



Correlation between parents' role in permanent first molar eruption with the prevalence of caries in permanent first molar

Silvia Prasetyowati^{1*}, Isnanto¹

¹ Department of Dental Nursing, Poltekkes Kemenkes Surabaya, Indonesia

Abstract

Objectives: To analyze the correlation between the role of parents regarding the eruption of permanent first molars and the prevalence of caries in permanent first molars.

Methods: This type of research is analytic cross sectional. The targets in the study were all parents of Mojo III elementary school students aged 6-12 years. The data collection method used a questionnaire to know the role of the parents and the form of an observation sheet to determine the state of the eruption of the permanent first molars. Data was analyzed using Spearman Correlation.

Results: There is no significant correlation between the role of parents and the prevalence of permanent first molars caries.

Conclusion: The most of the parents have a role in the eruption of the permanent first molars, but there is no significant correlation between the role of parents on the prevalence of permanent first molars caries.

Keywords: Shoulder apophysis, Painful shoulder, Athlete, Sports, Cricket, Acromion, Paediatric

Introduction

The first permanent teeth to erupt in the oral cavity at the age of 6 are permanent first molars. Permanent first molars are the largest teeth and only erupt after the growth and development of the jaw has provided enough space. Some parents think that permanent first molars are still changing, so they don't really pay attention to the condition of their child's oral cavity. As a result, after a permanent first molar affected by caries was brought to the dentist and received an explanation about the permanent first molar, only then did the parents know that the permanent first molar would not be replaced again with another teeth^[1].

Permanent first molars are most susceptible to dental caries after eruption. Molar teeth are prone to caries because they have pits and fissures, which make it a place for food retention and make it easier for plaque to stick to the teeth. Permanent first molars are the key to occlusion in the arrangement of the teeth. Eruption of permanent first molars has an important role to play in the coordination of facial growth and to provide sufficient occlusion support so that the masticatory system is not compromised^[2].

Many parents think that baby teeth are only temporary and will be replaced by permanent teeth so they don't pay attention to the hygiene of milk teeth. The implementation of instructions for maintaining dental and oral health should start when the baby is still in the womb, so that parents will be more prepared to carry out these instructions. Parents' participation is needed in guiding, providing understanding, reminding, and providing facilities for children so that children can maintain their oral hygiene. In addition, parents also have a big role in preventing the accumulation of plaque and caries in children. Important in underlying the formation of behavior that supports or does not support children's oral and dental hygiene.

This knowledge can be acquired naturally and planned through the educational process. Parents with knowledge of oral health is a predisposing factor for behavior that supports children's oral health^[3].

At the age of 6, according to Bowlby's psychological theory, a child's attachment is in the phase of looking for closeness with other people, the first person the child chooses for attachment is the mother, father or close relative^[4]. Parents who are the closest people to their children in health care have a very significant influence^[5].

Results

Respondents Characteristics

Table 1: Respondent Characteristic

Characteristic	Frequency	Percentage
Sex		
Male	21	18,9
Female	90	81,1
Education		
College	6	5,4
Senior High School	34	30,6
Junior High School	52	46,8
Elementary School	19	17,1
Parents's Job		
Civil Service	3	2,7
Private Sector	36	32,4
Entre Prenur	14	12,6
Jobless	58	52,3

Based on table 1, it can be seen that the number of female respondents is more (81.1%) than men. Based on the educational characteristics, it is known that most of the respondents have junior high school education (46.8%). While most of the

respondents' job characteristics were not working or jobless (52.3%).

Parent's Role

Table 2: Parent's Role in Permanent First Molars

Parent's Role	Category		Total
	Poor	Good	
Monitoring permanent moral eruption	47 (42, 3%)	64 (57, 7%)	111 (100%)
Role of brushing their children's teeth	55 (49, 5%)	56 (50, 5%)	111 (100%)
Role of maintaining healthy eating pattern	45 (40, 5%)	66 (59, 5%)	111 (100%)
Role of maintaining oral health	50 (45%)	61 (55%)	111 (100%)

Based on table 2, it is known that most parents have a role in monitoring the growth of permanent first molars (57%). Parents who play a role in brushing their children's teeth are slightly more than those who do not (50.5%). Most of the parents who play a role in maintaining a healthy diet for their children's teeth (59.5%). Most of the parents who play a role in controlling their children's teeth (55%).

Prevalence of Permanent First Molar Caries

Table 3: Prevalence of Permanent First Molar Caries

Permanent First Molar Caries	Frequency	Percentage
Low	10	9
Moderate	65	58,6
High	36	32,4

Based on table 3, it is known that most of the respondents experienced moderate level of permanent damage to their first molars with the category (58.6%).

Results of the Spearman Correlation Test the Correlation between the Role of Parents and the Prevalence of Permanent First Tooth Caries in Students

Table 4: The Correlation between Parents 'Role in Monitoring the Growth of Permanent First Molar Teeth to the Students' Permanent First Tooth Caries Prevalence

Permanent first molar Caries	The Role of Parents in Monitoring Permanent First Molar Growth	
	r	0.027
	p	0.781
	n	111

Based on table 4.4, it is known that the significance value is 0.781 (> 0.05), which indicates that there is no significant correlation between the role of parents in monitoring the growth of permanent first molars and the prevalence of caries in students' permanent first molars. The correlation value is 0.027 which indicates a very weak correlation.

Table 5: The Correlation between the Role of Parents Brushing Children's Teeth to the Incidence of Students' Permanent First Tooth Caries Prevalence

Permanent First Molar Caries	Role of Parents in Brushing Children's Teeth	
	r	0.085
	p	0.376
	n	111

Based on table 5, it is known that the significance value is 0.376 (> 0.05), which indicates that there is no significant correlation between the role of parents brushing children's teeth on the prevalence of caries in students' permanent first molars. The correlation value is 0.085 which indicates a very weak correlation.

Table 6: The Correlation between Parents 'Role in Children's Dental Health Diet and Students' Incidence of Permanent First Tooth Caries Prevalence

Permanent First Molar Caries	The Role of Parents in the Diet of Children's Dental Health	
	r	-0.039
	p	0.682
	n	111

Based on table 6, it is known that the significance value is 0.682 (> 0.05), which indicates that there is no significant correlation between the role of parents in children's dental health diet and the prevalence of caries in students' permanent first molars. The correlation value is -0.039 which indicates a very weak correlation

Table 7: The Correlation Between Parents 'Role in Children's Dental Health Diet and the Incidence of Students' Permanent First Tooth Caries Prevalence

Permanent First Molar Caries	The role of parents in controlling children's dental health	
	r	-0.103
	p	0.282
	n	111

Based on table 7, it is known that the significance value is 0.282 (> 0.05), which indicates that there is no significant correlation between the role of parents in controlling children's dental health and the prevalence of caries in students' permanent first molars. The correlation value is -0.103 which indicates a very weak correlation.

Discussion

Parents have the responsibility for the growth and development of their children. Dental health problems that occur in children are one of the important things that parents pay attention to. According to Eddy & Mutiara in 2015 the role of parents in dental health, namely caring, educating, encouraging, and supervising children in caring for dental hygiene is considered important in preventing caries. The role of parents in children's dental health is also needed to foster a pattern of maintaining dental health so that they will be able to carry out dental health maintenance properly as early as possible. Parents' concern for children's dental health will be reflected in the attitudes and behavior of parents in maintaining, preventing and carrying out dental care if they experience dental health problems^[6].

Permanent dentition begins when the child is 6-7 years old. At that age, the first molars and incisors will grow. The permanent first molars are very susceptible to damage if not properly maintained. The first molars had deep fissures that allowed food debris to stick to them. This condition makes the permanent first molars prone to tooth decay. The permanent first molars are the teeth that are longest in the oral cavity. This tooth does not replace and is replaced by any teeth. Damage to the permanent first molars will affect the growth and development of the child's jaw.

Based on the results of the study, it was found that most of the parents had a role in the eruption of permanent first molars. Most of the parents have played a role in maintaining the health of their children's teeth and mouth. Parents provide knowledge about how to maintain children's dental health and they control their children's dental health. The other research showed that parents teach and get used to brushing their children's teeth from an early age. The results of research conducted by Lestari and Mujiati in 2019 show that most parents play a sufficient role in supervising when brushing their children's teeth^[7].

Dental caries is one of the most common dental health problems. Permanent first molars are the teeth most at risk of caries. The results of the examination of permanent first molars on students of SDN Dayurejo 2 Prigen Pasuruan found that most of the respondents experienced moderate damage to their permanent first molars (58.6%). Research by Wulandari, *et al* (2019) found that first molars caries was found in the 9 years old group as much as 50.6%.

Research on parents of SDN Dayurejo 2 Prigen Pasuruan students found that there was no significant correlation between the role of parents in monitoring the growth of permanent first molars, the role in brushing children's teeth, the role in regulating the diet and the role in dental health controversy on the prevalence of molar caries. first permanent. The results of the same study are known from research conducted by Suciari, *et al.* in 2019 which concluded that the role of parents in guiding tooth brushing is not related to the incidence of dental caries in preschool children^[8]. Meanwhile, research conducted by Prasetyowati *et al.* on parents

of students at SDN Mojo III Surabaya, it is known that the role of parents in providing knowledge of dental health is related to the occurrence of permanent permanent first molars caries^[9].

The results showed that there was no correlation between the role of parents regarding the eruption of permanent first molars and the incidence of permanent first molars caries, possibly due to several factors, namely the behavior of children who still consume uncontrolled carious foods. Cariogenic foods are sweet and sticky foods that can cause dental caries. The child's habit of eating cariogenic foods without paying attention to the right time to eat them will allow caries in the permanent first molars.

The attitude of children towards their dental health is also one of the possible factors for the occurrence of permanent molar caries. Even though parents have played a role in providing knowledge about the maintenance of good dental health, if the child does not have an attitude that supports this knowledge, it is likely that the child will experience dental caries, especially in permanent first molars. Another enabling factor is the condition of the child's teeth itself. The quality of teeth will be influenced by the calcium content in the teeth. The smaller the calcium content in the teeth, the easier it will be for dental caries.

Conclusion

Based on the results of the research conducted, it can be concluded that most of the respondents experienced moderate damage to their permanent first molars. From the result we know that most of the parents have a role in the eruption of the permanent first molars, but there is no significant correlation between the role of parents on the prevalence of permanent first molars caries.

Acknowledgement

Authors were so thankful to all the participants, and the Mojo III Elementary School who had made this research done.

Conflict of interest

None.

Contribution of Authors

I (We) declare that this work was done by Silvia Prasetyowati and Isnanto in this article and all liabilities pertaining to claims relating to the content of this article will be borne by the authors. Below is the specific role of authors in this study:

First Author: Designed, Collected and Analyzed data, Wrote the manuscript.

Second Author: Collected and Analyzed data, wrote the manuscript.

References

1. Itjngningsih W. *Anatomi Gigi*. Jakarta: EGC.h, 2014, 296-380.
2. Srinai Y, Aljufri Pane N. Hubungan Pengetahuan Ibu Tentang Erupsi dan Karies Gigi M1 Permanen di SDN 05 Kota Bukittinggi. *Jurnal Kesehatan Masyarakat Andalas*, 2018.
3. Riyanti E. *Pengenalanan Perawatan Kesehatan Gigi Anak Sejak Dini*. Bandung: UniversitasPadjajaran. Tesis, 2005.
4. Cenceng. *Perilaku Kelekatan Pada Anak Usia Dini* (John Bowlby), 2015, 141-53.

5. Kadir Y. *Hubungan Pengetahuan Kesehatan Gigi Anak Dengan Status Karies Gigi Molar Pertama Permanen Murid Kelas III-V SD IT Ar-Rahmah Tamalanrea*. Makassar: Universitas Hasanuddin, 2015.
6. Eddy FE, Mutiara H. Peranan Ibu dalam Pemeliharaan Kesehatan Gigi Anak dengan Status Karies Anak Usia Sekolah Dasar. *Majority*. 2015; 4:8.
7. Lestari DS Mujiati. Hubungan peran orang tua dalam pemeliharaan kesehatan gigi dan mulut dengan karies gigi anak TK dan PAUD. *Jurnal Kesehatan Gigi dan Mulut*. 2019; 1(2):2019.
8. Prasetowati S, Febriasari NF, Nuratmi. Peran Orangtua Tentang Erupsi Gigi Geraham Pertama Permanen dengan Prevalensi Karies Gigi Geraham Pertama Permanen. *Jurnal Kesehatan Gigi Denpasar nomor 1 tahun*. 2020, 7(1).
9. Suciari A, Arief YS, Rahcmawati PD. Peran Orang tua dalam Membimbing Menyikat Gigi Dengan Kejadian Karies Anak Prasekolah. *E-Jurnal unair.ac.id: Peditomaternal Nursing, 2019*.