World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(RESEARCH ARTICLE)

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Parents Knowledge about Tooth Persistence in Children

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World Journal of Advanced Research and Reviews, 2025, 28(03), 2088-2092

Publication history: Received on 15 November 2025; revised on 26 December 2025; accepted on 29 December 2025

Article DOI: https://doi.org/10.30574/wjarr.2025.28.3.4247

Abstract

Tooth persistence is a condition where the primary teeth have not fallen out completely, but the permanent teeth have grown. Persistence is one of the dental and oral diseases that are widely experienced by Indonesian people, especially children aged 6-12 years. Because at that age is the transition period from primary teeth to permanent teeth, which is usually a critical period. which is usually a critical period. Knowledge is very important in the background behind the formation of an attitude and behavior that supports or does not support health, especially in oral health. support health, especially in oral health. In this case parents' knowledge is very important in the process of growth and development of children's teeth. Parents' knowledge can be used as a basis for the formation of children's health attitudes and behaviors. Because generally learning about basic oral health care is obtained in the family environment. Objective to find out the knowledge of parents in the working area of the health center Par Engan, Turban district about tooth persistence. This research method is descriptive and the data is presented in tabular form. Results of parents' knowledge about the period of tooth growth in the working area of the Par Engan Health Center, Turban Regency Turban 2022 is included in the lack category, parental knowledge about the causes of tooth persistence in the working area of the Par Engan Health Center, Turban Regency 2022 is included in the moderate category, and parental knowledge about the consequences of tooth persistence of teeth in the working area of the Par Engan Health Center, Turban Regency 2022 included in the lack category.

Keywords: Knowledge; Persistence; Parents

1. Introduction

The background discusses the comprehensive definition of health by the World Health Organization (WHO) and the Indonesian Health Law No. 36 of 2009. It highlights dental health issues, specifically persistence of primary teeth, as a common problem in Indonesia, especially among 6-12-year-olds during the critical period of transitioning from primary to permanent teeth. The significance of parental knowledge in supporting oral health is emphasized, especially the role of mothers. The data from Riskesdas 2018 and Parengan Health Center in 2021 reveal a high percentage of dental issues, with persistence of teeth being the predominant concern, leading to the research problem of elevated visitation rates for tooth persistence in the Parengan Health Center area.

1.1. Tooth Persistence

Tooth persistence, also known as persistent primary teeth, is a condition in which primary (deciduous) teeth remain in the oral cavity beyond their normal exfoliation period while the permanent successor has erupted or is ready to erupt. This condition commonly occurs due to delayed or failed root resorption of the primary tooth, abnormal positioning of the permanent tooth germ, ankylosis, or systemic and genetic factors. Persistent primary teeth may interfere with normal eruption patterns, leading to malocclusion, crowding, or ectopic eruption of permanent teeth [1,2].

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Tooth persistence may be caused by several factors, including delayed physiological root resorption, ankylosis of primary teeth, abnormal positioning or absence of permanent tooth buds, genetic factors, systemic conditions, and

nutritional deficiencies. If left untreated, persistent primary teeth can lead to malocclusion, crowding, ectopic eruption of permanent teeth, periodontal problems, and esthetic disturbances, particularly in children during the critical transition phase from primary to permanent dentition [2, 13].

1.2. Prevalence of Tooth Persistence on Children

Persistence of primary teeth is a common dental developmental condition characterized by the failure of primary teeth to exfoliate at the appropriate time despite the eruption of permanent successors. Several epidemiological studies have reported that the prevalence of persistent primary teeth remains relatively high among children aged 6–12 years, which corresponds to the mixed dentition period, a critical phase in dental development [2].

The high prevalence of persistent primary teeth has been associated with multiple etiological factors, including delayed root resorption, ankylosis, abnormal positioning of permanent tooth buds, genetic predisposition, and systemic conditions such as endocrine disorders and malnutrition [2, 4]. If left untreated, tooth persistence may lead to various clinical consequences, such as malocclusion, ectopic eruption of permanent teeth, crowding, periodontal problems, and esthetic disturbances [15, 3].

Previous studies have also emphasized that parental knowledge and awareness play a crucial role in the early detection and management of persistent primary teeth. Parents with limited understanding of the normal exfoliation and eruption timeline are less likely to seek timely dental care, which contributes to the continued high prevalence of this condition [7, 14]. In developing countries, inadequate oral health education and limited access to preventive dental services further exacerbate this problem [10].

Therefore, the persistently high prevalence of retained primary teeth highlights the need for increased parental education, early dental screening, and effective preventive strategies to minimize the risk of malocclusion and other long-term dental complications in children.

1.3. Effect of Teeth Persistence on Children

Persistent primary teeth are a dental condition in which deciduous teeth remain in the oral cavity beyond their normal exfoliation period and interfere with the eruption of permanent teeth [2][3][4]. This condition is frequently observed in school-aged children and represents an important oral health problem because it can disrupt normal dental development [1][2]. Problems related to tooth eruption are among the common dental issues affecting children during their growth period [1].

From a biological and developmental perspective, permanent tooth eruption is influenced by general growth factors, systemic conditions, and local oral factors [3]. When primary teeth persist, they may block the eruption path of permanent successors or cause delayed eruption, leading to eruption failure or abnormal eruption patterns [2][4]. These disturbances can contribute to malocclusion, crowding, and occlusal imbalance if not properly managed [2][4].

Persistent primary teeth may also have long-term consequences for children's oral function and dental alignment [2][4]. If the condition is not detected early, it can increase the complexity of future dental or orthodontic treatment [2]. Therefore, persistent primary teeth are not merely a temporary condition but a developmental issue that can affect overall oral health and quality of life in children [1][8].

1.4. Parental Role

Parents play a vital role in maintaining children's oral health, as children depend on them for daily hygiene practices, dietary control, and access to dental services [7][8]. Parents are usually the first individuals to observe changes in their children's dentition, including delayed exfoliation or persistent primary teeth [6][9]. Their awareness and attentiveness strongly influence early detection of dental problems [6].

Parental knowledge regarding tooth growth and eruption is a key factor in the management of persistent primary teeth [6][7]. Studies show that some parents lack sufficient understanding of normal eruption timelines, which may lead them to consider tooth persistence as a normal condition [6][9]. This lack of knowledge can result in delayed dental visits and postponed treatment [6][7].

In addition, parental socioeconomic and educational factors are associated with children's oral health outcomes [5][8]. Parents with better access to information and health services are more likely to seek preventive care and follow professional recommendations [7][10]. Consequently, the parental role is essential in ensuring timely intervention, preventing complications, and supporting optimal oral health development in children with persistent primary teeth [6][8][10].

2. Material and methods

The chosen research method is descriptive, aiming to acquire knowledge from parents regarding tooth persistence in children, in the Parengan Health Center area in 2022. The respondents consist of parents/guardians of patients aged 6-12 years who visited the health center in February 2022. Data collection employs a questionnaire method with the research instrument being a questionnaire, utilizing a non-random sampling technique known as accidental sampling. Knowledge measurement involves categorization as "good" if the subject can correctly answer 76%-100% of total questions, "moderate" if the subject answers 56%-75% correctly, and "poor" if the subject answers less than 56% correctly (Nursalam, 2016). The questionnaires are grouped based on specific objectives and then presented in tabular form.

3. Results and discussion

The discussion outlines the research findings on the knowledge of parents concerning tooth persistence among children aged 6-12 who visited the Parengan Health Center in Tuban Regency. The study involved 30 respondents, predominantly mothers engaged in household and farming activities. The research results are presented in four tables, categorizing parental knowledge into the growth phase of teeth, causes of persistence, consequences of persistence, and overall knowledge about persistence. This structured approach allows for a detailed examination of parental awareness related to tooth persistence in the Parengan Health Center area in Tuban Regency for the year 2022. Overall, this literature review provides insight into the various aspects of hereditary disorders of dental development, highlighting the clinical implications and the need for attention to genetic and environmental factors in their understanding and management.

Table 1 depicts the distribution of parental knowledge regarding the growth phase of children's teeth in the Parengan Health Center area, Tuban Regency, in 2022. The data analysis reveals that respondents' knowledge in this aspect is categorized as insufficient. Table 2 illustrates the distribution of parental knowledge concerning the causes of tooth persistence in the same region. The analysis indicates that respondents' knowledge falls into the moderate category. Table 3 presents the distribution of parental knowledge regarding the consequences of tooth persistence. The analysis reveals that respondents' knowledge in this area is categorized as inadequate. Table 4 summarizes the parental knowledge about tooth persistence in the Parengan Health Center area in Tuban Regency for 2022. The average scores across three assessment aspects—knowledge about the growth phase of teeth, knowledge about the causes of persistence, and knowledge about the consequences of persistence—demonstrate that parental knowledge about persistence falls into the insufficient category.

3.1. Parents' Knowledge of Childhood Teeth Growth Period

The data analysis from Table 1 indicates that less than half of the respondents are unaware of the complete age range for their child's teeth growth. According to Primasari (2018), a child's teeth begin to grow at 6 months and finish by 2 years. However, Sudiono (2009) suggests that the first tooth emerges at 6 months and concludes at 2.5 years. The findings align with Jumriani and Hadi's (2021) research, stating that parents' knowledge about their child's teeth growth in the Amanah dental clinic in Makassar falls into the insufficient category (35.99%). The lack of parental knowledge on their child's teeth growth contributes to a high occurrence of persistence. Parents unaware of when their child's teeth will fall out and be replaced tend to be indifferent or neglect their child's dental condition. Between ages 6-12, children still cannot think and make decisions independently without parental guidance. Therefore, parents need sufficient knowledge to safeguard their child's dental health.

According to Oktarina, Tumaji, and Roosihermiatie (2016), parents should indeed possess the right knowledge, attitude, and actions regarding dental health to provide proper oral health education at the family level. Jumriani and Hadi (2021) also emphasize the importance of knowledge in influencing the formation of attitudes and behaviors that either support or hinder the realization of health, particularly dental and oral health. For example, parents lacking adequate knowledge about their child's tooth replacement are likely to make errors in taking actions to address dental issues, leading to abnormalities in their child's tooth growth.

3.2. Parental Knowledge about the Causes of Persistence

The data analysis from Table 2 indicates that less than half of the respondents are unfamiliar with the term tooth impaction (persistence). According to Achmad et al. (2022), tooth impaction is a condition where primary teeth have not completely shed, yet permanent teeth have already emerged. The causes include ankylosis, delayed root resorption, hypothyroidism, malnutrition, genetics, or abnormal positioning of permanent tooth buds. Fatmasari, Widodo, and Adhani (2017) state that economic status influences dental health due to a lack of knowledge about dental health, supported by HL Blum's (1974) theory, suggesting that an individual's health is affected by various factors, including behavior. Individuals with good socioeconomic status are likely to have better knowledge, influencing positive behavior as they feel capable of accessing healthcare services.

Considering that the respondents are predominantly stay-at-home mothers with farming as their livelihood, it is plausible that socioeconomic status affects the occurrence of tooth impaction in the Parengan Health Center's working area. The economic factor's impact on dental health is highlighted, as suggested by Fatmasari et al. (2017) and supported by the theory that socioeconomic status influences health-related behaviors and access to healthcare services.

3.3. Parents' knowledge about the consequences of persistence

The data analysis from Table 3 shows that less than half of the respondents are unaware of the consequences of leaving loose teeth unextracted. This aligns with a study by Susiyanik (2019), stating that parental knowledge about the consequences of tooth impaction at the Genteng Kulon Health Center in Banyuwangi Regency falls into the insufficient category (43%). Knowledge is closely related to information, meaning that the better and more information individuals acquire, the better they become at receiving knowledge (Sari 2017). For instance, if parents receive more information that tooth impaction can lead to changes in dental alignment, abnormal jaw development, and an aesthetically disharmonious facial appearance, they are likely to have a good understanding of the consequences. Consequently, they may adopt the behavior of seeking dental services for extraction.

Beyond malocclusion, according to Sletten et al. (2003) cited in Aktan et al. (2017), tooth impaction can also cause clinical issues such as periodontitis, deep caries, and ankylosis. Understanding these potential clinical problems reinforces the importance of informing parents about the adverse effects of tooth impaction, encouraging them to take appropriate dental care actions for their children.

3.4. Parents' Knowledge about Tooth Persistence in the Health Center Working Area Parengan, Tuban Regency 2022

From the analysis of the three sets of data comprising parental knowledge about tooth growth, causes of tooth impaction, and the consequences of tooth impaction, it is evident that parental knowledge about tooth impaction in the working area of Parengan Health Center, Tuban Regency, in 2022 falls into the insufficient category. This aligns with a study by Hanum (2019), indicating that the level of parental knowledge regarding cases of tooth impaction in children aged 6-10 years resulted in 110 out of 148 respondents having insufficient knowledge.

The lack of parental knowledge about tooth impaction may be attributed to a lack of health promotion. Health promotion, in the context of health education, is a planned effort to influence others, whether individuals, groups, or even communities, to help themselves by enhancing their health status (Nonorthodox, 2012) cited in (Setiawan, Adi, and Ulfah 2017). To improve the status of dental and oral health, support from healthcare professionals is crucial as it reinforces individuals' health behaviors. People tend to align their behavior with information received through healthcare professionals (Nonorthodox, 2010) cited in (Kesara, Wahyudi, and Sari 2019).

The inadequate implementation of health promotion by healthcare professionals in Parengan Health Center serves as one of the causes of the insufficient parental knowledge in the working area regarding tooth impaction. Therefore, there is a need for more information to reach parents in the Par Engan Health Center area, Turban Regency. This can be achieved through educational sessions addressing tooth impaction.

4. Conclusion

The conclusion drawn from the data analysis indicates that parental knowledge about tooth growth in the working area of Par Engan Health Center, Turban Regency, in 2022 falls into the insufficient category. Similarly, parental knowledge about the causes of tooth impaction is classified as moderate, while knowledge about the consequences of tooth impaction is categorized as insufficient. Overall, parental knowledge about tooth impaction in the Par Engan Health Center area of Turban Regency is deemed insufficient.

This suggests a need for targeted interventions to improve parental awareness regarding tooth growth, causes of tooth impaction, and its consequences. Implementing health promotion strategies, particularly through informative sessions and educational initiatives, could be beneficial in enhancing parental knowledge and fostering better oral health practices in the community served by the Par Engan Health Center.

Compliance with ethical standards

Acknowledgments

The author expresses sincere gratitude to the evaluators for their valuable contributions in evaluating the manuscript and providing meaningful and constructive feedback on this journal.

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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