

Research Report

Improving Knowledge of Oral and Dental Health in Parents of Elementary School Children Through ‘Gigi Sehat’ Video Channel

Aulia Ramadhani, Hillary Desiree Raharyani
Department of Dental Public Health
Faculty of Dental Medicine, Universitas Airlangga
Surabaya, Indonesia

ABSTRACT

Background: Dental caries is one of the dental and oral health problems found the most in children. A previous study in Surabaya has revealed a high prevalence of dental caries in pre-school children (67.5%) resulting in a high severity level (def: 7.0). It occurred because of the poor mother’s knowledge of dental and oral health. It could be due to poor efforts to access information about oral and dental health which significantly affects child dental care. Studies show mothers in Surabaya mostly used Youtube as one of the media for accessing the information on the internet (46.2%). In Surabaya, the percentage of mothers having smartphones for accessing the internet was high (91.6%). **Purpose:** This study aimed to find out the effectiveness of the Youtube channel in improving parents’ knowledge about dental and oral health. **Methods:** This study was observational descriptive research using a cross-sectional study design. Thirty samples were selected through the total sampling of the population of parents in one of the elementary schools in Surabaya, Indonesia. This study employed pre-test and post-test methods to measure an increase in knowledge level. The participants’ knowledge was assessed before and after they were briefed and asked to watch Youtube videos regularly for 4 weeks. Data collected were then analyzed by the paired T-Test comparison test in SPSS. **Results:** In the pre-test, the participants’ knowledge about dental and oral health was at a 65% level. While the post-test showed an increase in their knowledge into 93%. There was a significant difference between the two results ($p < 0.05$). **Conclusion:** Educative video channels on dental and oral health can effectively improve parents’ knowledge about dental and oral health.

Keywords: educative videos; caries; dental and oral health; information accessibility

Correspondence: Aulia Ramadhani, Department of Dental Public Health, Faculty of Dental Medicine, Universitas Airlangga. Jl. Mayjend Prof. Dr. Moestopo 47 Surabaya, 60132, Indonesia. Email: ramadhani.rara94@gmail.com

INTRODUCTION

Dental caries is one of poor dental and oral hygiene conditions which can affect the child’s quality of life i.e., in eating, drinking, speaking, and learning. Besides, caries also can cause pain that requires medication treatment, a decline in child concentration, and child reluctance to learn at schools. Some studies have shown poor dental and oral health have greater risk than coronary heart disease.¹

Generally, the risk is still trivial or not critical among pre-school children (4-6 years old), and thus parents have a significant role to shape a child’s behavior. Children aged 4-6 years tend to emulate the behavior of people around them.²⁻⁴ The Bloom theory mentions that an individual’s behavior is influenced by some aspects, one of which is knowledge.

The medical check of dental health, performed by the team at Faculty of Dental Medicine, Universitas Airlangga,

noted in Medokan Semampir 1 Elementary School in Agustus 2018, of 101 children checked, only 2 children did not have dental caries and the rest (98%) had dental caries with a DMFT degree of 6.24. The World Health Organization determines that the severity levels of caries among children aged < 12 years are considered high if DMFT degrees range from 4.5-6.5.⁵

Dental and oral health problems may affect the child and adult quality of life. In children, severe caries could increase the risk of students not attending schools and affect the learning process and academic attainment at schools.⁶

In child dental care, three components need to work together. These components are illustrated in a triangle of child dental care. In the triangle, the dentist and family (especially the mother) are placed at the bottom of two edges, and the child as a patient is at the top of the edge. The triangle is dynamically interconnected.

Studies show about 46.5 % of mothers in Medokan Semampir 1 Elementary School had poor knowledge of dental and oral health. Meanwhile, in child dental care, parents, especially mothers, are very influential because children are dependent to parents. Knowledge of the mother as the closest person to a child poses a significant influence. Mothers play as a motivator, education, and facilitator in child dental care.⁵

Based on the situation analysis, two main problems as concerns at the school are the high cases of caries among the students and poor mother’s knowledge about dental and oral health. To improve mother’s knowledge, mothers are precautioned and encouraged to access information about dental and oral health. Epidemiological research showed Youtube, as a medium for accessing the information on the internet, was mostly accessed by mothers of elementary school students in the working area of Keputih Primary Healthcare Center, Surabaya (46.2%).

Moreover, a high percentage of 91.6% of the mothers also had handphones with Internet features. Therefore, creating Youtube videos about dental and oral health as an empowerment program is suitable for attracting mothers’ interest and condition. All of the videos which have previously been made were posted on the ‘Gigi Sehat’ Youtube channel.

MATERIALS AND METHODS

This study was observational descriptive research using a cross-sectional design. Thirty samples were selected through the total sampling of the population of parents in one of the elementary schools in Surabaya. This study used pre-test and post-test methods to measure an increase in knowledge. The participants’ knowledge was assessed before and after they were briefed and asked to watch Youtube videos regularly for 4 weeks.

Some educative videos with interesting content were created and uploaded on the ‘Gigi Sehat’ Youtube channel. The videos presented some question and answer sessions between dentists who answered common questions about dental and oral health asked by the public. This program aimed to educate the community on dental and oral health. The videos talked about common questions about child dental and ora health asked by the community.

Evaluation of the educative videos and collection of data took account of two aspects: increase in knowledge before and after pre-test and post-tests during the socialization and the number of people watching on the Youtube account. In each pre-test and post-test, there were 10 questions which

were scored 1 for right answers. The results of the evaluation were then analyzed using the paired T-Test to identify significant differences between pre-test and post-test.

RESULTS

Before testing the effectiveness of the videos, the participants were asked to fill in the pre-test questions that measured their knowledge about dental and oral health. The pre-test began with playing the first video and a small lecture by a dentist as a part of the empowerment program team. The participants were asked to open a Youtube application and directed to look for the educative videos on the ‘Gigi Sehat’ Youtube channel. The steps were explained to make the participants able to access the videos on Youtube by themselves. The socialization was closed with playing a promotion video which was uploaded each week and the post-test to measure the increase in knowledge of the participants.

Table 1 presents that more than 75% of the participants had improved knowledge about dental and oral health. It can be seen from the average score in the post-test which increased from 65% to 95%.

Besides, there was an increase in the number of viewers on the ‘Gigi Sehat’ Youtube channel. During the initial socialization, the first video received more viewers as the event was conducted at the school where other people outside of the participants also gathered to watch the video. Therefore, the participants were mixed between the participants and outsider viewers. For the second and third videos, about 90% and 93% watched them in the second and third weeks. While, for the fourth video, the number of its viewers exceeded the number of the participants (Table 2).

DISCUSSION

The creation of educative dental-oral-health videos involved the students and teachers at the school’s Dental Health Unit, and dentists, thereby attracting parents’ interest to watch the videos. The involvement of the teachers in the video making would yield a positive response and pride of the participating school. The viewers had a sense of feeling to see themselves in the video, and so did the parents to see their children. It led to increasing numbers of viewers although the videos were just shared with the school members only (Figure 1).Education about dental and oral health is a prominent component in health promotion as well as health services. Health promotion aims to provide information that can incline awareness and direct to good behavioral changes.⁷

Table 1. Evaluation Results of Level of Knowledge

	Mean±SD	95% Confidence Interval		Sig.
		Lower	Upper	
Pre-test	6.533±0.776	6.300	6.833	0.000*
Post-test	9.333±0.479	9.166	9.514	

*significance (p < 0.05)

Table 2. Number of Viewers on the Youtube Videos

Video	1	2	3	4
Number of Viewers	148	27	28	58



Figure 1. Video Filming at Medokan Semampir 1 Elementary School.



Figure 3. Clips of Video about Dental and Oral Health on 'Gigi Sehat' Youtube Channel.



Figure 2. Video of Dental and Oral Health Socialization at Medokan Semampir 1 Elementary School.

Audiovisuals for educational tools have long-term effects on the population. Some studies showed using audiovisuals was effective enough to improve the target group's knowledge. Videos are an example of effective audiovisuals since they can demonstrate something live and acceptable by the community. Therefore, videos are good media for use.⁸

Youtube is one of the social media platforms with monthly estimated 1 million viewers each month and more than 6 billion hours each month. With the popularity of Youtube, some previous studies discovered the quality of information was related to the health condition.⁹ Based on the descriptions above, a program was created to trigger more access to information. The empowerment program included educative videos on Youtube along with easy assessment and process.

This program started with posting educative videos with interesting content on the 'Gigi Sehat' Youtube channel. Speakers who facilitated in the videos were dentists who explained on a pedicab which becomes a cultural icon of the community. The empowerment was a kind of in-direct socialization using a medium.

Socialization or delivery of educational materials through videos is a bit different from common dental health socialization which usually uses flipcharts or dental models (Figure 2). As an innovation, the educative videos are made of visuals and audio and thus can improve understanding and interest to watch.¹⁰

Visual learning style is a learning style that functions more vision. Participants see or imagine what is being talked about or presented in videos; as a result, they could absorb much information about dental and oral health from

the videos compared to flipcharts or dental models (Figure 3).¹¹ The evaluation displayed the educative videos were deemed well and effective to improve parents' knowledge about dental and oral health.

CONCLUSION

Videos about dental and oral health on Youtube are effective educational media for dental and oral health education parents can provide to their children.

REFERENCES

1. Wilson LB, Debaryshe B, Singh M, Taba S. Evaluating two oral health video interventions with early head start families. *Int J Dent.* 2013;2013:437830.
2. Alzaidi SS, Alanazi IA, Abo Nawas OM. Childhood Oral Health : Maternal Knowledge and Practice in Tabuk, Saudi Arabia. *Egypt J Hosp Med.* 2018 Jan;70(9):1544-51.
3. Surani F, Kanthi R, Mahmoud B, W MN. No Title. *Int J Dent Clin.* 2015;7(4):a-g.
4. Ravishankar T, Chaitra T, Mohapatra A, Gupta V, Suresh B. Mother's knowledge about pre-school child's oral health. *J Indian Soc Pedod Prev Dent.* 2010;28(4):282.
5. Nofarida A, Giffari FZ, Nurazizah A. Analisis Karakteristik Ibu Terhadap Keputusan Membawa Anak Ke Layanan Kesehatan Gigi Dan Mulut Di Wilayah Keputih Kota Surabaya. Surabaya: Laporan Epidemiologi PKL Fakultas Kedokteran Gigi Universitas Airlangga; 2018.
6. Nengah SN. Faktor-faktor Yang berhubungan dengan Perilaku Ibu dalam deteksi Dini Karies Gigi pada Anak Balita di Kecamatan Kuta Utara Kabupaten Badung. *J Kesehat Gigi.* 2013;1(1):1.
7. Bankole OO, Ibiyemi O, Oke GA. A Dental Health Education Video for Nigerian Children in the Yoruba Language. *Afr J Biomed Res.* 2011;14(1):77-9.
8. Shah N, Mathur VP, Kathuria V, Gupta T. Effectiveness of an educational video in improving oral health knowledge in a hospital setting. *Indian J Dent.* 2016;7(2):70-5.
9. Hansen C, Interrante JD, Ailes EC, Frey MT, Broussard CS, Godoshian VJ, et al. Assessment of YouTube videos as a source of information on medication use in pregnancy. *Pharmacoepidemiol Drug Saf.* 2016 Jan;25(1):35-44.
10. Prasko P, Bedjo S, Bambang S. Penyuluhan metode audio visual dan demonstrasi terhadap pengetahuan menyikat gigi pada anak sekolah dasar. *J Kesehat Gigi.* 2016;3(2):53-7.
11. Uno HB. Orientasi baru dalam psikologi pembelajaran. Jakarta: PT. Bumi Aksara; 2016. 232 p.