



## Original Research Article

## Comparison of knowledge and attitude among medical postgraduates and general medical practitioner in management of tooth avulsion

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## ABSTRACT

Traumatic dental injuries are one of the commonly experienced dental emergencies. Missing anterior tooth in children due to any injury can be a source of considerable physical and psychological discomfort for the child.

**Aim:** To evaluate by means of self administered questionnaire the level of knowledge of medical graduates and medical postgraduates in emergency management of tooth avulsion.

**Setting and Design:** Questionnaire-based survey design was utilized to assess the knowledge.

**Materials and Methods:** A survey was conducted among 50 medical graduates and medical postgraduates. A questionnaire was formulated to assess the knowledge and attitude among medical graduates and medical postgraduates regarding the management of avulsed tooth. A total of 50 medical graduates and 50 medical postgraduates consented to participate in the survey.

**Results:** 28% Of medical graduates and 18% of medical postgraduates prefer to wash with sterile saline and the rest prefer to do nothing. 34% of medical graduates and 20% of medical postgraduates prefer to take the broken tooth to the dentist whereas 16% of medical graduates and 32% of medical postgraduates do not know what to do. 45%Of medical graduates and 36% of medical postgraduates prefer to keep the tooth in correct medium whereas rest were wrong. 48% of medical graduates and medical postgraduates know that avulsed primary tooth should not be replanted.

**Conclusion:** The study conclude that there is need for an educational lecture to widen the knowledge of the medical graduates and medical postgraduates about the emergency management of tooth avulsion which can be achieved by adding leaflets, posters about basic first aid treatment.

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### 1. Introduction

Traumatic injuries to dentoalveolar tissues are recognized as the most serious problem among school children and adolescents.<sup>1</sup> It has become a serious dental public health problem in developing and developed countries. One of the common type of dentoalveolar injury is tooth avulsion which is defined as a total dislodgement of the tooth from its socket.<sup>1</sup> Avulsion occurs in 1–16% of all dental injuries.<sup>2</sup> It can be due to sporting activities, falls at home, car accidents,

fight and intentional assaults. Due to the labial inclination of the teeth maxillary central incisor is the most affected tooth.<sup>3</sup>

Permanent anterior teeth are crucial for aesthetics, phonetics, mastication, and psychological health of young patients. The principle challenge with regards to avulsion is to maintain the vitality of the periodontal cells, hence immediate appropriate management of the avulsed tooth by replantation is needed for long term prognosis.<sup>1</sup> Extra alveolar dry time, storage media used, type of retention, drug prescribed plays important role in successful long term outcomes.<sup>3</sup>

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The most critical factor for maintaining the vitality of periodontal ligament cells can be established by stow the tooth in a suitable medium such as milk, saliva or saline.<sup>1</sup> Many avulsed teeth are lost due to lack of knowledge about the accepted first aid procedures. Parents and teachers often have the first opportunity to attend a child with tooth avulsion injury. But the physicians are first one to provide treatment for child with dental trauma.<sup>4</sup> Many patients with avulsed tooth visit medical professionals due to lack of cognizance or unprocurable availability of the dentist.<sup>5</sup> To ensure proper and appropriate management, it is essential that medical professionals should have adequate knowledge and sufficient training. Hence the study is to compare the knowledge and attitude of medical postgraduates and general practitioner in management of avulsed tooth.

## 2. Materials and Methods

This study was conducted among 50 general medical practitioners and 50 post graduates in and around Mangalore. The ethical approval was obtained from Yenepoya ethics committee, Yenepoya university, Mangalore. The questionnaire was written in the English language and consisted of 11 questions based on previous similar studied by Holan G et al.,<sup>6</sup> 2003; Abu Damoud et al.,<sup>7</sup> 2007;). The questionnaire was reviewed by experts with knowledge of this field. The questionnaires was distributed by making personal visits to the study subjects who was selected via purposive sampling

### 2.1. The questionnaire

The questionnaire was composed of three sections:

The first section were designed to survey the characteristics and demographics of the respondents, including age and gender. The second section consisted of questions designed to survey the respondents awareness on avulsion which included their experience in encountering a case of avulsion, appropriate management of primary and permanent tooth after avulsion and also addressed respondents knowledge regarding the storage medium used to carry the avulsed tooth. The third section addressed the respondents attitude towards tooth avulsion and included questions on the opinion of the respondents regarding the need for continuing education in management of tooth avulsion. The response formats for these sections included yes/no answers and multiple choice answers. Data received were coded and analyzed using the Statistical Package for Social Sciences (IBM SPSS) version 20 software. Chi-square test were used to assess the correlation between knowledge and attitude regarding tooth avulsion.

## 3. Result

### 3.1. Demographic characteristics of the respondents

A total of 50 general medical practitioners and 50 medical postgraduates agreed to participate in the study. Completed questionnaires were returned by all 50 general medical practitioner And 50 medical postgraduates. A 28% of general medical practitioners were 21-30 years, 14% were between 31-40 years and 8% were 41-50 years. Whereas as in postgraduates 48% were 21-30 years, 2% were 31-40 years and 0% in 41-50years and in gender 38%of general medical practitioners were males and 12% females whereas in postgraduates 20% were only males and 30% were females.

### 3.2. Knowledge on avulsion among medical postgraduates and general medical practitioner

Regarding the cases encountered by each, 12% of general medical practitioner and 8% postgraduates have encountered case of avulsion whereas 38% of general medical practitioners and 42% of postgraduates have not encountered any case of tooth avulsion. 48% of general medical practitioner and 30% postgraduates prefer to refer the case immediately to the dentist. 32% of general medical practitioners and 18% of postgraduates prefer to seek dental care immediately while 16% of general medical practitioner and 32% postgraduates would not mind delaying upto 30 minutes. 28% Of general medical practitioners and 18% of postgraduates prefer to wash with sterile saline and the rest prefer to do nothing. 34% of general medical practitioners and 20% postgraduates prefer to take the broken tooth to the dentist whereas 16% of practitioners and 32% of postgraduates do not know what to do. 45%of general medical practitioners and 36% of postgraduates prefer to keep the tooth in correct medium whereas rest were wrong. 48% of general medical practitioners and postgraduates know that avulsed primary tooth should not be replanted.

### 3.3. Attitude towards receiving advice on management of tooth avulsion

8% of general medical practitioners and 14% of postgraduates received advice on tooth avulsion whereas 42% of general medical practitioners and 36% of postgraduates did not receive advise on tooth avulsion.

## 4. Discussion

This study provided baseline information about the existing level of knowledge of dental avulsion in general medical practitioner and medical postgraduates. The lowest time passed between injury and dental care would give a beneficial prognosis and better chance of treatment success following dental trauma.<sup>8</sup> 12% of general medical practitioner and only 8% of postgraduates had previous

**Table 1:** Demographic characteristics of the respondents

		GM		MPG	
		(N)	%	(N)	%
Gender	Male	38	38%	20	20%
	Female	12	12%	30	30%
Age (years)	21-30	28	28%	48	48%
	31-40	14	14%	2	2%
	41-50	8	8%	0	-

**Table 2:** Knowledge on avulsion among general medical practitioner and medical postgraduates

		GM	MPG
Have you encountered any cases of avulsion	yes	12	8
	no	38	42
If you come across a child with avulsed tooth what would you do	Refer the child immediately to dentist	48	30
	Put the tooth back into the socket and rush to the dentist	2	20
	Wash the child's mouth with tap water and put the tooth in a wet cloth	0	0
	Immediately	32	18
How urgent do you feel that a dentist's opinion is needed	Within 30 minutes	16	32
	Within few hours	2	0
	Before next day	0	0
If a permanent tooth to be replanted has fallen on the ground and covered with dirt what would you recommend	Scrub the tooth to remove the dirt	0	5
	Rinse with tap water	0	5
	Wash with sterile saline	28	18
	Would do nothing	12	12
	Still put back the tooth in to the socket	0	0
What would you do if the knocked out tooth was broken	Take the broken tooth to the dentist	34	20
	Would not be concerned about the broken piece	0	0
	Do not know	16	32
	Ice	2	10
How would you keep the tooth till you reach the dentist	Tapwater	0	2
	Sterile saline	20	15
	Milk	25	18
	Any antiseptic solution	3	5
Do you think that a primary tooth that has been knocked out should be replanted	Yes	2	2
	No	48	48

**Table 3:**

		GMP	PG
Received advice on managing avulsed teeth	Yes	8	14
	No	32	46

experience of tooth avulsion cases which suggests that practitioner have encountered more tooth avulsion cases when compared to post graduates. Majority of the participants felt that dental trauma should ideally be managed by a dentist. Surprisingly, none of the surveyed postgraduates or general medical practitioner preferred to put the tooth back in its socket although, one of the main requisites of dental avulsion treatment is the tooth reimplantation as soon as possible, keeping periodontal cells viable for healing and a possible pulp revascularization.

A delay in providing emergency dental treatment may risk the prognosis of an avulsed tooth. An attempt should thus be made to immediately replant the avulsed tooth. Ideally, re-plantation should be carried out within half an hour. If the tooth is kept in a suitable medium, the extra-oral time may be extended to up to 6-hours. If replantation is not feasible, the use of a correct transport media is an essential step, which will expand the extra-oral time to 1 h. This will maintain the periodontal ligament cells' viability and prevent any damage which might cause loss of the tooth

in the future. Milk is considered the best medium for the periodontal ligament cells viability. It is an isotonic liquid with favourable osmolality, which has essential nutrients for periodontal ligament cells to survive and allow them to heal.<sup>1</sup> Therefore, it has been recommended as a temporary storage medium for avulsed teeth before replantation.<sup>9</sup> In our study, 25% of medical postgraduates and 30% general medical practitioner of the chose milk as the best medium for storing the tooth. This result was similar to Ulusoy et al. where 31.9% of the participants also chose milk as the best medium.<sup>10</sup>

The majority of the participants 42% general medical practitioner and 36% medical postgraduates did not receive any advice on management of tooth avulsion and would keen to learn more about the management of tooth avulsion.

## 5. Conclusion

From the conclusion of the results an important suggestion would include the need for an educational lecture to widen the knowledge of the general medical practitioner and general medical postgraduates about the emergency management of tooth avulsion. This can also be achieved by adding leaflets, posters about basic first aid treatment. In the current study, the population consisted of 50 general medical practitioners and 50 medical postgraduates, that was a convenient sample, which may limit the possibility of generalization, so further research with a larger population is warranted. However despite the limitations of these study, the result accentuate the need for further dental health education.

## 6. Source of Funding

None.

## 7. Conflict of Interest

The authors declare no conflict of interest.

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