

## ORIGINAL RESEARCH

# Knowledge, Attitude, and Practices of Patients about Emergency Management of Dental Trauma

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## ABSTRACT

**Background:** Traumatic dental injuries (TDIs) are widespread in the population and are a serious dental public health problem among children. Dental trauma may cause both functional and esthetic problems, with possible impacts on the patient's quality of life.

**Aim:** The aim of the study is to assess the knowledge, attitude, and practice of elementary school teachers regarding dental trauma and its management.

**Methodology:** The targeted group included teachers working in primary (Grade 1–6) and secondary (Grade 7–12). For each question, we were interested in the proportion of teachers giving the correct answer. A sample size of 100 was taken. The questions assessed the knowledge and attitude of teachers toward their student's dental trauma and its management. Statistical analysis was performed using Statistical Packages of the Social Sciences version 17.0.

**Results:** Among 100 teachers, 57% stated that visiting a dentist is necessary in a TDI, 23% preferred physicians, whereas 11% preferred self-medication and according to 9%, there was no need of treatment.

**Conclusion:** As many teachers have a low level of knowledge regarding dental trauma, there is a need for greater awareness to improve knowledge and attitude of teachers related to the emergency management of TDIs in children by organizing educative and motivational programs.

**Keywords:** Attitude, Dental trauma, Knowledge, Traumatic dental injuries.

**How to cite this article:** Aldalbi MA, Alrouji AO, Reddy PS. Knowledge, Attitude, and Practices of Patients about Emergency Management of Dental Trauma. *Int J Prev Clin Dent Res* 2018;5(2):16-18

**Source of support:** Nil

**Conflicts of interest:** None

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## INTRODUCTION

Traumatic dental injuries (TDIs) are very common. They are widely spread around the world in the population and are a serious dental public health problem among children.<sup>[1]</sup> It may cause both functional and esthetic problems, with possible impacts on the patient's quality of life. Falls, sports, collisions, physical leisure activities, being struck by an object, and traffic accidents are the major causes of TDIs. Among them, fall is the main cause.<sup>[2]</sup> Sports account for 60% of TDIs and school is the place where one can find a noticeable risk of TDI. Significant number of school-aged children experiences trauma of some sort to primary or permanent dentition. The greatest incidence of trauma to the primary teeth occurs at 2–3 years of age. Young children are predisposed to falls and hence are at a risk of sustaining TDIs due to their immature motor coordination.<sup>[3]</sup> When teeth and their supporting structures are subjected to impact trauma, the resultant injury manifests either as a separation or a crushing injury or a combination of both. Separation injuries are exemplified by the displacement of teeth during which there is a cleavage of tissues such as the periodontal ligament. This occurs during avulsions and extrusive luxations.<sup>[4]</sup> TDIs are usually a combination of trauma to the perioral soft tissues, teeth, and their supporting tissues. Dental injuries can be classified into enamel fracture, crown fracture without pulp involvement, crown fracture with pulp involvement, root fracture, crown-root fracture, luxation, avulsion, and fracture of the alveolar process. Among the different types of dental trauma, avulsion results in the greatest functional and esthetic impairment due to its worse prognosis.<sup>[5]</sup> Prompt and pertinent emergency management is not only the responsibility of the dentist but also of lay people such as the parents and the school teachers available at the site of accident.<sup>[6]</sup> School is one of the locations with the greatest prevalence of the occurrence of dental trauma in adolescents. Falls and collisions followed by sports activities such as cycling and running are the most prevalent reasons.<sup>[7-9]</sup> Bearing in mind, the importance of this issue and the lack of information among teachers, the aim of this study was to investigate the knowledge, attitude, and practice of school teachers working in the elementary school about dental injuries caused by trauma.

## METHODOLOGY

This research project was approved by the Institutional Review Board of the Buraydah Private Colleges, College of Dentistry and Pharmacy, Saudi Arabia-Al-Qassim-Buraydah. The targeted group included teachers working in primary (Grade 1–6) and secondary (Grade 7–12). For each question, we were interested in the proportion of teachers giving the correct answer. A sample size of 100 was taken. The questionnaire comprised questions assessing participants' knowledge with regard to dental trauma. This part was further divided into the following sections: [7]

- Basic knowledge on the growth patterns of child's dentition
- General knowledge of dental trauma
- Knowledge of fractured teeth
- Knowledge of avulsed teeth.

The questionnaire was aimed at evaluating the attitudes of the teachers toward their student's dental trauma and its management. Responses were entered into a personal computer and Microsoft Excel was used for analysis and presentation.

## RESULTS

A total of 100 teaching staff in 15 schools agreed to participate in the study. Completed questionnaires were returned by all teachers, 55% of the teachers related with an experience of dental trauma to their students while 45% never had such an experience. 60% of teachers reported fall as the cause of accident, whereas 27% related to it with sports injuries and 13% related it with impact or collision. 79% of teachers stated the need for treatment, whereas 21% stated that no treatment was needed. 50% of the teachers would take the child immediately to the dentist, 25% stated next day, 11% after a week, and 14% would take the child if any pain or symptoms occur. 57% stated that visiting a dentist is necessary in a TDI, 23% preferred physicians, whereas 11% preferred self-medication and according to 9%, there was no need of treatment. In cases of avulsion, 60% stated that they would place the tooth back into the alveolus and 11% stated that they would remove it from the child's mouth, 29% would save the tooth, whereas 8.0% would discard the avulsed tooth. Regarding the knowledge about the storage media, 40% of the teachers would wash the avulsed tooth under tap water, 13% would keep the tooth wrapped in a roll of gauze, 6% would not clean the tooth, and 40.7% had no knowledge about it. 28.7% would prefer water, 20% cloth, and 12.7% milk, whereas 38.7% stated that there was no need of any storage media. Regarding the knowledge about reimplantation, 64% had heard about it, whereas

36% had no idea, 59.3% reported that upper jaw was most commonly affected, whereas 13.3% stated lower jaw, 14.7% stated both upper and lower jaw, and 12.7% had no idea.

## DISCUSSION

Appropriate management is important for the future prognosis of teeth affected by TDIs, especially in young children. Those most likely to be involved at the site of a TDI are school-aged children and school teachers, making knowledge of TDI emergency management fundamental to the provision of correct care to an injured child. Between various wet media, milk is better than saliva due to its composition and its osmolarity. Furthermore, milk is a storage medium of relatively easy access at the location of trauma. In milk, the storage may be as long as 6 h. Touré *et al.*<sup>[10]</sup> reported that saliva due to its composition and its osmolarity. Furthermore, milk is a storage medium of relatively easy access at the location of trauma. In milk, the storage may be as long as 6 h. Touré *et al.*<sup>[10]</sup> reported that saliva contains microorganisms which may affect the survival of the cells. Regarding the use of tissue paper/handkerchief/towel as transport media, 20% of the teachers in the present study gave this as answer, but only 41% gave this answer in a study conducted by Olatosi *et al.*, in Nigeria, in 2013, which was wrong. At least half of school children face the possibility of suffering dentoalveolar trauma during school time. Dental trauma is relevant in children and adolescents since their permanent teeth are erupting at this phase. Children spend great part of their time at school where sporting activities become predisposing factors for dental trauma. In addition, at school, during sporting and recreational activities, children and adolescents are the main groups with an increased likelihood of dental trauma, thereby rendering investigation of knowledge of school teachers with regard to dental injuries and treatment approaches. Early loss of a primary tooth due to trauma may affect the physiological sequence of permanent teeth and may be etiological factors for malocclusions, thus stimulating incorrect exercise of perioral musculature or causes phonological changes related to teeth.<sup>[11,12]</sup>

## CONCLUSION

The study reveals that there is a lack of awareness among school teachers regarding the emergency management of dental trauma. This necessitates the need for the school teachers and others individuals who supervise children in schools to receive simple instruction in dental first aids. Hence, the communication between dental professionals and elementary school teachers

is necessary to enable them to detect and proceed correctly when facing any dental trauma. However, they have few or limited knowledge regarding the recommended course of action in such situations. It is, therefore, of fundamental importance for coaches, teachers, and undergraduate students in physical education to be duly informed with regard to the correct first-aid measures. Hence, school teachers should have knowledge of basic dental physiology and the treatment protocol for such injuries.

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