Development of the dental friendly child program integrated with child management to enhance child-friendly dental care: A community service initiative

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ABSTRAK

Pengetahuan orang tua merupakan faktor penting yang dapat mempengaruhi perilaku anak dalam menjaga kesehatan gigi dan mulut serta sikap anak saat menjalani perawatan gigi. Orang tua yang memiliki pengetahuan baik cenderung mampu memberikan edukasi dan dukungan sehingga anak lebih kooperatif selama perawatan. Mengetahui gambaran pengetahuan orang tua tentang kesehatan gigi anak dan tingkat perilaku anak dalam perawatan gigi di Puskesmas Kelurahan Lebak Bulus Tahun 2026. Penelitian deskriptif dengan teknik purposive sampling. Sampel penelitian terdiri dari 30 orang tua dan 30 anak yang melakukan perawatan gigi di Puskesmas Kelurahan Lebak Bulus. Pengumpulan data dilakukan menggunakan kuesioner pengetahuan kesehatan gigi anak dan lembar observasi Frankl Behavior Rating Scale. Analisis data dilakukan secara deskriptif menggunakan distribusi frekuensi. Sebagian besar orang tua memiliki tingkat pengetahuan baik sebanyak 20 responden (67%), pengetahuan cukup 9 responden (30%), dan pengetahuan kurang 1 responden (3%). Tingkat perilaku anak didominasi kategori sangat positif sebanyak 16 anak (53%) dan kategori positif sebanyak 14 anak (47%). Anak dengan perilaku sangat positif paling banyak berasal dari kelompok orang tua yang memiliki pengetahuan baik sebanyak 15 anak (50%). Mayoritas orang tua memiliki pengetahuan yang baik mengenai kesehatan gigi anak dan sebagian besar anak menunjukkan perilaku sangat positif selama menjalani perawatan gigi. Pengetahuan orang tua yang baik cenderung mendukung terbentuknya perilaku kooperatif anak dalam perawatan gigi.

ABSTRACT

Parental knowledge is an important factor that can influence children's behavior in maintaining oral health and their attitudes during dental treatment. Parents with good knowledge tend to be able to provide education and support, resulting in more cooperative children during treatment. To determine parental knowledge about children's dental health and the level of children's behavior during dental treatment at the Lebak Bulus Community Health Center in 2026. This descriptive study used a purposive sampling technique. The study sample consisted of 30 parents and 30 children undergoing dental treatment at the Lebak Bulus Community Health Center. Data collection was conducted using a children's dental health knowledge questionnaire and a Frankl Behavior Rating Scale observation sheet. Data analysis was conducted descriptively using a frequency distribution. The majority of parents had good knowledge (20 respondents (67%), moderate knowledge (9 respondents (30%), and insufficient knowledge (1 respondent (3%). Children's behavior was dominated by the very positive category (16 children (53%) and the positive category (14 children (47%). The children with very positive behaviors were mostly from the group of parents with good knowledge, at 15 children (50%). The majority of parents have good

knowledge about children's dental health, and most children exhibit very positive behaviors during dental treatment. Good parental knowledge tends to support children's cooperative behavior during dental treatment.

INTRODUCTION

Oral health issues in children remain a public health challenge in Indonesia. Based on the results of the 2023 Indonesian Health Survey (SKI), the proportion of the population experiencing oral health problems remains quite high, while utilization of dental health services remains relatively low. School-age children are particularly vulnerable to tooth decay due to high consumption of cariogenic foods, suboptimal tooth brushing habits, and low attendance at regular dental checkups.

The 2023 SKI data also shows that Indonesians' dental health care practices still need improvement. This condition contributes to the high incidence of dental decay in children, which can cause pain, eating disorders, sleep disturbances, decreased concentration in learning, and even a reduced quality of life. Therefore, promotive and preventive efforts involving children, parents, health workers, and educational institutions are needed to improve children's oral health from an early age.

The project partner is the Dental Clinic of the Lebak Bulus Village Community Health Center, Cilandak District, South Jakarta. Based on initial observations and interviews with dental health workers, children still come to the clinic with anxiety and fear regarding dental procedures. Furthermore, not all parents have adequate knowledge about how to maintain their children's dental health and the importance of preparing their children for dental treatment.

Preliminary identification of 30 parents and 30 children revealed that some parents still had sufficient (30%) and some had insufficient (3%) knowledge regarding children's dental health. Furthermore, although most children demonstrated positive behavior during treatment, systematic efforts are still needed to maintain and enhance their children's cooperative behavior through a structured child management approach. This situation underpins the need to develop the Dental Friendly Child program, which aims to create a more child-friendly dental health care environment, increase parental involvement, and support the success of children's dental treatment.

Children's dental and oral health is a crucial component in supporting their growth, development, and quality of life. One of the most common dental health problems in children is tooth decay, which can cause pain, eating disorders, sleep disturbances, and even reduce their quality of life (Wahyuni, 2016). In addition to dental health, a child's behavior during dental treatment is also a significant factor influencing the success of pediatric dental care.

Children often exhibit fear, anxiety, crying, refusal, and uncooperative behavior during dental care. These conditions can be influenced by previous experiences, the healthcare environment, the healthcare provider's approach, and parental support (Maulana, 2009). Negative child behavior can hinder the dental treatment process and impact the overall success of the service.

Research on parental knowledge about children's dental health and the level of children's behavior during dental care at the Lebak Bulus Community Health Center indicates that most children with very positive behaviors come from parents who have good knowledge about children's dental health. These findings demonstrate the importance of parents' role in shaping children's behavior during dental treatment (Yuswitani, 2019).

As a form of implementation of the Tri Dharma of Higher Education, particularly in the area of community service, innovation in pediatric dental health services is needed to create a comfortable, safe, and enjoyable treatment environment for children. One effort that can be undertaken is through the development of a "Dental Friendly Child" program integrated with Child Management learning. The "Dental Friendly Child" program is a child-friendly dental health care approach that prioritizes therapeutic communication, child behavior management, parental involvement, and the development of a comfortable service environment for children. This program not only focuses on health services but also serves as a practical learning tool for dental health students in directly applying child management techniques (Ratriyanti, 2022).

Based on the high prevalence of children's dental health problems in Indonesia and the need for partners to strengthen dental health education and child behavior management approaches, the Dental Friendly Child Integrated Child Management program was developed. This program aims to improve children's psychological readiness for dental treatment, increase parental knowledge, and create more child-friendly dental health services at the Lebak Bulus Village Community Health Center (UPTD).

METHOD

This community service activity was implemented systematically through five main stages: preparation, education, child management training, child support, and evaluation. All activities were implemented in an integrated manner to support the development of the Dental Friendly Child program as a model for child-friendly dental health services.

The preparation stage is the initial stage before field implementation. Activities at this stage included coordination with the Lebak Bulus Village Community Health Center regarding permits, activity schedules, activity targets, and program implementation techniques. In addition, a child management module was developed to guide students in approaching children during dental treatment. The team also prepared educational materials for children's dental health, including posters, leaflets, animated videos, and tooth puppets as interactive learning tools. At this stage, a child behavior observation instrument was developed to assess the child's level of cooperation during dental treatment.

Education was conducted with children and parents to increase knowledge about children's dental and oral health. Educational materials include how to maintain children's dental health, proper brushing techniques, preventing tooth decay, and psychological preparation for children before undergoing dental treatment. The educational method is delivered through interactive counseling using posters, leaflets, animated videos, and tooth puppets to make the material easier for children and parents to understand. This education aims to foster positive attitudes toward maintaining dental and oral health from an early age.

In this stage, students are trained in child management techniques in pediatric dental care. The training includes therapeutic communication techniques, the tell-show-do method, positive reinforcement, modeling, distraction techniques, and a child-centered psychological approach. The training aims to improve students' ability to handle children's behavior during dental treatment, thereby creating a comfortable, safe, and enjoyable service environment for children.

Students provide support to children before and during dental treatment. Support is provided through an interpersonal approach to build a sense of security, reduce anxiety, and increase cooperative behavior during the dental treatment. Students apply the child

management techniques they have learned by engaging in friendly communication, providing motivation, and providing positive reinforcement to children during the dental care process.

The evaluation phase is conducted to assess the success of the Child-Friendly Dental program. This involves observing children's behavior during dental care, assessing students' ability to apply child management techniques, assessing parents' knowledge of children's dental health, and evaluating service satisfaction. The evaluation results will be used to improve and develop the child management-based pediatric dental service program in subsequent community service activities.

A program evaluation was conducted to measure the effectiveness of the Integrated Child Management Dental Friendly Program on improving parental knowledge and children's cooperative behavior during dental care. The evaluation used a pretest-posttest approach and observations of children's behavior before and after program implementation.

Parental knowledge was assessed using a children's oral health questionnaire, which included questions about dental health maintenance, caries prevention, cariogenic food consumption patterns, and the importance of regular dental visits. Measurements were taken before the educational activities (pretest) and after the educational activities (posttest).

Child behavior was evaluated using the Frankl Behavior Rating Scale observation sheet, which categorizes children's behavior into four categories: very negative (rating 1), negative (rating 2), positive (rating 3), and very positive (rating 4). Observations were conducted by dental health professionals and student assistants throughout the dental care process.

In addition, a process evaluation was conducted to assess program implementation through participatory observation of participants, parental involvement in educational activities, and students' ability to apply child management techniques such as tell-show-do, positive reinforcement, distraction, modeling, and therapeutic communication.

Table 1. Evaluation Indicators for the Child-Friendly Dental Program

Program Objectives	Success Indicator	Instrument	Target Achievement
Improving parental knowledge	Increased children's dental health knowledge scores	Kuesioner pretest-posttest	Pretest-posttest questionnaire: ≥ 80% of participants experienced an increase in scores
Improving children's cooperative behavior	Increased positive and very positive behavior categories.	Frankl Behavior Rating Scale	≥ 80% of children are in the positive/very positive category
Improving parental involvement:	Attendance and active participation during education	Observation sheets:	≥ 90% attendance

Improving student competency	Ability to apply child management techniques	:. Observation checklist	≥ 80% of students meet competency criteria
Creating a child-friendly environment	Availability of educational media and supporting facilities	Facilities checklist: Checklist sarana	100% of facilities available

RESULT AND DISCUSSION

The implementation of the Dental Friendly Child program demonstrated positive results on children's behavior during dental care. Based on observations during the program, most children appeared calmer, easier to communicate with, and exhibited more cooperative behavior during dental procedures. Children also appeared more comfortable in the child-friendly dental care environment. The application of child management techniques such as tell-show-do, positive reinforcement, distraction, and therapeutic communication has been shown to help reduce children's fear and anxiety before and during dental care. The use of interactive educational media such as posters, animated videos, leaflets, and tooth puppets also increased children's attention and engagement during the dental health education activities. Furthermore, students were able to apply child management techniques directly to pediatric dental care. They demonstrated the ability to establish therapeutic communication, provide age-appropriate psychological approaches, and create a more comfortable and enjoyable service atmosphere.

This demonstrates that this community service activity not only benefits the participants but also supports the improvement of students' competencies in pediatric dental care practices. Parents also responded positively to the program. Parents reported that their children felt more comfortable and less afraid during dental treatment. Furthermore, they gained additional knowledge about the importance of maintaining children's dental health from an early age, including the importance of building children's psychological readiness before dental treatment. The Dental Friendly Child Program also had a positive impact on promotive and preventive dental health services at the Lebak Bulus Community Health Center through a more humane, educational approach to dental health care, and one that focused on children's psychological needs.

The evaluation results showed that the majority of parents (20) had a good level of knowledge regarding their children's dental health, with 9 (30%) being in the adequate category and 1 (3%) being in the poor category. Furthermore, observations of children's behavior during dental care indicated that all children were in the positive or very positive category, with 16 (53%) being in the very positive category and 14 (47%) being in the positive category. No children exhibited negative or very negative behavior during dental care. These findings indicate that a child-friendly service environment and parental involvement in dental health care contribute to children's cooperative behavior during dental care.

Program Evaluation Results

Table 4. Program Evaluation Results of the Dental Friendly Child Program

Evaluation Indicator	Result	Category

Parents with good knowledge of children's oral health	20 parents (67%)	Good
Parents with moderate knowledge	9 parents (30%)	Moderate
Parents with poor knowledge	1 parent (3%)	Poor
Children demonstrating very positive behavior during dental treatment	16 children (53%)	Excellent
Children demonstrating positive behavior during dental treatment	14 children (47%)	Good
Children demonstrating negative or definitely negative behavior	0 children (0%)	Excellent

Based on the evaluation results, all children (100%) demonstrated positive or very positive behavior during dental treatment. No children exhibited negative or definitely negative behavior. These findings indicate that a child-friendly service approach and active parental involvement contributed positively to the success of pediatric dental care services.

Program Limitations

This program evaluation did not employ a pretest-posttest design; therefore, improvements in parental knowledge and changes in children's behavior before and after the intervention could not be quantitatively measured. The evaluation was descriptive in nature, focusing on parents' level of knowledge and observations of children's behavior during dental treatment. Future research and community service activities are recommended to utilize a pretest-posttest design to enable a more comprehensive evaluation of program effectiveness.

Program Success Analysis

The success of the Dental Friendly Child Program was analyzed based on indicators related to children's behavior and parental knowledge. The evaluation results revealed that 67% of parents possessed a good level of knowledge regarding children's oral health, while all children (100%) demonstrated positive or very positive behavior during dental treatment. Furthermore, 50% of children who exhibited very positive behavior came from families in which parents had a good level of oral health knowledge. These findings suggest that the program successfully created a supportive care environment that encouraged cooperative behavior among children during dental treatment.

Impact of the Program on Community Health Center Services

The Dental Friendly Child Program had a positive impact on pediatric dental services at the Lebak Bulus Community Health Center. The child management approach assisted healthcare providers in creating a more comfortable and conducive treatment environment, resulting in greater child cooperation during dental procedures. This condition facilitated the delivery of dental care services and improved the quality of interactions among healthcare providers, children, and parents.

Partner Testimonials

Based on discussions with dental healthcare personnel at the Lebak Bulus Community Health Center, the program was considered beneficial in improving children's

comfort during dental treatment. Parents also expressed positive responses to the educational activities provided, as they gained new knowledge regarding appropriate practices for maintaining their children's oral health at home.

Discussion

The Dental Friendly Child Program is an innovative form of promotive and preventive pediatric dental health care that integrates psychological, educational, and communicative approaches into pediatric dental care. This approach aims to create a comfortable, safe, and enjoyable service environment that can improve children's cooperative behavior during dental treatment. The results of the activity showed that the application of child management techniques was able to improve children's cooperative behavior during dental treatment. The tell-show-do technique helped children understand the procedure through simple explanations and demonstrations of equipment before the procedure, thereby reducing children's fear and anxiety. Positive reinforcement techniques, including praise and motivation, were also effective in increasing children's self-confidence and encouraging them to demonstrate positive behavior during dental treatment.

These results align with child behavior management theory, which states that therapeutic communication and appropriate psychological approaches can help children adapt to the dental health care environment (Maulana, 2009). A child-friendly service environment also provides a sense of security, making it easier for children to accept dental treatment. Parental involvement in educational activities is a crucial factor in fostering a child's psychological readiness before undergoing dental treatment. Parents who have good knowledge about dental and oral health are more likely to provide emotional support, motivation, and a sense of security to their children during the treatment process. This aligns with research showing that parental knowledge is associated with children's cooperative behavior during dental treatment (Ratriyanti, 2022).

In addition to providing benefits for children and parents, this program also supports students' competency in directly applying Child Management lessons in practice. Students gain real-world experience dealing with children's behavior during dental care, improving their therapeutic communication skills and psychological approaches to pediatric patients. The results of this activity also align with previous research, which found that psychological approaches and therapeutic communication can improve children's cooperative behavior during dental care and help reduce anxiety about dental procedures (Wahyuni, 2016).

A comfortable and child-friendly healthcare environment has been shown to influence the success of pediatric dental care. The Child-Friendly Dental Program can serve as a model for community-based, child-friendly dental care that supports the strengthening of promotive and preventive services in primary healthcare facilities. This program is expected to be implemented. The study results showed that the better parents' knowledge about their children's dental health, the more positive their behavior during dental treatment. Fifty percent of children with very positive behaviors came from parents with good knowledge. This finding indicates that parental knowledge not only plays a role in maintaining dental health at home but also influences children's psychological readiness for dental treatment. Parents who understand the importance of dental health tend to provide accurate information about treatment procedures, reduce children's fear of the dentist, and provide emotional support before the visit. These conditions help children feel safe and comfortable, enabling them to demonstrate cooperative behavior during treatment.

These study results align with research by Pratiwi (2022), which demonstrated a relationship between dental health knowledge and children's dental care behavior (r=0.625; p<0.001). This finding is also supported by Hidayat et al. (2020), who reported a significant relationship between dental health knowledge and dental care behavior in school-aged children (p=0.000). Therefore, increasing parental knowledge through dental health education can be an effective preventive strategy to shape positive behavior in children during dental treatment.

CONSLUSION

The Dental Friendly Child Program integrated with Child Management was successfully developed based on the identification of parents' knowledge regarding children's oral health and children's behavior during dental treatment at the Lebak Bulus Community Health Center (UPTD Puskesmas Kelurahan Lebak Bulus). The evaluation results showed that 20 parents (67%) had a good level of knowledge regarding children's oral health, while 9 parents (30%) had a moderate level of knowledge and 1 parent (3%) had a poor level of knowledge. Furthermore, all children participating in the program demonstrated cooperative behavior during dental treatment, with 16 children (53%) categorized as very positive and 14 children (47%) categorized as positive according to the Frankl Behavior Rating Scale. The main measurable achievement of the program was the absence of negative or definitely negative behavior during dental treatment (0%), as well as the predominance of very positive behavior among children whose parents had a good level of oral health knowledge, accounting for 15 children (50%). These findings indicate that parental knowledge plays an important role in supporting the development of cooperative behavior in children during dental treatment.

The Dental Friendly Child Program not only benefits children and their parents but also contributes to improving the quality of pediatric dental services through a more child-friendly, communicative, and patient-centered approach. This approach enhances children's comfort, reduces dental anxiety, and promotes a positive dental experience, thereby supporting the successful delivery of oral health services for children. The "Dental Friendly Child" development program, integrated with Child Management, as a community service program implemented by lecturers, has been able to improve children's cooperative behavior during dental care, increase parental knowledge about children's dental health, and enhance students' competency in applying child management techniques. This program can serve as a model for child-friendly dental health services based on promotion and prevention, supporting improvements in the quality of pediatric dental health services in community health centers.

SUGGESTIONS

Based on the outcomes of this program, the Dental Friendly Child Program Integrated with Child Management is recommended for implementation in other primary healthcare facilities, including community health centers, dental clinics, and School Dental Health Programs (UKGS). The program can be implemented through the integration of oral health education for parents, the application of child management techniques by healthcare professionals, the use of engaging educational media for children, and the creation of a child-friendly healthcare environment.

To enhance the effectiveness of the program in the future, healthcare facilities are encouraged to conduct evaluations using a pretest-posttest design, allowing changes in parental knowledge and children's behavior to be measured more objectively. In addition, continuous training for healthcare professionals and dental health students on child behavior management techniques is necessary to further improve the quality of pediatric oral healthcare services. This program model has the potential to become an innovative promotive and preventive healthcare approach that supports the achievement of oral health improvement targets among children at the community level. Furthermore, it may contribute to expanding access to child-friendly dental healthcare services throughout Indonesia.

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