

Differences in knowledge before and after using video media about dental caries during the covid 19 pandemic at sdn kandang cut aceh besar Indonesia.

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Abstract

Audio visual aids in the form of videos are one of the extension media that has many advantages and is easier for students to accept. Based on data from the Darul Imarah Health Center, the students who experienced caries at SDN (Public Elementary School) Kandang Cut were of the 23 students who were netted 20 children who had caries, the other 3 students were free of dental caries. generally, health workers only provide counseling delivered using the lecture as a method using phantom media and posters, but officers do not use video media. The purpose of the study was to determine the difference in knowledge before and after the use of video media about dental caries in fifth and sixth grade students during the COVID-19 pandemic. The research was analytic in nature with a quasi-experimental pre and post test only design. The research population of all students in grades V and VI amounted to 38 people and the sample used was saturated sampling. The study was carried out on February 23, 2021 and data analysis was performed using the Paired t-test with a degree of confidence. The results of the study showed that student knowledge before using video media about dental caries was quite poor (79%). While after using video media as a tool to explain about dental caries showed sufficient improvement in as many as 15 students (39%). It shows that the knowledge variable has a difference in values before and after counseling the use of video media about dental caries during the COVID-19 pandemic of 24.47. It can be concluded that there is a difference in knowledge before and after the use of video media about dental caries ($p=0.001$). It is hoped that the school will provide education using video media about dental and oral health, especially about dental caries to students during this COVID pandemic.

Keywords: Knowledge, Video media, Dental caries.

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Introduction

For school going children, health is an important factor that will determine their quality of life. The role of schools is very important in the transmission of information to students to maintain the health of teeth and mouth. Dental diseases and disorders in school-age children are one of the disturbances that affects the process of growth and development in children through a promotive approach to school-age children [1-3].

The promotive approach for school-aged children or known as health promotion is a process of empowering or making school-aged children independent in order to maintain and improve their health. The process of empowering or becoming independent at this age is not only limited to information-giving activities such as counseling and health education, but also involves overcoming various problems that exist in children [4,5].

The most common problems encountered in children's dental and oral health, especially children within the school age, are dental caries. For school going children, dental disease is a disturbing problem, as it not only causes complaints of pain but also spreads infection to other parts of the body. This condition will reduce the frequency of children's attendance to school, interfere with learning concentration, affects appetite and food

intake hence also affects the nutritional status. This also results in impaired physical growth and has implications for the quality of human life as the next generation of the nation so that the knowledge of a child is very important for the life that the child lives [6,7].

Knowledge is something that is indispensable in every side of human life on earth, without knowledge their insight will be narrow, there are many ways to get knowledge, be it at home, at school, at work, the way to get it of course also varies depending on their way. Get it and need it. Knowledge is the result of "knowing" and this occurs after people have sensed a certain object. Sensing occurs through the five human senses. Most of human knowledge is obtained through eyes and ears [8,9]. Knowledge of children will mutually form an ability to perform a certain behavior. Dental and oral health problems in the school age group are an important concern in health development, one of which is caused by the vulnerability of the school age group from dental and oral health problems. This is due to lack of knowledge and awareness regarding the importance of dental and oral care, especially dental caries, hence counseling plays an important role in providing knowledge in children [10].

According to the statement put forward by Hurlock quoted from Safrina [11], the age of 10-12 years is an effective age to

provide information that leads to cognitive and motor development of students, for example knowledge about dental caries. Cognitive development, of students aged 10-12 years who enter the concrete operational and formal operational stage are already able to classify any information received and can think logically. Motor development itself is in accordance with the physical development of students, at the age of 10-12 years, students are physically developing, and their motor skills also develop, hence it is beneficial when teaching students about dental health at that age. Dental health education is one of the way to provide adequate knowledge regarding the dental health, especially dental caries to elementary school students. Dental health education usually contains knowledge about how to take care of teeth and mouth [12]. According to Situmorang, for dental health counseling, students need to be provided with a good model and a simple as possible techniques. Thus, the delivery of dental and oral health education to students must be made as attractive as possible, including through attractive counseling without compromising educational content such as demonstrations and audiovisual programs [13].

Audio-visual in the form of videos can be used as an extension media that has many advantages, one of which is that it can be more easily accepted by students because it relates directly to their senses of sight and hearing. Knowledge that exists in a person is received through the senses. According to research by experts, the sense that transmits the most knowledge to the brain is the sense of sight. Approximately 75% to 87% of human knowledge is obtained/transmitted through the sense of sight, 13% through the sense of hearing and another 12% is channeled through the other senses. Thus, video media as a tool that is considered appropriate if used in dental health education for elementary school children. Video media is one type of audio-visual media that can describe an object that moves together with natural sounds or appropriate sounds so that they can apply knowledge to help understanding a learning material [14,15].

Counseling using video media is a medium that is in accordance with the characteristics of elementary school children who really like fun and want to know something new. Children are given education with these media in an effort to introduce children to formal situations so that children can adjust. Children begin to live in society, they experience, get to know many friends, get to know different kinds of food, imitate and imitate what is seen in school children aged 6-12 years [16].

The results of research conducted by Nura in 2017 showed that there was an influence on the knowledge of fifth and sixth grade students about the incidence of caries after being given health education with video media. The results of the statistical test (wilcoxon signed rank test) obtained a p value of 0.000 where $p > 0.05$ so it can be concluded that video media is very helpful in changing children's knowledge in addition to entertainment and communication media can also be used as an educational medium that is easily understood by the community from children to parents.

Similar to the research conducted by Nurfalih's research results that the demonstration method (demonstration) and video media can provide significant results in increasing dental health knowledge which is assessed from the average results of pre-test and post-test and paired T-test results [16]. The results of the paired t test in the demonstration method obtained p value=0.001 ($p < 0.05$) and video media obtained p value=0.001 ($p < 0.05$) which indicates that there is a difference between the pre test results and post test results in the demonstration method and video method. It is proven that the demonstration method and video media are effective methods and media in increasing knowledge about dental health.

Based on the 2013 Basic Health Research data, it was stated that the prevalence of caries in children was 23.5%, and increased to 28.9% in 2013. The prevalence of caries in children in the 10/14-year age group was 0.57% in 2007, while in 2013, increased to 1.4%. The percentage of caries in Aceh province is 4.0%. The current high caries rate is strongly influenced by several factors, one of which is the behavior of people who do not realize the importance of maintaining oral health.

Based on data from the Darul Imarah Health Center in Aceh Besar District in 2018 obtained from the head of the UKS and UKGS implementation units that the data on the health screening of students in the Darul Imarah Health Center area of Aceh Besar District, precisely at the Kandang Cut State Elementary School, the data on students who experienced caries were from 23 students. In the net there were 20 children with caries, while the other 3 students were free of dental caries. According to dental caries screening data in grade 1, it was found that 87% of the students were exposed to dental caries in SD Negeri Kandang Cut, SDN 2 Lambheu 50% of students and SDN 1 Jeumpet 45% of students affected by dental caries so that SDN Kandang Cut is the school with the highest number of students. Who have caries compared to other public elementary schools in the area of the Darul Imarah Health Center, and so far health workers have only conducted counseling using the lecture method through phantom and poster media, officers do not use video media because of the unavailability of facilities and funds at the health center and also dental and oral health counseling that is carried out in elementary schools only once or twice a year and is usually carried out for first grade students and usually only counseling on brushing teeth, especially during this COVID-19 pandemic, and the school is not a target school for the Puskesmas.

The purpose of the study was to determine the difference in knowledge before and after the use of video media about dental caries during the COVID-19 pandemic at SDN Kandang Cut Aceh Besar.

Materials and Methods

This analytical study was conducted to determine the difference in knowledge before and after the use of video media about dental caries in fifth and sixth grade students at SDN Kandang Cut, Aceh Besar District. The design of this

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research is that data collection is carried out manually quasi experiment pre and post test only design.

Description

O1: Knowledge about dental caries before giving counseling using video media.

X: Extension Intervention using video media media

O2: Knowledge about dental caries after giving counseling using video media.

Sampling in this study using the saturated sampling method (total population), namely all students of Class V and VI SD Negeri Kandang Cut, Aceh Besar District, totaling 38 students. This research was conducted at Kandang Cut Elementary School, Aceh Besar District on February 23, 2021. The instrument used to support this research was a questionnaire, the video displayed was sourced from Putri (interviewee), laptop, infocus and Speaker. Data collection was obtained directly by filling out a questionnaire using a questionnaire based on assessing the knowledge regarding the dental caries before and after counseling using video media for Class V and

Table 1. Frequency distribution of student knowledge before and after using video media about dental caries during the COVID-19 pandemic at SDN Kandang Cut Aceh Besar.

No	Knowledge	Pre test		Post test	
		F	%	F	%
1	Good	3	8	12	32
2	Enough	5	13	15	39
3	Less Good	30	79	11	29
Total		38	100	39	100

Based on Table 1 above, it shows that from 38 students, 79% of the students knowledge during the (pre test) was poor while knowledge after the post-test) using video media about caries only 15 students (39%) had satisfactory knowledge

Table 2. Normality test results based on student knowledge before and after using video media about dental caries during the Covid 19 pandemic at SDN Kandang Cut Aceh Besar.

Plaque index	p value
Pre-test	0.20
Pos-test	0.19

Normality testing using computer software (SPSS) and the results of normality testing (Table 2) can briefly be stated that all data in this study, both knowledge before the intervention and after the intervention was distributed normally ($p > 0.05$) at a significance level of 95%. Changes in Pre-test and Post Test

VI students of SD Negeri Kandang Cut Aceh Besar. During the pre-test phase distribution of questionnaires was done having a duration of ± 10 minutes, then counseling session were done without providing any explanation from the author only done with the help of video media which had a duration of ± 15 minutes, with 2 repetitions, then re-distribution of the questionnaire (post-test) was done.

The data obtained from the results of filling out the questionnaire were analyzed and then processed using the SPSS (Statistical Package for Social Science) program to test whether there were differences before and after being given treatment using Paired T-test. The error rate (α) used in this study was 0.05 (95%).

Results

Based on data processing obtained from the field in present in the form of tables and narratives, the following results are obtained: Student knowledge of dental caries before and after video media use the distribution of the frequency of students' knowledge before and after the use of video media can be seen in table 1 below:

Data normality test: Testing the normality of the data in this study used the Kolmogorov Smirnov Z test. Table 2 presents a summary of the results of the data normality test, both knowledge before the intervention and after the intervention.

Values on Student Knowledge of Using Video Media About Dental Caries during the COVID-19 Pandemic Based on Average Scores. The increase in students' knowledge can be seen from the average value before and after counseling with video media. Table 3 changes in the average value of the pre and post test can be seen as follows:

Table 3. Pre-test and post test values students' knowledge of using video media about dental caries during the COVID-19 pandemic at SDN Kandang Cut Based on average value.

No	Variable	Mean	P	Δ
1	Pre test	40.00 ± 21.43	0.001	24.47
2	Post test	64.47 ± 19.12		

Based on Table 3 above, it shows that there is an increase in knowledge that can be seen from the difference in the average post-test and pre-test scores. In the knowledge variable, the difference between the average post-test and pre-test scores is 24.47. Knowledge difference test before and after giving counseling with video media. The pre-test and post-test values on the knowledge variable used the Paired t-Test test to

determine whether there was a difference in knowledge before and after counseling. The results of the different test values for pre-test and post-test knowledge with video media can be seen in table 4 below as follows. Table 4 shows that the value is significant ($p < 0.05$). This shows that from the knowledge variable there are differences in values before and after counseling the use of video media about dental caries ($p = 0.001$).

Table 4. The results of the difference in pretest and post test values of knowledge with video media about dental caries during the COVID-19 pandemic at SDN Kandang Cut Aceh Besar.

ValuePre test and post test	P value
Knowledge	0.001

Discussion

Based on the research sample data that has been carried out on students at SD Negeri Kandang Cut Aceh Besar, it has been found that in table 1 knowledge before the (pre-test) received with video media showed poor results in as many as 30 students (79%). While the knowledge after (post-test) using video media about dental caries resulted in adequate knowledge of 15 students (39%). hence statistically significant difference in knowledge before and after the use of video media about dental caries was seen, p value=0.001. According to the author's assumption that video media has a large influence on providing a basis for student's knowledge, it is proven from before counseling using video media students' knowledge was inadequate, however after getting education through video media their knowledge level increased. Table 3 shows that there is an increase in knowledge that can be seen from the difference in the average post-test and pre-test scores. In the knowledge variable, the difference between the average post-test and pre-test scores was 24.47.

According to Budiharto, knowledge is the result of knowing, and this occurs after people perceive a certain object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. Most of human knowledge is obtained through eyes and ears such as by viewing at posters, magazines, or by information sources in the form of writing and sound information such as seminars, counseling, or talks from other people through daily conversation. This knowledge is very important for the formation of one's actions, the better the knowledge of how to maintain dental and oral health that a person has followed by the awareness and behavior of wanting to maintain good dental hygiene, the possibility of preventing cavities. And health knowledge can be increased by providing education about health through health education or promotion.

Children's knowledge is related to the brain and memory. The brain stores information by way of input received by the sensor is forwarded to the brain and stored in short-term memory, some information will be passed on to long-term memory

which is determined by attention to the input of the information. Attention, motivation, and the association of information with pre-existing knowledge in the brain are the most influential factors for storing information in long-term memory. In the principle of making extension media, it is stated that the knowledge that exists in everyone is received or captured by the five senses. The more senses that are used, the more and the clearer the understanding or knowledge gained through counseling. Health education are activities aimed at improving one's abilities and making the right decisions regarding health maintenance, so that based on the experience gained, it can be useful in influencing one's habits and knowledge about dental caries.

According to Notoatmodjo which explains that health education for children aims to provide knowledge about the basic principles of healthy living, lead to healthy attitudes and behavior. Behavior that is based on knowledge will be more lasting than behavior that is not based on knowledge. If the acceptance of new behavior or the adoption of behavior is based on knowledge, understanding, awareness and positive attitude, the behavior will be lasting and vice versa, behavior that is not based on knowledge and positive attitude will not last long. Dental health teaching using audiovisual method can also increase children's knowledge in the form of dental health education. Dental health education usually contains knowledge about how to maintain dental and oral health. One example is knowledge about dental caries. Dental caries knowledge is the result of human knowledge about dental caries. Children are expected to know the meaning, causes of dental caries and prevention of dental caries.

The video method makes children use their five senses more than one, so that the knowledge given in the extension method, both demonstrations and videos, can be well received. A series of cartoon images presented in the form of videos can also attract children's attention during counseling. Videos containing cartoons can help improve children's cognitive development as seen from the test scores before and after the video is given. Teaching media that can motivate children's interests and actions are teaching media that are realized with

entertainment techniques such as the video method, therefore the video method can increase children's knowledge because it can increase the motivation of children's interests and actions when counseling takes place.

The video method is said to be interesting because it can overcome the limited experience students have. The video method can present what cannot be experienced directly by students and allows direct interaction between children and their environment, this is because audiovisual media presents real situations from the information conveyed to create a deep impression. In addition to accelerating the learning process with the help of audiovisual media, it can increase the level of intelligence and change passive and static attitudes towards active and dynamic attitudes. This video media in addition to entertainment and communication media can also be used as an educational medium that is easily understood by the public from children to the elderly. Health education with video media is a medium that is in accordance with the characteristics of elementary school children who really like fun and want to know something new. Children are given education with these media in an effort to introduce children to formal situations so that children can adjust.

According to piaget quoted from Santrock, the cognitive development stage of children aged 9-12 enters the concrete operational stage and the formal operational stage which starts around the age of seven to fifteen years. At this stage, children are able to do logical reasoning, have the ability to classify things and have started to think about experiences outside of concrete experiences and think about them more abstractly, ideally, and logically. This may make the video method well received by children so that it can increase knowledge about dental caries.

Conclusion

Students' knowledge before using video media about dental caries during the COVID-19 pandemic was in the poor category, namely 30 students (79%). Students' knowledge after using video media about dental caries in the nasa COVID-19 pandemic with a sufficient category, namely 15 students (39%). The results of the paired t-test can be concluded that there is a difference in knowledge before and after the use of video media about dental caries during the covid-19 period with p-value=0.001 and the difference between the pre-test and post-test is 24.47.

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