

# Knowledge and Attitude of Pediatricians with Regard to Emergency Management of Dental Avulsion- A Survey

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## Abstract

Dental trauma is a very significant problem encountered in both primary and the permanent dentition. In preschool children the trauma rate is as high as 18% of all injuries. Among all facial injuries, dental injuries are the most common of which avulsions occur in 1–16% of all dental injuries. Among dental traumatic injuries, avulsion results in major functional and esthetic disturbances for patients. Epidemiological studies revealed that children from 8 to 12 years often suffer a dental injury. The teeth most commonly avulsed in both the primary and the permanent dentition are the maxillary central and lateral incisors. The longer the avulsed tooth is out of its socket, the less likely it will remain in a healthy functional state after replantation. The prognosis of replanted permanent teeth depends primarily on (i) prompt and appropriate first care, commonly provided by non-health professionals at the site of the accident, (ii) the storage media of the avulsed tooth prior to replantation, and (iii) the viability of periodontal ligament remnants on the root surface. Research has shown that immediate replantation is the best and most appropriate treatment for the traumatically avulsed permanent teeth.

The aim of this study is to assess the basic knowledge of dental trauma and its management among pediatricians

**Key words:** Avulsion, paediatrician awareness.

## Introduction

Dental trauma is a very significant problem encountered in both primary and the permanent dentition. In preschool children the trauma rate is as high as 18% of all injuries. Among all facial injuries, dental injuries are the most common of which avulsions occur in 1–16% of all dental injuries.<sup>1,2</sup> Among dental traumatic injuries, avulsion results in major functional and esthetic disturbances for patients.<sup>3</sup> Epidemiological studies revealed that children from 8 to 12 years often suffer a dental injury.<sup>4</sup> The teeth most commonly

avulsed in both the primary and the permanent dentition are the maxillary central and lateral incisors.<sup>5</sup> The longer the avulsed tooth is out of its socket, the less likely it will remain in a healthy functional state after replantation. The prognosis of replanted permanent teeth depends primarily on (i) prompt and appropriate first care, commonly provided by non-health professionals at the site of the accident, (ii) the storage media of the avulsed tooth prior to replantation, and (iii) the viability of periodontal ligament remnants on the root surface. Research has shown that immediate replantation is the best and most appropriate treatment for the traumatically avulsed permanent teeth.<sup>6-8</sup>

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The aim of this study is to assess the basic knowledge of dental trauma and its management among pediatricians. The management of associated injuries which needs speciality treatment by the pediatricians. To create an awareness about Pediatric dentistry- on the

whole to the pediatricians and to promote awareness to the general public-through pediatricians.

## MATERIALS AND METHODS:

A 9-item questionnaire was designed to assess current knowledge and attitude of pediatricians with regard to emergency management of dental avulsion. Doctors were personally interviewed and were assured of confidentiality. The study group was convenience sample of physicians working in government and private hospitals. Survey was conducted over a period of 2 weeks. The number of pediatricians surveyed are 56 out of which 15 are having less than 10 years experience and 41 are having more than 10 years experience. 24 of them are government doctors and 32 are private practitioners.

### Method of Collection of Data:

#### Knowledge and Attitude of Pediatricians with Regard to Emergency Management of Dental Avulsion- a survey

*(Dental avulsion of teeth is when a tooth comes out of its socket as a result of a traumatic injury.)*

General information:

Doctor's Name:

Number of years of practice:

1. Have you experienced a dental trauma case in your practice? Yes/No
2. If yes, what kind of dental injury?  Avulsion  Crown fracture  Bone fracture
3. If the tooth was out of the child's mouth, what would you do?  
 save the avulsed tooth  not save the avulsed tooth
4. Whom you will refer?  Dental specialist  General surgeon
5. You would seek professional treatment  immediately  the next day  within a week
6. Do you know that it is possible to replant an avulsed tooth? Yes/No
7. Before the tooth is re-implanted, how would you clean an avulsed tooth?  
 Brush  Water  Salt water  Milk  Nothing
8. How would you transport it to the dentist?  
 keep it wrapped in paper or gauze  keep it on ice  keep it in water  
 keep it in milk  keep it in saline solution
9. Have you undergone any training regarding management of dental trauma? Yes/No

Doctor's Signature

### Results

Fifty six paediatricians who were approached readily agreed to participate and returned the completed filled questionnaires on the same day.

For question 1: while 52% (n = 29) of the participants had come across children with dental trauma, 48% (n = 27) had not experienced a dental trauma. (fig.1)

For question 2:

Among the dental injury encountered by the paediatricians, 14% (n=8) was avulsion , 30% (n= 17) was crown fracture , 4% (n=2) was bone fracture, 9% (n=5) was more than one kind and 42% (n=24) showed no response to the question. (fig.2)

For question 3: 93% (n = 52) of the participants would like to seek a dentist’s opinion for management of dental trauma. While 4% (n = 2) seek general surgeon opinion and 3% (n=2) did not any answer for the question. (fig.3)

For question 4: If the tooth was out of the child’s mouth 34% (n=19) advise not to save the tooth, 59% (n=33) advise to save the avulsed tooth and 7% (n=4) did not answer the question. (fig.4)

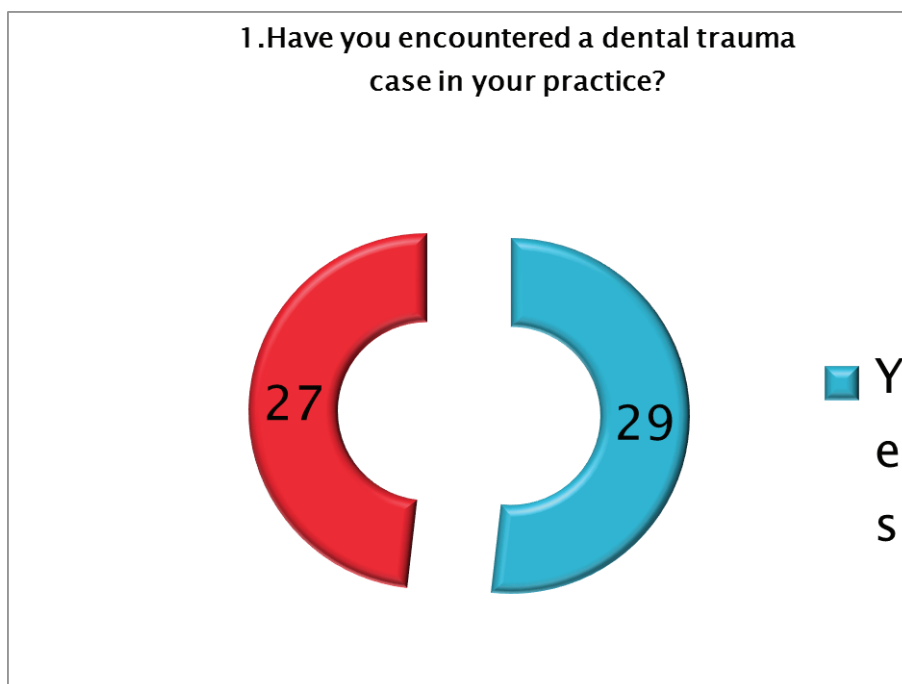
For question 5: 59% (n=33) seek professional treatment immediately , 27% (n= 15) seek professional treatment after a day and 9% (n=5) seek dental treatment within a week. 5% (n=3) did not show any response. (fig.5)

For question 6: 32% (n = 18) of the participants answered replantation of avulsed tooth is possible, while 64%(n = 36) answered replantation was not possible. (fig.6)

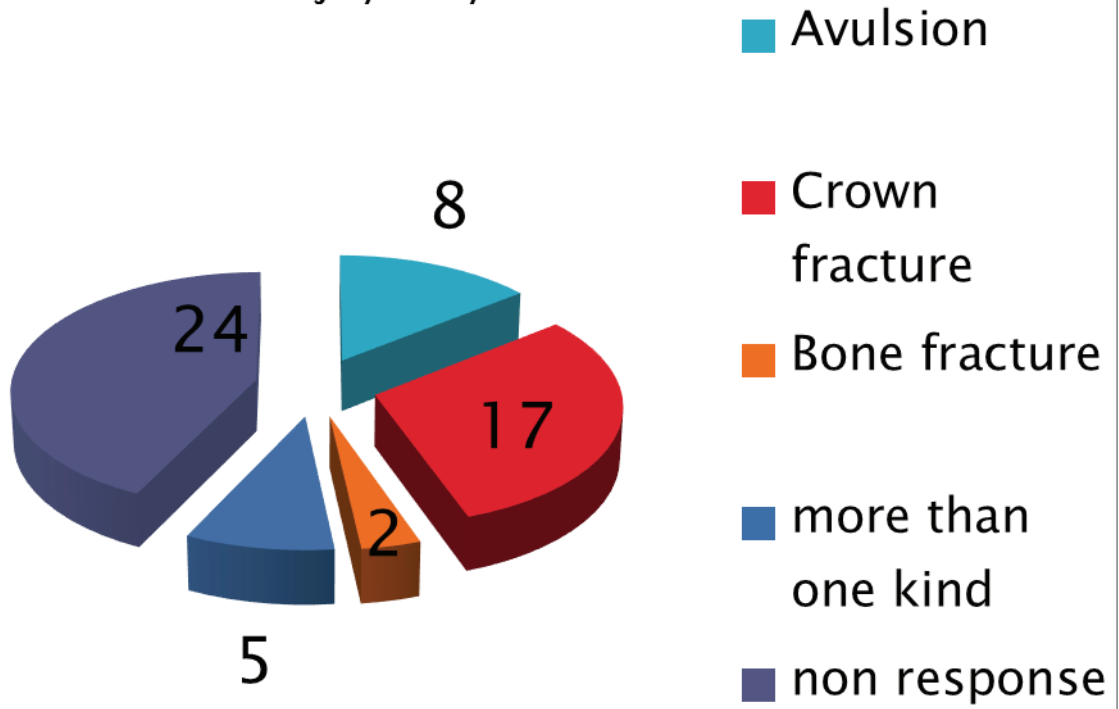
For question 7: 30% (n = 17) of the participants use water to clean the avulsed tooth, while 23% (n = 13) use salt water, 14% (n=8) use brush and 7% (n=4) use milk to clean. 25% (n=14) did not answered the question.

For question 8: 7% (n=4) wrap the avulsed tooth in paper or gauze to transport it to the dentist, 18% (n=10) keep it on ice, while 13% (n=7) use water as transport media, 7% (n=4) use milk and 29% (n=16) of the paediatricians use saline as transport media.

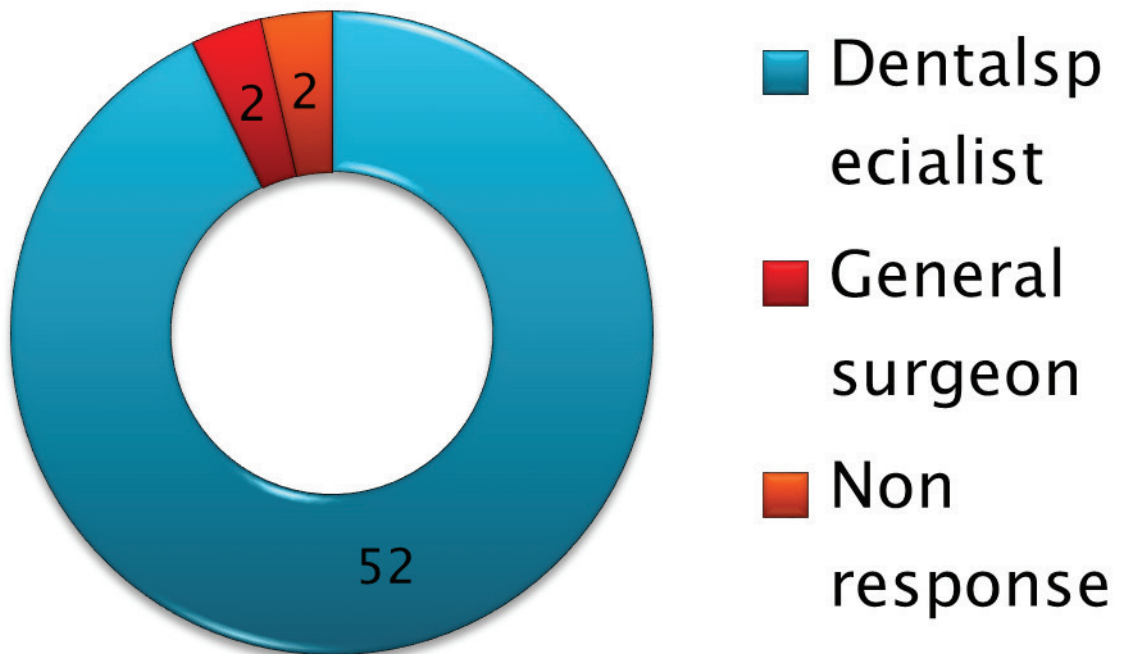
For questions 9: 95% (n=53) of the paediatricians have not undergone any dental trauma management programme and 5% (n=3) have attended.



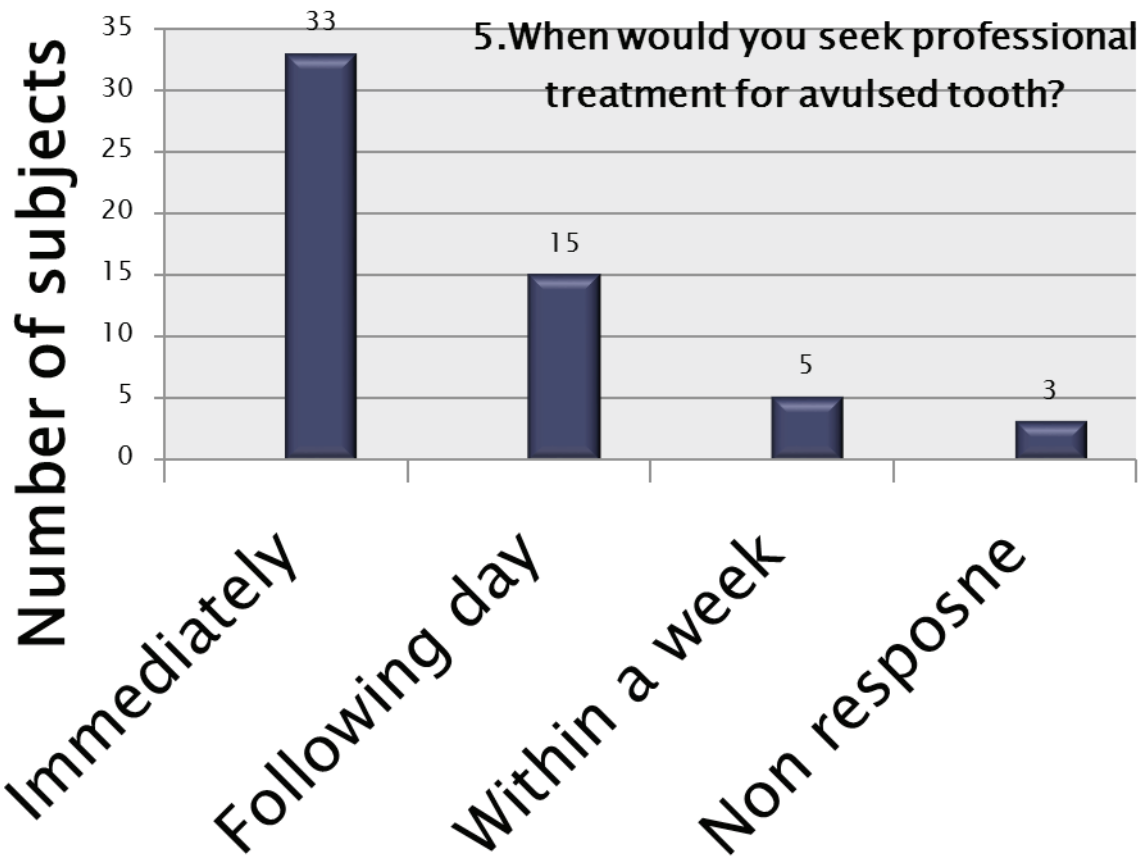
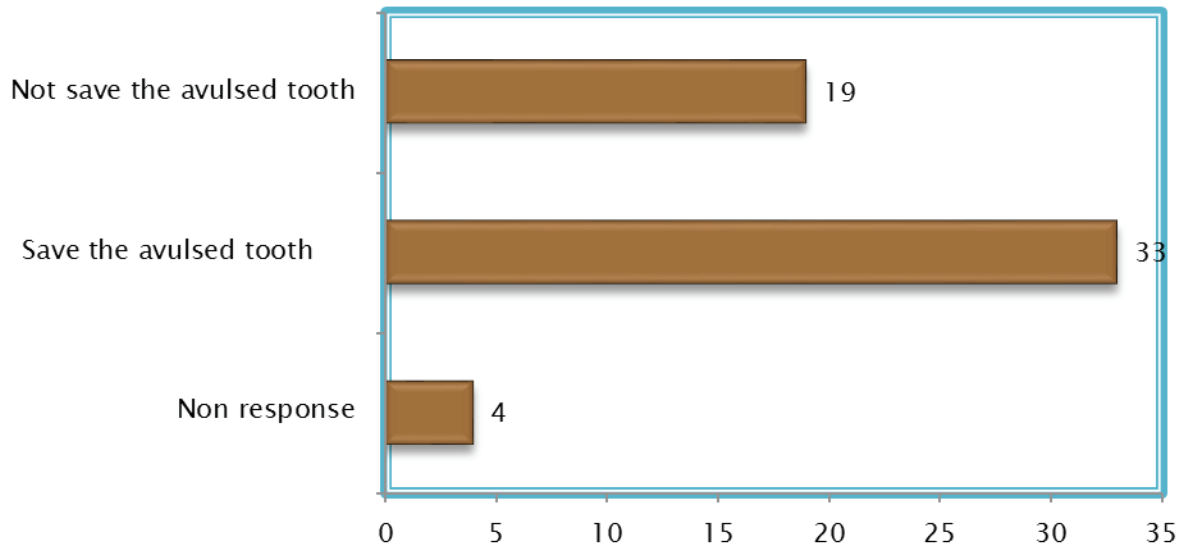
2. What kind of dental injury have you encountered?

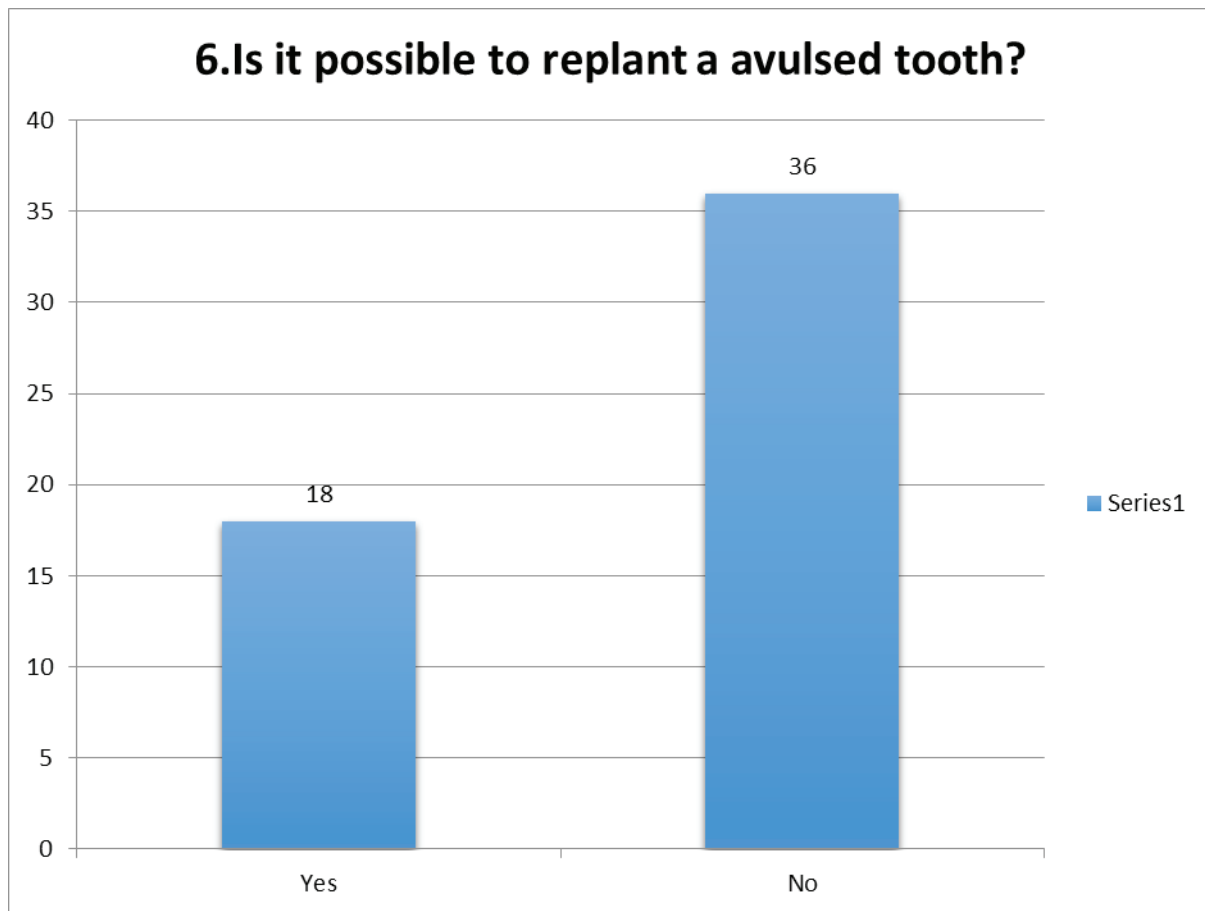


3. To whom you will refer a patient with dental trauma?



#### 4. If the tooth was out of the child's mouth, what would you do?





### Discussion

The permanent anterior teeth play an important role in good psychological development of child and adolescent. It was noticed that child often exhibits lower self esteem when the aesthetic harmony is insulted by dental avulsion.<sup>9,10</sup>

Among the 56 paediatricians surveyed 52% of them had come across the dental trauma cases. Among the dental injury encountered by the paediatricians, 14% was avulsion, 30% was crown fracture

93% of the participants would like to seek a dentist’s opinion for management of dental trauma. While 4% seek general surgeon opinion. If the tooth was out of the child’s mouth 34% advise not to save the tooth, 59% advise to save the avulsed tooth.

59% seek professional treatment immediately, 27% seek professional treatment after a day and 9% seek dental treatment within a week. This shows the awareness of the paediatrician about the avulsed tooth

and how long the periodontal ligament is viable.64% of the paediatricians thought reimplantation of avulsed tooth is not possible at all.

Out of the participants 30% use water to clean the avulsed tooth, while 23% use salt water, 14% use brush and 7% use milk to clean. 25% did not answered the question as they did not know about the avulsion management. To transfer the avulsed tooth 7% of the participants wrap the avulsed tooth in paper or gauze to transport it to the dentist, 18% keep it on ice, while 13% use water as transport media, 7% use milk and 29% of the paediatricians use saline as transport media.

95% of the paediatricians have not undergone any dental trauma management programme and 5% have attended.

For paediatricians to address competently child oral health issues, they must have adequate knowledge of the disease process, risk factors, signs, symptoms, prevention, and intervention strategies. The knowledge base required of paediatricians to perform successfully

oral health risk assessments can and should be built and reinforced throughout the medical education process. Pediatricians need more knowledge and skill in addressing children's oral health because of the prevalence of dental disease, the racial and socioeconomic disparities in disease burden, and the limited access to dental care for many children.<sup>11</sup>

### Conclusion

Many improvements can be made throughout the medical education process to provide paediatricians with the knowledge and skills to provide families competently with oral health guidance, prevention, and possible therapeutic treatments.

**Ethical Clearance** – Institutional Ethics Committee, Sree Balaji Dental College and Hospital, Committee registered with DCGI. (Registration no: ECR/761/Inst/TN/2015)

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**Conflict of Interest** – Nil

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