

## Original Article

# Assessment of mother's knowledge regarding importance of eruption of first permanent molar and child oral hygiene practices: A correlation study

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## ABSTRACT

**Objectives:** The first permanent molar is unquestionably the most important unit of mastication and is essential in the development of functionally desirable occlusion. The loss of a first permanent molar in a child can lead to changes in the dental arches that can be traced throughout the life of that person. The surrounding conditions it faces during eruption, make it highly susceptible to caries and erupts at an age at which diet habits of the child (e.g. frequent sweet intakes) predispose to caries and at which oral hygiene practice is still not well developed. The main aim of this study was to assess mother's knowledge about importance of eruption of 1st permanent molar and to relate their education level with child oral health.

**Materials and methods:** A total 150 children aged between 5 to 12 years were selected for the study with had at least one first permanent molar erupted in any quadrant. Closed questionnaire study was carried out about the first permanent molar. Mothers were interviewed regarding their level of education. The First Permanent Molars were clinically examined for the presence of dental caries, fillings and history of extraction due to caries using WHO criteria. Data was collected and statistical analysis was carried out.

**Results:** Education level of mother related to time of eruption of first permanent molar were low.

**Conclusion:** There is need for education amongst new mothers regarding significance of first permanent molar and infant oral health care as a whole.

## Introduction

Oral health as an essential aspect of general health can be defined as "a standard of health of the oral and related tissues which enables an individual to eat, speak and socialize without active disease, discomfort or embarrassment and which contributes to general well-being."<sup>[1]</sup>

First permanent molar is a cornerstone tooth in function, occlusion and support masticatory duty. Angle postulated that first permanent molar is the most important tooth, which is first erupting teeth of

permanent dentition and is more prone for caries. It is difficult to clean because of its position behind the primary teeth, it bears a high load of mastication, it has a long calcification period coinciding with birth and infancy, and importantly, parents are usually unaware about the time of eruption of first permanent molar (FPM), and its importance in the dentition.<sup>[2]</sup>

So, first permanent molar can perform a good basis to assess the oral health status of children, since it is

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Table 1: Education level of mothers

1. Mothers education	2. Number of mothers	3. Percent (%)
4. Category-1	5. 58	6. 38.7
7. Category-2	8. 42	9. 28.0
10. Category-3	11. 22	12. 14.7
13. Category-4	14. 28	15. 18.7
16. TOTAL	17. 150	18. 100.0

Table 2: Oral hygiene practice of children

Oral hygiene practice	Number of children	Percent (%)
Regular	64	42.7
Irregular	86	57.3
TOTAL	150	100.0

more vulnerable to dental caries than other teeth.<sup>[3]</sup> According to Angle's First Permanent Molar is the key to normal occlusion which means that the shape of the mouth of a child depends on the size of teeth.<sup>[4,5]</sup> Chukwu *et al.* (2004) pointed out that First Permanent Molar accounts for 42% of all extractions due to caries, which is the highest compared to other teeth.<sup>[6]</sup> This loss of FPM will lead to adverse impacts on the dental arch in both function and occlusion. These include diminished local function, drifting of adjacent teeth, midline deviation, supra eruption of opposing teeth, and shifting of the load of mastication to the unaffected side, this has adverse effects on the non-functional side.<sup>[2]</sup>

### AIMS AND OBJECTIVES

The aim of this study was to assess mother's knowledge about importance of eruption of first

permanent molar and to relate their education level with child oral health.

### MATERIALS AND METHODS

A total 150 children aged between 5 to 12 years were selected for the study with were having at least one first permanent molar erupted in any quadrant. All participates were examined in Department of Pedodontics and Preventive dentistry, Darshan Dental College and Hospital, Udaipur, after getting consent forms signed by the parents.

A pilot study was carried out among the 10% the total study population for the validity and reliability of the questions. Closed questionnaire study was carried out about the first permanent molar: the age of eruption, its position on the arch relative to the primary teeth, the caries prevention means at this level and the sources of information on this tooth. Questionnaire form was given to the parents (mother of the child) during their first visit to Department of Pedodontics and Preventive Dentistry.

The Mothers were interviewed regarding their level of education. They were Category- i:- Illiterate, Category-ii :- Primary school (1-7), Category-iii :- Higher secondary school (8-12) and Category-iv :- Graduation and above. Four hundred thirteen First Permanent Molars were clinically examined for the presence of dental caries, fillings and history of extraction due to caries. The tooth was considered to be carious if it showed cavitation, any colour change, or catching or wedging of explorer. Proper tooth brushing technique was taught after all the examination of child. Education related to the importance of the first permanent molar was given to the parents.

Table 3: Awareness of mothers about the time of eruption of fpm and the number of unsound fpm diagnosed in children.

Awareness of mothers	No. of Unsound FPM					Total	P
	0	1	2	3	4		
Aware mothers	18	9	11	2	2	42	.006
Unaware mothers	70	12	8	12	6	108	
TOTAL	88	21	19	14	8	150	

Table 4: Oral hygiene practice of children and the awareness of mothers about fpm eruption time.

OHP of children	Aware mothers	Unaware mothers	Total	P
Regular	18	46	64	.977
Irregular	24	62	86	
TOTAL	42	108	150	

## RESULTS

In present study, education level of mothers was divided into four category. Total number of sample size selected was 150. Out of the sample selected, 38% mothers were illiterate, 28% had primary school education, 14% higher secondary school education and only 18.7% were graduates and above. [Table 1].

Using Pearson chi-square test results were obtained and comparison made between different chosen criteria's. Oral hygiene habits showed, 42.7% children had regular oral hygiene practice and 57.3% had irregular oral hygiene practice [Table 2].

Table 3 shows comparison between awareness of mothers about the time of eruption of first permanent molar and the number of unsound first permanent

molar diagnosed in children. Among those 88 children were diagnosed with 0 unsound first permanent molar (no caries in first permanent molar). Statically significant result was found between awareness regarding the eruption of FPM and caries prevalence [Table 3].

Table 4 shows comparison between oral hygiene practice of children and the awareness of mothers about fpm eruption time. Though only 42 mothers were found to be aware, for those mothers, only 18 children had regular oral hygiene practice and 24 had irregular oral hygiene practice.

Table 5 shows no significant relation between comparison of education level of mothers regarding the time of eruption of first permanent molar and the number of unsound first permanent molar.

## DISCUSSION

It is generally admitted that the first permanent molar is particularly vulnerable to caries in Schoolchildren, attributing to its early eruption and longevity of exposure to environment facilitating caries.<sup>[7]</sup> Hence, the first permanent molars are very important teeth in the dentition. Most parents do not have awareness and do not supervise the oral hygiene habits of their children. So these teeth are at high risk for dental caries.<sup>[8]</sup> Tooth brushing habits which are learnt during early years of life, are deeply ingrained in the child's mind and this may lead to adoption of good oral hygiene methods in later life. Mothers play a pivotal role in introducing and teaching the child how to brush hence their knowledge regarding the same becomes indispensable.<sup>[9]</sup>

In present study, knowledge about the time of eruption and importance of first permanent molar was 28% and this result is close to what was reported by Luca R *et al* (2003) and Jaradat T *et al* (2013). Contradictory

Table 5: The level of education of mothers about the time of eruption of fpm and the number of unsound fpm.

Education level of mothers	No. of Unsound FPM					Total	P
	0	1	2	3	4		
Category-1	35	8	9	3	3	58	.811
Category-2	21	6	5	6	4	42	
Category-3	16	2	2	2	0	22	
Category-4	16	5	3	3	1	28	
TOTAL	88	21	19	14	8	150	

results were found in the study done by Zouashkiani and Mirzakanin Mashhad. The study indicated that only 13.4% of parents were aware of the existence of the first permanent molar in oral of their children.<sup>[8]</sup>In present study, 41% of the examined children had one or more unsound FPM. Noronha *et al* and Wynewas found that 87% children had first permanent molar affected by caries.

Results of the present study, showed no significant relation between the level of mother's education and their awareness about FPM and the similar result were found in study done by Jaradat T *et al* (2013).

Statically significant difference between awareness regarding the eruption of FPM and caries prevalence. Also there was no significant relation between the awareness of mothers about FPM and oral hygiene practice of their children.

Some parents, even after being informed about the importance of first permanent molar, showed no change in their behaviour towards paying more attention to the oral hygiene of their kids. P. Baca *et al*<sup>[2]</sup>, and Khan NB<sup>[2]</sup> reported that early preventive

programs at the age of 6-7 years reduced caries prevalence in Permanent First Molar.

## CONCLUSION

The study concluded poor knowledge in Mothers regarding the time of eruption of first permanent molar. No significant correlation was found between educational status of mother and oral hygiene status of child. There is need for education amongst new mothers regarding significance of first permanent molar and infant oral health care as a whole.

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