



## Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

Submission author: Assignment title: Submit 1 13-20 Juli 2021  
Submission title: ANALYSIS BETWEEN ANIMATED VIDEO AND DENTAL PHANTO...  
File name: Cek\_Turnitin\_Manuscript\_New\_JRK\_I\_Ketut\_Harapan.pdf  
File size: 310.46K  
Page count: 4  
Word count: 1,890  
Character count: 9,738  
Submission date: 16-Jul-2021 11:15AM (UTC+0700)  
Submission ID: 1620189259

### ANALYSIS BETWEEN ANIMATED VIDEO AND DENTAL PHANTOM IN TOOTH BRUSHING EDUCATION

#### Abstract

Dental caries has been a problem in childhood. Poor knowledge causes poor dental hygiene. Health promotion is urged to conduct in order to give children at school age understanding how important dental hygiene is. Tooth brushing is a way to prevent dental caries. We initiated tooth brushing education research to quasi-experimental design with two-group pre-post test design. Sample was taken with purposive sampling with 66 students in SDN Kalase, SDN Butong and SDN Lateli located in a working area of Taledi Public Health Service, Minahasa, North Sulawesi, Indonesia. We employed animated video and dental phantom as the media and compare their effectivity. The groups were divided into two, group with animated video and dental phantom to measure their knowledge of tooth brushing. The results show that Mann-Whitney test obtained Asymp.Sig (2 tailed) value of 0.002, less than a probability value of 0.005. Thus, there is a significant difference of knowledge level increase in the Mean value of a group with animated video, which is 37.5, higher than dental phantom media group with only 23.5. We conclude that animated video media is more effective than dental phantom media in improving students' tooth brushing skills.

**Keywords:** dental hygiene; animated video; dental phantom; children

#### 1. Introduction

The increase of Early Childhood Caries (ECC) has made a major health problem in developing countries. ECC is a condition where one or more decayed, missing or filled tooth surfaces in primary tooth (Anil & Anand, 2017). Caries affects almost 60 - 90% children at school age and, this condition affects the quality life of the children and the family. Dental caries in childhood leads to pain and inability to eat or sleep, and increase the number of them miss the school. This will also lead the family to take care of the children when they get the toothache. The parents also feel guilty and experience financial difficulties (Abed, et al., 2020).

Poor hygiene becomes one of the causes of oral diseases. Poor hygiene can be influenced by poor knowledge of dental and oral hygiene. Dental and oral hygiene, however, are essential for good health and well-being (Sopiatin, et al., 2020). WHO defines oral health as a condition where mouth, face and throat are free of cancer, no mouth infections and wounds as well as the gum and periodontal disease that hinder someone's ability to chew, bite, smile, talk and psychosocial welfare (WHO, 2020).

Health promotion is the key for children to get an opportunity for learning how to keep their

dental hygiene, such as in schools. Toothbrush is a tool in dental care to remove a plaque. Effective tooth brushing can prevent children from dental caries (Atarbash-moghadam & Atarbash-moghadam, 2018; Rossi, et al., 2016). The successful factor of tooth brushing is tooth-brushing technique. Thus, the knowledge of tooth brushing is an integral part of successful tooth brushing. Conceptual models in teaching tooth brushing to children is important in influencing children's dental hygiene and their behavior (Trubey, et al., 2015). In improving knowledge and practice of tooth brushing, Media of book and pocketbook, have been used for teaching children tooth brushing at elementary school age and kindergarten (Nurdianti, et al., 2019; Bramantoro et al., 2018). However, in (Mona & Azalea, 2018), the media of a leaflet shows better than a book. Audiovisual media has also been used for teaching children tooth brushing and shows effectiveness to improve tooth-brushing skills of the children. However, an improvement of audiovisual should also be considered to develop and enhance to be convenient for the children (Sanjaya, et al., 2019). Indonesia is still suffer from the number of dental and oral hygiene problem. Indonesia is at 57,6% of dental and oral health problem and

# ANALYSIS BETWEEN ANIMATED VIDEO AND DENTAL PHANTOM IN TOOTH BRUSHING EDUCATION

---

**Submission date:** 16-Jul-2021 11:15AM (UTC+0700)

**Submission ID:** 1620189259

**File name:** Cek\_Turnitin\_Manuscript\_New\_JRK\_I\_Ketut\_Harapan.pdf (310.46K)

**Word count:** 1890

**Character count:** 9738

# ANALYSIS BETWEEN ANIMATED VIDEO AND DENTAL PHANTOM IN TOOTH BRUSHING EDUCATION

## Abstract

Dental caries has been a problem in childhood. Poor knowledge causes poor dental hygiene. Health promotion is urged to conduct in order to give children at school age understanding how important dental hygiene is. Tooth brushing is a way to prevent dental caries. We initiated tooth brushing education research to quasi-experimental design with two-group pre-post test design. Sample was taken with purposive sampling with 66 students in SDN Kalase, SDN Butong and SDN Tateli located in a working area of Tateli Public Health Service, Minahasa, North Sulawesi, Indonesia. We employed animated video and dental phantom as the media and compare their effectivity. The groups were divided into two, group with animated video and dental phantom to measure their knowledge of tooth brushing. The results show that Mann-Whitney test obtained Asymp.Sig (2 tailed) value of 0.002, less than a probability value of 0.005. Thus, there is a significant difference of knowledge level increase in the Mean value of a group with animated video, which is 37.5, higher than dental phantom media group with only 23.5. We conclude that animated video media is more effective than dental phantom media in improving students' tooth brushing skills.

**Keywords:** dental hygiene; animated video; dental phantom; children

## 1 | Introduction

The increase of Early Childhood Caries (ECC) has made a major health problem in developing countries. ECC is a condition where one or more decayed, missing or filled tooth surfaces in primary tooth (Anil & Anand, 2017). Caries affects almost 60 - 90% children at school age and, this condition affects the quality life of the children and the family. Dental caries in childhood leads to pain and inability to eat or sleep, and increase the number of them miss the school. This will also lead the family to take care of the children when they get the toothache. The parents also feel guilty and experience financial difficulties (Abed, et al., 2020).

Poor hygiene becomes one of the causes of oral diseases. Poor hygiene can be influenced by poor knowledge of dental and oral hygiene. Dental and oral hygiene, however, are essential for good health and well-being (Sopiatin, et al., 2020). WHO defines oral health as a condition where mouth, face and throat are free of cancer, no mouth infections and wounds as well as the gum and periodontal disease that border someone's ability to chew, bite, smile, talk and psychosocial welfare (WHO, 2020).

Health promotion is the key for children to get an opportunity for learning how to keep their

dental hygiene, such as in schools. Toothbrush is a tool in dental care to remove a plaque. Effective tooth brushing can prevent children from dental caries (Atarbashi-moghadam & Atarbashi-moghadam, 2018; Rossi, et al., 2016). The successful factor of tooth brushing is tooth-brushing technique. Thus, the knowledge of tooth brushing is an integral part of successful tooth brushing. Conceptual models in teaching tooth brushing to children is important in influencing children's dental hygiene and their behavior (Trubey, et al., 2015). In improving knowledge and practice of tooth brushing, Media of book and pocketbook have been used for teaching children tooth brushing at elementary school age and kindergarten (Nurdianti, et al., 2019; Bramantoro et al., 2018). However, in (Mona & Azalea, 2018), the media of a leaflet shows better than a book. Audiovisual media has also been used for teaching children tooth brushing and shows effectiveness to improve tooth-brushing skills of the children. However, an improvement of audiovisual should also be considered to develop and enhance to be convenient for the children (Sanjaya, et al., 2019).

Indonesia is still suffer from the number of dental and oral hygiene problem. Indonesia is at 57,6% of dental and oral health problem and

North Sulawesi is at more than 60% (Kementrian Kesehatan RI, 2018). This urges the point of dental hygiene promotion to its children, as children at age 6-12 are prone to caries (Achmad et al., 2021). The aim of this study is to analyze the effectiveness of dental hygiene education to the children of elementary school using the media of animated video and dental phantom about tooth brushing skill in Tateli, Mandolang District, Minahasa, Indonesia.

## 2. Method

This quasi experimental design with two group pre-post test design research was carried out in three elementary school grade 4: SDN Kalase, SDN Butong and SDN Tateli located in working area of Tateli Public Health Service, Minahasa Regency, North Sulawesi, Indonesia. The population of the study was 180 students. While the sampling method was purposive sampling. The sampling was amounted to 66 respondents with inclusion that respondents are willing to be part of research, getting permission from parents and present at the time of research. The research was conducted on September - October 2020.

## 3. Result and Discussion

The results of the research are shown in Table 1 - 5. There are two groups in the sample. Those are group "A" with the intervention of animated video and group "B" with dental phantom. These groups are analyzed on their knowledge of tooth brushing after getting the intervention.

Table 1. Distribution of respondents according to age and gender

Distribution	f	%
<b>Age</b>		
9	21	31.8
10	38	57.6
11	7	10.6
Total	66	100
<b>Gender</b>		
Female	39	59.1
Male	27	40.9
Total	66	100

Source: primary data 2020

Table 1 shows the characteristics distribution based on age, in which it is dominated by the age of 10 years, as many as 38 students (57.6%), and based on gender, female student is higher than the male, as many as 39 students (59.1%).

Table 2. Distribution of knowledge before intervention

Group	f	%
<b>Group A (Animated Video)</b>		
Good	8	24.2
Bad	25	75.8
Total	33	100
<b>Group B (Dental Phantom)</b>		
Good	6	18.2
Bad	27	81.8
Total	33	100

Table 2 indicates the students' abilities before being given intervention treatment. In group A, with animated video intervention, the result show that the higher point is poor knowledge as many as 25 students (75.8%) and good knowledge 8 students (24.2%). In group B with phantom media, the result shows that poor knowledge is higher than good knowledge, in as much as 27 students (81.8%), and 6 students with good knowledge (18.2%).

Table 3. Distribution of knowledge after intervention

Ability	f	%
<b>Group A (Animated Video)</b>		
Good	33	100
Bad	0	0
Total	33	100
<b>Group B (Dental Phantom)</b>		
Good	19	57.58
Bad	14	42.42
Total	33	100

Table 3 shows the distribution of respondents' abilities after being given the intervention of animated video media and dental phantom media. The results indicates an increase in knowledge of both categories in group "A" (animated video) of 33 students (100%) and group "B" (dental phantom) in the good category as many as 19 students (57.58%) and knowledge in the bad category by 14 students (42.42%).

**Table 4.** The Wilcoxon test results on animated video and dental phantom

	N	Ties	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
Pre-Post	30	0	15.50	465.00	0.001
pre-post	19	14	14.00	378.00	0.001

Table 4 shows the results of the Shapiro Wilk normality test that the data are not normally distributed because the Sig value <0.05. Thus, the Wilcoxon test, as a non-parametric statistical method was carried out. The results of the statistical test obtained the Asymp value. Sig(2 tailed) < 0.001 indicates that there is a difference in effect of dental hygiene education with animated video and dental phantom media on tooth brushing skills before and after the intervention.

**Table 5.** Analysis of the difference between animated video and dental phantom

Group	N	Mean Rank	Sum of Ranks	Asymp. Sig. (2-tailed)
Animated video	33	37.50	1125.00	0.002
Dental phantom	33	23.50	705.00	

The results of the Mann Whitney statistical test show the Asymp. Sig value of 0.002 less than a probability value of 0.005. Hence, there is a significant difference between the intervention of the animated video and the dental phantom. This can be seen from the results of the Mean value in the Video media group 37.5 > compared to the Phantom Class Mean value which is 23.5. Therefore, animated video media is more effective than dental phantom in increasing students' knowledge of tooth brushing.

The prevention of caries and improvement of dental hygiene can be conducted by health education, as it is part of health promotion. Health education is intended either to increase knowledge and awareness which in the end can bring good impact to individuals' attitude and practice in taking care of their good dental hygiene. Animation as part of multimedia has been used widely as teaching companion, which can increase student academic achievement. By using animation, the respondents are easier to

understand the teaching (Sinor, 2014). Animated video in health promotion is also shown effectiveness to attract respondents to understand the message of counseling. The percentage of success in delivering education towards participants reaches 93% understanding of nutrition education (Limanto, et al., 2019). This shows that animated video can attract attention of the participant to pay attention to material provided. Animation video is also effective to teach deaf students about oral health in (Sariyem, et al., 2017) where the knowledge and plaque score shows significant influence.

Basically, audiovisual technology creates effect to the audience to obtain the message(Nor et al., 2013). People nowadays get used to technology. Technology is the basis where information can be widely spread out to the people. Technology development led changes in the way people interact. People make their own choice by various resources to meet their satisfaction. Comparing to the traditional method, people tend to choose something, which employ technology than traditional method (Arkorful & Abaidoo, 2014).

Dissemination of information is easier by using technology. Animation, pictures give visual display that can deliver information better than just using words and more attractive(Husnifa, 2017; Khalidiyah, 2015). Besides, animation can create clear information which meets the needs of the audience, increasing willingness to learn and build scientific environment(Dorneles, et al., 2020).

Dental phantom functions to simulate a learning. It provides students to learn procedural skills and explained by dental cadres or dental nurse. One objective of simulation itself is that to make control and standardization (Fugill, 2013). Despite creating standardization of learning has a significant advantage, but it fails to deliver features of clinical setting which can lead to affect skill transfer to patients or respondents. Besides, aspects of professionalism, communication and team working are needed when delivering material to participants directly (Halkett, et al., 2011).

#### **4. Conclusion and Suggestion**

We have presented a research in dental hygiene education towards students of elementary school grade IV. This research grouped the respondents to an intervention group with animated video and an intervention group with dental phantom. Providing those two media was intended to understand whether there is an influence on effectivity on knowledge of the

students in tooth brushing skill. The evidence from this research points the idea that animated video is more effective in dental hygiene education than dental phantom. Our research could be a useful aid for dental practitioners in using media for dental hygiene education to enforce health promotion.

# ANALYSIS BETWEEN ANIMATED VIDEO AND DENTAL PHANTOM IN TOOTH BRUSHING EDUCATION

## ORIGINALITY REPORT

5%

SIMILARITY INDEX

4%

INTERNET SOURCES

2%

PUBLICATIONS

%

STUDENT PAPERS

## PRIMARY SOURCES

1	"Poster Sessions", International Journal of Paediatric Dentistry, 2013. Publication	2%
2	repository.unsri.ac.id Internet Source	1%
3	eprints.ukmc.ac.id Internet Source	1%
4	download.atlantis-press.com Internet Source	1%
5	garuda.ristekdikti.go.id Internet Source	<1%
6	zombiedoc.com Internet Source	<1%

Exclude quotes Off

Exclude matches Off

Exclude bibliography Off