

## Original Research

### Assessment of early loss of primary molars among children

<sup>1</sup>Chhaya Sharma, <sup>2</sup>Mohammad Younis Saleem Bhat, <sup>3</sup>Rishav Singh

<sup>1</sup>Senior Lecturer, Deptt of Pedodontics, Kothiwal Dental College, Moradabad, Uttar Pradesh, India;

<sup>2</sup>Professor, Deptt of Dentistry, GMC, Doda, Jammu and Kashmir, India;

<sup>3</sup>Senior Resident, Deptt of Pedodontics, RIMS, Ranchi, Jharkhand, India

#### ABSTRACT:

**Background:** Premature loss of deciduous teeth can be termed as loss of primary teeth before their usual term of exfoliation caused by dental caries. The present study was conducted to assess early loss of primary molars among children. **Materials & Methods:** 95 children aged 5-10 years of both genders were included. Early loss was classified based on chronological table of eruption of the permanent tooth. **Results:** Age group 5 years had 6 children, 6 years had 4, 7 years had 12, 8 years had 18, 9 years had 20 and 10 years had 15 children. Males had 86 and females had 110 missing teeth. Missing teeth were 28 incisors, 42 canine, 75 first molar and 51 second molar. **Conclusion:** Most common missing teeth were first molar followed by second molar, canine and incisors.

**Key words:** Children, Deciduous, missing teeth

Received: 10 December, 2021

Accepted: 17 January, 2022

**Corresponding author:** Chhaya Sharma, Senior Lecturer, Deptt of Pedodontics, Kothiwal Dental College, Moradabad, Uttar Pradesh, India

**This article may be cited as:** Sharma C, Bhat MYS, Singh R. Assessment of early loss of primary molars among children. J Adv Med Dent Scie Res 2022;10(2):141-143.

#### INTRODUCTION

Premature loss of deciduous teeth can be termed as loss of primary teeth before their usual term of exfoliation caused by dental caries, trauma, periodontal disease, and premature root resorption. This can lead to deleterious effects such as tooth rotation, extrusion of the antagonist tooth, dental crowding, detrimental habits, craniofacial growth disturbances, and impaction of the successor tooth. Premature tooth loss of the primary teeth, especially the molars, may lead to lack of space, malocclusion and midline discrepancies in the permanent dentition. The dental injuries and periodontal illness greatly influence the occurrence of tooth loss, but the decay continues to be the main villain of the high rate of loss. Premature loss of primary teeth reduces the arch length required for the succeeding tooth and, hence, predisposes crowding, rotation and impaction of the permanent teeth. Furthermore, phonetic, psychological, morphological, and functional

problems may also occur. Primary molars have a paramount role in occlusion, phonetics, and psycho-emotional well-being; thus, they should be kept sound. The present study was conducted to assess early loss of primary molars among children.

#### MATERIALS & METHODS

The present study comprised of 95 children aged 5-10 years of both genders. The consent was obtained from their patients.

Data such as name, age, gender etc. was recorded. Early loss was classified based on chronological table of eruption of the permanent tooth. All the related data were entered in the survey form. Intra oral photographs of missing teeth were taken. Alginate Impressions of missing teeth were taken and diagnostic casts were prepared. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

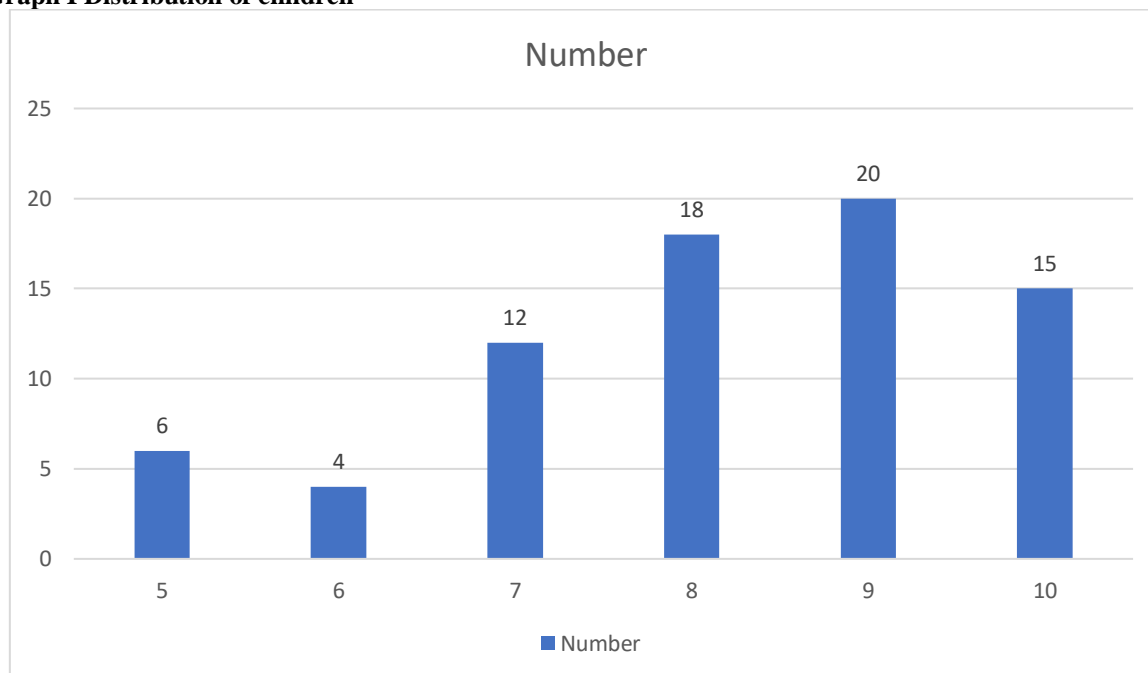
**RESULTS**

**Table I Distribution of children**

Age group (years)	Number	P value
5	6	0.01
6	4	
7	12	
8	18	
9	20	
10	15	

Table I, graph I shows that age group 5 years had 6 children, 6 years had 4, 7 years had 12, 8 years had 18, 9 years had 20 and 10 years had 15 children. The difference was significant ( $P < 0.05$ ).

**Graph I Distribution of children**



**Table II Early loss of primary molars**

Gender	Number of missing teeth	P value
Male	86	0.05
Female	110	

Table II shows that males had 86 and females had 110 missing teeth. The difference was significant ( $P < 0.05$ ).

**Table III Type of missing teeth**

Teeth	Number	P value
Incisors	28	0.17
Canine	42	
First molar	75	
Second molar	51	

Table III shows that missing teeth were 28 incisors, 42 canine, 75 first molar and 51 second molar. The difference was non-significant ( $P > 0.05$ ).

**DISCUSSION**

Loss of teeth is the last stage in the progression of dental caries. Increased possibility of malocclusion and loss of function are the most important factors to be considered in early loss of primary molars.<sup>7,8</sup> Dental decay and pulp necrosis increase the rate of root resorption and hasten the exfoliation of the deciduous dentition.<sup>9</sup> Premature extraction of

primary teeth is dependent on a lot of factors that include age at the time of tooth loss, facial and dental growth potential, status of occlusion, oral habits, and study methodology.<sup>10</sup> The present study was conducted to assess early loss of primary molars among children.

We found that age group 5 years had 6 children, 6 years had 4, 7 years had 12, 8 years had 18, 9 years

had 20 and 10 years had 15 children. Ahamed et al<sup>11</sup> evaluated the prevalence of early loss of primary teeth in school children. A total of 1121 school children (561 boys and 560 girls) between 5 and 10 years of age were selected for the study. The results showed that 16.5% of the sample had early loss of primary teeth, but no differences were observed between genders ( $P > 0.05$ ). The greatest prevalence was found among the 8-years old (5.08%), and the most commonly missing teeth were the right lower primary first molars (16.82%). It can be concluded that the prevalence of early loss was high and that the lower primary molars were the most commonly missing teeth in the present study.

We observed that males had 86 and females had 110 missing teeth. We found that missing teeth were 28 incisors, 42 canine, 75 first molar and 51 second molar. Khurana et al<sup>12</sup> assessed the prevalence of early loss of primary molars in schoolchildren. The study group included 200 children, that is, 115 boys and 85 girls. The dental examination was performed by an experienced examiner under sufficient natural light. Data including patient age and missing molars were collected, classifying the status of molars according to the WHO oral health assessment form for children (tooth). Collected data from each patient were subjected to statistical analysis to know the prevalence of early loss of primary molars. The results showed that 31% of the sample had early loss of primary teeth with no statistically significant difference between genders. A higher prevalence was found among the 7–9-year-olds (69%), and the most commonly affected teeth were the right lower primary first molars (23%). The findings give an inference that untreated early childhood caries is the most common cause for early loss of primary molars resulting in occlusal discrepancy and functional problems. It is crucial to increase awareness among parents, pediatricians, and general dentists regarding the importance of primary teeth.

According to Jayachandar et al<sup>13</sup>, anticariogenic effect seen in the upper posteriors can be attributed to immense salivary supply, whereas food lodgement and retention is more in the mandibular posteriors causing a greater risk of caries. Accumulation of *Streptococcus mutans* occurs on the fissured occlusal surfaces and concavities on the proximal surfaces of primary molars and increases as the age advances. This ultimately results in dental caries which when left untreated has to undergo extraction and hence early loss of the primary teeth.<sup>14</sup>

## CONCLUSION

Authors found that most common missing teeth were first molar followed by second molar, canine and incisors.

## REFERENCES

1. Leite-Cavalcanti A, Menezes SA, Granville-Garcia AF, CorreiaFontes LB. Prevalence of early loss of

- primary molars: Study retrospective. *Acta Sci Health Sci* 2008;30:139-43.
2. Leite-Cavalcanti A, de Alencar CR, Bezerra PK, Granville-Garcia AF. Prevalence of early loss of primary molars in school children in Campina Grande, Brazil. *Pak Oral Dent J* 2008;28:113-6.
  3. McDonald RE, Avery DR, Dean JA. Eruption of Teeth: Local, systemic and congenital factors that influence the process. *Dent Child Adolesc* 2005;8:174-202.
  4. Cardoso L, Zembruiski C, Fernandes DS, Boff I, Pessin A. Evaluation of prevalence of precocious loss of deciduous molars. *Braz Res Pediatr Dent Integ Clin* 2005;5:17-22.
  5. Kelner N, Rodrigues MJ, Miranda K. Prevalence of early loss of deciduous molars in children attending the FOP / UPE in 2002 and 2003. *Dent Clin Sci Recife* 2005;4:213-8.
  6. Alamoudi N, Salako N, Masoud I. Prevalence and distribution of caries in the primary dentition in a Cosmopolitan Saudi Population. *Saudi Dent J* 1995;7:23-8.
  7. Saravanan S, Kalyani V, Vijayarani MP, Jayakodi P, Felix JW, Arunmozhi P, et al. Caries prevalence and treatment needs of rural school children in Chidambaram Taluk, Tamilnadu, South India. *Indian J Dent Res* 2008;19:186-90.
  8. Mahejabeen R, Sudha P, Kulkarni SS, Anegundi R. Dental caries prevalence among preschool children of Hubli: Dharwad city. *J Indian Soc PedodPrev Dent* 2006;24:19-22.
  9. Caufield PW, Cutter GR, Dasanayake AP. Initial acquisition of *Mutans streptococci* by infants - Evidence for a discrete Window of Infectivity. *J Dent Res* 1993;72:37-45.
  10. Loto AO. Relative prevalence of caries in first and second premolars in urban Nigerians. *Odontostomatol Trop* 1998;21:23-6.
  11. Ahamed SS, Reddy VN, Krishnakumar R, Mohan MG, Sugumaran DK, Rao AP. Prevalence of early loss of primary teeth in 5-10-year-old school children in Chidambaram town. *Contemp Clin Dent* 2012;3:27-30.
  12. Khurana I, Prashanth S T, Sanjana C R, Salman Y. Prevalence of early loss of primary molars among schoolchildren aged 5–9 years in Bangalore city: A cross-sectional study. *Int J PedodRehabil* 2020;5:60-3.
  13. Jayachandar D, Gurunathan D, Jeevanandan G. Prevalence of early loss of primary molars among children aged 5-10 years in Chennai: A cross-sectional study. *J Indian Soc PedodPrev Dent* 2019;37:115-9.
  14. Alamoudi N. The Prevalence of crowding, attrition, midline discrepancies and premature tooth loss in the primary dentition of children in Jeddah, Saudi Arabia. *J Clin Pediatr Dent* 1999;24:53-8.