

## Dental and Oral Health Education: Effective Ways to Prevent Dental and Oral Health Problems

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### Abstract

According to Riset Kesehatan Dasar (2018), 57.6% of the Indonesian population have dental health problem. Based on age, the population of 5-9 years (67.3%) were the group with the largest dental problems. The lack of knowledge about dental health was one of the factors that may cause dental health problems, for example, about brushing teeth properly, the percentage was only 2.8%. Based on those data, it was necessary to carry out activities of education about dental health in childhood. Dental health education has been carried out for elementary school students in Srigading Village, Sanden, Bantul, Yogyakarta. The committee was KKN UMY students for the odd semester period 2021/2022. The speaker was a UMY dentistry lecturer who explained dental and oral health, especially related to efforts to prevent dental and oral health problems. Based on the evaluation before and after the implementation of education, it was found that there was an increase in understanding of dental and oral health which was marked by an increase in test scores. An increased understanding of dental and oral health was expected to improve the quality of dental and oral health in childhood.

**Keywords:** dental and oral health, KKN UMY, education

Received: 29 November 2022. Accepted: 29 December 2022

### Introduction

Early dental and oral care is one good way to prevent dental and oral health problems. The establishment of healthy living habits at an early age has the impact of establishing a pattern that these habits are not considered something new but have become habits that must be carried out (Kementerian Kesehatan Republik Indonesia 2019). One of the most effective ways to prevent dental and oral health problems is to brush your teeth properly (Bakar 2017). Awareness of maintaining healthy teeth through an understanding of how to brush teeth at an early age can encourage the adoption of healthy living habits, including dental and oral health (Pratiwi et al. 2020). According to the Ministry of Health (2018), correct tooth brushing behavior (based on time) in residents of the Province of D.I. Yogyakarta aged 3-4 was 2.07%, aged 5-9 was 3.14%, and 10-14 was 2.98% (Kementerian Kesehatan Republik Indonesia 2018). The data shows a very low rate of correct tooth-brushing behavior.

Caries is the most common dental and oral disease in society, both in adults and children (Watts 2004). The Ministry of Health (2018) reports that almost half (47.65%) of the population of D.I. Yogyakarta has broken/perforated/sick teeth, while 20.04% of the teeth have been extracted due to cavities (Kementerian Kesehatan Republik Indonesia 2018). Dental and oral health is affected by the frequency of brushing your teeth, so the more often you brush your teeth, the better the level of dental hygiene (Anitasari and Rahayu 2005). In addition, how to brush your teeth also affects the health of your teeth and mouth. Research by Sukarsih et al. (2019) showed that children who brush their teeth properly have low caries status (Sukarsih, Silfia, and Muliadi 2019).

The Covid-19 pandemic has had an impact on almost all aspects of human life, including the health sector (dental and oral). Dental and oral health is an important part that cannot be separated from overall health, if dental and oral health is disturbed, it will affect overall health (Dientyah Nur Anggina, RA Tanzila 2020). During the pandemic, dental and oral health services in health facilities were limited to emergency dentistry services, especially at the start of the pandemic (Amtha, Rahmi; Gunardi, Indrayadi; Dewanto, Iwan; Widharman, Armelia Sari; Theodorea 2020; ARSGMPI 2020). This is done to prevent the spread of Covid-19, thereby affecting people's access to dental and oral health services if there are dental and oral health problems. This also happened to the people in Srigading Village, Sanden, Bantul. Access to dental and oral health services is limited because all dentists in Indonesia are advised not to provide dental and oral health services except in urgent situations (PPKM Darurat, Dokter Gigi Diimbau Tutup Praktik Kecuali Urgen 2021). Data from the Ministry of Health (2018) states that counseling on dental and oral hygiene and health care is an effort (action) with the highest proportion to address dental and oral problems in the Province of the Special Region of Yogyakarta (14%) (Kementerian Kesehatan Republik Indonesia 2018). Based on these conditions, a promotive strategy can be implemented to provide the information needed for dental and oral health to prevent more severe dental and oral health problems.

Promotive efforts can be offered as a solution to the problem because these health efforts can be carried out independently by the community. Promotive efforts carried out can be in the form of counseling, distribution of leaflets, installation of banners, and so on. According to Wijaya et al. (2014), health education influences a person's life behavior (Wijaya, Sary, and Yanti 2014). Sirat (2015) states that there is an influence of behavior change on dental and oral health status (Sirat 2015). The aim of this program is to provide information about dental and oral health to elementary school students in Srigading Village, Sanden, Bantul, so that dental and oral problems can be prevented earlier with promotive efforts.

## Methods

Activities to strengthen knowledge about dental and oral health for elementary school students in Srigading Village are carried out by:

1. Outreach about dental anatomy in a simple

way and explain the parts of the teeth and the oral cavity.

2. Socialization about the causes of cavities and how to prevent them.
3. Dissemination of good and correct ways of brushing teeth.
4. Dissemination of things to do and avoid getting good dental and oral health.
5. Evaluate the success of socialization with questions on the pre-test and post-test which are done with the form. The types of questions asked to evaluate are shown in Table 1.

The socialization was carried out at the Wuluhadeg Elementary School, which was attended by 40 students of grade 6, as well as the principal and some of the Wuluhadeg Elementary School teachers. The organizing committee for the activity was UMY KKN students in the odd semester of 2021/2022 who were assigned to Srigading Village, Sanden, Bantul, Yogyakarta. The material provided were 1) dental anatomy, parts of the teeth and oral cavity, 2) causes of cavities and how to prevent them, 3) how to brush your teeth properly and correctly, and 4) things to do and avoid regarding dental and oral health. The speaker is a lecturer in dentistry at Universitas Muhammadiyah Yogyakarta.

## Results and Discussions

Srigading Village is one of four villages in Kapanewon Sanden. Administratively, this village which has an area of 757.6 hectares consists of 20 hamlets and 81 RTs. The topography of Srigading Village is a lowland area, with a height of 2 – 10 m above sea level. This village is included in the beach village category because it is directly adjacent to the south coast. The Winongo Kecil River, which crosses Srigading Village, is used by the community for irrigation (Pemerintah Desa Srigading 2009).

Natural resources in Srigading Village are divided into 3 (three) groups, namely wetland agricultural cultivation areas which cover 18 hamlets, urban and governmental areas namely Celep and Kalijurang hamlets, and coastal areas namely Ngepet and Tegalrejo hamlets. The coastal area is a coastal area and is a wet agricultural land and sandy land cultivated for shallots and vegetables. This area also has potential for coastal tourism and potential marine fish farming (Pemerintah Desa Srigading 2009).

- a. Dental and Oral Health Education

The implementation of counseling can be seen in Figure 1b. The activity was carried out through offline socialization at Wuluhadeg Elementary School, Srigading Village, Sanden, Bantul. This activity was carried out by providing material in the form of audio-visual aids and teaching aids in the form of dental models. According to Papilaya et al. (2016), there is a significant difference between health promotion using audio media and audio-visual media on dental and oral health maintenance behavior (Papilaya, Zuliari, and Juliatri 2016), so that the information presented is expected to be received easily. Counseling is also carried out with two-way interaction, namely by asking questions about the material provided, as well as giving participants the opportunity to ask questions to the presenters. This method is carried out so that the activity participants remain concentrated during the extension activities (Rizki et al. 2015).

b. Giving (Grants) Learning Media, Toothbrush and Toothpaste

At the end of the counseling, learning media grants were implemented in the form of books on oral and dental health, as well as dental and oral health education posters

(Figures 2a and 2b) as a form of continuity of information that had been given. Information about dental and oral health is expected to remain accessible through these books and posters. Toothbrush and toothpaste grants (Figure 3a) are expected to be a stimulant for activity participants in maintaining healthy teeth and mouth through proper tooth brushing.

c. Evaluation of Dental and Oral Health Education Activities

The process of evaluating the achievement of understanding of dental and oral health is carried out with a pre-test and post-test. The pre-test was carried out before the counseling activities, while the posttest was carried out after the counseling by giving the same questions. Evaluation results can be seen in Table 2.

Figure 4 shows that almost all participants got an increase in the average score of the tests carried out. This shows that with socialization (counseling), understanding and knowledge about dental and oral health increases, so that behavioral changes are expected to prevent dental and oral health problems.

**Table 1.** List of questions evaluating dental and oral health socialization to prevent early dental and oral health problems among elementary school students in Srigading Village, Sanden, Bantul

No.	Pertanyaan
1	Parts (anatomy) and number of teeth
2	Factors that can cause cavities
3	The right way to brush your teeth (movement, time, good toothbrush)
4	Things to do and avoid getting good dental and oral health



**Figure 1.** (a) Photo after discussion and observation of location of dental and oral health counseling with UMY KKN student's odd semester 2021/2022 (b) Dental and oral health education

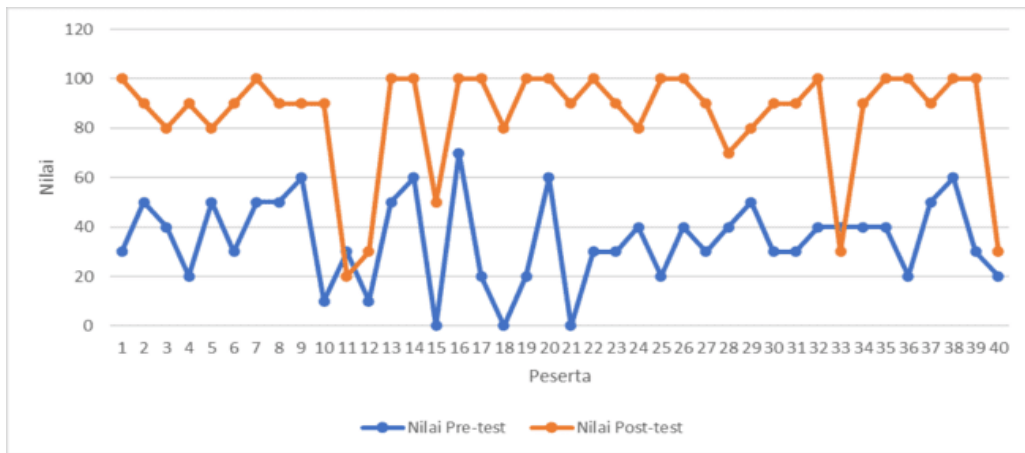




**Figure 2.** Received grants (a) dental and oral health books, and (b) educational posters to the Head of Wuluhadeg Elementary School, Sanden, Bantul



**Figure 3.** (a) Distribution of free toothbrushes and toothpaste to extension participants, (b) Group photo after the completion of counseling to prevent dental and oral health problems



**Figure 4.** Pre-test and post-test values in dental and oral health education

**Table 2.** The results of the evaluation of the understanding of dental and oral health counseling for Wuluhadeg Elementary School students

Participant	Pre-test	Post-test	Deviation
1	30	100	70
2	50	90	40
3	40	80	40
4	20	90	70
5	50	80	30
6	30	90	60
7	50	100	50
8	50	90	40
9	60	90	30
10	10	90	80
11	30	20	-10

12	10	30	20
13	50	100	50
14	60	100	40
15	0	50	50
16	70	100	30
17	20	100	80
18	0	80	80
19	20	100	80
20	60	100	40
21	0	90	90
22	30	100	70
23	30	90	60
24	40	80	40
25	20	100	80
26	40	100	60
27	30	90	60
28	40	70	30
29	50	80	30
30	30	90	60
31	30	90	60
32	40	100	60
33	40	30	-10
34	40	90	50
35	40	100	60
36	20	100	80
37	50	90	40
38	60	100	40
39	30	100	70
40	20	30	10
<b>Average</b>	34,75	85,00	50,25

## Conclusion

Dental and oral health counseling activities for students of Wuluhadeg Elementary School, Srigading Village could be implemented well and an increase in understanding of oral health was obtained which was marked by an increase in the understanding evaluation score of 50.25. It is hoped that an increase in understanding of oral and dental health will prevent dental and oral health problems for students at Wuluhadeg Elementary School, Srigading Village, so that their general health status can improve.

## Acknowledgements

The authors thank Universitas Muhammadiyah Yogyakarta for their generous donation for fee used in this subjection, Srigading, Sanden, Bantul Village Heads and the Wuluhadeg Elementary School Principal as partners in this activity.

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