

Level of knowledge of parents and/or guardians about the importance of the first permanent molar

Abstract

Introduction: First molars are generally the first permanent teeth that accompany the primary dentition in the child's oral cavity, transforming the primary dentition into a mixed dentition. These are essential for the development and balance of proper occlusion.

Objectives: To determine the knowledge of parents and/or guardians about the importance of the first permanent molars.

Materials and Methods: A descriptive, cross-sectional study was conducted among first-grade students at the Pedro Marreo Elementary School in the 26 de Julio School City, Santiago de Cuba province, from March to April 2023.

Results: The study found that of all parents and/or guardians, 60% had inadequate knowledge about the first molars. Females predominated in the study population, most parents were professionals, and the majority had a high level of education.

Conclusions: The results of this study highlight the importance of strengthening oral health prevention, education, and awareness programs at an early age for parents, educators, and caregivers.

Keywords: first permanent molars; knowledge; parents and/or guardians

Volume 12 Issue 2 - 2025

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Received: March 28, 2025 | **Published:** April 24, 2025

Introduction

First molars are generally the first permanent teeth that accompany the primary dentition in the child's oral cavity, transforming the primary dentition into a mixed dentition. Their calcification begins around 25 weeks of intrauterine life, generally erupting at age 6 and completing by age 9. This tooth has no predecessor and is located behind the second primary molar. There are four of them (two upper and two lower).^{1,2}

It is the first of its series to erupt and the most exposed to dental caries and its progression (with consequent destruction and early loss), either due to its anatomy or its longer exposure to the acidic oral environment (subject to risk factors).³

Unfortunately, this first member of the permanent dentition has a very short healthy lifespan in a child's mouth and is one of the most frequently missing teeth in adults. Therefore, every effort must be made to preserve it, as its loss can lead to periodontal disease, temporomandibular joint disorders, and problems with dental guidance, bone loss, mesial migration, over-eruption, and premature contact.⁴

The prevalence of PMP caries in schoolchildren varies across different regions of the world. In Middle Eastern countries, it has been reported to affect almost half of schoolchildren. In Latin America, figures ranging from 23% to 41% are reported. In Europe, first molar caries has become a health problem, according to reports published in Sweden and Spain, as approximately 90% of people between 7 and 17 years of age suffer from dental caries.^{5,6}

According to Reyna Rosales et al.,⁷ schoolchildren in South American countries report a 22-70% prevalence of caries in these teeth, and Díaz Martínez et al.⁸ concludes that one of the problems among Venezuelan schoolchildren is dental caries in the first permanent molars.

In Colombia, 12-year-old patients were shown to be affected by dental caries in their first permanent molars. A study in Campeche, Mexico, shows that 32% of the sample had lost one of their first molars between the ages of 6 and 10, and 72% had decayed or restored molars. Colina et al. described the early loss of the first permanent molar as a cause of malocclusion in adolescents in Cienfuegos, Cuba.^{9,10}

These teeth are essential for the development and balance of proper occlusion, as they not only occupy a large space in the posterior region but also perform most of the work, chewing and grinding food, stimulate craniofacial development, and serve as a guide for the other teeth in the oral cavity, which is why Angle calls it "The Key to Occlusion."^{11,12}

Dental practices have seen daily children affected by caries with partial or total destruction of this tooth, and family members with a significant lack of knowledge about the importance of the first permanent molars and confusion when differentiating between the first permanent molar and the second primary molar, significantly impacting the child's development. Faced with this challenge, a scientific problem arises: insufficient knowledge among parents or guardians about the importance of the first permanent molars.

Since one of the main challenges of current Cuban Dentistry is to carry out promotion and prevention work to preserve and raise awareness about their care, in order to prevent future oral cavity conditions. A study was conducted with the following objectives: to determine the level of knowledge among parents and/or guardians regarding the importance of the first permanent molars in first-grade students attending the "Pedro Marrero" Elementary School in the 26 de Julio School City, Santiago de Cuba province.

Methods

A descriptive and cross-sectional study was conducted at the Pedro Marrero Elementary School, part of the Finlay Polyclinic, Santiago de

Cuba province, from March to April 2024. The population consisted of 25 parents and/or guardians of first-grade students at the school.

Inclusion criteria were: willingness to participate in the study and permanent residence in the health area. Exclusion criteria were: not wishing to participate in the study and not permanently residing in the health area.

The variables used were: age (20-29 years, 30-39 years, 40-49 years, over 50 years), sex (male and female), occupation (professional, homemaker, self-employed), educational level (low level: primary school, intermediate level: secondary school, pre-university, and intermediate technical level; and high level: university), and level of knowledge (adequate: if the person answers 5 questions correctly; inadequate: if the person answers fewer than 5).

A detailed and up-to-date literature review on the research topic was conducted in the libraries of the Faculty of Dentistry and the Provincial Dental Teaching Clinic. An initial meeting was held with all participants, including the research team, where the general research plan was explained in detail.

Once the information was compiled, a database was created using Microsoft Excel in the Microsoft Office suite, which facilitated the summary and presentation of the collected information in Tables 1-4.

Table 1 Distribution of parents and/or guardians by age and sex.

Age	Sex				Total	
	Male		Female			
	No	%	No	%	No	%
20-29	2	50	2	9,52	4	16
30-39	0	0	19	90,47	19	76
40-49	2	50	0	0	2	8
+50	0	0	0	0	0	0
Total	4	16	21	84	25	100

Source: Interviews conducted

Table 2 Distribution of parents and/or guardians by occupation.

Occupation	No	%
Professional	25	100
Homemaker	0	0
Self-employed	0	0
Total	25	100

Source: Interviews conducted

Table 3 General knowledge about the first permanent molar

Knowledge	No	%
Adequate	10	40
Inadequate	15	60
Total	25	100

Source: Interviews

Table 4 Education level of parents and/or guardians

Knowledge	Level of education						Total	
	Low		Medium		High			
	No	%	No	%	No	%	No	%
Adequate	0	0	2	28,6	8	47	10	40
Inadequate	1	100	5	71,4	9	52,9	15	60
Total	1	4	7	28	17	68	25	100

Source: Interviews conducted

The principle of respect for the confidentiality of information was taken into account. The parents who participated in the study were informed of the purpose and importance of the study, and their consent was requested if they wished to participate voluntarily.

Results

The most prevalent gender was female in 21 parents (84%), and the predominant age group was 30-39 years (76%).

The 100% (n=25) of the parents and/or guardians of first-grade students are professionals.

The 60% of parents reported inadequate knowledge.

* Percentage calculated based on the total number of parents by education level,

** Percentage calculated based on total knowledge

The research showed that although there were 17 parents with a high level of education, inadequate knowledge predominated at 60%.

Discussion

Sixty percent of parents and/or guardians of first-grade students in this study presented inadequate knowledge about the importance of the first permanent molar. This is similar to the studies by Tascón J et al.,¹³ and Muñoz Sandoval et al.,¹⁴ which showed that 32.1% and 35.4% of parents had an inadequate level of knowledge.

According to Mayra Gómez and Milagros Acosta,¹⁵ in a study conducted at the Iquitos educational institution, parents' level of knowledge about the importance of the first permanent molar is average, at 85.1%. This confirms that at the Pedro Marrero Elementary School in the 26 de Julio School City, parents and guardians had a predominance of inadequate knowledge, even greater than this.

This coincided with the results obtained in the research by Fanny Peláez,¹⁶ which revealed that the level of knowledge about the importance of the first permanent molar among parents in first and second grade reached a deficient level.

In the research conducted by Mayra Gómez and Milagros Acosta 15, an equitable distribution of parents surveyed was revealed, with 50.4% women and 49.6% men. According to age, the largest group was between 18 and 25 years old, while in the present study, females predominated at 84%, and the predominant age group was between 30 and 39 years old, at 76%. Both studies found that women have a higher level of ignorance regarding the importance of the first permanent molar than men.

The results of this research coincide with those obtained by Pimentel and Romero,¹⁷ who mention that having a higher level of education does not determine high levels of knowledge regarding oral health; This ranges from medium to low, even among people with higher levels of education.

Díaz Garavito et al.,¹⁸ stated that they observed a predominance of medium- level education among parents and that they were unaware of the importance of the first permanent molar. However, compared to the following study, there was a high level of education and equally low levels of knowledge among parents. Therefore, it can be stated that, regardless of the level of education, most parents were unaware of this topic.

If health promotion and education activities are provided to the parents of these children, they will become health promoters from their homes, and premature extractions of first molars will be

avoided. Therefore, educational talks on the importance of the first permanent molars, graphic health education advertisements related to the importance of the first permanent molars, and health hearings on oral health topics should be held with the aim of raising the level of knowledge of these parents and/or guardians and thus improving the quality of life and health of the child, who is constantly changing and growing.

Conclusion

The present study determined that the female gender predominated in the study population. There is also a marked lack of knowledge among parents and/or guardians about the importance of the first permanent molar. Most of them are professionals, and the majority have a high level of education.

Acknowledgments

None.

Conflicts of interest

The authors declare no conflicts of interest.

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