**Evaluation of the Level of Parents’ Knowledge about the Presence of First Permanent Molar Teeth in the Oral Cavity of 6-8 Year Old Children in Yasuj in 2016 and Its Relation to DMF Index of These Teeth**

**Introduction**

First permanent molar teeth erupt slowly and without any complication at the age of 6-8. These teeth are located normally posterior of the second deciduous molar teeth. First permanent molar teeth have the largest size among the teeth in the oral cavity and also the most important role in mastication, occlusion, correct positioning of other teeth, esthetics and preservation of vertical dimension. (1,2)

DMF of first permanent molar teeth is 29% of DMF of all the teeth in the oral cavity. This shows that decay of first permanent molar teeth and its complication reserves the largest part of the total DMFT in the oral cavity. (3)

Because of the fissures and deep depressions on the surface of first permanent molar tooth, it is an appropriate place for food and sweet material retention. This makes the tooth susceptible to early caries very soon after eruption and reserves the larger proportion of the caries level in the oral cavity. Other factors that make this tooth susceptible to caries and extraction include sweet materials and sticky candies, lack of skill and attention to oral health care in children of this age. (4,5)

Some parents believe that permanent teeth start eruption after exfoliation of all the deciduous teeth, but in fact they erupt when the deciduous teeth are present in the oral cavity. So they are not aware of the presence of the permanent teeth, and this is one of the most common reasons of early extraction of first permanent molar teeth.

One of the goals of WHO up to 2010 was achieving the DMFT below 1 for 12 year old children, but studies performed in different cities of Iran show that the fact is far from this goal.(6)

According to the key role of first permanent molar teeth in the oral cavity and the necessity for the parents to know about the presence of them for more care, we decided to evaluate parents’ knowledge about the presence of these teeth in their children oral cavity.

**Methods**

This cross-sectional study has been performed on 350 students of elementary school (1st and 2nd classes) and their parents in 2016 in Iran, Yasuj. The sample size was estimated according to a similar study done in Mashhad (p=0.35, d=0.05) and by using the formula N=z².p (1-p)/d². After that, we recoursed Yasuj department of training and education and prepared a list of governmental and non-governmental elementary schools for both girls and boys. (7)

The sample size was accounted considering the ratio of students in governmental and non-governmental schools and also the ratio of girls and boys in schools. Schools were selected by simple randomization and after attending the schools, sampling was done systematically according to the lists of students’ names. We prepared a questionnaire consisting of questions about eruption process of first permanent molar teeth, parents’ knowledge about the presence of these teeth in their children oral cavity and parents demographic indexes. The validity and reliability of the questionnaire were confirmed according to reference number (8). Questionnaires were filled by parents at home and returned to school. The students who did not take the questionnaire back were excluded the study. We collected the questionnaires and examined students’ oral cavity for presence of first permanent molar teeth and DMF of these teeth.

The questionnaire was consisted of 8 questions of parents’ knowledge about first permanent molar teeth eruption process including location, timing and replacement. There was one more question of parents’ awareness about the presence of first permanent molar teeth in their children oral cavity. For every correct answer, we considered score 2, for every incorrect answer, score 0 and if parents did not know the answer of a question, the score was 1.

After collecting the questionnaires and scoring them, we entered the data in SPSS and analyzed it statistically using Independent Samples t-test.

**Results**

In this study, we evaluated 350 children of 6-8 years old and their parents. The average and standard deviation of children age was 7.25±0.69 years. The average and standard deviation of parents age was 34.08±5.44 years. Minimum and maximum age of parents was 22 and 49 years. Demographic indexes of children and parents are listed in table1.

The average and standard deviation of parents’ knowledge score about the presence of first permanent molar teeth in their children mouth was 8.28±3.03. Minimum and maximum score was 3 and 17.

Table 2 compares number of children with or without first permanent molar teeth in their mouth and their parents’ knowledge about it.

Results show that difference between parents’ knowledge score about presence of first permanent molar teeth in their children mouth was not significant according to their education level (p=0.21), occupation (p=0.06) and age (p=0.2).

The average and standard deviation of DMF of first permanent molar teeth was 1.35±1.34. Results show that difference between DMF index of first permanent molar teeth in children mouth was not significant according to their parents’ education level (p=0.63), occupation (p=0.6) and age (p=0.12).

**Discussion**

According to the angle of teeth, first permanent molar teeth have the most important role in occlusion. They have the strongest anchorage among all the teeth and missing of them cause loss of power for mastication. Unfortunately, because of parents unawareness of the permanent nature of these teeth, extensive caries and pulp exposure happen in the first years of eruption. If dental treatment of decayed first permanent molar teeth is postponed, the teeth may not be restorable or unless dental treatment, they may have poor prognosis. (9)

This study has been performed on 350 students of 1st and 2nd elementary school classes and their parents in Yasuj. We evaluated parents’ knowledge of presence of first permanent molar teeth in 6-8 year old children mouth, parents’ knowledge of eruption process of these teeth and also the relation between parents’ awareness and DMF of first permanent molar teeth in their children mouth.

According to the results of this study, DMF of first permanent molar teeth is estimated 1.35±1.34. Unfortunately, there was not significant relation between DMF of first permanent molar teeth in 6-8 year old children and their parents’ demographic indexes like age, occupation and education level. Similar study by *Vanobbergen et al.* showed that any of parents’ demographic and behavioral indexes cannot predict susceptibility of their children to dental caries. *Vejdani* ’study also confirms it. It shows that level of parents’ education has no positive effect on prevention of first permanent molar teeth caries. The reason may be parents’ unawareness of importance of these teeth, their permanent nature, caries preventive methods like fissure sealant and dental protective methods. So, knowledge enhancement of parents about the importance of first permanent molar teeth in their children mouth and education of caries preventive methods is an urgent need. (10,11)

In our study, only 30% of parents had correct information about eruption time of first permanent molar teeth in their children mouth (6-7 years of age), 30.6% of them did not have any information and 39.4% gave wrong answer. In 2013, *Luca* studied on 215 mothers of pre-school children. 20.93% of them knew the precise time of first permanent molar teeth eruption, 26.5% gave wrong answers and 47.9% did not have any information. (12) Another study by *JARADAT* showed that 82% of parents did not know when exactly first permanent molar teeth erupt. Compared to similar studies, parents in our study had slightly more information about the time of first permanent molar teeth eruption, but overally parents’ knowledge about it was not significant. (13)

In the present study, 40% of parents knew the correct position of first permanent molar teeth in their children mouth (just posterior of second deciduous molar teeth), 20.9% gave wrong answers and 39.1% did not have any information about it. Just 20.9% of parents knew that first permanent molar teeth erupt approximately at the same time of anterior permanent teeth eruption. In the study by *Luca* only 21.39% of mothers gave the correct answer to the position of first permanent molar teeth eruption. It shows that level of knowledge about the location of first permanent molar teeth was higher in participants of our study than *Luca’*s. (12)

More than half of the parents (53.1%) in our study did not know if first permanent molar teeth in their children mouth would replace or not after extraction, 26% believed that it would replace and only 20.3% knew that it would not replace after extraction. In *Luca’*s study, 24.65% of mothers said that first permanent molar teeth replace in their children mouth after extraction. So, results of *Luca’*s study are similar to ours. Because of incorrect parents’ information about replacement of first permanent molar teeth in their children mouth after extraction, the importance of these teeth may remain unknown for most parents. (12)

The average score of parents’ knowledge about eruption process of first permanent molar teeth (time, position, presence and replacement after extraction) in their children mouth was 8.28±3.03 (total score=18). There was not a meaningful relation between score of parents’ knowledge and their demographic indexes like age (p=0.2), occupation (p=0.06) and education (0.21). *Luca’*s study in Romania showed that mothers’ education had positive effect on their knowledge about eruption process of first permanent molar teeth, but their occupation was not effective. Another study by *Jaradat* did not show any relation between parents’ knowledge of first permanent molar teeth eruption and their level of education. This shows that even educated parents need to learn about eruption process of first permanent molar teeth. (12,13)

In the present study, 16.5% of parents knew exactly about presence or absence of first permanent molar teeth in their children mouth. It means that 11.7% of children had first permanent molar teeth in their mouth and their parents could find it out and 4.5% of parents had knowledge about absence of first permanent molar teeth in their children mouth. In the study done in Kerman, 82.5% of parents knew that first permanent molar tooth is erupted in their children mouth. Another study by *Zuashkiani* and *Mirzajani* showed that 34.7% of parents were aware of the presence of first permanent molar teeth in their children mouth. Higher parents’ knowledge in Kerman study may be because of oral health education during the study. (7,8)

There was not significant relation between level of parents’ knowledge about the presence of first permanent molar teeth in their children mouth and DMF of this tooth. It means that DMF of first permanent molar tooth in children whose parents knew that this tooth is erupted in their child’s mouth was equal to those whose parents were not aware of presence of first permanent molar teeth in their children mouth. This is similar to the results of *Sajjadi* and *Jaradat* studies and in contrast with *Zuashkiani*’s, which says that mothers aware of presence of first permanent molar teeth in their children mouth had children with lower DMF of this tooth. (8,13)

**Conclusion**

This study shows that level of parents’ knowledge about the presence of first permanent molar teeth in their children mouth does not solely reduce caries level in their children oral cavity. On the other hand, they may be unaware of correct methods of oral health care, although being aware of the presence of permanent teeth. So, parents’ education about methods of dental caries prevention and protective oral health care is an urgent need.

**References**

1. Pinkham JR. Pediatric dentistry infancy through adolescence. 3rd ed. St. Louis: Saunders; 1999. P 482.
2. Chandra S. Textbook of pedodontics. 1st ed. Newdelhi: Jaypee; 2003. P 243.
3. Aghahosseini F, Enshaei M. DMFT evaluation of upper and lower first permanent molars in patients examined in oral medicine and diagnosis department at faculty of dentistry, Tehran University of Medical Sciences. Journal of Dentistry, Tehran University of Medical Sciences. 2002; 14(4).
4. McDonald RE: Dentistry for the child and adolescent. 8th Ed. St, Louis: The CV Mosby Co. 2004; Chap 27; P 644-646.
5. Mortazavi M, Ebrahimi Z. Research about caries prevalence of first permanent molar tooth in 6-9 year old children in Shiraz, Iran Dentistry Journal. 1376; 3-4: 69-81.
6. Khodadadi E, Khafri S. Epidemiological evaluation of DMFT of first permanent molars in primary school in 12 year old students in Babol city; Iran (2011-2012). J Babol Univ Med Sci. 2013; 15(5): 102-106.
7. Zouashkiani T, Mirzakhani T. Parental knowledge about presence of the first permanent molar and its effects on health of the tooth in 7-8 year old children. Journal of Dentistry, Mashhad University of Medical Sciences. 2006; 30: 225-32.
8. Sadat-Sajadi F, Malek-Mohammadi T, Nabavizadeh SA, Ghanbari S, Montajab F. The awareness of parents of 7-8-year-old children in Kerman about presence of the first permanent molar and concepts of preventive dentistry and effect of education on level of parent’s awareness. J Oral Health Oral Epidemiol. 2014; 3(1): 30-6.
9. Fallahinejad Ghajari M, Razavi S. Treatment of severely decayed first permanent molars with poor long term prognosis in children: to extract or to restore? J Dent Sch. 2006; 23 (4):628-635.
10. Vejdani A, Simaei L. The Associated Factors of Permanent First Molar Caries in 7-9 Years Old Children. Journal of Dentomaxillofacial Radiology, Pathology and Surgery. 2014; 3(1): 23-28.
11. Vanobbergen J, Martens L, Lesaffre E, et al. The Value of a Baseline Caries Risk Assessment model in the primary dentition for the prediction of caries incidence in the permanent dentition. Caries Res. 2001; 35(6):442-50.
12. Luca R, Stanciu I, Ivan A, Vinereanu A. Knowledge on the first permanent molar - audit on 215 Romanian mothers. Oral Health Dent Manag. 2003; 2(4): 27-32.
13. Jaradat T, Ghozlan M, Showeiter M, Kana’an N. The Awareness Of Parents Of The Time Of Eruption Of First Permanent Molar And Caries Prevalence In This Tooth In Children In The South Of Jordan.Pakistan Oral & Dental Journal. 2013;33 ( 3 ):498-50.