

Health Education Using Learning Videos On The Level Of Teeth Brushing Skills In School-Age Children At Technical Implementation Unit Of Ngrendeng 01 Public Elementary School

Putri Dwi Wulandari*, Muhammad Ali Sodik

Insitut Ilmu Kesehatan STRADA Indonesia, Kediri, Indonesia

*Corresponding author: putridwiwulandari03@gmail.com

ABSTRACT

Dental and oral health could be achieved with correct and excellent dental and oral hygiene maintenance. School-age children still do not know about the maintenance of dental and oral hygiene, it is proven that the caries rate that occurs at the age of 10-14 years is 73.4% and the behavior of brushing teeth carried out at the right time is only 2.1%. Health education methods with learning video media can teach children and improve children's skills in brushing teeth. The purpose of this study was to analyze the effect of health education using learning videos on the level of teeth brushing skills in school-age children at technical implementation unit of ngrendeng 01 public elementary school. This type of research is Pre Experiment used a one group pretest posttest design with a sample of 36 respondents selected using probability stratified random technique sampling. The research instrument used was an observation sheet. The data analysis technique used the Wilcoxon Signed Rank Test. The results of the Wilcoxon showed that the rank test statistic obtained $p\text{-value} = 0.000$, so that the $p\text{-value} < (0.05)$. This research can be concluded that there is an effect of health education using learning videos on the level of tooth brushing skills in early childhood students at technical implementation unit of ngrendeng 01 public elementary school.

Keywords: Brushing Teeth, Health Education, Learning Videos

Received November 11, 2021; Accepted Desember 20, 2021

INTRUDUCTION

Dental and oral health are parts of the overall body health and intertwine with each other. They could affect other bodily health. Dental and oral health could be achieved with correct and excellent dental and oral hygiene maintenance. Dental and oral hygiene is a condition in which the teeth in the oral cavity are clean, free from plaque, other impurities that are on the surface of the teeth such as debris, tartar, and food scraps and do not smell bad in the mouth. and Abubakar, 2018). Poor dental and oral hygiene might become a risk factor for dental and oral disease, specifically dental caries and periodontal disease. Then, excellent dental and oral hygiene maintenance behavior is important to be constructed since childhood (Hermanto, Ida, and Imam, 2021).

Based on The Global Burden of Disease Study in 2016, stated that dental and oral problems, specifically dental caries, are diseases experienced by half of the world population (3.58 billion people). The result of the Basic Health Research Report in 2018 showed that there were 57.6% of Indonesian citizens and 55.6% based in the age group of 10 – 14 years old experienced dental and oral problems. Meanwhile, caries prevalence in Indonesia was in the number of 88.8%, and children's caries prevalence within the age group of 10 – 14 years old

was in the number of 73.4% from the implementation target of Indonesia Caries Free 2030 (Ministry of Health of Republic of Indonesia, 2018).

One of the causes of the high prevalence of dental caries is caused by behavioral factors or attitudes that ignore dental and oral hygiene. This can happen due to a lack of knowledge about the importance of maintaining oral health. The biggest dental problems occur at the age of children where children do not know how to maintain healthy teeth and mouth (Sihombing, 2019). Based on the results of Riskesdas 2018, the Indonesian population who brushed their teeth with the correct time category only reached 2.8% and 2.1% for children aged 10-14 who brushed their teeth at the right time. Meanwhile, to prevent dental caries and to maintain good oral hygiene, a person needs to keep his teeth and mouth clean by brushing his teeth properly and regularly. Brushing teeth is a simple action taken to remove plaque and food debris using a toothbrush and toothpaste, because plaque and food debris are the main causes of dental caries, therefore it is necessary to establish dental and oral health maintenance behavior from an early age (Purnama T, Rasipin, et al. Bedjo S, 2019).

Based on the results of research Norfai (2017) shows that the habit of brushing teeth that is done properly and well can reduce the incidence of dental caries in children. Efforts in maintaining dental and oral health should be done from an early age. Elementary school age is a good time to train a child's motor skills, including the ability to brush their teeth and at this age it is easy to accept and instill the basic values of health behavior training. In addition, because brushing teeth must be done every day, it is important to educate children to take responsibility for their own oral health (Deinzer et al, 2019).

Based on the preliminary study done by the researcher on school-age children in UPT of SDN 01 Ngrendeng, on 20th November 2021 to students ranging from class IV, V, and VI, population data in the amount of 39 students was obtained, in which sequentially amounted to 14, 11, and 14 students from each of those three classes. When the interviews were conducted on the 10 children, it was found that they lacked dental maintenance. Some only brushed their teeth once in the morning, and some already did it twice a day (however, they were incorrect in terms of time and procedures). They said they had not yet received health education or teeth brushing practice before.

From these problems, promotive activities are needed to improve the skills of brushing teeth in children, one way is by providing health education. Health education is a planned and dynamic learning process. In conducting health education can be done by using teaching aids (media). Teaching aids (media) function to assist health education in conveying health messages so that the target of counseling gets clear and more focused material and information (Nurmala et al, 2018).

The provision of dental and oral health education will be more effective and optimal by using the right methods and media (Puspitaningtiyas, 2017). The use of audio-visual media in health education is considered very appropriate to convey health messages to the public, especially to children. The use of this audio-visual media can make the recipient use more senses, namely the sense of hearing and the sense of sight so that information can be received properly (Papilaya, 2016). At the age of children prefer the form of images that have sound and moving images, so they can provide examples of good behavior for children, especially at this age they have the nature of imitating or like to follow what is seen (Listyarini, 2017).

The purpose of the research is to analyze the impact of health education by using learning videos on the level of teeth brushing skill in school-age children at technical implementation unit of ngrendeng 01 public elementary school.

METHODS

The type of research conducted is Pre-Experimental with the research plan of One Group Pre-Test and One Group Post-Test. The research was conducted at technical implementation unit of ngrendeng 01 public elementary school and was carried out on 28th March 2022. The population in this research was students from classes IV, V, and VI at technical implementation unit of ngrendeng 01 public elementary school, which amounted to 39 students. The number of samples taken was 36 children using the Probability Stratified Random Sampling technique, which sampling technique is randomized in relation to the proportion of each stratum. The sampling result determined samples were 13 students from class IV, 10 students from class V, and 13 students from class VI. The research instrument used was an observation paper that contains checklists to measure teeth brushing skill. The research was conducted by doing an initial observation, then the researcher delivered health education using learning video, and the last part was re-observation. The next step was result analysis by using the statistic test of the Wilcoxon signed rank test.

RESULTS

Subject Characteristics

Table 1. Characteristics of respondents in this study include age, gender and class.

No	Characteristics	Frequency	%
1	Age		
	9	1	2,8
	10	9	25,0
	11	11	30,6
	12	15	41,7
	Total	36	100,0
2	Gender		
	Man	19	52,8
	Woman	17	47,2
	Total	36	100,0
3	Class		
	IV	13	36,1
	V	10	27,8
	VI	13	36,1
	Total	36	100,0

Table 2.Teeth Brushing Skill Before Health Education

Teeth Brushing Skill	Freuency	%
Good	0	0
Moderate	1	2,8
Poor	35	97,2
Total	36	100,0

Table 2 above shows that based on observations of children's teeth brushing skills before health education was given, it was found that most of the children were poor skills as many as 35 children or 97.2% and those with moderate skills were 1 person or 2.8%.

Table 3.Teeth Brushing Skill After Health Education

Teeth Brushing Skill	Frequency	%
Good	28	77,8
Moderate	8	22,2
Poor	0	0
Total	36	100,0

Table 3 above shows that based on observations of children's teeth brushing skills after health education was given, it was found that most of the children had good skills as many as 28 children or 77.8% and those with moderate skills were 8 people or 22.2%.

Data analysis

Tabel 4.Wilcoxon signed rank test results.

Category	Skill before Health Education Given		Skill after Health Education Given	
	f	%	f	%
Good	0	0	28	77,8
Moderate	1	2,8	8	22,2
Poor	35	97,2	0	0
Total	36	100	36	100
p-value = 0,000				

In table 4 data analysis used the statistic test of Wilcoxon signed rank test, which resulted in a p-value = 0.000. Thus, the p-value < α (0.05) that made the hypothesis could be accepted. Moreover, it means there is an impact from health education by using learning videos against teeth brushing skill on school-age children at technical implementation unit of ngrendeng 01 public elementary school.

The Teeth Brushing Skill Level of the Children Before Health Education Using Learning Videos

The skill of teeth brushing of the school-age children at technical implementation unit of ngrendeng 01 public elementary school prior to being given health education by learning videos showed that most of the children's brushing skill, which was as many as 35 children or 97.2%, were in the poor category, meanwhile in the moderate category there was only 1 child or 2.8%, and there were no children who were in the good scale of teeth brushing skill. The results of this study were in line with research conducted by Aprilia et al. (2021), which showed an overview of teeth brushing skill before being given health education using videos with most of the children's skill were in the poor category.

According to Nurmalasari et al. (2021), knowledge or cognitive is crucial to shape a person's behavior. Behavior created based on knowledge and awareness will produce behavior that lasts longer, whereas behavior created not based on knowledge and awareness will not last long. Notoatmodjo (2003) in Nurmala et al. (2018) explained that there are three stages for the occurrence of behavior change, a change in knowledge, a change in attitude, and, lastly, a change in action that occurs when someone who has been aware and made an assessment of the stimulus obtained based on prior knowledge and assessment.

Mackintosh in Asniar, Hajjul and Putri (2020) explains that health education is an activity carried out to increase individual awareness, providing health knowledge that individuals need to perform a certain action. Health education can be carried out in various

scopes, one of which is within the school and targeting school children. School-age children are a group that has the characteristics of starting to try to develop independence in themselves (Nurlila, Jumarddin and Meliana, 2016). In addition, school-age children are a period where children acquire the basics of knowledge for hygiene and adjustment to adult life and this period is suitable for acquiring a skill (Astiti and Lala, 2018).

Based on the above, it can be concluded that children's tooth brushing skills are still far from what is expected, this can be seen from the observation that the majority of teeth brushing skills are in the poor category and only 1 child is skilled in the sufficient category, this is because children's knowledge about how to brush their teeth is good and good. true still very less. So it is necessary to provide knowledge through health education about how to brush teeth properly and correctly. At the age of school children it is appropriate to be given health education to increase children's knowledge so that it will shape behavior and improve children's skills in brushing teeth properly and correctly.

The Teeth Brushing Skill Level of the Children After Health Education Using Learning Videos

The skill of teeth brushing of the school-age children at technical implementation unit of ngrendeng 01 public elementary school after being given health education by learning videos showed the results of children's brushing skill in the good category of 77.8% or 28 children and the moderate category of 22.2% or 8 children and none children who have the brushing skill in the poor category.

These results were in accordance with the results of a research by Astiti and Lala (2018), which stated that the scale of teeth brushing skill of the school-age children at the Mustekorejo state elementary school , Yogyakarta after being given health education using learning videos the majority were in the good category. Health education using the video method on how to correctly brush teeth for children can clearly convey the idea or messages so that It can attract the children's attention to understand and remember how to brush their teeth properly and correctly.

The information obtained by the respondent affects the knowledge of the respondent, which was originally lacking, will change itself to be good. A person's knowledge of an object has a different intensity or level. The learning process that occurs is not optimal will affect a person's perception so that changes to healthy living behavior will be difficult to obtain. Perception of information processing is also related to the selection of attention, code, and memory (Yasin, Zakiyah, 2021).

Nugraheni, Sofwan and Suhat (2018) explained that childhood is the beginning of the formation of behavior so that the health education provided at this time will determine the formation of health behavior in children and in the 10-12 year age group children's interest in learning is high, supported by strong memory and the ability to understand the material being taught.

Gender also affects the child's skills. In the research, Safitri et al (2018) stated that girls have better brushing skills than boys. Boys are poor skilled in practical tasks, especially fine motor tasks, than girls.

Based on the above, it can be concluded that children's tooth brushing skills have increased from those previously skilled in the poor category to become skilled in the good and sufficient categories, and those previously skilled in the moderate category increased to good categories, this is because they have received health education using learning videos. So that

children are able to brush their teeth properly and correctly according to the material that has been delivered using learning videos. In addition, the increase in tooth brushing skills is also influenced by the age of the child and in this study the majority of children were aged 10-12 years so that they could understand and remember the material that had been given. The age of children who show skills in the good category is mostly at the age of 11 years, this is because at the age of 11 the majority of children are female, where gender can determine a child's skills. Skills Girls show more skill than boys in brushing their teeth. While the skills of brushing children's teeth between classes do not show much difference, in receiving information each child can vary this is influenced by the attention given to children when giving health education and the ability to remember they have.

The Effect of Health Education Using Learning Videos on the Teeth Brushing Skill Level in Children

Based on data analysis using the Wilcoxon signed rank test statistic, $p\text{-value} = 0.000$ since the value 0.000 was smaller than $\alpha = <0.05$, that made the hypothesis could be accepted. It meant that there was an impact from the health education using learning videos on the teeth brushing skill level in the school-age children at technical implementation unit of ngrendeng 01 public elementary school. These results were in line with the results of research by Astiti and Lala (2018), which explained that health education using learning videos could influence how to brush teeth in school-age children at the Mustekorejo state elementary school in Yogyakarta.

According to Craven and Hirnle (1996) in Nurmala et al. (2018), the purpose of health education is to provide a variety of information and motivation to a person to achieve an increase in insight and skills to implement a healthy lifestyle. Astiti and Lala's research (2018) stated that video as a medium in providing education could optimize the achievement of learning objectives in a short time by making students' interest in learning more independent and also made students motivated to practice what was taught. Video as a medium could also increase students' interest in learning because they could learn audiovisually. Moreover, health education using videos has been proven to provide ease of access and could encourage a change or improvement in a person's behavior to be better (McNab and Tony, 2019).

Based on the above, it can be concluded that the provision of health education using the learning video has an impact and has an impact on the children's skill in brushing their teeth. Since it is in accordance with its objectives, health education aims to provide knowledge to improve skills in healthy living behavior. Furthermore, by using learning videos can attract and increase children's interest so they can be motivated to practice what they have seen in the video.

CONCLUSION

Based on the results of the research and discussion, the conclusions are as follows, the level of teeth brushing skill in school-age children at at technical implementation unit of Ngrendeng 01 public elementary school before being given health education using learning videos is grouped in the poor category . The level of teeth brushing skill in school-age children at technical implementation unit of Ngrendeng 01 public elementary school after being given health education using learning videos in the good category. There is an effect of health education using learning videos on the level of teeth brushing skills in school-age children at technical implementation unit of Ngrendeng 01 public elementary school.

Suggestions for future researchers, I hope that the results of this study can be used as a reference and information for further research on health education using learning videos on the

level of teeth brushing skill of school-age children. For further research, you can utilize or compare your research with other learning media.

REFERENCE

- Aprilya, I. H., Laut, D. M., Ningrum, N., Laela, D. S., Keperawatan, J., Poltekkes, G., & Bandung, K. (2021). MENGGUNAKAN VIDEO TUTORIAL TERHADAP KETERAMPILAN The Effect of Teeth Brushing Guidance on Fones Technique Using Video Tutorials. *Jurnal Kesehatan Siliwangi*, 2(1), 331–337.
- Asniar, Kamil, H., & Mayasari, P. (2021). *PENDIDIKAN DAN PROMOSI KESEHATAN*. Syiah Kuala University Press.
- Deinzer, R., Cordes, O., Weber, J., Hassebrauck, L., Weik, U., Krämer, N., Pieper, K., & Margraf-Stiksrud, J. (2019). Toothbrushing behavior in children – an observational study of toothbrushing performance in 12 year olds. *BMC Oral Health*, 19(1), 68. <https://doi.org/10.1186/s12903-019-0755-z>
- Fitriana, L. B. (2018). Pengaruh Pendidikan Kesehatan Tentang Cara Menggosok Gigi Dengan Video Pembelajaran Pada Anak Usia Sekolah. *Jurnal Keperawatan Respati Yogyakarta*, 5(2), 378–382. <https://doi.org/http://dx.doi.org/10.35842/jkry.v5i2.209>
- Hermanto, V. L. N., Mahirawatie, I. C., & Edi, I. S. (2021). Tingkat kebersihan gigi dan mulut pada anak sekolah ditinjau dari efektivitas teknik menyikat gigi bass dan roll. *Jurnal Ilmiah Keperawatan Gigi (JIKG)*, 3(2), 570–578. <http://ejurnal.poltekkestasikmalaya.ac.id/index.php/jikg/index>
- Kementerian Kesehatan RI. (2018). *Profil Kesehatan Indonesia 2018*. Kementerian Kesehatan RI. https://pusdatin.kemkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/PROFIL_KESEHATAN_2018_1.pdf
- McNab, M., & Skapetis, T. (2019). Why video health education messages should be considered for all dental waiting rooms. *PLOS ONE*, 14(7), e0219506. <https://doi.org/10.1371/journal.pone.0219506>
- Mulyadi, M. I., Warjiman., & Chrisnawati. (2018). Efektivitas pendidikan kesehatan dengan media video terhadap tingkat pengetahuan perilaku hidup bersih dan sehat. *Jurnal Keperawatan STIKES Suaka Insan*, 3(2), 1–9.
- Munadirah, & Abubakar, S. (2018). No Title GAMBARAN TEKNIK MENYIKAT GIGI TERHADAP TERBENTUKNYA KARANG GIGI SUPRA GINGIVAL PADA MASYARAKAT DESA BOTTO KECAMATAN TAKKALALLA KABUPATEN WAJO. *Media Kesehatan Gigi*, 17(1), 20–24. <https://doi.org/https://doi.org/10.32382/mkg.v17i1.170>
- Norfai, & Rahman, E. (2017). Hubungan Pengetahuan Dan Kebiasaan Menggosok Gigi Dengan Kejadian Karies Gigi Di Sdi Darul Mu’Minin Kota Banjarmasin Tahun 2017. *Dinamika Kesehatan*, 8(1), 212–218.
- Nugraheni, H., Suhat, & Indarjo, S. (2018). *BUKU AJAR PROMOSI KESEHATAN BERBASIS SEKOLAH*. Deepublish. https://repository.poltekkes-smg.ac.id/index.php?p=show_detail&id=23726&keywords=
- Nurlila, R. U., Fua, J. La, & Meliana, M. (2016). PENGARUH PENDIDIKAN KESEHATAN TERHADAP PENGETAHUAN TENTANG KESEHATAN GIGI PADA SISWA DI SD KARTIKA XX-10 KOTA KENDARI TAHUN 2015. *Al-Ta’Dib Jurnal Kajian Ilmu Kependidikan*, 9(1). <https://doi.org/http://dx.doi.org/10.31332/atdb.v9i1.504>
- Nurmalasari, A., Hidayati, S., & Prasetyowati, S. (2021). PENGARUH PENYULUHAN MENGGUNAKAN MEDIA PHANTOM GIGI TERHADAP PERILAKU SISWA TENTANG CARA MENGGOSOK GIGI. *Jurnal Ilmiah Keperawatan Gigi*, 2(3). <https://doi.org/https://doi.org/10.37160/jikg.v2i3.763>

- Papilaya, E. A., Zuliari, K., & Juliatri. (2016). Perbandingan pengaruh promosi kesehatan menggunakan media audio dengan media audio-visual terhadap perilaku kesehatan gigi dan mulut siswa SD. *Urnal E-GiGi*, 4(2), 282–286. <https://doi.org/https://doi.org/10.35790/eg.v4i2>
- Purnama, T., Rasipin, R., & Santoso, B. (2019). Pengaruh Pelatihan Tedi's Behavior Change Model pada Guru dan Orang Tua terhadap Keterampilan Menggosok Gigi Anak Prasekolah. *Quality : Jurnal Kesehatan*, 13(2), 75–81. <https://doi.org/10.36082/qjk.v13i2.80>
- Puspitaningtiyas, R., Leman, M. A., & . J. (2017). Perbandingan efektivitas dental health education metode ceramah dan metode permainan simulasi terhadap peningkatan pengetahuan kesehatan gigi dan mulut anak. *E-GIGI*, 5(1). <https://doi.org/10.35790/eg.5.1.2017.15523>
- Safitri. (2018). Penerapan Aplikasi Sayang ke Buah Hati (SEHATI) terhadap Pengetahuan Ibu serta Dampak pada Keterampilan Anak tentang Cara Menyikat Gigi. *Global Medical and Health Communication*, 6 No.1(30), 68–73. <https://ejournal.unisba.ac.id/index.php/gmhc/article/view/2757>
- Sihombing, K. P. (2019). GAMBARAN PENGETAHUAN CARA MENYIKAT GIGI SISWA-SISWI KELAS V SD NEGERI 050633 MOJOSARI KECAMATAN KUALA KABUPATEN LANGKAT SEBELUM DANSESUDAH DIBERIKAN PENYULUHAN METODE DEMONSTRASI. *Jurnal Ilmiah PANNMED (Pharmacist, Analyst, Nurse, Nutrition, Midwivery, Environment, Dentist)*, 13(3), 146–150. <https://doi.org/10.36911/pannmed.v13i3.581>
- Yasin, Z. (2021). Pengaruh Dental Health Education Cara Menyikat Gigi disertai Demonstrasi terhadap Tingkat Pengetahuan Kebersihan Gigi pada Siswa Kelas V SDN Padangdangan STOMATOGNATIC-Jurnal Kedokteran Gigi, 18(2), 65. <https://doi.org/10.19184/stoma.v18i2.28059>