

## Improving Early Childhood Tooth Brushing Habits: A Case Study at TK Kristen Anugerah Jakarta

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### ABSTRACT

*Maintaining oral hygiene from an early age is essential to prevent dental caries and gum diseases. However, many preschool children lack the knowledge and proper technique to brush their teeth effectively. This study aimed to evaluate the effectiveness of a structured tooth brushing training program at TK Kristen Anugerah Jakarta. Utilizing a participatory descriptive method, the program integrated interactive discussions, audiovisual demonstrations, and supervised practice sessions. A total of [jumlah peserta, jika tersedia] children participated in pre- and post-training assessments to measure improvements in their brushing habits. The findings showed significant gains: understanding the importance of brushing increased from 40% to 85%, brushing frequency improved from 20% to 65%, and correct brushing technique rose from 30% to 75%. These results suggest that school-based interactive training can positively influence children's dental hygiene behavior. This study recommends incorporating such programs into early childhood education curricula and emphasizes the importance of parental involvement for sustaining long-term oral health practices.*

**Keywords:** Dental Health; Early Childhood Education; Oral Hygiene; Tooth Brushing Training.

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### 1. Introduction

Maintaining oral hygiene from an early age is essential for children's overall health, as it helps prevent common dental issues such as cavities and gum disease. Despite this, many young children lack the awareness and discipline needed to brush their teeth correctly and regularly. Research indicates that early childhood caries is a prevalent issue in many regions, often resulting from inadequate brushing habits, high sugar consumption, and a lack of parental supervision in oral hygiene routines (Hamilton et al., 2018; Abadi, 2019; Agarwal et al., 2023; Shalini et al., 2023).

At TK Kristen Anugerah Jakarta, observations and initial assessments revealed a lack of structured dental hygiene education within the school setting. Many children showed limited knowledge of brushing techniques and admitted to brushing their teeth infrequently or improperly. Additionally, the school did not have a regular oral health program or engagement with dental professionals to support students' hygiene practices. This study was conducted to address these gaps by providing targeted training in proper tooth brushing techniques. Through interactive learning and guided practice, the program aimed to improve children's understanding and daily habits, ultimately promoting better oral health outcomes within this specific school environment.

Previous studies have demonstrated that early oral health education significantly improves children's dental hygiene behaviors and reduces the risk of developing cavities. For example, a study by Pratiwi et al. (2020) found that interactive tooth brushing education in preschool settings led to a 50% improvement in children's brushing frequency and technique within one month. Similarly, research by Sari & Nugroho (2018) highlighted that schools with structured oral hygiene programs reported lower incidences of dental plaque and gingivitis among students compared to those without such programs. These findings underline the importance of school-based interventions in promoting dental health from an early age. The reality in many preschools, including TK Kristen Anugerah Jakarta, highlights the gap between the ideal practice of daily tooth brushing and the actual habits of children, which remain inconsistent and ineffective. This study seeks to address that gap by implementing a targeted training program tailored to the specific needs of the children at TK Kristen Anugerah, aiming to foster lasting improvements in their oral hygiene practices.

According to the 2013 Basic Health Research (RISKESDAS) report by the Ministry of Health of the Republic of Indonesia, the prevalence of dental caries among children in Indonesia was significantly high, exceeding 80%. This indicates that a large proportion of children experience dental health issues, primarily due to poor oral hygiene habits and lack of awareness about proper tooth brushing techniques.

Despite the well-documented benefits of proper tooth brushing, studies show that young children frequently develop cavities due to improper brushing techniques and a lack of awareness regarding oral hygiene. Amalia & Setiawati (2018) emphasizes that tooth decay at an early age can lead to difficulties in chewing, pain, and even speech development issues. Furthermore, untreated dental problems can negatively impact children's self-confidence and learning experiences. Many parents and teachers may not fully understand the most effective ways to encourage young children to adopt good brushing habits, making structured training and education programs essential.

This research introduces an innovative approach to teaching proper tooth brushing techniques to children at TK Kristen Anugerah Jakarta. By incorporating interactive and engaging methods such as storytelling, role-playing, and visual demonstrations, this initiative aims to enhance children's enthusiasm for maintaining oral hygiene (Andriani, & Suryawati, 2020; Astuti & Wulandari, 2019; Lestari & Dewi, 2021; Manurung, 2024). This study not only addresses the existing gap in early childhood dental care but also proposes a sustainable model for promoting lifelong oral health practices through school-based interventions (Handayani & Pratiwi, 2020). The findings are expected to provide valuable insights into the effectiveness of playful, structured learning in fostering positive dental care habits among young children.

## 2. Method

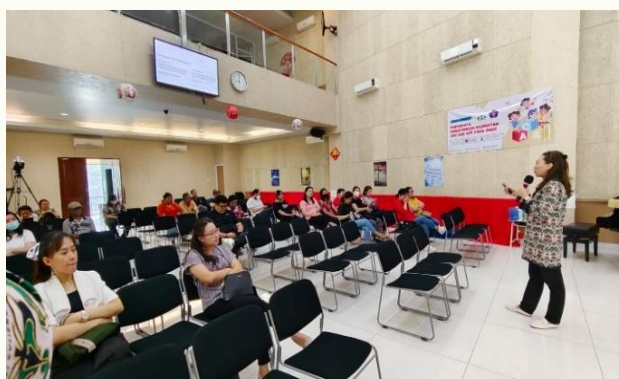
This study employed a participatory descriptive method to evaluate the effectiveness of tooth brushing training conducted at TK Kristen Anugerah Jakarta. The participants consisted of 30 children aged 4–5 years, all of whom were enrolled in the school. The program was implemented over a period of two weeks, with a total of four training sessions, each lasting approximately 60 minutes.

The training program included three main stages: (1) educational presentations, (2) interactive question-and-answer sessions, and (3) hands-on brushing practice. Educational materials were delivered using engaging visual aids such as animated videos, illustrated

posters, and dental models. Teachers and facilitators guided the children actively, demonstrating correct brushing techniques using dental mock-ups.

During the practice session, each child was provided with fluoride toothpaste and a toothbrush. Under the supervision of teachers and researchers, the children practiced brushing their teeth according to the recommended techniques. Data collection was conducted through direct observation of the children's brushing behavior before and after the training, structured interviews with teachers, and feedback questionnaires from parents regarding changes in their children's oral hygiene routines at home.

The data were analyzed descriptively to assess changes in knowledge and brushing skills before and after the intervention. Improvements were measured based on five key indicators: (1) understanding the importance of brushing, (2) mastery of brushing steps, (3) proper use of toothbrush, (4) brushing duration, and (5) brushing frequency. To ensure data validity, source triangulation was applied by comparing findings from observations, teacher interviews, and parental feedback.



(a)



(b)



(c)

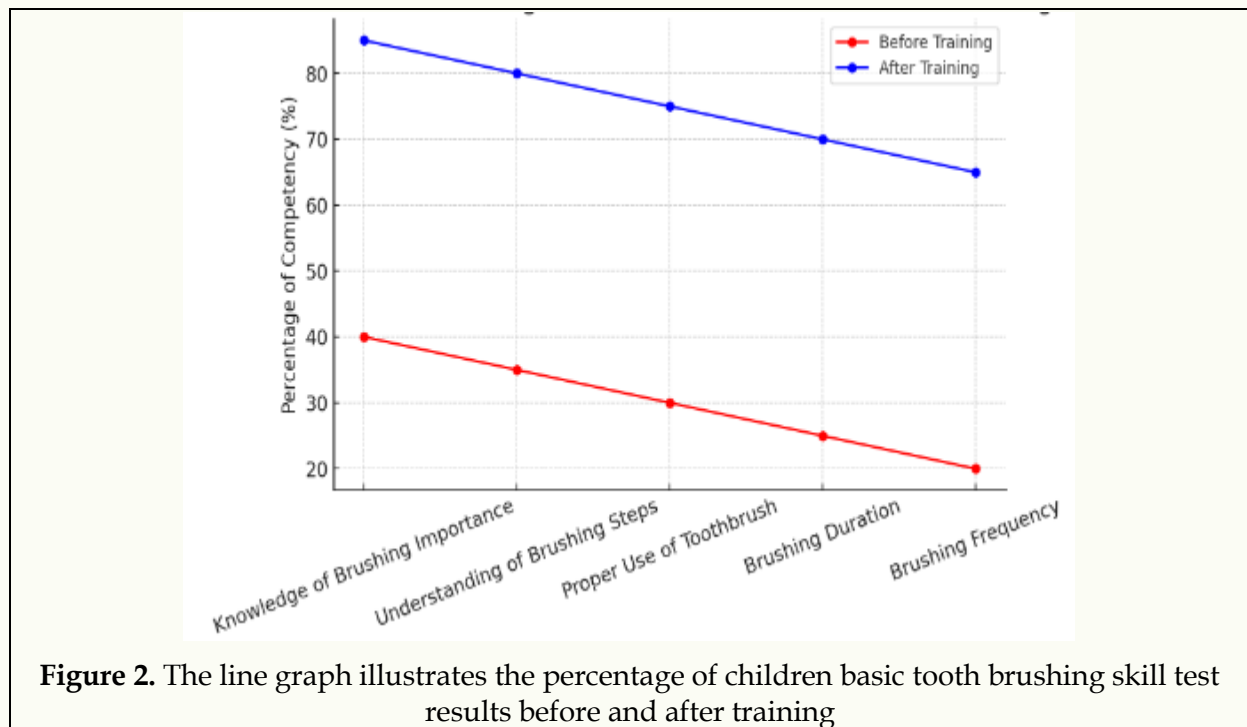
**Figure 1.** a) The interactive training session conducted at TK Kristen Anugerah Jakarta; b) Teachers and facilitators actively supervised and assisted children in developing healthy oral hygiene habits; c) The implementation of the training session at TK Kristen Anugerah Jakarta, involving both organizers and participants

### 3. Result

R The line graph (Figure.2) illustrates the percentage of children's basic tooth brushing skills before and after training at TK Kristen Anugerah Jakarta. The x-axis represents five key aspects of brushing competency: Knowledge of brushing importance, understanding of brushing steps, proper use of toothbrush, brushing duration, and brushing frequency. The y-axis indicates the percentage of children demonstrating proficiency in each category.

Before the training program, children's competency levels were relatively low across all categories. Only 40% of participants understood the importance of brushing, and even fewer (35%) had a clear understanding of the correct steps. Practical skills, such as properly using a toothbrush (30%), brushing for the recommended duration (25%), and maintaining regular brushing habits (20%), were also significantly lacking.

After the training program, there was a marked improvement in all areas. Knowledge of brushing importance increased to 85%, and understanding of the proper steps reached 80%. Practical skills saw significant growth as well, with 75% of children demonstrating correct toothbrush usage, 70% brushing for an adequate duration, and 65% adhering to recommended brushing frequency.



These improvements highlight the effectiveness of the training program in enhancing children's oral hygiene practices. The substantial increase in knowledge and skills suggests that structured educational interventions can play a crucial role in establishing good brushing habits from an early age. Notably, the most significant growth was observed in brushing duration and frequency, which initially had the lowest proficiency levels. This indicates that while children may recognize the importance of brushing, consistent reinforcement and hands-on practice are essential in developing sustained oral care routines. Future efforts could focus on reinforcing these habits through periodic follow-up sessions and parental involvement to ensure long-term adherence to proper brushing techniques.



#### 4. Discussion

The training and education program on proper tooth brushing techniques at TK Kristen Anugerah Jakarta successfully introduced and reinforced good oral hygiene habits among young children. The initiative aimed to bridge the gap between knowledge and practice by engaging children in interactive learning and hands-on brushing exercises. The findings indicate that the program positively impacted both the children's awareness and their daily brushing routines. Before the training, many children demonstrated incorrect brushing techniques, such as brushing too quickly, neglecting certain areas, or using excessive toothpaste. However, after participating in the program, they exhibited improved brushing skills and a greater enthusiasm for maintaining oral hygiene.

One of the key indicators of success was the children's active participation and engagement throughout the training (Rahayu & Wulandari, 2020). Observations showed that children responded positively to the visual demonstrations and interactive activities. The use of engaging educational tools, such as animated videos and dental models, effectively captured their interest and made the learning process enjoyable. Additionally, the hands-on practice allowed them to develop muscle memory for proper brushing techniques (Dewi, 2024). Teachers also noted a noticeable improvement in children's willingness to brush their teeth regularly, both at school and at home, as reported by parents.

The short-term impact of the program was evident through immediate improvements in children's brushing techniques and their understanding of oral health. In the long term, the program is expected to contribute to a decrease in the prevalence of cavities and other dental issues among young children. Parental involvement played a crucial role in reinforcing these habits at home (George et al., 2022). Some parents reported that their children reminded family members to brush their teeth before bed, indicating the program's influence beyond the school environment. This behavioral change highlights the program's effectiveness in fostering long-lasting oral hygiene habits (Fitriani & Nurjanah, 2019; Hidayati & Santoso, 2018).

Despite its overall success, the program encountered several challenges that may have influenced the extent of its impact. One of the primary difficulties was maintaining consistency in how children applied the proper brushing techniques, especially outside the structured environment of the training sessions. Some children, particularly those with no prior exposure to dental health education, required repeated instruction and close supervision to develop the correct habits. Moreover, family-related factors played a significant role in shaping the children's brushing routines at home. For instance, children whose parents did not prioritize oral hygiene or failed to provide consistent support were less likely to continue proper brushing independently. Additionally, frequent consumption of sugary foods and drinks at home further hindered the program's effectiveness in preventing dental issues (Kusumawati & Sari, 2019; Maharani & Rahardjo, 2017). These external influences suggest that while school-based interventions are crucial, they need to be complemented by parental involvement and reinforcement at home to ensure lasting behavioral change (Pratiwi & Handayani, 2021).

Another limitation was the availability of resources. While the training provided each child with a toothbrush and fluoride toothpaste, continued reinforcement at home depended on parental support and access to appropriate dental care products. Some families may not have the means to maintain a consistent supply of quality toothpaste and toothbrushes, which could affect long-term adherence to good oral hygiene practices (Kusmana, 2020).

Moving forward, expanding the program to include periodic follow-up sessions and parental workshops could enhance its sustainability. Integrating oral health education into the school's regular curriculum and collaborating with local healthcare professionals could further

strengthen the impact. Additionally, conducting similar programs in other preschools and early childhood education centers would help promote better oral health practices on a larger scale (Ningsih & Yulianti, 2020).

Overall, this initiative has demonstrated that early education on proper tooth brushing techniques can effectively improve children's dental hygiene habits and overall well-being. By incorporating interactive and engaging methods, this program has laid the foundation for lifelong oral health awareness, benefiting not only the children but also their families and the broader community (Putri, & Kurniawan, 2019).

## 5. Conclusion

The implementation of structured tooth brushing training at TK Kristen Anugerah Jakarta proved to be an effective approach in promoting proper oral hygiene practices among preschool children. The combination of engaging educational media, interactive learning, and supervised hands-on practice significantly improved children's understanding of dental health and their brushing skills. The intervention not only increased awareness but also helped establish consistent tooth brushing routines.

One of the key strengths of this program was the integration of both cognitive and behavioral components, ensuring that children not only learned why brushing is important but also how to do it properly. The improvements in knowledge, technique, and brushing frequency demonstrate the value of early school-based oral health education.

However, sustaining these improvements remains a challenge, especially outside the school environment where parental involvement is crucial. Future efforts should focus on reinforcing children's brushing habits through periodic follow-up sessions and stronger collaboration with parents. Schools are encouraged to integrate oral hygiene education into their regular curriculum and work closely with healthcare professionals to build sustainable and scalable models. This study contributes to the growing evidence that structured, interactive oral health programs can be a powerful tool in shaping long-term health behaviors in early childhood.

## 6. Acknowledgement

The author would like to extend heartfelt gratitude to the Faculty of Medicine, Universitas Trisakti, for their generous financial support in making this community service initiative possible.

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