



ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF INTERNS IN MEDICAL COLLEGE REGARDING DENTAL TRAUMA.

Dental Science

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ABSTRACT

Introduction Dentofacial injuries account for a huge number among various injuries in road traffic accidents and even violence. Moreover many of them end up with emergency situations that should be properly attended on time. The role of medical professionals, including interns in emergency trauma management is very fundamental as far as the prognosis of definitive treatment is concerned. **Aim** To Assess Knowledge Attitude And Practice towards the emergency management of dental trauma among interns in medical college. **Methods** A cross sectional study based on questionnaire was conducted among interns in medical colleges in Himachal Pradesh. **Result** Not all medicos are exposed to in-depth teaching of dental trauma management. 75.91% expressed their interest in gaining knowledge regarding Dental Trauma. **Conclusion** Greater emphasis on such critical topics can be given by organizing continued medical education by dentists.

KEYWORDS

Dentofacial trauma, Interns in medical college, KAP study

INTRODUCTION

Dentofacial injuries commonly occur in motorcycle accidents poses significant psychological, functional and aesthetic concerns.¹ Most of the reported studies of dental trauma have concentrated on specific subpopulations such as children from public or private schools, localized geographical sites or limited age groups.² According to Petti and colleague (2018), prevalence of trauma to primary teeth is 21% and for permanent teeth is 15%.³

Time is of utmost importance on managing any trauma case. According to literature the chances for survival is largely determined by the first few hours after injury. On Case Of a critically-injured person's.⁴ Another concept is that seriously injured patients should be stabilized in 10 minutes⁵ before sending for definitive care. This is applicable in case of dentofacial injuries also. The common reasons for dental emergencies are dental trauma (66%), followed by dental infections, oral bleeding and temporomandibular joint disorders.⁶ The incidence of dental trauma has increased during the last 10-20 years and it has been suggested that it will soon exceed that of dental caries and periodontal disease.⁷ Soft tissue injuries were very frequent accounting for 91.2% cases, while trauma to the teeth constituted 83.5% of cases with 62.3% being tooth loss. Mandibular fracture was commoner than maxillary fracture; 45% versus 25.3%.¹

The first one to attend a dentofacial trauma is mostly physicians and interns posted in the causality. Interns in the medical college the, sprouting junior doctors are supposed to have essential knowledge regarding dentofacial trauma. In addition, also their decision during dental emergencies will determine the prognosis and further treatment plan by a dental specialist.

MATERIALS AND METHODS.

A descriptive cross sectional study was conducted among interns in medical colleges in Himachal Pradesh to assess knowledge, attitude and practice towards the emergency management of dental trauma among them. The participation in the study was voluntary and strict confidentiality was assured to the participants. The data were collected by distributing a self-designed questionnaire consisting of 10 questions. The self-administered questionnaire used for the study was adopted and modified from some previous studies^{7,8,9}, with some new questions added to it. Questionnaire was distributed among 271 interns out of 308. Out of which 137 were chosen to participate in the study. The responses were checked for completeness of the survey and later sent for statistical analysis.

Self-administered QUESTIONNAIRE contain 4parts:

Part I - INDIVIDUAL DETAILS

Part II - KNOWLEDGE QUESTIONNAIRE ITEM.

Part III - ATTITUDE QUESTIONNAIRE ITEM.

Part IV - PRACTICE QUESTIONNAIRE ITEM.

Results

For question 1; 55.4 % of participants had come across any kind of dentofacial injuries and among them the most encountered dentofacial injury is soft tissue trauma. 18.01 (n= 29) of interns met soft tissue injuries atleast once in their practice.

For question 2; 46.71 % (n=64) of participants came across with dentofacial trauma during their practice as a part of their emergency medical set up. While 15.33 % are totally unaware about the emergency dental management in their set up. (figure 1)

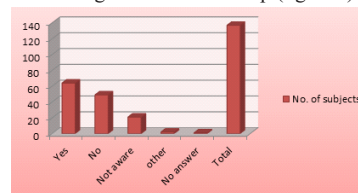


Figure 1 ; Distribution of study subjects according to exposure of participants to emergency dental management in their set up.

For question 3; 61.97% (n=88) of the participants would like to seek a dentist opinion immediately on encountering a dental emergency. 18.31 % (n= 26) does not mind delaying upto 24 hours minutes while 6.34 (n=9) prefer any time even after 48hours. (figure 2)

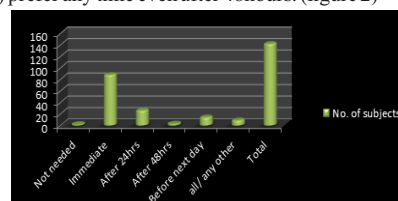


Figure 2 ; Distribution of study subjects according to urgency of dentist opinion in dental trauma case

For question 4; 83.94%(n=115) of participants would advise the patient to take the tooth fragment to dentist. While 6.57 % (n=9) would not be concerned about the fractured tooth. In addition 8.03 (n=11) admitted their unawareness regarding the fractured tooth.

For question 5; If they encounter an avulsed tooth 81.56 (n=115) would advise the patient to take the tooth to dentist, and only 6.38 % (n = 9) will try to put the tooth back into socket. But 9.22(n=13) are not sure

what to do with the knocked out tooth.

For question 6; 28.17 % (n=40) would put back the knocked out tooth immediately into the socket. While 26.86% (n=38) are not aware regarding maximum time lag possible in case of reimplanting an avulsed tooth.

For question 7; only 4.32 % (n=7) would advise the patient to keep the tooth in milk as storage medium. While 41.36% (n=67) would suggest sterile saline and 25.93% (n=42) would prefer cotton pad. Childs mouth is suggested by 1.24 % (n=2).

For question 8; 63.50 % have some basic knowledge regarding difference in management technique for primary and permanent. 2.92 % (n=4) consider management techniques are same for primary and permanent. (figure 3)

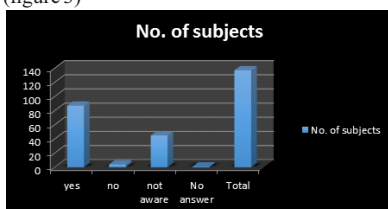


Figure 3 ; Distribution of study subjects according to awareness regarding difference in management techniques for primary and permanent teeth

For question 9; 78.10 % (n=107) are not satisfied with their current knowledge. (figure 4)

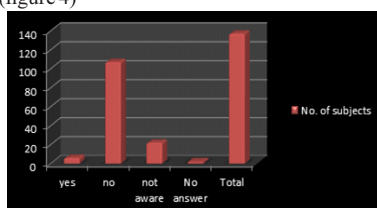


Figure 4 ; Distribution of study subjects according to satisfaction with current knowledge about dental trauma emergency management.

For question 10; 75.91% (n= 104) expressed their interest in attending any educational program regarding Management of Dental Trauma. (figure 5)

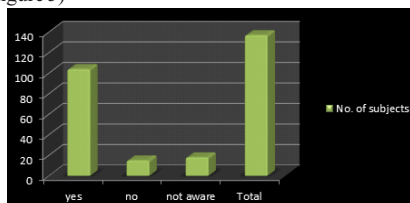


Figure 5 ; Distribution of study subjects according to interest in attending any educational program regarding management of Dental Trauma

DISCUSSION

Dentofacial injuries can occurs in isolation, but very often present along with trauma to other body parts, increasing its probability to be attended by general practitioner initially . 10 Inters are at their stage of learning, hence can be easily motivated to learn every aspects of case management including dental emergencies. Also it is vital that they possess sufficient knowledge on primary management of various dental traumas before referring to dentist, so that they could even provide critical care when necessary.

One study conducted in India (2015) to determine systemic conditions affecting oral health showed that the medical practitioners had good knowledge about dentistry. 11 Although most participants in our study had encountered various dentofacial injuries in their practice, they are least aware of different types of injuries and their specific management. Among the various injuries they have encountered most common seems to be soft tissue injuries. According to some previous studies soft tissue injuries were most frequent in case of road traffic

accidents (91.2%) followed by trauma to the teeth (83.5%), of which 62.3% were tooth loss. Mandibular fracture was commoner than maxillary fracture; (45% versus 25.3%).¹²

The information gathered is important to support injury prevention initiatives using a population-based approach targeting the high-risk groups of the population identified by this study. 13 Most of participants pointed out that seeking immediate dental opinion is mandatory. According to literature time is of the utmost importance and Initial management of dental trauma, primarily by GPs working in rural or remote areas, can have a significant impact on the prognosis of oral hard and soft tissues.^{13,14}

Same number of participants advise the patient to take primary care from dentist whether the case is of fractured tooth or avulsed or knocked out tooth. Although it is true in case of fractured tooth, the study revealing their unawareness especially in case of avulsed tooth. In a study by Holan and Shmueli at Israel only 56% believed that the dentist can do something with a broken tooth. 8 This suggest that a significant medico population still need more learning on handling of avulsed tooth. In a study conducted outside India replacement of the avulsed tooth in its original position in the jaw was considered by 77.6% of the students. But most of the studies conducted in India reveals the lack of appropriate sentence among medical professionals regarding management of an avulsed tooth 14. However Akhlaghi et al in 2014 reported that incorrect replantation of the tooth by non-trained people can jeopardize the prognosis as such. Hence immediate professional care is suggested after replantation.¹⁶

According to literature patients saliva 18,19 , Normal saline 17, and tap water 20,19 are not recommended as they are considered as non-physiological due inappropriate pH and osmolarity. Milk at room temperature seems to preserve the viability of PDL cells for up to 60 minutes, while refrigerated milk keep PDL viable for an additional 45 minutes 21. In our study only 4% of the participants are aware of milk, which is one of the best transport medium considering both its physiological parameters and availability. And 1% recommended child's mouth as an option. This result is consistent with the findings of a previous study where none of the participants were aware that patient's mouth may function well as a storage medium 8. 63.5 % suggested saline as the best transport medium. In a previous study 35% of the participants considered sterile saline as the best medium for transportation and less than 5% knew that milk is a good medium of transport. 8 According to Alaslami RA et al 50% of specialists were aware of Hanks balanced salt solution, but regarding general practitioners only 40% of were aware.²² In our study HBSS was not included considering its least availability.

63.50% of participants had knowledge regarding variation in management techniques for primary and permanent. 78% of study subjects are not satisfied with their current knowledge regarding dentofacial trauma management and are interested in attending any educational program regarding emergency management of dental trauma. Common willingness to improve knowledge should act as boon for increased medical education.

CONCLUSION

Irrespective of college, interns in medical colleges in Himachal Pradesh were inadequately educated about various dental trauma especially on tooth avulsion, both regarding storage media and emergency management.

Along with that, interns in medical college should be engaged in interdisciplinary seminars, case discussions and clinical postings in dental or oral and maxillofacial departments. Awareness regarding basic dental anatomy, tooth numbering system, the basic principles of the different types of dental trauma injuries, basics of repositioning and splinting techniques for luxation and avulsion injuries should be provided.¹³.

REFERENCES

1. Alicioglu B, Yalniz E, Eskin D, Yilmaz B. Injuries associated with motorcycle accidents. *Acta Orthop Traumatol Turc.* 2008; 42(2):106-11.
2. Elisa B. Bastone et al. Epidemiology of dental trauma: A review of the literature Elisa B. Bastone *Australian Dental Journal* 2000; 45(1):2-9
3. Petti S, Glendor U, Andersson L. World traumatic dental injury prevalence and incidence, a meta-analysis-one billion living people have had traumatic dental injuries. *Dent Traumatol.* 2018; 34:71-86
4. Cowley RA. A total emergency medical system for the state of Maryland. *Md State Med J* 1975; 45:37-45.

5. Battlefield Advanced Trauma Life Support. J R Army Med Corps 2000;146:110-114.
6. Soares TRC, Silva LP, Salazar SLA, Luiz RR, Riso PA, Maia LC. Profile of intrusive luxation and healing complications in deciduous and permanent teeth - a retrospective study. Acta Odontol Scand. 2018;76(8):567-571.
7. Sood I, Gupta K, Sharma AK, Gaur A, Pathania V, Thakur VB. Assessment of knowledge and awareness among medical doctors toward emergency management of dental trauma in state of Himachal Pradesh: A survey. Indian J Dent Sci 2017;9:1-6.
8. Subhashraj k. Awareness of management of dental trauma among medical professionals in Pondicherry, India. Dental Traumatology 2009; 25: 92-94.
9. Dali M, Naulakha D, Rajbanshi L. Knowledge, attitude and practice in emergency management of avulsed tooth among medical doctors in Nobel Medical College, Biratnagar, Nepal: A cross sectional survey. Int J Dent Health Sci 2014;1:3-12.
10. Bae JH, Kim YK, Choi YH. Clinical characteristics of dental emergencies and prevalence of dental trauma at a university hospital emergency center in Korea. Dent Traumatol. 2011;27(5):374-8.
11. Mehrotra V, Garg K, Sharma P, Sajid Z, Singh R A Study Based on Dental Awareness, Knowledge and Attitudes among the Medical Practitioners in and Around Kanpur City (India). J Interdiscipl Med Dent Sci; 2015 3:183.
12. Agbor AM, Azodo CC, Ebot EB, Naidoo S. Dentofacial injuries in commercial motorcycle accidents in Cameroon: pattern and cost implication of care. Afr Health Sci. 2014 Mar;14(1):77-82.
13. Figueiredo R, Rattai J, Fournier K, Levin L. Emergency department visits for dental problems associated with trauma in Alberta: A report between the years 2011 and 2017. Dent Traumatol. 2018;34(6):421-428.
14. Beech N, Tan-Gore E, Bohreh K, Nikolarakos D. Management of dental trauma by general practitioners. Aust Fam Physician. 2015 Dec;44(12):915-8.
15. Yeng T, O'Sullivan AJ, Shulruf B. Medical doctors' knowledge of dental trauma management: A review. Dent Traumatol. 2020;36(2):100-107.
16. Akhlaghi N, Nourbakhsh N, Khademi A, Karimi L. General Dental Practitioners' Knowledge about the Emergency Management of Dental Trauma. Iran Endod J. 2014;9(4):251-256.
17. Is Khinda V, Kaur G, S Brar G, Kallar S, Khurana H. Clinical and Practical Implications of Storage Media used for Tooth Avulsion. Int J Clin Pediatr Dent. 2017;10(2):158-165. doi:10.5005/jp-journals-10005-1427.
18. Malhotra N, Cyriac R, Acharya S. Clinical implications of storage media in dentistry: a review. Endo (Lond Engl) 2010 Sep;4(3):179-188.
19. Van Hassel HJ, Oswald RJ, Harrington GW. Replantation 2. The role of the periodontal ligament. Journal of endodontics. 1980;6(4):506-508.
20. Pileggi R, Dumsha TC, Nor JE. Assessment of post traumatic PDL cell viability by a novel collagenase assay. Dent Traumatol. 2002;18:186-189.
21. AlJazairy YH, et al. Knowledge about permanent tooth avulsion and its management among dentists in Riyadh, Saudi Arabia. BMC oral health. 2015;15(1):135.
22. Alaslami RA, Elshamy FMM, Maamar EM, Ghazwani YH. Awareness about Management of Tooth Avulsion among Dentists in Jazan, Saudi Arabia. Open Access Maced J Med Sci. 2018;6(9):1712-1715.