



# Parental knowledge about tooth growth and the condition of crowded teeth in elementary school students

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## Abstract

Dental and oral abnormalities can interfere with appearance, phonetics, or mastication. One of the abnormalities in the arrangement of teeth is called the crowding of teeth. Crowded teeth are very difficult to clean by brushing teeth, this condition can cause plaque build-up which is also a risk factor for dental disease. Objective: This study aims to describe the knowledge of parents about the growth of teeth and the condition of crowded teeth in elementary school students. Methods: This study uses a descriptive method with a sample of this study using a total sampling technique of 36 respondents. Data was obtained by giving questionnaires to parents through google forms. Results: The results showed that parents of students had good knowledge (19.4%), enough knowledge (52.8%) and less knowledge (27.8%). Crowded teeth condition obtained 58.3% of students have crowded teeth and 41.7% do not have crowded teeth. Conclusion: Most parents have enough knowledge about dental growth and most elementary school students have crowding teeth.

**Keywords** Parental Knowledge, Teeth Growth, Crowded Teeth

## Introduction

The oral health of the Indonesian people still requires serious attention. Basic Health Research conducted by the Ministry of Health of the Republic of Indonesia showed that the percentage of the population who had dental and oral problems increased in 2013 from 25.9% to 57.6% in 2018 (Kemenkes, 2018). Various diseases and disorders of the teeth and mouth can interfere with appearance, phonetics, or mastication. One of the abnormalities in the arrangement of teeth is called malocclusion (Sasea et al., 2013).

Malocclusion is a fairly large problem and ranks third among dental and oral problems after caries and periodontal disease, therefore this problem must receive special attention from dentists (Choi et al., 2015). Malocclusion is a condition that deviates from normal occlusion including irregularities of the teeth in the jaw arch such as protrusion, malposition, and crowding of teeth (Goyal, 2012).

Broadly speaking, the occurrence of malocclusion is influenced by hereditary factors and environmental factors (Kharat et al., 2014). Malocclusion in children can cause many problems such as difficulty speaking, masticatory disorders, and social problems due to disturbed aesthetics (Tamme et al., 2017). The most common clinical picture of malocclusion is the crowding or crowding of teeth (Riyanti, 2018).

A crowded tooth is a condition where the arrangement of teeth is crowded and overlapping in the dental arch, resulting from deviations in the position of the teeth in both jaws (Nandakumar et al., 2019). Deviations can be in the form of irregularities in the arrangement of teeth in the anterior region in the form of crowding teeth with or without protrusive accompaniment (Nainggolan et al., 2013). Crowded teeth are one of the characteristics of malocclusion that is often found in children starting in the early mixed dentition period (Riyanti, 2018).

The prevalence of crowding teeth is higher than the prevalence of other malocclusions such as spacing, open bite, deep bite, crossbite. The prevalence of spacing 2.5-8.1%, open bite 1.82-3%, deep bite 14.5-22.7%, crossbite 9.4-14.1%, while crowding teeth 20.6-33%. The prevalence of crowding of teeth is more in the lower jaw than the upper jaw. in the upper jaw of boys as much as 20.6% while in the lower jaw 33%. The prevalence of crowding in the upper jaw of girls is 26.3%, while in the lower jaw it is 31.7%. In the lower jaw, crowding is often found in the permanent incisors. The prevalence of crowding of the mandibular permanent incisors was 81.7%. Crowded teeth on permanent incisors affect lateral incisors more often than central incisors. The central incisors erupt earlier than the lateral incisors. around 7 years of age and often occupies the lateral incisor position. So that at the age of 8-9 years when the lateral incisors erupt, the position will be crowded (Riyanti, 2018).

At the age of 7-12 years in elementary school age, in the oral cavity of children, there are mixed teeth, namely the presence of milk teeth and permanent teeth. The period of mixed teeth in their growth period can cause crowding of teeth if the crowding of teeth is allowed to cause disturbances in the function of mastication, speech, and appearance (Simaremare, 2017).

Crowded teeth are a problem for sufferers. Crowded teeth are very difficult to clean by brushing teeth, this condition can cause plaque buildup which is also a risk factor for gingivitis. This can be caused by the fact that when cleaning teeth or brushing teeth, the toothbrush is difficult to reach the food debris attached to the interdental area of the teeth, causing the accumulation of plaque and forming calculus which then triggers cavities (caries) and gum disease (gingivitis) and even damage. tooth-supporting tissue (periodontitis) (Sasea et al., 2013).

The results of a study at an elementary school in Indonesia showed that 74.6% of children with crowded teeth had poor oral hygiene as seen from the number of caries. Besides being able to cause poor oral hygiene, crowding of teeth causes psychosocial problems due to facial aesthetic disorders (Djunaid et al., 2013).

The results of Simaremare (2017), show that knowledge of parents obtained moderate criteria of 20 people (66.7%), good criteria as many as 9 people (30%), and bad criteria as many as 1 person (3.3%). For children who do not have crowding teeth as many as 20 people (66.7%) and those who have crowding teeth as many as 10 people (33.3%).

A preliminary survey conducted by researchers on February 27, 2020, at SDN Kampung Bambu I Bojong Nangka by examining the condition of crowded teeth on 20 students obtained 15 out of 20 students had crowded teeth conditions. Based on the description above Writer is interested in researching with the title "Parental knowledge about dental growth and crowding of elementary school students"

## Materials and Methods

The research design used is descriptive research, which is a research method carried out with the main aim of making a picture or description of a situation objectively (Notoatmodjo, 2010). This research is intended to get an overview of the knowledge of parents about the growth of teeth and the condition of crowded teeth in elementary school students. This research was conducted on fourth-grade students of SDN Kampung Bambu I Bojong Nangka, Tangerang Regency. The sampling technique used is the total sampling technique. The instrument used in data collection used a questionnaire sheet to measure parents' knowledge about the growth of teeth and the condition of the child's crowded teeth through the google form.

The data collection process was carried out by explaining how to fill out a questionnaire sheet containing 15 questions about dental knowledge and 1 question in the form of an independent assessment about the condition of their child's crowded teeth who were asked to answer honestly. Then the results of the questionnaire were recorded automatically on the researcher's google drive and re-recorded on the recapitulation sheet. This research is processed and analyzed and presented in the form of a frequency distribution.

## Results and discussion

**Table 1. Frequency distribution parental knowledge about the growth of teeth**

Knowledge level	F	Percentage (%)
Good Knowledge	7	19.4
Enough Knowledge	19	52.8
Less Knowledge	10	27.8
Total	36	100

Table 1 shows that the respondent who has good knowledge as many as 7 people (19.4%), a respondent who has enough knowledge as many as 19 people (52.8%), and respondent 10 people (27.8%) have less knowledge.

**Table 2. Frequency distribution crowded teeth condition elementary school students**

Crowded teeth	F	Percentage (%)
Yes	21	58.3
No	15	41.7
Total	36	100

Table 2 shows that respondents with crowding of teeth as many as 21 students (58.3%) and those without crowding as many as 15 students (41.7%).

The results of the research on the description of parents' knowledge about tooth growth with a total of 36 respondents

were obtained who have good knowledge are 7 respondents (19.4%), who have enough knowledge are 19 respondents (52.8%) and those who have less knowledge are 10 respondents (27.8%) and the average level of knowledge is 64,4 including enough criteria. The results of this study are in research [Simaremare \(2017\)](#) show most Parents' knowledge about crowding teeth obtained moderate criteria for 20 people (66.7%). This means that the level of knowledge of parents about dental growth is in enough category. This is possible due to the less information obtained by parents regarding the change of teeth, it can be seen that the answers to the questionnaire are most of the parents do not know the change of milk teeth to permanent teeth

**Table 3. Parents' knowledge about the growth of teeth and the condition of crowded teeth in elementary school students**

Parents knowledge	Crowded Teeth Condition				Total	
	No		Yes			
	F	%	f	%	f	%
Well	2	5.6	5	13.3	7	19.4
Enough	9	25	10	17.8	19	52.8
Less	4	11.1	6	16.7	10	27.8
Total	15	41.7	21	58.3	36	100

Table 3 shows that the most knowledge of parents with enough criteria with the condition of the child's teeth being crowded is 10 respondents (17.7%) and the least knowledge of parents with good criteria with the condition of the child's teeth is not crowded as much as 2 respondents (5.6%).

Supported by the opinion of [Syukra \(2013\)](#) the first permanent teeth to grow at the age of 6-7 years, namely the first large molars (tooth 6) in the upper and lower jaws. These teeth are often considered deciduous teeth, so their existence is often overlooked. Parents assume that if these teeth are cavities, their position must be replaced by permanent teeth ([Nagaveni et al., 2011](#)). As a result, in most patients, tooth 6 is most often perforated and eventually forced to be extracted.

Judging from the questionnaire, most parents thought that prematurely extracted teeth did not cause crowding. This is reinforced by the opinion of [Herawati et al \(2015\)](#), another reason is that the extraction of milk teeth is carried out too early, long before the permanent replacement teeth below appear. Deciduous teeth are a guide for permanent teeth so that deciduous teeth that are extracted too early make the permanent teeth below lose direction and grow out of place. And under normal circumstances, successively the milk incisors are replaced by permanent incisors, the deciduous molars are replaced by permanent premolars, and the deciduous canines are replaced by permanent canines. The exception is the permanent molars. These teeth do not replace the baby teeth and the first permanent molars.

The results of the study describing the condition of crowding teeth were obtained by respondents with crowding of teeth as

many as 21 students (58.3%) and those without crowding as many as 15 students (41.7%). This result is also not much different from research [Riyanti \(2018\)](#) stated that of 96 children there were 50 children (52.08%) with crowding teeth and 46 children (47.92%) with no crowding.

The results of the research on parental knowledge about dental growth and crowding of elementary school students showed that most parents had adequate knowledge with the condition of the child's teeth being crowded as many as 10 respondents (17.7%) and the least knowledge was the parents with good criteria with the condition of the child's teeth. not crowded as many as 2 respondents (5.6%). This is due to the low knowledge of parents about dental growth as evidenced by the majority of parents having enough knowledge of the category. The role of parents is very important in the dental health of their children ([Purnama et al., 2020](#)).

Crowded teeth also make it difficult for complete occlusion (upper and lower teeth in contact). Because the upper and lower dental arches do not always meet, because of their irregular location. It could be that one or more of the teeth do not have contact with the opposing teeth so that even mastication can not take place optimally. Not infrequently the irregularity of the teeth causes the muscles and jaw joints to hurt / experience abnormalities because they have to work hard to create a balance of the masticatory system which is also determined by factors of the tongue, muscles, and jaw joints apart from the teeth ([Simaremare, 2017](#)). It is also supported by the opinion of [Syukra \(2013\)](#) which states that caring for stacked teeth is more difficult than treating teeth that are located in the same arch. If the teeth are crowded, the teeth that are exposed to the toothbrush during cleaning are the teeth in the outer arch.

**Conclusions**

Based on the results of research on parental knowledge about tooth growth and crowding of elementary school students, it can be concluded that:

1. Knowledge of parents' Knowledge about growth of teeth most of the criteria are enough (52.8%)
2. Crowded teeth condition elementary school students mostly have crowding teeth condition (58.3%)
3. Most of the knowledge of parents about tooth growth with enough criteria with the condition of the child's teeth being crowded (17.7%)

**Conflict of Interest**

The author hereby declares no conflict of interest.

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