



Education using lecture methods and puppet media on knowledge and dental hygiene status in elementary school students

Julianti^{1*}, Culia Rahayu², Lina Rismayani³

¹Dental Therapist, Beber Community Health Center, Cirebon, West Java

^{2,3}Department of Dental Health, Polytechnic Health of Tasikmalaya, Indonesia

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ABSTRACT

Background: The high dental problems in elementary school children are caused by low knowledge and dental health behavior. Puppet media is effective to use because it provides real visualization that is interesting and easy for children to understand. This study aims to analyze the effect of education with the lecture method using puppet media on knowledge of dental health maintenance and dental and oral hygiene status in grade V students of SDN 1 Sindangkempeng, Cirebon Regency. Method: This research is a pre-experimental method with a one-group pretest-posttest design, with a total sample of 42 students. Results: based on the Wilcoxon statistical test with a p-value of 0.000, the results obtained were an increase in knowledge of dental and oral health maintenance of students to 86% with good criteria and an increase in the hygiene index to 74% of students having a good category. Conclusion: there is an effect of education with the lecture method using puppet media on knowledge of dental health maintenance and dental and oral hygiene status in elementary school students.

INTRODUCTION

Oral and dental health plays an important role in supporting overall health and a person's quality of life (Purnama et al., 2024). According to data from the 2023 Indonesian Health Survey (SKI), the proportion of dental problems in Indonesia, such as damaged, cavities, or sore teeth, reached 43.6%, while in West Java the figure was higher, at 48% (Kemenkes, 2023). This condition shows that there is still low attention to oral and dental health, especially in elementary school children (Octavianita et al., 2024). Behavioral, environmental, and health service factors have a significant influence on oral and dental health status, where health behaviors such as knowledge and habits of maintaining dental hygiene are dominant factors that must be improved (Napitupulu et al., 2019).

Elementary school children are a group that is vulnerable to oral and dental health problems due to limited knowledge and ability to maintain their hygiene (Achmad et al., 2021). This age is a critical period for tooth growth and the development of healthy behavior, so it requires special attention from health workers and schools (Syaputri et al., 2023). Previous studies have shown that oral and dental health education can be an effective method in improving knowledge and behavior in maintaining dental health in elementary school children (Erdiyani et al., 2023). This approach needs to be carried out intensively to provide children with a comprehensive understanding of the importance of maintaining dental and oral hygiene. The lecture method is one of the most economical and effective counseling methods in conveying information to the audience. Delivering material using the lecture method will be more interesting if equipped with appropriate learning media (Laela et al., 2022).

Puppet media is one of the three-dimensional media that can be used to provide real examples of how to maintain dental and oral health. This media helps students understand the structure of teeth, how to brush their teeth properly, and the importance of oral hygiene (Prasetyowati et al., 2023). The use of doll media in counseling is expected to increase the appeal of learning and make it easier for students to understand the material presented (Julianti et al., 2022).

*Corresponding author

E-mail addresses: juliliaa345@gmail.com

Based on an initial survey conducted at SDN 1 Sindangkempeng, Cirebon Regency, it was found that the level of knowledge of grade V students about maintaining dental health was still low, with an average percentage of 49%. In addition, the results of the dental hygiene examination using the hygiene index showed that the majority of students had poor dental hygiene. The principal stated that although dental health counseling had been carried out before, these efforts needed to be optimized again to increase students' awareness and healthy behavior in maintaining dental and oral health. This condition is the basis for the need for a more effective and interesting counseling approach for elementary school students. Based on the description, this study aims to analyze the effect of education with the lecture method using puppet media on increasing knowledge of dental health maintenance and dental hygiene status in grade V students of SDN 1 Sindangkempeng, Cirebon Regency. Through this study, it is expected to find empirical evidence regarding the effectiveness of the lecture method with puppet media in increasing students' understanding of the importance of maintaining dental and oral hygiene as measured by the assessment indicators of dental and oral health maintenance knowledge and student hygiene index.

METHOD

This study used the Pre-Experimental method with a one group pretest and posttest design. The use of this design was adjusted to analyze the effect of education on knowledge of dental health maintenance and the dental hygiene status of elementary school children. Sampling in this type of study used total sampling, namely all fifth grade students of SDN 1 Sindangkempeng, Cirebon Regency, totaling 42 students. The media used was a toothed doll model as a representation or imitation of the arrangement of human teeth. The toothed doll media is used to help the learning process of brushing teeth, especially for elementary school children. This toothed doll media is in the form of a molar tooth doll that is owned by the mouth, and in the mouth there is a complete arrangement of teeth with its tongue. The material used for making it uses velboa on the doll part so that it is safe for children and the inside contains dacron, while the arrangement of the teeth is made of resin and fiber. The size of this media is approximately 17x14x24 (Smaldino et al., 2012 Cit. Julianti, 2022). The instruments used were a questionnaire to measure knowledge of dental health maintenance and a Hygiene Index form to measure dental hygiene status. Data analysis is conducting a normality test, followed by a Wilcoxon test.

RESULT

The study was conducted in November 2024 by measuring the level of knowledge of dental health maintenance and the status of dental and oral hygiene using the Hygiene Index in grade V students at SDN 1 Sindangkempeng, Greged District, Cirebon Regency. The measurements were carried out three times, namely on November 22, 2024, the second study was on November 29, 2024 and the last was on December 06, 2024.

Table 1. Knowledge Before and after education using lecture method and puppet media

Knowledge	Before		After		p-value
	F	%	F	%	
Good	9	19.1	45	95.7	0.001
Moderate	31	66.0	1	2.15	
Less	7	14.9	1	2.15	
Mean	67		86		

Table 2 shows that the average level of knowledge before being given counseling was 67% with sufficient criteria and the average after being given counseling was 86% with good criteria. The results of the Wilcoxon test obtained a p-value of 0.001, so there was an influence on the level of knowledge of dental and oral health maintenance before and after education was given to class V students of SDN 1 Sindangkempeng, Greged District, Cirebon Regency

Table 2. Dental hygiene status before and after education using lecture methods and puppet media

Dental hygiene status	Before		After		p-value
	F	%	F	%	
Bad	23	54,7	3	7.1	0.001
Good	19	45,3	39	929	
Mean	46		74		

Based on the table above, it shows the average hygiene index criteria before counseling was 46 with poor criteria and the average after counseling was 74 with good criteria and the Wilcoxon test obtained a p-value of 0.001, so there is an influence on the status of dental and oral hygiene before and after counseling on grade V students of SDN 1 Sindangkempeng, Greded District, Cirebon Regency

DISCUSSION

This study was conducted on fifth grade students of SDN 1 Sindangkempeng, Greded District, Cirebon Regency with a population of 42 students, consisting of 26 males and 16 females. The study lasted for one month, with the aim of improving knowledge and dental and oral hygiene through counseling using the lecture method and toothed doll media. Student knowledge was measured through a questionnaire, while dental hygiene was measured using the hygiene index.

The research process included two stages of measurement: before (pre-test) and after counseling (post-test). Initial results showed that the level of student knowledge was still limited, with 19.1% of students in the poor category, 59.5% sufficient, and 21.4% good. Initial dental hygiene also showed 54.7% of students in the poor category and 45.3% good. After counseling, there was a significant increase, where 88.1% of students were in the good knowledge category, while dental hygiene increased to 92.9% in the good category. The average percentage of knowledge increased from 67% (sufficient category) to 86% (good category), while the initial hygiene index value of only 46 (bad category) increased to 74 (good category). Analysis using the Wilcoxon statistical test showed a p-value of 0.000 ($p < 0.05$), proving that there was a significant difference between conditions before and after counseling. This shows a positive effect of education using puppet media on students' dental knowledge and hygiene. This increase is influenced by the counseling method that attracts students' attention. Puppet media helps students not only listen to the material, but also practice the correct way to brush their teeth (Ediyarsari et al., 2020). This interactive learning process is in accordance with the characteristics of elementary school children who like to play, so that the material is easier to understand and apply in everyday life (Purnama & Sofian, 2023).

Knowledge is the result of knowing and this occurs after someone senses a particular object, knowledge generally comes from sensing that occurs through the five human senses, namely: the senses of sight, hearing, smell, taste, and touch (Notoatmodjo, 2014). Improving dental and oral hygiene can be done through the media, media can also be interpreted as a container where to search for, receive information, many types of media are used to search for information ranging from print media, social media, electronic media and so on (Belinda & Surya, 2021).

Model media is also called imitation media or three-dimensional media. Three-dimensional media is a three-dimensional imitation of some real things that are too big, too far, too small, too expensive, too rare, or complicated to be brought into the classroom for students to learn (Ali et al., 2024). Toothed doll media is used to help the learning process of brushing teeth, especially for elementary school children and the advantage of using this tooth doll is that it provides students with an understanding of the parts of our teeth and can clearly exemplify how to maintain good dental and oral health (Julianti et al., 2022).

CONCLUSION

Based on the results of the research that has been done, it can be concluded that the effect of education with the lecture method using puppet media on knowledge of dental health maintenance and dental and oral hygiene status in elementary school students

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