


# TOOTH BRUSHING SONG AN EFFORT TO IMPROVE THE TOOTH BRUSHING SKILLS AND DENTAL HYGIENE STATUS OF PRESCHOOL CHILDREN

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Info Article	Abstract
<b>Article History:</b>  Received: 19 Feb 2024 Revised: 2 Apr 2024 Accepted: 6 Apr 2024 Available Online: 16 Apr 2024	<b>Background:</b> The prevalence of dental caries in preschool children is higher than in elementary school children. Apart from dental caries, preschool children generally have poor dental hygiene status, this is because preschool children do not yet have the independence to brush their teeth. <b>Promotive and preventive measures</b> must be emphasized because curative measures require more complex treatment and greater costs. Promotive efforts are carried out through dental and oral health education, especially the formation of dental health behavior. One effort is to modify the method of providing oral health education by using music and songs. <b>Objective:</b> This study aims to analyze the effectiveness of tooth brushing songs in improving preschool children's tooth brushing skills and dental hygiene status. <b>Method:</b> This research used a pre-experimental design with a pretest and posttest with control group design. This research was carried out on pre-school children at Pertiwi VI Kindergarten, Pondok Labu Village, South Jakarta. The sampling technique was purposive sampling of 33 respondents. The instruments used to measure teeth brushing skills were observation sheets and the PHP-M index to measure dental hygiene status. The data was tested using paired sample t-test analysis, namely a pre-post design. <b>Results:</b> The tooth brushing song was effective in improving tooth brushing skills ( $p < 0.001$ ) and effective in improving the dental and oral hygiene status of preschool children ( $p < 0.001$ ). <b>Conclusion:</b> The tooth brushing song is effective in improving preschool children's tooth brushing skills and dental hygiene status.
<b>Keywords:</b> Song, brushing teeth, dental and oral hygiene	
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## Introduction

Dental and oral health is an inseparable part of general health, someone who experiences dental and oral health problems will have an impact on general health, meaning that dental and oral disease can be a risk factor for other diseases (Anggreni et al., 2022). More than 50 million school hours a year are lost due to dental and oral disease, which will impact children's performance at school and their later success in life (Haque et al., 2016).

The results of the 2018 Basic Health Research reported that 92.6% of children aged 5-6 years experienced dental health problems with a national def-t figure of 8.43, meaning that the average number of tooth decay is 8 to 9 teeth per child (Kemenkes RI, 2018). even according to WHO data it has reported that 9% of children worldwide (620 million) have experienced dental caries (Bonecker et al., 2012)

One of the causes of high levels of dental health problems in preschool children is poor oral hygiene due to the inability to brush their teeth

independently (Kasihani et al., 2021). It can be seen that the tooth brushing behavior of the population aged  $\geq 3$  years is 2.8% who brush their teeth correctly (Kemenkes RI, 2018). Strengthened by (Purnama et al., 2019) research, it proves that preschool children do not yet have the skills to brush their teeth; (Ngatemi, 2020) research also proves that young children do not have the skills to brush their teeth.

Efforts to improve the dental health of preschool children through dental health education. The delivery of dental health education to the target must not only be in accordance with the method to be used, but also influenced by the presence or absence of supporting tools and media for delivery. Counseling using music and songs is one way to demonstrate directly to subjects, even research subjects are directly involved in the pronunciation of the song and following the movements contained in the song. So with this, the application of learning to brush teeth will be in accordance with the characteristics of preschool children who enjoy using

tooth brushing songs (Agustin, 2014; Primawati, 2020; Pudentiana Rr et al., 2019).

The singing method is a method that emphasizes words that are combined into sentences and then sung to create a pleasant atmosphere so that they do not feel bored while receiving lessons. When children sing the tooth brushing song there are two activities they do, namely saying and doing what they say. By providing this singing method, it is hoped that children will be better able to brush their teeth according to good and correct brushing methods. The world of children is singing and playing so that children tend to understand learning more easily. The interactions carried out during counseling can attract students' interest in actively participating in the counseling activities being carried out (Windiyana et al., 2020). According to (Fatmasari et al., 2019), brushing teeth with songs is an alternative in dental health education. Strengthened by (Primawati et al., 2019) research, it is proven that dental and oral health education using music, songs and dance can increase knowledge, the ability to practice brushing teeth, and can improve the status of dental and oral hygiene in children with Down syndrome.

## Method

This research is a pre-experimental research with pretest and posttest with two group design. The study was conducted in June-July 2023. The research sample was preschool aged 5-6 years in Pertiwi VI Kindergarten, Pondok Labu Village, Cilandak District, South Jakarta City. The research sample was taken using a total purposive sampling technique, as many as 33 respondents. The research instrument used an observation sheet brushing teeth which was tested for validity and reliability by the same previous researcher who examined teeth brushing skills and dental hygiene status was measured by standard dental hygiene examinations using a PHP-M index measuring instrument.

Data analysis was carried out using the SPSS statistical program. The data normality test used the Shapiro-Wilk test, the paired sample test and the Wilcoxon test to determine the difference before and after the intervention and the t-test to test the difference between the intervention and control groups. The study was conducted after obtaining approval from the Ethics Committee of the Health Polytechnic of Tasikmalaya No. DP.04.03/F.XXVI.20/172/2023.

## Result

**Table 1.** The average value of brushing skills and dental and oral hygiene status

Variabel	Brushing skills		Dental and oral hygiene status	
	Pre-test	Post-test	Pre-test	Post-test
Mean	43.46	89.70	31,61	22,79
SD	9,943	10,454	6,727	5,754
Min – Max	30 - 70	70 - 100	15 – 42	15– 36

Table 1 shows that the mean score for children's teeth brushing skills has increased from 43.46 to 89.70 and

the mean score for children's dental and oral hygiene status has decreased from 31.61 to 22.79.

**Table 2.** Data normality test

Group	p-value	
	Pre-test	Post-test
<b>Intervention</b>		
Brushing skills	0.066	0.000
Dental and oral hygiene status	0.272	0.034

Table 2 shows the results of the normality test for tooth brushing skills and dental hygiene status which

are normally distributed because the p-value is  $> 0.05$  so the parametric test is continued.

**Table 3.** Test the effectiveness of skills and dental hygiene status before and after intervention

Group	Brushing skills*		Dental and oral hygiene status *		
	Mean+ SD	p-value	Mean+ SD	p-value	
Intervention	Pre-test	43,64±9,943	0.001	31,61±6,727	0.001
	Post-test	89,70±10,45		22,79±5,754	

\* Paired Sampel Test

Table 3 shows that the results of the data effectiveness test before and after being given education on brushing teeth with songs show that the p-value of the intervention group's tooth brushing skills is 0.001 ( $p < 0.05$ ) and the p-value of dental and oral hygiene status is 0.001, meaning brushing education. teeth with songs effectively improve teeth brushing skills and oral hygiene status in preschool children.

### Discussion

Teeth brushing skills are very important for children. One way to increase knowledge of dental and oral health is through dental health education (Kasihani et al., 2022). Counseling is a learning process shown to individuals or community groups to achieve the highest level of health. Choosing the right method in the process of delivering counseling material really helps achieve efforts to change target behavior (Emini et al., 2023; Pudentiana Rr et al., 2019). One alternative dental health education that is suitable for children is to use music/songs (Primawati, 2020).

Songs also teach and can have a good influence on their growth. In other words, there is a positive impact in children's songs that teach about polite actions that can influence their mind, soul and body. Because the right children's songs can cover all aspects of children's learning objectives. Songs are a form of music. Songs cannot be separated from music, songs and music are a unity which when combined will create a beautiful work of art. Music or songs can be used as a tool in an effective learning process for children (Agustini, 2020; Mislikhah, 2021).

The results of the research showed that before the education was carried out, the level of good in the intervention group was 43.34, meaning that preschool children were not yet skilled in brushing their teeth and could even be said to be not yet independent so they needed help from other people in carrying out the activity of brushing their teeth. This condition occurs because the majority of preschool children do not know the stages of brushing their teeth or the

technique of brushing their teeth properly. It can be seen from the results of observations that the majority of tooth brushing movements are horizontal movements for the surface of the teeth, the part of the teeth facing lingual/palatal is mostly missed and gargling is done. after brushing your teeth several times. This is confirmed by research by Ngatemi et al. proves that preschool children are not yet independent in maintaining dental health, especially in brushing their teeth. Another study, Arianto et al, stated that the skill of brushing teeth properly and correctly can influence the status of oral hygiene (Arianto, 2019; Ngatemi, 2021).

The practice of brushing teeth is a commonly recommended way to clean soft deposits on the surface of teeth and gums, brushing teeth is a preventive measure towards optimal oral health (Purnama et al., 2020). Toothbrushing techniques must be understood and implemented actively and regularly. There are different techniques for cleaning teeth and massaging gums with a toothbrush. In other words, poor teeth brushing skills can cause preschoolers' oral hygiene status scores to be high (Hadi et al., 2022). It is proven that the results of research on dental and oral hygiene status before dental health education showed that the average value of dental and oral hygiene status was 31.61, including the poor category. In line with research by Ngatemi et al. showed that the average plaque index value before dental health education was 36.22 in the poor category (Ngatemi, 2020).

Next, the researchers conducted tooth brushing education in the intervention group using songs, while in the control group they brushed their teeth using phantom dolls. Implementation of the intervention in the intervention and control groups was given education on brushing teeth every day, for 5 consecutive days, which was carried out at school. In accordance with research conducted by researchers in 2020, it is proven that the practice of brushing teeth for 5 days at school can improve the teeth brushing skills of preschool children (Purnama et al., 2020). For

children, it is necessary to provide a good example of how to brush their teeth and use a technique that is as simple as possible. The delivery of dental and oral health education to children must be made as attractive as possible, including through attractive counseling without reducing the educational content, direct demonstrations. The choice of methods and media supports children's increased understanding, by directly practicing the correct way to brush their teeth (Novita et al., 2022; Purnama et al., 2022).

In implementing dental health education, researchers used cellphones and speakers so that students could hear songs clearly. Researchers used dental phantoms as props to support the education that had been given to respondents. The use of a dental phantom aims to enable students to see and understand the movements that should be made when brushing their teeth. According to (Ali, 2016), in order for the counseling to be effective, the use of dental phantoms or props will facilitate the course of the counseling so that health messages are conveyed clearly, are better understood and can increase students' knowledge. The singing method is a method that emphasizes words that are combined into sentences and then sung to create a pleasant atmosphere so that they do not feel bored while receiving lessons. When children sing the tooth brushing song there are two activities that are carried out, namely saying and doing what they say. By providing this singing method, it is hoped that children will be better able to brush their teeth according to the good and correct way to brush their teeth. The world of children is singing and playing so that children tend to understand learning more easily. The interactions carried out during counseling can attract students' interest in actively participating in the counseling activities being carried out (Windiyana et al., 2020)

The results of the test on the effectiveness of teeth brushing skills showed that the p-value between the intervention group and the control group was 0.001 ( $p < 0.05$ ), meaning that education on brushing teeth with songs and phantom dolls was equally effective in improving the teeth brushing skills of preschool children. This also confirms the research put forward by Fatmasari et al. proves that the Mogigu model is effective in improving tooth brushing skills in elementary school children (Fatmasari et al., 2019).

The success of this research was also seen as an improvement in the dental and oral hygiene status of children. The results of the test on the effectiveness of oral hygiene status showed that the p-value between the intervention and control groups was 0.001 ( $p < 0.05$ ), meaning that education on brushing teeth with songs and phantom dolls was equally effective in improving the dental hygiene status of young children. The dental and oral hygiene status score decreased due to education on brushing teeth being carried out correctly so that with this education, students' knowledge will increase so they are able to practice correct brushing teeth. Correct tooth brushing practices will remove plaque. Purnama et al, proved that brushing your teeth with the correct technique will improve your teeth brushing skills and the cleanliness of your teeth and mouth. Pudentiana et al also proved that dental and oral health education using demonstration methods reduced dental and oral hygiene scores (Pudentiana et al., 2020; Purnama et al., 2019).

The results of this research are in accordance with several studies, (Takaeb, 2019) the singing method is effective for increasing the knowledge of class IV students about how to brush their teeth properly and correctly. Counseling using this method can increase the knowledge of children who have been given instruction. Through this method children can make movements according to the lyrics of the song being sung. The atmosphere created in the implementation of counseling also becomes more cheerful so that they can enjoy the learning that has been given more. (Primawati et al., 2019) Proves that using music, dance and songs to brush teeth (MUTALAGI) can increase knowledge, ability to practice brushing teeth, and can improve dental and oral hygiene status in children with Down syndrome.

## Conclusions

The conclusion of this research is that the tooth brushing song is effective in improving teeth brushing skills and dental hygiene status in preschool children.

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