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Effectiveness of kesgilut videos on knowledge of dental and oral health maintenance in kindergarten children at Al'fath Pasir Putih, Jambi City in 2024

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Abstract

Background: The behavior of Indonesian children in brushing their teeth remains low, which is attributed to a lack of knowledge on how to maintain dental and oral health. One way to improve this knowledge is through counseling, and video media is one such tool that combines two elements, sound and images, making it more effective in conveying information. This study aims to evaluate the effectiveness of video media counseling in enhancing knowledge and brushing behavior among early childhood children, starting from the kindergarten level.
Method:
The research uses a literature review method involving the collection, reading, and management of bibliographic data. This approach helps researchers categorize and organize various sources, leading to a deeper understanding of the research topic.
Results: The study involving 16 control and 16 treatment samples from a kindergarten in Jambi revealed balanced gender distributions and similar age ranges across groups. Normality tests confirmed that the data for dental and oral health knowledge were normally distributed, justifying the use of paired and independent sample t-tests. The results showed a significant increase in knowledge scores from pre-test to post-test in both groups, with the Kesgilut video treatment resulting in a notably greater improvement compared to the control group. This indicates that the Kesgilut video was more effective in enhancing dental health knowledge. Interactive educational methods, like video and storytelling, proved to be effective tools in engaging children and improving their understanding of health practices, aligning with previous research on the benefits of such methods for young learners
Conclusion: The Kesgilut video was more effective in improving dental and oral health knowledge among the kindergarten children compared to the control group.

Keywords: Kesgilut videos; knowledge; Dental health

INTRODUCTION

Based on the 2018 Basic Health Research (RISKESDAS), 45.3% of Indonesians suffer from dental caries (cavities), but only 4.1% are motivated to get their cavities filled. This indicates a low level of awareness about dental health. Data also shows that while 96.5% of children aged 10-14 brush their teeth daily, only 2.1% brush after breakfast and before bed, highlighting insufficient knowledge about proper oral hygiene. In Jambi Province, the prevalence of dental caries is 37.7%, with 54.0% of children aged 5-9 and 41.4% of those aged 10-14 affected (1).

Globally, the World Health Organization reports that 60-90% of school-aged children and nearly 100% of adults experience tooth decay, with prevalence increasing with age. By age 6, 20% of children have experienced cavities, rising to 60% by age 8. In Indonesia, 89% of children under 12 have cavities (2).

Behavior regarding oral health among Indonesian children is low, as 22.8% do not brush their teeth, and only 8.1% of the 77.2% who do brush their teeth do so properly. Effective prevention of cavities and maintaining oral health requires regular and proper tooth brushing (3).

One cause of dental problems is the neglect of oral hygiene due to a lack of knowledge about dental care. Awareness of the importance of dental health is reflected in one's knowledge; higher knowledge generally leads to better care practices (4).

For children aged 4-5, who are in the kindergarten phase and experiencing mixed dentition, it is crucial to maintain dental health. At this age, children are also more receptive to learning new things, including proper brushing techniques, making it an ideal time for education.

Changing human behavior is challenging due to individual differences in attitudes, personalities, and socio-economic backgrounds. Efforts to alter behavior should start within the family, with parents playing a key role in explaining and modeling proper practices. According to Notoatmodjo (1990), knowledge-based behavior is more sustainable than behavior without such knowledge (4).

Health education is necessary as an effort to improve skills, awareness, attitudes, and actions. Dental health education is a planned and directed effort to create an environment in which an individual or a group of people is willing to change old, unfavorable behaviors into more favorable ones for dental health to improve their quality of life. The success of education is influenced by the educational methods used. Educational methods that employ educational aids involving as many senses as possible will affect the success of the target audience's understanding (5).

There are two types of methods that can be used in dental health education. The first is the one-way method, which includes lectures, broadcasts via radio, screening films/videos/slides, distribution of flyers, and exhibitions. The second method is the two-way method (didactic), which includes interviews, demonstrations, puppet shows, simulations, brainstorming, role-playing, and question-and-answer sessions (6). The effects of early education and stimulation on children are increasingly recognized and considered important.

Educational methods using role-playing, videos, puppets, and other educational tools can serve as props in dental health education for preschool children. The aim is to prevent children from feeling bored with the stories and to ensure that they can grasp the messages conveyed in the narratives effectively. The delivery of health education materials using educational media such as puppets, videos, and role-playing can be conducted through storytelling. Storytelling can make health education materials more memorable and can also help reduce tension while building a connection between the presenter and the audience (5)

Based on the above considerations, the researcher is interested in studying "The Effectiveness of Counseling Using Video Media in Improving Knowledge and Tooth Brushing Behavior in Early Childhood or Kindergarten Children."

METHOD

The type of research used is an experiment using the pre-experimental design method, namely one group pretest-posttest (single group initial test-final test). The population in this study were Alfath Pasir Putih Kindergarten children. Samples were taken using the Frederer formula with the number of samples for each treatment and control being 16 kindergarten children. Data analysis was carried out univariate and bivariate using the T test.

RESULTS

1. General Characteristics of the Sample

The sample characteristics in this study include 16 control samples and 16 samples receiving the Kesgilut video intervention. The gender distribution in each group is nearly equal: the proportion of male kindergarten children in the control group is 50.0%, while in the intervention group it is 62.5%. The proportion of female kindergarten children in the control group is 50%, compared to 37.5% in the intervention group. The children in this study are aged 4 to 6 years, with a similar distribution across the groups. The

proportion of characteristics for kindergarten children is detailed in Table 1.

Table 1. Characteristics of kindergarten children Al' Fath Pasir Putih In Jambi City 2024

Karakteristik Sampel	Control		Kesgilut Video		Total	
	f	%	f	%	f	%
Kindergarten student's gender	8	50,0	10	62,5	18	56,3
Boys	8	50,0	6	37,5	14	43,816
Girls						
Kindergarten student's age	5	31,3	5	31,3	10	31,3
4 Years Old	5	31,3	4	25,0	9	28,1
5 Years Old	6	37,5	7	43,8	13	40,6
6 Years Old						
Jumlah	16	100,0	16	100,0	32	100,0

2. Normality Test

In this study, the assessment involved filling out a questionnaire on dental and oral health knowledge before and after the Kesgilut video education intervention. Prior to performing statistical tests, a normality test of the data was conducted using the Shapiro-Wilk test.

Table 2. Results of the Normality Test for Dental and Oral Health Knowledge Pre-Test and Post-Test for Kindergarten Children at Al'fath Pasir Putih

Dental and Oral Health Knowledge Variable	*Shapiro Wilk*		
	Statistic	df	Sig.
Pre Test			
control	0,950	6	0.492
Video Kesgilut	0,934	6	0.280
Post Test			
Control	0,846	6	0,066
Video Kesgilut	0,911	6	0,120
Improved Pre-Post			
control	0,817	6	0,059
Video Kesgilut	0,939	6	0,333

Based on Table 2, the results of the Shapiro-Wilk statistical test show that the significance values for dental and oral health knowledge during both the pre-test and post-test for the control and intervention groups are all greater than 0.05. This indicates that the data for dental and oral health knowledge at both testing times is normally distributed for both groups. Therefore, statistical differences between the groups were tested using the paired sample t-test and the independent sample t-test.

3. Average Dental and Oral Health Knowledge Pre-Test and Post-Test for Kesgilut Video Education

This section presents the average scores of dental and oral health knowledge assessed before (pre-test) and after (post-test) the Kesgilut video education intervention. The average scores indicate the level of understanding and knowledge about dental and oral health among the participants before and after receiving the educational intervention.

Table 3. Average Scores of Dental and Oral Health Knowledge Pre-Test and Post-Test for Kesgilut Video Education in Kindergarten Children at Al'fath Pasir Putih

Dental and Oral Health Knowledge Variable	Mean ± Standard Deviation	Min– Max
Pre Test		
control	7,1 ± 2,4	3 – 12
Video Kesgilut	10,8 ± 1,9	7 – 13
Post Test		
Control	7,8 ± 1,8	5 – 11
Video Kesgilut	12,5 ± 1,9	9 – 15
Improved Pre-Post		
control	3,75 ± 1,3	1 – 5
Video Kesgilut	4,75 ± 1,4	2 – 8

Based on Table 3, it is shown that there are different mean values for dental and oral health knowledge between the pre-test and post-test for both the control group and the Kesgilut video intervention group. This mathematically indicates a difference in dental and oral health knowledge before and after the Kesgilut video education intervention for kindergarten children at Al'fath Pasir Putih, Jambi City. Table 3 also demonstrates an increase in the average scores for dental and oral health knowledge after the intervention using the Kesgilut video among the kindergarten children.

4. Difference in Average Dental and Oral Health Knowledge Pre-Test and Post-Test

Table 4

Difference in Average Scores of Dental and Oral Health Knowledge Pre-Test and Post-

Test for Kesgilut Video Education in Kindergarten Children at Al'fath Pasir Putih,

Dental and Oral Health Knowledge Variable	Mean ± Standard Deviation	Min-Max	N	Sig. (2-tailed)
Pre Test				
control	7,1 ± 2,4	3 – 12	16	0,000
Video Kesgilut	10,8 ± 1,9	7 – 13		
Post Test				
Control	7,8 ± 1,8	5 – 11	16	0,000
Video Kesgilut	12,5 ± 1,9	9 – 15		

Table 4 shows that the average pre-test knowledge score for the control group was 7.1 ± 2.4, while the post-test score was 10.8 ± 1.9. Statistical testing revealed a p-value of 0.000, indicating a significant difference in knowledge before and after the education. Similarly, there was a significant difference in knowledge between the pre-test and post-test scores after the intervention using the Kesgilut video, with a significance value (2-tailed) of 0.000.

5. Effectiveness of Dental Health Education Using Kesgilut Video Media in Improving Dental and Oral Health Knowledge Among Kindergarten Children at Al'fath Pasir Putih, Jambi City

Table 5

Effectiveness of Dental Health Education Using Kesgilut Video Media in Improving Dental and Oral Health Knowledge Among Kindergarten Children at Al'fath Pasir Putih

Dental and Oral Health Knowledge Variable	Mean ± Standard Deviation	Min-Max	N	Sig. (2-tailed)
Improved Pre-Post	3,75 ± 1,3	1 – 5	16	0,043
control	4,75 ± 1,4	2 – 8		
Video Kesgilut				

Based on Table 5, it is shown that dental health education using the Kesgilut video is more effective in improving dental and oral health knowledge among kindergarten children at Al'fath Pasir Putih, Jambi City, compared to the control group.

DISCUSSION

Stimulating a child's development can be achieved through play, which is a fundamental activity for practicing skills, expressing thoughts, and preparing for adult behavior. Play provides cognitive and affective stimulation, which is as essential as physical needs. It helps children grow with physical, emotional, and mental maturity and fosters creativity, intelligence, and innovation (7).

Early childhood is a crucial period for laying the foundation for skill development, as children at this stage easily imitate what they see and hear, which becomes ingrained in their memory (8).

There are two main methods of dental health education:

1. One-Way Method : Includes lectures, radio broadcasts, film/video/slide presentations, leaflet distribution, and exhibitions.
2. Two-Way Method (Didactic) : Includes interviews, demonstrations, puppet shows, simulations, brainstorming, role-playing, and Q&A sessions.

The impact of early education and stimulation on children is increasingly recognized as important. Interactive video and other educational tools can be used as teaching aids in preschool dental health education to keep children engaged and ensure they understand the educational messages effectively. Using interactive videos and finger puppets for storytelling can make the education more memorable, reduce anxiety, and strengthen the connection between the educator and the audience.

According to Angelisa's 2014 study, storytelling methods showed a significant improvement in tooth brushing behavior before and after health education among preschool children at TK ABA Wilayah Wonokromo Pleret Bantul Yogyakarta. Similarly, Nurfalah's 2014 research indicated that demonstration methods and video methods significantly improved tooth brushing skills (4).

CONCLUSIONS

Statistical testing indicating a significant difference in knowledge before and after the education. Similarly, there was

a significant difference in knowledge between the pre-test and post-test scores after the intervention using the Kesgilut video, with a significance value (2-tailed) of 0.000. The Kesgilut video was more effective in improving dental and oral health knowledge among the kindergarten children compared to the control group.

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