

The Effect of Educational Video Media Use on Knowledge of Balanced Eating Patterns in School-Age Children at SDN Serua 3 Depok

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ABSTRACT

Nutritional issues among school-aged children remain a challenge in Indonesia, including in the Bojongsari Community Health Center work area. Children are at risk of malnutrition or overnutrition due to diets that do not follow balanced nutrition guidelines, such as consuming fast food high in sugar, salt, and fat. This condition can affect children's health, growth, and academic performance. Therefore, effective educational interventions are needed to improve children's understanding of healthy eating habits. This activity aimed to determine the effect of animated educational video media on balanced nutrition knowledge in school-aged children. The intervention was conducted offline at SDN Serua 3, Depok City, involving 30 fifth-grade students. The animated video "Super Gizi Squad" was combined with interactive activities such as recall games, guessing the picture, and pre- and post-tests. The results showed improved knowledge. Before the intervention, 66.7% of students had poor knowledge, 30% sufficient, and 3.3% good. After the intervention, 76.7% had sufficient knowledge and 23.3% good, with no poor category. The average score increased from 60.07 to 80.17, indicating significant improvement. In conclusion, animated educational videos effectively improve children's knowledge of balanced nutrition..

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1. INTRODUCTION

Nutritional conditions or nutritional status that are not yet optimal in school-age children remain a major public health concern in many regions, including within the working area of the Bojongsari Community Health Center (UPTD). Many children still face various nutritional problems, including undernutrition and overnutrition, as well as the risk of both, which negatively impact children's health and growth (World Health Organization, 2023). A lack of dietary diversity and failure to follow the My Plate guidelines are among the main causes of these conditions (Ministry of Health of the Republic of Indonesia, 2019). In addition, low awareness of personal hygiene also contributes to digestive health

problems that affect nutritional status (World Health Organization, 2023). Exposure to unhealthy foods, fast food, and foods high in sugar, salt, and fat further exacerbates the nutritional problems in children (Research and Development Agency of the Ministry of Health of the Republic of Indonesia, 2017). Such situations require close attention to ensure that children receive adequate and balanced nutrition.

Data show that the prevalence of stunting, obesity, and thinness among children remains quite high in Indonesia (UNICEF Indonesia, 2020; Ministry of Health of the Republic of Indonesia, 2019). Both national and regional data indicate a growing number of children experiencing inappropriate body weight issues due to monotonous diets and unhealthy food intake (Ministry of Health of the Republic of Indonesia, 2019). Children often consume snacks that do not meet balanced nutrition standards, such as fast food high in sugar, salt, and fat, and foods that are nutritionally poor (Research and Development Agency of the Ministry of Health of the Republic of Indonesia, 2017). To address this problem, resources such as skilled or trained health workers, efficient and engaging educational media, and support from schools and families are needed. The use of educational video media is one promising alternative to convey nutrition information in a way that is easy for children to understand. With synergistic support, improvements in children's nutritional understanding can be realized.

Various factors can influence the nutritional status of school-age children, including improper eating patterns, poor hygiene habits, and limited family socioeconomic conditions (Ministry of Health of the Republic of Indonesia, 2019). The school and home environments play a significant role in shaping children's dietary and health behaviors. Common indicators used to evaluate children's nutritional status include body mass index (BMI) for age (BMI/A), height-for-age (stunting), and dietary diversity based on My Plate guidelines (UNICEF Indonesia, 2020; Ministry of Health of the Republic of Indonesia, 2019). Unbalanced nutrient intake can lead to growth and cognitive function disorders, which in turn affect children's academic performance, manifesting as low motivation to study, drowsiness, and difficulty concentrating. Therefore, proper monitoring and intervention are necessary to ensure children receive adequate nutrition for a healthy future (World Health Organization, 2023).

To overcome nutritional problems in school-age children, nutrition education through videos has been proven to improve knowledge and attitudes regarding balanced nutrition. A study at SD Muhammadiyah Ledok Kulon Progo demonstrated that the use of a 9-minute animated video significantly increased the average knowledge and attitude scores of children after the intervention. Educational videos can present information in an engaging and easily understandable way, helping children grasp the concept of healthy eating and the importance of choosing nutritious snacks. Furthermore, participation from schools and families is essential to support the shift toward healthier and more sustainable eating habits (Putri & Santosa, 2025). Through the use of appropriate educational media and ongoing assistance, it is expected that the nutritional status of children in the Bojongsari Community Health Center area can improve significantly.

2. METHODS

The nutrition education program titled "Super Gizi Squad – Balanced Nutrition Educational Video for School-Age Children" was conducted as a nutrition intervention in the working area of the Bojongsari Community Health Center, Depok City. This activity aimed to enhance school-age children's understanding of the importance of balanced nutrition and its application in daily life. Through this program, children were encouraged to choose appropriate, diverse, and balanced foods while also understanding the importance of healthy living habits. The intervention was carried out offline on Wednesday, September 3, 2025, at SDN Serua 3, Depok City, targeting 30 fifth-grade students. The educational medium used in this counseling was an animated video.



Figure 1. Educational Video Media of the Intervention

The main theme of the activity was “My Plate and Balanced Nutrition,” using the animated video “Super Gizi Squad” and an interactive presentation combined with recall games, picture guessing, and “fill my plate” exercises to improve children’s understanding. The series of activities began with an opening and introduction of the presenters, attendance list filling, and a pre-test, followed by the educational video screening accompanied by an interactive explanation, group formation for educational games, prize distribution for the winning group, and finally, a post-test. The event concluded with the distribution of souvenirs such as watches, stickers, and notebooks, followed by documentation and group photos.

The evaluation results showed a significant increase in children’s nutrition knowledge related to balanced nutrition and My Plate. Before counseling, 66.7% of participants were in the poor knowledge category, and only 3.3% were in the good category. After the counseling, 76.7% of the students were in the sufficient category, and 23.3% were in the good category. The average pre-test score of 60.07 increased to 80.17 in the post-test, with the Wilcoxon test showing a significant difference ($Z = -4.784$; $p < 0.001$). This proves that counseling using animated video media and interactive methods effectively improves school children’s nutrition knowledge. Supporting factors in this activity included the use of audiovisual media, interactive games, My Plate practice, and prize distribution that boosted children’s enthusiasm, while obstacles included limited time and a non-soundproof classroom that slightly reduced focus.



Figure 2. Activity Documentation

3. FINDINGS AND DISCUSSION

Table 1. Pre-test and Post-test Distribution

Pre-test and Post-test Distribution	Pre-test		Post-test	
	Count (n)	Percent (%)	Count (n)	Percent (%)
Poor	20	66,7	0	0
Fair	9	30	23	76,7
Good	1	3,3	7	23,3
Total	30	100	30	100

Based on the analysis of the pre-test and post-test, the average score of students increased from 60.07 in the pre-test to 80.17 in the post-test. The median also increased from 60 to 80. The minimum and maximum scores improved from 30–90 (pre-test) to 70–100 (post-test).

Table 2. Analysis of Pre-test and Post-test Result

	Pre-test	Post-test
Mean	60,07	80,1
Median	60	80
Minimum	30	70
Maximum	90	100

Based on the analysis of the pre-test and post-test results, it was found that the average score of the students increased from 60.07 in the pre-test to 80.17 in the post-test. The median score also rose from 60 to 80. The minimum and maximum scores in the pre-test were 30 and 90, respectively, while in the post-test they increased to 70 and 100. Table 3. Normality Test (Shapiro-Wilk)

Shapiro-Wilk			
Type	Statistic	df	Sig.
Pre-test	0,919	30	0.026
Post-test	0,795	30	<0.0.1

Based on the Shapiro–Wilk normality test, the pre-test had a significance value of 0.026 and the post-test <0.01 ($p < 0.05$), indicating that the data were not normally distributed. Therefore, the non-parametric Wilcoxon test was used

Table 4. Improvement in Knowledge Scores (Wilcoxon Test)

Post test - Pre test	N	Mean	Sum of Ranks
Negative Ranks	0 ^a	,00	.00
Positive Ranks	29 ^b	15.00	435.000
Ties	1 ^c		
Total	30		

The Wilcoxon test showed $Z = -4.784$ with $p < 0.001$ ($p < 0.05$), indicating a significant difference between pre-test and post-test results. Twenty-nine children showed improved scores, one remained unchanged, and none declined. Thus, the counseling was proven effective in increasing nutrition knowledge among school-age children.

Table 5. Correlation Test Between Pre-test and Post-test

Post test - Pre test	
Z	-4.784
Asymp.Sig.(2-tailed)	<.000

Based on the Wilcoxon Signed Ranks Test, $Z = -4.784$ with $p < 0.001$ ($p < 0.05$), indicating that H_0 was rejected and H_a was accepted. Therefore, the "Super Gizi Squad" educational video intervention significantly affected children's knowledge about balanced nutrition and *My Plate* in the Bojongsari Community Health Center area.

4. CONCLUSION

The results of the nutrition education intervention using the animated video "Super Gizi Squad" showed a significant improvement in school-age children's knowledge regarding balanced nutrition and the My Plate concept. Based on pre-test and post-test data, before the intervention, 66.7% of students were in the poor category, 30% were in the fair category, and only 3.3% were in the good category. After the intervention, no students remained in the poor category, while 76.7% moved to fair, and 23.3% achieved the good category. The average score increased from 60.07 to 80.17, the median rose from 60 to 80, and the minimum and maximum scores increased from 30–90 to 70–100. The Wilcoxon test ($Z = -4.784$; $p < 0.001$) confirmed a significant difference between before and after the intervention.

These findings demonstrate that nutrition counseling using audiovisual media, delivered in an engaging and interactive manner suited to children's characteristics, effectively enhances understanding and interest. Additional activities such as recall games, picture guessing, and My Plate exercises strengthened comprehension and memory retention. Thus, video-based animated interventions can serve as innovative and attractive approaches to health promotion in schools.

It is recommended that schools integrate educational video media as a method of nutrition learning in both curricular and extracurricular activities. Teachers can reinforce material by

encouraging healthy behaviors at school, while health workers should continue to innovate in creating creative, engaging, and technology-adapted educational media to make nutrition messages easier for children to grasp. Parental participation is also crucial to ensure that improved knowledge leads to positive dietary behavior changes at home. Furthermore, similar interventions should be designed with broader targets, diverse approaches, and long-term monitoring to evaluate impacts not only on knowledge but also on attitudes, eating behavior, and nutritional status. Through synergistic collaboration among schools, families, and health professionals, such initiatives can significantly contribute to preventing double nutrition problems and fostering a healthier, smarter, and more productive generation in the future.

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