

The Reasons for Primary Tooth Extraction in Primary School-age Children in RSGM Baiturrahmah

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ABSTRACT

Background: Tooth extraction is an important measure in determining oral health status because it generally reflects untreated periodontal tissue disease and caries. Tooth extraction can also be used as a measure of people's knowledge and motivation in maintaining their teeth. The higher the revocation rate, the lower the community's knowledge and motivation. **Purpose:** The aim of this study is to see the main reasons for tooth extraction in children who are in the pedodontics of the RSGM Baiturrahmah. **Material and Methods:** This type of research is quantitative with analytic descriptive methods. The target population of this study were students of coass Lab Paedodonti RSGM Baiturrahmah in October-December 2019, with a sample of 76 people. The research was conducted at the Paedodonti Lab RSGM Baiturrahmah in October-December 2019 using a questionnaire. Data analysis using SPSS program with chi square analysis. **Results:** The distribution of reasons for deciduous tooth extraction is presented, it is found that most of the reasons for extracting deciduous teeth in primary school children are physiological mobility, as many as 53 people (69.7%). In addition, there were 19 people (25%) of the reasons for removal because of excessive retention of 1 person (1.3%), and because of the request of patients / parents as many as 3 people (3.9%). **Conclusion:** The main reason for the extraction of deciduous teeth in elementary school children at the Lab Paedodonti RSGM Baiturrahmah, was physiological mobility, with the teeth that were often extracted were the mandibular incisors in the 7 year age group.

Keywords: Tooth extraction, tooth caries, primary teeth

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INTRODUCTION

Primary teeth take on different and important tasks, such as chewing, speaking, space maintenance, and providing aesthetics,¹ and early loss of them may lead to malocclusion, speech pathology, and functional and aesthetic problems.² Therefore, reporting the reasons for extraction of primary teeth is crucial for communities to take necessary steps to eliminate those unfavorable results while developing and implementing their own health policies. Additionally, periodic reports about the reasons for primary teeth extraction may help update oral health programs, thereby effectively preventing the loss of primary teeth.^{2,3} Recent studies have indicated that tooth caries is the most important reason for extraction of primary teeth in children.⁴⁻⁷ In addition to the occurrence of caries, dental trauma, periodontal disease, and orthodontic and physiological factors have also been identified as reasons for extraction of primary teeth.^{2,3,5,8,9}

Many factors make it important to identify the main reasons for primary tooth extraction in primary school-age children. One of these factors is being far from their parent's observance in school time. Parents play a crucial role in helping their children maintain good oral hygiene by controlling their children's diet and requiring periodic tooth brushing.¹⁰ However, it is more difficult to ensure these children adhere to these factors during the hours in which they are in school; thus, the decreasing level of oral hygiene may lead to caries.¹¹ In addition to oral hygiene and diet control, parental observance can protect their children against certain dental traumas; however, it is almost impossible to be diligent about this when their children are in school. Thus, it is well known that school-age children are the target group that is most at risk for dental trauma.¹² Additionally, since schoolage children are in mixed dentition period, it is more difficult to provide good oral hygiene. Furthermore, malocclusion may become intensified due to caries or tooth loss, so these children should be checked regularly.^{13,15} Based

on these explanations, it is thought that the loss of primary teeth in primary school-age children may occur for a variety of reasons.

The present study aimed to determine the main reasons for extraction of primary teeth in children who are in primary school and living in Zonguldak, Turkey. The study also sought to identify which of these reasons was most prominent in this group of children.

MATERIALS AND METHODS

This type of research is quantitative with analytic descriptive method. The target population of this study were students of coass Lab Paedodonti RSGM Baiturrahmah in October-December 2019. Sample in this study used the total sampling method, which means that all members of the population were used as samples. The total sample in this study was the total coass students who had performed dental extraction at the Paedodonti Lab, Baiturrahmah Hospital, as many as 76 people.

Sampling Method

The sampling technique used was total sampling technique. With the research object of elementary school children and young dentists through distributing questionnaires via google form.

Research procedure

Ethic consent. Licensing for Baiturrahmah Hospital. Subjects who meet the inclusion criteria are given an explanation of the research to be carried out. Subjects signed informed consent. Subjects are given a questionnaire that asks questions related to this research, as for the types of questions asked can be seen in the questionnaire (attached). The questionnaires that have been filled in by the subject are collected, then data are grouped, data processing and analyzed.



RESULTS

The research on the reasons for the extraction of deciduous teeth in elementary school age children in the pedodontics lab of the Baiturrahmah Hospital was conducted at the Paedodonti Lab, Baiturrahmah Hospital, Padang. The sample in this study were 76 students of the 2018 Coass RSGM Baiturrahmah. The distribution of reasons for deciduous tooth extraction is presented in Table 2. Based on the table below, it is found that most of the reasons for extracting deciduous teeth in primary school children are physiological mobility, as many as 53 people (69.7%). In addition, there were 19 people (25%) of the reasons for removal because of excessive retention of 1 person (1.3%), and because of the request of patients / parents as many as 3 people (3.9%). For more details, see the bar chart below.

Table 1. Reasons for tooth extraction in primary age children at the pedodontics lab at the RSGM Baiturrahmah.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tooth caries	19	25.0	25.0	25.0
	Physiological mobility	53	69.7	69.7	94.7
	Over retention	1	1.3	1.3	96.1
	Patient/parent requests	3	3.9	3.9	100.0
	Total	76	100.0	100.0	

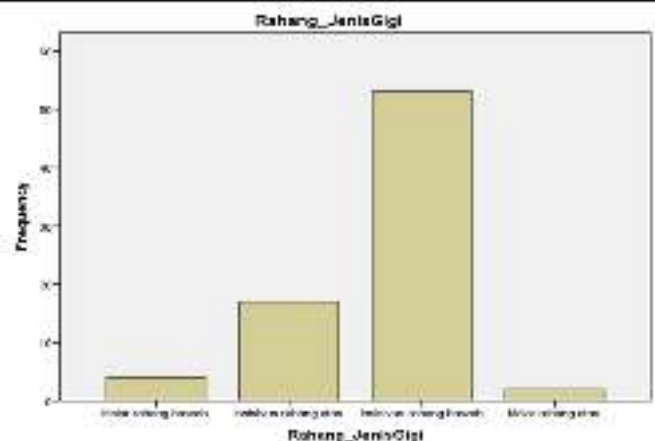


Graph 1. Reasons for extraction of deciduous teeth in primary age children at the pedodontics laboratory of the RSGM Baiturrahmah.

Based on the table below, it was found that most of the jaw and types of deciduous teeth in primary school children extracted were mandibular incisors, namely as many as 53 people (69.7%). In addition, the jaw and types of deciduous teeth extracted were 4 mandibular molars (5.3%), 17 maxillary incisors (22.4%), and 2 maxillary molars (2.6%). For more details, see the bar chart below.

Table 2. Commonly extracted deciduous teeth based on jaw and tooth type.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Molar mandibula	4	5.3	5.3	5.3
	Insisivus maksila	17	22.4	22.4	27.6
	Insisivus mandibula	53	69.7	69.7	97.4
	Molar maksila	2	2.6	2.6	100.0
	Total	76	100.0	100.0	



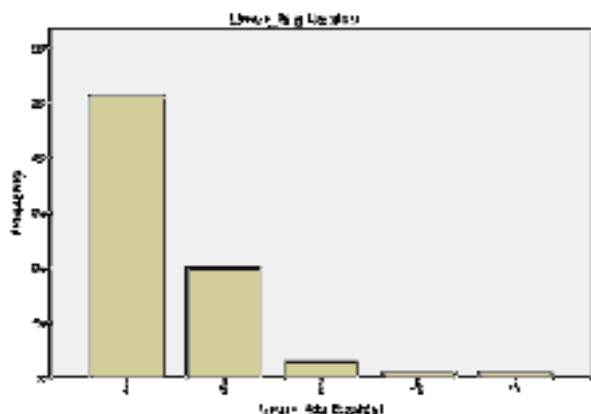
Graph 2. Often extracted deciduous teeth based on jaw and tooth type

Based on the table below, it is found that most of the ages of deciduous teeth in primary school children extracted were 7 years old, as many as 51 people (67.1%). In addition, there were 20 people aged 8 years (26.3%), 9 years old as many as 3 people (3.9%), and 10 and 11 years old as many as 1 person (1.3%). For more details, see the bar chart below.



Table 3. Commonly extracted deciduous teeth by age group

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 7	51	67.1	67.1	67.1
8	20	26.3	26.3	93.4
9	3	3.9	3.9	97.4
10	1	1.3	1.3	98.7
11	1	1.3	1.3	100.0
Total	76	100.0	100.0	

**Graph 3.** The most frequently extracted deciduous teeth by age group

DISCUSSION

Determining the percentages of and reasons for tooth mortality in a population provides information about the dental disease prevalence, the availability of dental treatments, and measures that can be taken to prevent tooth loss.^{2,3} In order to develop and implement a plan to reduce tooth mortality, it is very important to clarify the main reasons for this type of loss.^{2,15} Although tooth extraction is a common intervention to provide oral health among children attending dental clinics in developing countries,¹⁴ data about the reasons for tooth loss in primary dentition are limited.^{2,3} In addition, studies that focus on groups of primary school-age children are also limited, even though schools are accepted as favorable places to provide oral health education and efficient and effective preventive services.¹⁶ Moreover, school-based oral health programs have been reported to be effective in providing preventive and curative services than community-based approaches.¹⁷ Therefore, in the present study,

primary school-age children were chosen as the population to be investigated.

When the results of the study were obtained, it was found that most of the deciduous teeth extractions were caused by physiological mobility (69.7%) in primary school-age children in the pedodontic laboratory of the Baiturrahmah Hospital (69.7%). age who frequently extracted deciduous teeth was 7 years old (67.1). These results differ from previous studies in Turkey which reported that the main reason for the extraction of deciduous teeth was caries, the type of tooth that is often extracted from deciduous molars.

If the extraction of a deciduous tooth is done prematurely and no treatment is done such as a space maintainer, it will cause other problems, such as decreased arch length, migration of adjacent or opposite teeth, rotation, and crowding of the affected tooth and the remaining deciduous teeth without eruption.¹⁹ Despite the negative results, most parents do not pay attention to the function of the deciduous teeth and they do not contact their dentist unless their children experience pain or other problems with eating.¹⁹

Research conducted by Mansour also shows that tooth mobility and persistence are also one of the causes of tooth extraction in children. In the study conducted by Mansour (2010) it was found that 20 out of 130 teeth extracted were caused by tooth mobility (12.3%) while there were 14 teeth (8.6%) for tooth persistence.⁴ The study conducted by Mansour was also not much different, where 29 teeth (12%) were removed due to tooth mobility and 20 teeth (8%) due to tooth persistence.⁴ Mobility here is a normal tooth unsteadiness that occurs in children, namely tooth unsteadiness that occurs because the tooth has fallen out of time. Tooth mobility here is due to the resorption of the roots which is a normal physiological process of deciduous teeth. Tooth persistence is also a cause of tooth extraction in children. Parents will usually come to the dentist if they see a replacement tooth has appeared. Even parents who are usually "brave" to pull out their own



children's teeth will be confused and even afraid to do the extraction of their own teeth because usually the replacement teeth will erupt from the lingual or palatal direction so that they are considered the replacement teeth to be disturbing or not in normal circumstances. In these circumstances, parents usually go to the doctor to perform tooth extraction on their child.¹⁹

CONCLUSION

The rate of loss of deciduous teeth associated with physiological mobility is very high. This suggests that deciduous tooth extraction due to physiological mobility is still a health problem today. In the programs that need to be developed and implemented to reduce this, it is necessary to provide information to school-age children about the importance of deciduous teeth and what can happen if they are removed. In addition, teachers and parents should be trained in oral hygiene, parents should be informed about the importance of consulting a dentist for deciduous teeth requiring treatment, and should be told that they should not be late in ensuring that their children receive treatment. Childhood includes various periods during which different factors can play a major role in the growth of primary teeth. Further research is needed to evaluate the main reasons for the extraction of deciduous teeth in certain age groups of children.

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