen as the research location. The reason for this choice is based on the high prevalence of obesity in Manyaran village and the fairly large number of students, making the research data more representative. In this study, Fanleaflet media is used as a learning tool. The reason for choosing Fanleaflet is that this media is designed with attractive images, making it easier to understand and can increase students' interest in reading. Based on this, this study aims to see how much the education about healthy food using a fanleaflet affects students' knowledge in efforts to prevent obesity.

METHODS

This study used a pre-experimental design with a one-group pretest–posttest approach. The design aims to find out if there are changes in students' knowledge levels before and after being

given education on obesity prevention through fanleaflet media. The population of this study included all students in grades 3, 4, and 5 at SDN 2 Manyaran, Kediri Regency, totaling 38 students. The research sample consisted of 35 students selected using random sampling according to the study criteria. Data collection was done using a knowledge questionnaire before and after the education was given using fanleaflet media. Data analysis was carried out using a paired t-test to see the difference in knowledge scores before and after the intervention.

RESULTS AND DISCUSSION

Table 1 : Respondent Distribution Based on Age

Age	Frequency	%
8 Years	6	17.1
9 Years	8	22.9
10 Years	9	25.7
11 Years	6	17.1
12 Years	6	17.1
Total	35	100.0

Based on Table 1, most respondents are 10 years old. There are 9 kids of this age (25.7%). Meanwhile, the smallest proportions are at ages 8, 11, and 12, with 6 kids each (17.1%). Overall, the total number of respondents in this study is 35 kids.

Table 2 : Distribution of Respondent Based on Gender

Gender	Frequency	%
Male	17	51.4
Famale	18	48.6
Total	35	100.0

Based on Table 2, it shows that out of a total of 35 respondents, the majority are male with 17 people (51.4%), while the female respondents are 18 people (48.6%).

Table 3 : Distribution of Respondents Based on Class

Class	Frequency	%
Class 3	15	42.9
Class 4	9	25.7
Class 5	11	32.4
Total	35	100.0

Based on Table 3, it shows that out of 35 respondents, the majority come from Class 3 with 15 people (42.9%). This is followed by Class 5 with 11 people (32.4%), and the smallest proportion is Class 4 with 9 people (25.7%).

Table 4 : Category of Knowledge Scores on Obesity Prevention Before and After Education Using Fanleaflet Media

Pengetahuan	Pengetahuan Post-Test			Total
Pre-test	Kurang	Cukup	Baik	
Kurang	2	17	5	24
Cukup	0	9		9
Baik	0	0	2	2
Total	2	17	16	35

Table 4 shows a significant increase in respondents' knowledge after the education. In the pre-test, most respondents had low knowledge (24 people), but in the post-test, knowledge levels improved, dominated by the adequate category (17 people) and good (16 people) out of a total of 35 respondents.

Table 5 : Paired Sample t-test Results on Knowledge of Obesity Prevention Before and After Intervention

Variabel	Mean Difference	t	df	p-value
Pretest–Posttest Pengetahuan	-2.514	-20.034	34	<0,001

Based on Table 5, the results of the paired sample t-test in Table 5 show a p-value <0.001. This proves that there was a significant increase in respondents' knowledge of obesity prevention after the intervention was given (t = -20.034; mean difference = -2.514)**.**

DISCUSSION

The research results show that students' knowledge levels increased after being given education using fanleaflet media. Before receiving the education, most respondents had a low level of knowledge, while after receiving the education most respondents were in the moderate and good categories. These results indicate that providing education through fanleaflet media can improve students' understanding of obesity prevention and healthy eating patterns.

This increase in knowledge aligns with the theory proposed by (Notoatmodjo, 2021) which states that knowledge is the result of a person's sensory process of an object through the senses, especially sight and hearing. Information received through these two senses will be processed into an understanding that is then stored in a person's memory. Knowledge is the result of knowing, and this happens after a person senses a particular object, including sight, hearing, smell, taste, and touch. Most knowledge or cognition is a very important domain in shaping a person's actions (Al Rahmad et al., 2021)

The results of this study are in line with the research by (Setiowati et al., 2025) which stated that nutrition education in schools can improve students' knowledge about healthy living behaviors and obesity prevention. These study results are also supported by research by (Sunarti et al., 2024)) which stated that using fanleaflet media is effective in increasing knowledge because the information is presented in a simple, engaging, and easy-to-understand way for the target audience. The similarity in findings shows that fanleaflet-based learning media can be an effective alternative for delivering health education to student.

The use of fanleaflet media is carried out as a medium for counseling and reading materials that can be read again. Animated images are also used in the design of the fan leaflet to spark respondents' interest in reading. The information provided is simplified and easy to understand, so respondents can easily remember the contents of the leaflet. The fanleaflet given to respondents contains information about the definition of obesity, ways to prevent it, factors that cause obesity, efforts to overcome obesity, the impacts of obesity, portion sizes, and the correct frequency of meals (Al-khairiyah, 2022).

According to researchers, the increase in knowledge in this study happened because the fan-leaflet media could deliver health information in a more engaging way compared to just lectures. Presenting concise material along with images makes it easier for students to understand and remember the information provided. Besides that, the material relates to students' daily activities, making it easier for them to connect the information they get with their own experiences in everyday life.

CONCLUSION

This study shows that education using fanleaflet media is effective in increasing knowledge about obesity prevention among students at SDN 2 Manyaran, Kediri Regency. The increase in knowledge scores after the intervention indicates that the snakes-and-ladders game media can be used as a health education tool that is easy to understand and engaging in conveying information about obesity prevention. Therefore, fanleaflet media can be considered as one of the alternative health promotion media in schools to support increasing elementary students'

knowledge about obesity prevention. Future research is suggested to use a study design with a control group, involve a larger number of respondents, and be conducted in several schools so that the research results can be more widely generalized.

REFERENCE

Al-khairiyah, M. (2022). Pengaruh Edukasi Gizi Menggunakan Media Terhadap Peningkatan Pengetahuan dalam Upaya Pencegahan Obesitas pada Remaja. 6(2), 113–119.

Al Rahmad, A. H., Fadjri, T. K., Fitri, Y., & Muliyani, N. S. (2021). Sosialisasi pola makan dan sedentari dalam mencegah masalah obesitas pada anak sekolah dasar di Kota Banda Aceh. Jurnal PADE: Pengabdian & Edukasi, 3(2), 62. https://doi.org/10.30867/pade.v1i2.708

Damayanti, E. R. (2022). Hubungan Pola Makan, Aktivitas Fisik, Dan Citra Tubuh Dengan Status Gizi Lebih Pada Remaja Putri Di Sma Negeri 3 Tambun Selatan. Indonesian Journal of Health Development, 4(1), 35–45. https://doi.org/10.52021/ijhd.v4i1.69

Dwi, N., Maharani, A. A., & Maharani, T. D. (2023). Risiko Obesitas pada Anak Akibat Konsumsi Fast Food dan Junk Food : Literature Review. 4(2), 110–119. https://doi.org/10.24853/mjnf.4.2.110-119

Jannah, M., & Kusumaningrum, I. (2021). Analisis obesitas pada anak Sekolah Dasar berdasarkan pengetahuan, sikap, dan paparan informasi tentang gizi seimbang. ARTERI : Jurnal Ilmu Kesehatan, 2(3), 67–73. https://arteri.sinergis.org/index.php/arteri/article/view/168

Kementerian Kesehatan RI. (2018). Laporan Nasional Riskesdas 2018: Riset Kesehatan Dasar 2018.

Laporan Puskesmas Tiron. (2025). Data Obesitas di Wilayah Kerja Puskesmas Tiron Tahun 2025.

Makmun, A., & Risdayani, E. (2018). (Hubungan Obesitas Dengan Usia , Jenis Kelamin , Genetik , Asupan Makanan , dan Address : Phone : Received Tanggal Bulan Tahun Received in revised form Tanggal Bulan Tahun Accepted Tanggal Bulan Tahun Penerbit : Yayasan Citra Cendekia Celebes. 55–67.

Notoatmodjo, S. (2021). Pendidikan dan Perilaku Kesehatan. Jakarta: Rineka Cipta.

Oktaviani, S., Mizutani, M., Nishide, R., & Tanimura, S. (2023). Factors associated with overweight/obesity of children aged 6–12 years in Indonesia. BMC Pediatrics, 23(1), 1–11. https://doi.org/10.1186/s12887-023-04321-6

Setiowati, D., Lestari, K. B., Nurbaeti, I., & Handayani, M. (2025). EDUKASI SEHAT TENTANG PENCEGAHAN OBESITAS SISWA DI SEKOLAH DASAR. 9(1), 65–73.

Sunarti, S., Bin Ahmad Fauzi, F., Nur Azizah, L., & Amalia, N. (2024). Effectiveness of Video Education in Preventing Electric Smoking Behavior in Students. JPKM: Jurnal Profesi Kesehatan Masyarakat, 5(2), 149–154. https://doi.org/10.47575/jpkm.v5i2.668

Suryamulyawan KA, & Arimbawa IM. (2019). Prevalensi dan karakteristik obesitas pada anak di Sekolah Dasar Saraswati V Kota Denpasar tahun 2016. Intisari Sains Medis, 10(2), 342–346.

Whitney, M. (2023). PENGARUH EDUKASI MENGGUNAKAN MEDIA ANAK SEKOLAH DASAR. 2, 66–70.

World Health Organization. (2021). Obesity and Overweight.

Yuliani, I. (2023). Hubungan Citra Tubuh Dan Pola Makan Dengan Status Gizi Remaja Di SMA Negeri 6 Medan.