



**THE EFFECT OF HEALTH EDUCATION USING AUDIOVISUAL TOWARDS KNOWLEDGE ABOUT BRUSHING TEETH CORRECTLY ON STUDENTS**

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**ABSTRACT**

Oral and dental health is the most common health problem in Indonesian society. At the Sritejokencono Puskesmas in 2019, there were 1049 oral health problems and were included in the top 10 diseases there. There are still many dental and oral health problems due to the lack of optimal school dental health (UKGS) activities carried out by the puskesmas, one of which is health education activities. This study used a quantitative type of research with a pre-experimental character and a research design using a one-group pretest – posttest design. The population in this study were all 3rd grade students at SD N 1 Sritejokencono Central Lampung totaling 40 students with 34 students. This research was conducted on 2 and 3 August 2020 at SDN 1 Sritejokencono, Central Lampung. data collection by, before respondents were given health education through video, respondents first did a pre-test then respondents were given health education by playing a video brushing their teeth correctly for 5 minutes, then respondents filled out questionnaires or post-test sheets, then carried out. After the normality test, the results of the data are not normally distributed, then the Wilcoxon test is used. The results showed that there was an effect of health education using audiovisual on the knowledge of correct tooth brushing in grade 3 students at SD N 1 Sritejokencono, Central Lampung in 2020 with a p value of 0.000 (p value <math>\alpha = 0.05</math>).

**Keywords:** brush teeth properly; health education; school children

<b>First Received</b> 05 Maret 2022	<b>Revised</b> 12 April 2022	<b>Accepted</b> 20 May 2022
<b>Final Proof Received</b> 13 May 2022		<b>Published</b> 30 May 2022

**How to cite (in APA style)**

Woro, D., Hervidea, R., & Ningrum, T. (2022). The Effect of Health Education using Audiovisual Towards Knowledge about Brushing Teeth Correctly on Students. *Indonesian Journal of Global Health Research*, 4(2), 243-250. <https://doi.org/10.37287/ijghr.v4i2.999>

**INTRODUCTION**

Having healthy teeth and a healthy mouth is a condition that can make a person more confident in socializing with other people, for example when eating, talking and interacting directly. Healthy teeth consist of two healthy tissues, both hard and soft tissues and the presence of healthy elements that still have something to do with the oral cavity (Regulation of the Minister of Health of the Republic of Indonesia No. 89 of 2015). In an effort to improve oral health, WHO (World Health Organization) explains that a person's quality of life will improve when there are no problems with his oral health, for example free from dental caries, tooth loss, oral cancer, periodontal disease, oral manifestations of infection. HIV, Oro-dental trauma, Noma and experiencing birth defects for example namely cleft lip and palate (World Health Organization, 2018).

Oral diseases affect 3.5 billion people worldwide, with untreated dental caries being one of the most common non-communicable diseases. In addition, the incidence of oral cancer was in the top three of all cancers in several Asia-Pacific countries in 2018. In some countries, oral

disease is the fourth most expensive disease to treat. To be able to treat caries, an estimated US\$3,513 per 1,000 children, this cost exceeds the total health budget for children in most low-income countries. The situation for developing countries is even worse, because they are suffering accumulation of untreated oral disease (World Health Organization, 2018).

Problems in the oral cavity, especially dental and oral problems, are among the biggest problems in Indonesia, which is ranked tenth. So this problem must be one of the problems that really must be considered (Maikal and Candra, 2011). Having healthy teeth and a healthy mouth is a condition that can make a person more confident in socializing with others, for example when eating, talking and interacting directly without experiencing dysfunction, and aesthetic disturbances. Occlusion deviations and tooth loss will cause a person to be unproductive in socializing, so it will also affect the person's economy (Regulation of the Minister of Health of the Republic of Indonesia No. 89 of 2015). A person who experiences dental and oral health problems will have a bad impact on that person's daily life, which will have an impact on his health, will reduce self-confidence, and also become a bad assessment (performance) from other people both at work and at school (Ministry of Health). RI, 2019). The cause of many dental problems is due to excessive sugar consumption, smoking, alcohol consumption and also poor dental and oral health. This will make the formation of plaque and also increase the growth of bacteria in the mouth. To prevent this from happening, regular brushing of teeth must be carried out, namely 2 times a day at the right time (Kemenkes RI, 2019).

Based on data from the Basic Health Research, the largest percentage of dental health problems in Indonesia is tooth decay or cavities. From 2013 to 2018 the problem of cavities in Indonesia has increased. In 2013 it was 25.6% and in 2018 it was 45.3%. In Lampung Province, from 2013 to 2018 the problem of cavities increased. In 2013 it was 18.4% and in 2018 it was 47.2% (Riskesdas, 2013 and 2018). The factor for the increasing percentage of damaged or cavities in Indonesia and Lampung Province is due to the low level of proper tooth brushing behavior. Based on Basic Health Research data, in Indonesia from 2013 to 2018 the majority of the population already had good tooth brushing behavior every day, namely in 2013 by 93.8% and in 2018 by 94.7%. However, from this percentage from 2013 to 2018 very few people brush their teeth at the right time, because toothbrushes must be done at least twice a day, namely after breakfast and also before going to bed, which in 2013 was 2.2% and 2018 by 2.8%. In Lampung Province it was also the same in 2013 to 2018 the percentage of daily tooth brushing behavior was good, namely in 2013 it was 94% and in 2018 it was 95%. However, the behavior of brushing teeth properly is only slightly namely in 2013 by 2.6% and in 2018 by 2.8% (Riskesdas, 2013 and 2018).

When viewed from the age, the proportion of problems in the teeth and mouth mostly occurred at the age of 5-9 years (67.3%) While the lowest proportion in the same problem occurred at the age of 3-4 years (41.1%) (Kemenkes RI, 2018). One of the efforts to improve dental health, it is necessary to hold a health education that teaches others about how to brush their teeth properly and correctly (Dawanti, 2012). In health education, a person will experience changes in himself because the purpose of the education is to make changes to health, both for individuals and for society (Nyswader, 1947 in Widyanto, 2014). Health education that is given well is to use audio-visual media. In learning an activity the best tool to use is audio-visual media, because this media will involve the senses of hearing and sight. So that information and messages in the media ranging from verbal and nonverbal messages can be accepted and easy to understand by people who hear and also see it (Lismurtini, 2013).

Based on research by Kuantobe et al (2016), at Kalongan Elementary School. The results of his research show that a person's knowledge will be more effective if it is used in education as video media and also flip charts about children's dental and oral health. Meanwhile, for PKG using video media, it will be more effective to increase knowledge about children's dental and oral health by comparing the use of flip chart media which is less effective. Junirianda's research (2018), in Sanggau Regency. The results of his research indicate that health education is carried out using audiovisual at the level of knowledge of oral health in children. In addition, Megawati's research (2016) at SD Kalicari Semarang. The results showed that the knowledge of brushing teeth using audiovisual media delivered during health education by the Peer Group showed more effective results.

At the Sritejokencono Health Center in 2019 there were 1049 cases of dental and oral health problems and were included in the top 10 diseases that were there (UPT Sritejokencono Health Center Data, 2019). Based on interviews with dental nurses at the Sritejokencono Health Center, dental and oral health problems are in the 10th place with a total of 1049 cases. Most of these cases were found in elementary schools, one of which was in the Kota Gajah Subdistrict and the children attended SD N 1 Sritejokencono, Central Lampung. Based on data obtained in December 2019 from 435 students who were examined, around 435 students needed treatment, in January 2020, from 443 students who were examined, around 385 students needed treatment and in February 2020, from 458 students, around 335 students were examined. which need treatment.

There are still many students who need treatment in December 2019 - February 2020 because there are still many students who don't understand the importance of dental health so they don't brush their teeth regularly and often eat sweet foods or snacks. Based on the results of interviews with 8 3rd grade students who attend SD N 1 Sritejokencono, there are 5 people who do not understand how to brush their teeth properly and their parents do not teach them to brush their teeth properly, while 3 people understand how to brush their teeth properly and are taught to brush their teeth properly. Based on the description above, the researchers were interested in taking the title "The effect of health education using audiovisual on knowledge about proper tooth brushing in students at SD N 1 Sritejokencono Central Lampung in 2020". The purpose of this study was to determine the effect of health education using audiovisual on knowledge about proper tooth brushing in students at SD N 1 Sritejokencono Central Lampung in 2020.

## **METHOD**

This study uses a quantitative research with a pre-experimental nature and a research design using a one-group pretest – posttest design. The population in this study were all 3rd grade students at SD N 1 Sritejokencono Central Lampung totaling 40 students with 34 students. This research was conducted on 2 and 3 August 2020 at SDN 1 Sritejokencono, Central Lampung. data collection by, before respondents were given health education through video, respondents first did a pre-test then respondents were given health education by playing a video brushing their teeth correctly for 5 minutes, then respondents filled out questionnaires or post-test sheets, then carried out. After the normality test, the results of the data are not normally distributed, then the Wilcoxon test is used.

## **RESULTS**

Table 1 it is known that before being given health education using audiovisual from 34 3rd grade students, 28 students (82.4%) had less knowledge about proper tooth brushing and 6 students (17.6%) had sufficient knowledge about tooth brushing. correct.

Table 1.  
Frequency Distribution of Knowledge of Grade 3 Students About Correct Teeth Brushing Before Health Education Using Audiovisual (n=100)

Knowledge	Group Before Being Given Health Education	
	f	%
Not enough	28	82,4
Enough	6	17,6
Good	0	0

Table 2.  
Frequency Distribution of Knowledge of Grade 3 Students About Correct Teeth Brushing After Being Given Health Education Using Audiovisual

Knowledge	Group After Being Given Health Education	
	f	%
Not enough	15	44,1
Enough	17	50
Good	2	5,9

Table 2, it is known that after being given health education using audiovisual from 34 3rd grade students there were 15 students (44.1%) had less knowledge about proper tooth brushing, as many as 17 students (50%) had sufficient knowledge about correct tooth brushing. and as many as 2 students have good knowledge about brushing their teeth properly (5.9%).

The Effect of Health Education Using Audiovisual on Knowledge of Correct Toothbrushing in Grade 3 Students at SD N 1 Sritejkencono Central Lampung

Variable	n	Mean	SD	P value
Knowledge				
Before Giving Health Education using audio visual	34	5,41	1,019	0,000
After Giving Health Education using audio visual	34	6,82	1,466	

Table 3, it is known that the average (mean) score of knowledge of grade 3 students about brushing their teeth correctly before being given health education using audiovisual is 5.41 with a standard deviation of 1.019 while the average (mean) score of knowledge of grade 3 students about brushing teeth correctly after being given health education using video is 6.82 with a standard deviation of 1.466. Statistical test results obtained p value of 0.000 ( $p < \alpha = 0.05$ ). So based on these data, it can be concluded that there is an effect on health education using audiovisual with knowledge of correct brushing of teeth in grade 3 students at SD N 1 Sritejkencono, Central Lampung.

## DISCUSSION

### Knowledge of Correct Teeth Brushing Prior to Health Education Using Audiovisual

Based on the results of the study showed that before being given health education using audiovisual from 34 3rd grade students there were 28 students (82.4%) had less knowledge about brushing their teeth properly and as many as 6 students (17.6%) had sufficient

knowledge about brushing their teeth. correct. This research is in line with Kantobe, Wowor and Gunawan (2016) at SD Kolongan, stated that before being given education using video media the average score of respondents' knowledge was 80.47. The results of the knowledge score before being given health education using video media were lower than after being given health education using video media. This study is also in line with Junirianda (2018) at SD N 28 Sebotuh in Sanggau Regency, stating that the level of knowledge of respondents before being given audiovisual health education was in the good category of 46.9%. The result of this knowledge percentage is lower than after being given education using audiovisual. Another study, namely Megawati, Hartati, Supriyono (2016) at SD Kalicari 01 Semarang, stated that before being given education using video media the average score of respondents' knowledge was 53.13. The results of the knowledge score before being given health education using video media were lower than after being given health education using video media.

According to Notoadmojo (2014), Knowledge is the result of someone's curiosity that occurs after the person analyzes the object being targeted. The analysis occurs through the five senses of humans themselves, ranging from the senses of sight, smell, taste, hearing, and also the sense of touch. When a person uses his senses to produce knowledge it can also be influenced by intensity based on perceptual attention to objects. Almost all of human knowledge comes from the senses of sight and hearing. In behavioral theory, there is a level of knowledge before a person can behave like he must know about the material he has learned, then he must understand the material, then he puts into practice the material, then it is analyzed whether the advantages and disadvantages of the material after it is practiced to him in everyday life and then do an evaluation that is assessing. According to Dewi (2010), there are several factors that can be an influence on a person's knowledge such as education, namely the guidance given by someone, for example, health education, work, namely the work environment related to the availability of information and experience, age, namely the level of maturity of a person in thinking and soul. The environment is the conditions that are around that affect the development of a person's behavior and socio-cultural, namely the social system of society that can affect attitudes in receiving information.

Based on the results of interviews with the principal and homeroom teacher at SD N 1 Sritejokencono, Central Lampung, there are still many grade 3 students who have less knowledge about proper tooth brushing due to the lack of optimal school dental health business activities (UKGS) carried out by the Sritejokencono Health Center, one of which is educational activities. health or health education regarding dental problems and how to brush teeth properly. In addition, environmental factors at home are also important things such as the teachings of parents to teach and get used to brushing teeth. It is likely that most of the parents' knowledge in this study did not understand about dental problems and how to brush their teeth properly.

### **Knowledge of Correct Tooth Brushing After Health Education is Given Using Audiovisual**

Based on the results of the study showed that after being given health education using audiovisual knowledge increased from 34 grade 3 students there were as many as 15 students (44.1%) had less knowledge about proper tooth brushing, as many as 17 students (50%) had sufficient knowledge about brushing. correct teeth and as many as 2 students (5.9%). This study is in line with Kantobe, Wowor and Gunawan (2016) at SD Kolongan, which stated that after being given education using video media, the average knowledge score of respondents

increased by 90.78. The results of this research score indicate that after being given education there is an increase.

This study is also in line with Junirianda (2018) at SD N 28 Sebotuh in Sanggau Regency, stating that the level of knowledge of respondents before being given audiovisual health education in the good category increased by 78.1%. The result of this knowledge percentage has increased after being given education using audiovisual. This research is in line with Megawati, Hartati, Supriyono (2016) at SD Kalicari 01 Semarang, stating that before being given education with using video media the average score of respondents' knowledge has increased by 57.27. The results of this research score indicate that after being given education there is an increase. The term education is a form of intervention or an effort that is focused on a person's attitude or behavior so that it becomes conducive to health. Health education can also be referred to as so that a person's attitude as well as in the form of groups and also the community has a positive influence in maintaining and improving health (Notoadmojo, 2014). Health education also aims to change unhealthy behaviors into healthy ones, both individually and in groups. Behavior that was previously inappropriate will turn into behavior that is in accordance with health values. In essence, negative behavior will be changed into positive behavior. Culture can also change health education, because a person's attitudes and behavior can be determined from the surrounding culture (Widyanto, 2014).

The researcher argues that the increase in knowledge of grade 3 students is due to the health education provided to students. This is because health education is a guidance, invitation or information given to someone in this study for grade 3 students about brushing their teeth properly. The goal is to change behavior (knowledge, attitudes and actions) that are not in accordance with health values or from unhealthy behavior to healthy. This study provides health education using audiovisual about dental problems and how to brush teeth properly for 1 hour which consists of introducing yourself, providing health education and conducting a question and answer session. Therefore, activities like this must be carried out continuously.

### **The Effect of Health Education Using Audiovisual on Knowledge of Correct Toothbrushing in Students at SD N 1 Sritejokencono Central Lampung**

From the research data, it shows that there is an influence between health education using audiovisual and knowledge about proper tooth brushing in grade 3 students at SD N 1 Sritejokencono Central Lampung in 2020 with a p value of 0.000 ( $p \text{ value} < \alpha = 0.05$ ). This research is in line with Kantobe, Wowor and Gunawan (2016) at Kolongan Elementary School, which states that there is an effect between health education using video and an increase in knowledge of 0.000. This study is in line with Junirianda (2018) at SD N 28 Sebotuh in Sanggau Regency, stating that there is an influence between health education using audiovisuals and the level of knowledge of dental and oral health in children at SDN 28 Sebotuh with a value of  $p = 0.013$  ( $p < 0, 05$ ). This study is in line with Megawati, Hartati, Supriyono (2016) at SD Kalicari 01 Semarang, stating that there is an effectiveness of health education by utilizing audiovisual media by the Peer Group to be effective in increasing knowledge in grade 4 and 5 students about brushing teeth carried out in SDN with p value is equal to 0.001.

According to Notoadmojo (2014), Behavior is influenced by predisposing factors, namely factors that discuss knowledge and also public attitudes towards health, traditions, and beliefs related to health matters, empowerment values, socioeconomic levels, and also education levels. Enabling factors such as clean water, a place to dispose of garbage, disposal of feces, and providing food that is certainly nutritious. In addition, it also provides health service

facilities such as posyandu, hospitals, health centers, and others. Reinforcing factors such as community leaders, religious leaders. All figures can be involved as supporting factors for the realization of an activity, especially activities in the health sector. In addition, of course the laws, as well as regulations from the central and regional governments that are related are very supportive factors in health.

The importance of health education factors on predisposing factors is shown to change awareness, as well as to increase public knowledge regarding their health. In addition, health promotion also provides an explanation of traditions and beliefs, whether they are beneficial or harmful to health (Notoadmojo, 2014). Physically, media tools are usually used to convey messages and information. So that the media used must be really needed to make it easier for users to convey health information (Widyanto, 2014). The benefits of health education media are the learning process and learning outcomes will increase and become smoother, a person will interact directly with the environment, be able to study independently according to their abilities and interests, so that learning motivation will appear, and someone will also be given some experiences that have been experienced by students about events that occur in their environment, so that there will be direct interaction with teachers, the environment, and the surrounding community (Mubarak, 2014).

According to Lismurtini (2013), audio-visual media are usually used for smooth learning activities. The way this audio-visual media works is to unite the functions of the two senses, namely hearing and sight simultaneously. Through this media can be used to get a message or information, whether it is a message that is verbal or nonverbal. Meanwhile, according to Surbrigus (2011), visual aids media is one of the visual media used to stimulate the sense of sight, then audio aids media is media used to stimulate the sense of hearing. Based on the description of the data above, the researcher argues that health education using audiovisual has proven to be able to increase students' knowledge about proper tooth brushing at SD N 1 Sritejokencono Central Lampung.

## CONCLUSION

Before being given health education using audiovisual from 34 3rd grade students there were 28 students (82.4%) had less knowledge about proper toothbrushing and as many as 6 students (17.6%) had sufficient knowledge about proper tooth brushing. After being given health education using audiovisual knowledge has increased from 34 grade 3 students there are as many as 15 students (44.1%) have less knowledge about brushing their teeth properly, as many as 17 students (50%) have enough knowledge about brushing their teeth properly and as many as 2 students (5.9%). There is an effect of health education using audiovisual on knowledge about correct brushing of teeth in grade 3 students at SD N 1 Sritejokencono Central Lampung with a p value of 0.000 (p value  $< \alpha = 0.05$ ).

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