

EFFECTIVENESS OF USING VIDEO COMPARED TO OTHER MEDIA FOR DENTAL AND ORAL HEALTH EDUCATION

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ARTICLE INFO

Article History:

received: 30/5/2023

revised: 11/6/2023

accepted: 28/07/2023

Keywords:

Knowledge, Dental and Oral Health Education, Children, Tooth Brushing, Videos

DOI:

10.32509/mirshus.v3i1.48

ABSTRACT

Dental health education for children aims to introduce them to the world of dental health and address issues related to teeth. One of the recommended method is through video viewing, which can captivate children's attention, particularly when animated videos are used. This study analyzes the effectiveness of video viewing in improving target knowledge and compares it with other methods. This research involved analyzing national and international books and journals that explore the use of videos as a teaching tool for dental health education among elementary school-age children. Results show videos are highly effective in enhancing children's knowledge of proper teeth brushing. They outperform other methods such as flip charts, leaflets, and posters. When compared to alternative educational methods, videos are almost as effective as hand puppets. However, flip charts, leaflets, and posters remain viable options for dental and oral health education among elementary school children, as they have proven to be effective.

INTRODUCTION

Dental and oral health has an important role in maintaining a person's health and quality of life (Husna & Prasko, 2019). However, there are still many people who ignore dental and oral health problems due to a lack of adequate knowledge. Adequate knowledge about the importance of maintaining oral and dental hygiene and carrying out proper care is needed to prevent various dental health problems that can have an impact on overall health (Husna & Prasko, 2019).

According to Arsyad, counseling is a process, method, comprehensive action, information, reconnaissance, or investigation (Husna & Prasko, 2019). According to Anwaz and Prasko, health counseling is an

educational activity carried out by disseminating messages, instilling confidence so that people are not only aware, know and understand, but are also willing and able to make recommendations related to health (Arsyad, 2018).

Efforts made in dental and oral health counseling are carried out to change the behavior of a person, group of people or society so that they have the ability and habit to live a healthy life in the field of dental and oral health. Dental and oral health education is useful in terms of one's knowledge and abilities through learning practice techniques or instructions with the aim of changing or influencing human behavior both individually, in groups and in society to increase awareness of the value of dental and

oral health. Through counseling, people can have a better understanding of the importance of maintaining oral hygiene and the practices needed to achieve optimal dental health (Husna & Prasko, 2019).

Dental and oral health education using video media has become a popular choice. Video media has the advantage of conveying information in an interesting, easy-to-understand way, and can increase the interest and involvement of extension participants. Messages regarding proper tooth brushing techniques, the importance of using toothpaste, and other dental hygiene practices can be conveyed in a more visual and clear way by using video media (Fuad et al., 2020).

According to Budiharto, there are 4 kinds of approaches in dental health education namely; (1) a persuasive approach, namely an educational approach with the aim of making lasting changes in behavior within the target; (2) A pervasive approach, namely an approach by providing real examples and repetition of each event that the target needs to learn or emulate; (3) Compulsive approach, namely indirect approach to the target; (4) A coercive approach, namely an approach by coercion, instructive, or with certain threats or sanctions if it does not carry out the desired behavior (Arsyad, 2018).

Elementary school-age children are considered not to have extensive knowledge, especially in terms of dental and oral health. Children are still very dependent on adults in terms of maintaining the cleanliness and health of their teeth because of the lack of knowledge of children about dental health compared to adults (Sadiman et al., 2018). According to (Budiharto, 2009) dental health education by parents to children in the family includes 4 levels of activity, namely: (1) Instilling the formation of a dental health behavior; (2) Improving or strengthening an inadequate dental health behavior; (3) Reducing negative dental health behaviors that are considered excessive, (4) Eliminating behaviors that are detrimental to dental health or unwanted.

This writing aims to examine the effectiveness of using video compared to other media in dental and oral health education activities for elementary school

children. In this writing, we will compare the effectiveness of counseling using video media with direct counseling without video media on increasing participant knowledge. It is hoped that this writing will provide a deeper understanding of the benefits of using video media in dental and oral health education and make a positive contribution in efforts to increase public knowledge and awareness regarding dental and oral health.

METHOD

The method used is an analysis of books and journals related to the use of video as a media for teaching dental health to elementary school-aged children (Noor, 2017). This method was chosen to obtain valid and up-to-date information regarding the effectiveness of using video in dental health education (Apriyani & Sumerti, 2015). Analysis of literature from national and international sources, the authors were able to collect various research results, theories and practices related to the use of videos in the context of dental health education to elementary school-age children.

The author looks for books and journals that are relevant to the topics discussed in the analysis process. These books and journals were carefully studied to collect data relating to the effectiveness of using video as a medium for dental health education. Various aspects analyzed include increasing children's knowledge, the effect of animated videos in attracting children's attention, comparison with other methods such as flip charts, posters, hand puppets, and leaflets (Ilmianti et al., 2021).

The author uses the literature analysis method to present comprehensive and reliable information regarding the use of video as a media for teaching dental health to elementary school-age children (Ryzanur.A et al., 2022). The results of this analysis will later be used to conclude the effectiveness of video use, compare it with other methods, and provide recommendations regarding the use of video in children's dental health education.

RESULT AND DISCUSSION

Research on the use of video as a means of health education, especially in the

context of oral health education, has proven effective in increasing individual health knowledge and behavior, especially children.

Several studies have been conducted to evaluate the effect of using video in dental and oral health education.

Table 1. Comparison of research journals regarding the use of video as a means of health education

Research	Results
(Kantohe et al., 2016)	The results showed that there were significant differences in the respondents' knowledge before and after health education using videos. This shows that dental health education using video modeling is effective in increasing the knowledge of respondents.
(Hanif & Prasko, 2018)	The results showed that both the use of video media and hand puppets were effective in increasing students' knowledge. There is no significant difference between the use of the two media in increasing student knowledge.
(Shorayasari et al., 2017)	The results showed that apart from using video media, the use of hand puppets could also increase elementary school children's knowledge of oral and dental health.
(Prawesthi et al., 2021)	The results showed that the use of animated videos was more effective in increasing adolescents' knowledge about diabetes than the use of leaflets.
(Indah & Junaidi, 2021)	The results of the study show that video media plays a more important role in increasing students' behavior compared to poster media.

Discussion

(Shorayasari et al., 2017) explained in their research about "Differences in Knowledge After Being Given Health Education about Brushing Teeth with Video Modeling" that there were significant differences in the knowledge of respondents before and after being given health education with video media. Respondents in this study were students aged 6-12 years at Kartini Private Elementary School in 2013. This study used a pre-experimental research design with a cross sectional approach. The study was conducted by assessing the respondent's tooth brushing activities before the teeth brushing video modeling intervention was carried out and then reassessed after the tooth brushing video modeling intervention.

The sampling technique used simple random sampling technique with a total sample of 32 people. Data collection was carried out before and after being given health education using a questionnaire of 25

questions. Statistical data analysis used is the dependent t test (Shorayasari et al., 2017). Researchers use Arikunto's theory which divides the results of measuring knowledge into 3 categories. These categories are good (76-100), sufficient (56-75) and less (40-55). In table 2 it is explained that the average results before the intervention were carried out could be said to be not good, namely 50.84. This might have happened because the respondents did not fully understand about brushing their teeth, it could be because they had never received special lessons related to maintaining dental and oral health. While the results obtained after the intervention was 89.22. P-value (sig) 0.000. Based on Arikunto's theory, the results after the intervention are included in the good category. In this way, this research proves that health education using video modeling as a medium for conveying information can increase the knowledge of respondents or the goals of health education (Shorayasari et al., 2017).

Table 2. Distribution of Frequency Before and After Extension

Knowledge Variable	Mean	Standard Deviation	P Value	N
Before	50,84	10,408	0,000	32
After	89,22	8,241	0,000	32

Hanif and Prasko in their research entitled "Differences in the Effect of Extension Using Video Media and Hand Puppets on Increasing Dental and Oral Health Knowledge in Elementary School Students" examined differences in the use of video media with hand puppets on increasing knowledge related to dental and oral health. This study used a Quasi Experiment research design with a Two Group design pre-post test. The sample selection technique used was purposive sampling and the samples used were 2 groups where group A was given counseling with video media and group B was given counseling with hand puppets. The research sample that fits the criteria is Diponegoro Islamic Elementary School students as many as 30 respondents from a total population of 64 respondents. The research instrument used a questionnaire filled out by the respondents. To find out whether there is a difference using the Wilcoxon test because the data tested is categorical data. To find out the difference in effect between the two media, it is recommended to use the Mann Whitney test (Hanif & Prasko, 2018).

Table 3 explains the results of the Wilcoxon different test, students' knowledge before being given counseling using video

media has an average value of 8.53 while students' knowledge after being given counseling using video media has an average value of 16.47 with a p value of 0.000. There was a significant increase in the scores before and after which proved that dental and oral health education with video media was effective in increasing students' knowledge. Table 4 explains the results of counseling with hand puppets showing that the average score of students' knowledge before being given counseling was 8.07 and then increasing to 15.53 after being given counseling with a p value (0.001). The difference test (Mann-Whitney) compares the difference in values after counseling using the two methods. The results showed that the average value of knowledge given dental health counseling using video media was 16.67 and those given dental health counseling using hand puppet media was 14.33 so the difference was -2.34 with a p value of 0.465 (explained in table 5). The conclusion from these results is that there is no significant difference between video media and hand puppets in increasing elementary school children's knowledge about oral and dental health. The use of hand puppets can invite children's interest and attention (Hanif & Prasko, 2018).

Table 3. Wilcoxon Test Results Using Video Media.

	N	Mean	Sig.
Before Video Media Counseling	15	8,53	0,000
After Video Media Counseling	15	16,47	

Tabel 4. Wilcoxon Test Results Using Hand Puppet Media

	N	Mean	Sig.
Before Extension of Hand Puppet Media	15	8,07	0,001
After Extension of Hand Puppet Media	15	15,53	

Tabel 5. Mann-Whitney Test Results Between Video Media and Hand Puppets.

Media	N	Mean	Selisih	Sig
Video	15	16,67	2,34	0,465
Hand Puppets	15	14,33		

Kantohe et al's research on "Comparison of the Effectiveness of Dental Health Education

Using Video and Flip Chart Media on Improving Children's Dental and Oral Health"

analyzed differences in the effectiveness of dental and oral health education using video media and flip charts. Flip charts consist of sheets of paper that are bundled together with ring bindings so that they can be reversed, which contain messages and are explained with pictures that explain a topic in detail, usually this method is accompanied by a lecture method. This research is a quasi-experimental study with a non-equivalent control group design. The research was conducted at SDN Kolongan in February-August 2016. The sample in this study was Kolongan SDN students aged 10-11 years, totaling 64 students who met the criteria and were taken using the total sampling method. The sample was then divided into 2 groups by lottery, so that 32 respondents were given health education using video media and 32 respondents were given health education using flip chart media. In this study, the Shapiro-Wilk normality test, the Wilcoxon test and the Mann-Whitney test were carried out (Kantohe et al., 2016).

Table 6 describes the results of the normality test using Shapiro-Wilk. The significance value before being given health education using a video (pre-test) was 0.004 and after being given health education using a video (post-test) 0.002. The results obtained indicated that the data were not normally distributed and continued with the Wilcoxon paired-t alternative test. Based on the results of the Wilcoxon test described in table 7, the significance value obtained before (pre-test) and after (post-test) given health education using video media is 0.000. This data shows that there are differences in the results of measuring the level of knowledge before (average 80.47) and after (average 90.78) given health education using video media ($p < 0.05$). The results obtained show a significant increase from the pre-test value measuring the level of knowledge to the post-test value, which means that health education using video media is effective in increasing children's level of knowledge (Kantohe et al., 2016).

Tabel 6. Hasil Uji Normalitas Shapiro-Wilk Media Video

	Group	Statistic	Df	Sig.
Results	Pre-Test	0,894	32	0,004
	Post-Test	0,882	32	0,002

Tabel 7. Wilcoxon Media Video Test Results

Group	N	Mean	Std	Sig.
Pre-test	32	80,47	4,465	0,000
Post-test	32	90,78	5,695	

The Shapiro-Wilk test on the use of the flip chart described in table 8, the significance value before being given health education (pre-test) was 0.006 and after being given health education (post-test) was 0.002. The results showed that the data were not normally distributed ($p < 0.05$) and continued with the Wilcoxon paired-t alternative test. Based on table 9, it was found that the

Wilcoxon test results had a significance value before (average 78.59) and after (average 86.25) given dental health education using flip chart media of 0.000. This data shows that there are differences in the results of measuring the level of knowledge of children before and after being given dental health education using flip chart media ($p < 0.05$) (Kantohe et al., 2016).

Tabel 8. Shapiro-Wilk Media Flip Chart Normality Test Results.

	Group	Statistic	Df	Sig.
Results	Pre-Test	0,900	32	0,006
	Post-Test	0,876	32	0,002

Tabel 9. Wilcoxon Media Flip Chart Test Results.

Group	n	Mean	Std	Sig.
Pre-Test	32	78,59	5,713	0,000
Post-Test	32	86,25	4,579	

The Mann-Whitney test described in table 10 shows that there is a significant difference in the number of scores between providing health education using video media and flip chart media in increasing children's knowledge ($p=0.007$). This data also shows that the increase in the level of children's knowledge in the group that was given dental health education using video media was greater than in the flip chart group, which was

indicated by the mean value difference in the video media group, which was 38.12, while in the flip chart media group it was only 26.88. This shows that the use of video media as a medium for delivering health education information is significantly more effective in increasing children's dental and oral health knowledge compared to using a flip chart. (Kantohe et al., 2016).

Tabel 10. Mann-Whitney Test Results Between Media Video and Media Flip Chart.

group	N	Mean	Df	Sig.
Pre-test	32	38,12	64	0,007
Post-Test	32	26,88		

Research conducted by Endang Prawesthi et al on "Comparison of Leaflets and Animated Videos as Educational Media in Increasing Knowledge of the Importance of Using Dentures in Jakarta II Poltekkes Students" compared the effectiveness of leaflets and

animated videos and intended to develop a moving image medium in the form of animated videos as an educational tool on how important it is to use dentures so that they can benefit the general public (Prawesthi et al., 2021).

Paired T-test ($p < 0.05$), differences before (pretest) and after treatment (posttest) in the leaflet ($N=16$) and video animation ($N=16$) groups.

Respondent Group		Mean \pm SD	Sig. (2-tailed)
Leaflet	Pre-test	7.44 \pm 1.548	0.027
	Post-test	8.25 \pm 1.183	
Video Animasi	Pre-test	7.38 \pm 1.857	0.000
	Post-test	9.44 \pm 0.814	

Independent T Test ($p < 0.05$), Differences Between Groups of Leaflets ($N= 16$) and Video Animation ($N= 16$) on Pretest and Posttest scores.

Respondent Group		Rerata \pm SD	Sig. (2-tailed)
Pre-test	Leaflet	7.44 \pm 1.548	0.918
	Video animasi	7.38 \pm 1.875	
Post-test	Leaflet	8.25 \pm 1.183	0.002
	Video animasi	9.44 \pm 0.814	

The results of the study can be concluded that educational media in the form of leaflets and animated videos have proven effective in increasing knowledge about the importance of using dentures in Poltekkes Jakarta II students, although the average difference before (Pre-test) and after treatment (Post-test) for animated video participants looks higher (2.06) than participants with leaflet treatment (0.81) (Prawesthi et al., 2021).

Research conducted by Jellyfa Indah et al on "Effectiveness of Using Posters and Videos in Increasing Knowledge and Attitudes about Fruits and Vegetables in Inshafuddin Integrated Dayah Students" to determine the effectiveness of posters and video media in increasing knowledge and attitudes of Inshafuddin Integrated Dayah students Banda Aceh (Indah & Junaidi, 2021).

The results of the study have shown that video media plays a more significant role in increasing students' behavior compared to poster media (Andriany et al., 2016). Video media is one of the modern interactional media that is in accordance with the times (advancements in science and technology) includes media that can be seen and heard. Messages are conveyed more efficiently because moving images can communicate messages quickly and clearly so that they can accelerate understanding of messages in a more comprehensive manner. Someone who already knows the stimulus or health object, will then make an assessment or opinion on what is known.

The next process is expected that the respondent will carry out or practice Submission using audiovisual is more effective because it makes the audience more concentrated. This is in accordance with the theory stated by Sadiman et al. (2012), that video can provide a stimulus to sight and hearing by adhering to psychomotor, behavioristic, and cognitive principles, so that respondents can receive information through the senses of hearing, namely the ears and the sense of sight, namely the eyes, so that the information conveyed can be received maximally. (Sadiman et al., 2018). Video is expected to be the same as film, can stimulate thoughts, feelings, attention and will so that it can encourage changes in knowledge, as explained by Azadirachta and Sumarmi who argued that the five senses that transmit

knowledge to the brain are the eyes, which are approximately 75% to 87%, the rest is channeled from the other senses (Indah & Junaidi, 2021).

CONCLUSION

The use of video as a dental health education tool for elementary school-age children is very effective in increasing their knowledge of brushing their teeth. Video has advantages over other methods such as flip charts, leaflets and posters. Videos are able to attract children's attention by using attractive animations, so messages related to dental health can be conveyed more effectively.

The use of hand puppets has almost the same level of effectiveness as video media. Hand puppets can provide direct visualization to children about how to brush their teeth properly. However, the use of video provides advantages in terms of variety and content that can be conveyed, so that it can enrich children's knowledge in a more interesting way. Even so, other media such as flip charts, leaflets and posters are still effective so that it is possible to continue to use them in dental and oral health education for elementary school children as a complement and variation in dental and oral health education activities.

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