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A Quantitative and Qualitative Assessment of Children's Dental Trauma and Access to Health Care

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Abstract

The objective of this study was to assess the availability of appropriate and prompt care following dental trauma in children and to investigate the influencing factors from the viewpoints of parents and medical professionals. To better understand how to increase access to dental care following trauma, the study is crucial. Both quantitative and qualitative elements were included in the method. Parents of dental trauma patients who applied to Ege University's Department of Pedodontics between January 2015 and June 2016 were the target population for the quantitative method. The survey on traumatic experiences received responses from 140 parents. The percentage of participants was 62.78%. The variables covered in the questions included first admission to a health facility, length of stay, availability of diagnostics and treatment options, referral from the facility, and sociodemographic details about the family. An algorithm for treatment priority of the case, travel time to treatment, and the appropriate intervention were used to determine timely and appropriate treatment access. Thirty health professionals and ten parents were interrogated in-depth for the qualitative technique utilising a semi-structured questioning plan. The interview texts underwent thematic analysis. The level of timely and appropriate treatment access was quite low. It is recommended that dental care facilities should be more widely dispersed and that dental facilities housing qualified dentists should be built. Cooperation between medical and dental institutions should be promoted, and performance-based payment should be reorganised [1-5].

Keywords: Health services accessibility; In-depth interview; Pediatric dental care

Introduction

Injury to the mouth, including the teeth, lips, gums, tongue, and jawbones, is referred to as dental trauma. Dental trauma and soft tissue injuries to the mouth are frequently very painful and should be treated right once. A lost or fractured tooth is the most frequent dental trauma. Injuries to the teeth, periodontium, and surrounding soft tissues are referred to as dental traumas. They account for up to 17% of all physical injuries in pre-schoolers and 5% of all traumatic injuries among people seeking first aid in dentistry. Children and young adults are commonly the victims of traumatic dental injuries (TDIs), which account for 5% of all injuries. Dental trauma affects 25% of school-age children and 33% of adults, with the majority of injuries happening before age 19. The majority of the injuries happen before age 19. The most frequent TDIs in the primary dentition are luxation injuries, whereas crown fractures are more frequently documented for permanent teeth. To guarantee a successful outcome, proper diagnosis, treatment planning, and follow-up are crucial [6].

Discussion

Dental trauma (DT) is a major public health concern due to the injuries' complex aetiology, the sometimes insufficient or unsuitable nature of the emergency care provided, the wounds may have negative long-term repercussions and it costs the society money. Additionally, sports-related activities account for 31% of all DT, and many of these injuries are preventable. To ascertain the annual incidence of trauma to the anterior permanent teeth of children enrolled in the Western Australian School Dental Service, a prospective research was conducted. There were 66,500 kids aged 6 to 12 living there. Per 100 children, 1.66 children and 2.05 teeth experienced trauma. The incidence of traumatised youngsters was 11.7 per 100 erupting teeth. 80.5% of children only traumatised one tooth each incidence, but 35% of all traumatised teeth had two or more teeth damaged. All traumatised teeth were central incisors 88% of the time. Compared to boys, girls sustained proportionally more trauma to the maxillary dental arch. The most often observed type of trauma was a fracture involving both the enamel and the dentine (42.7% of cases). The general distribution of trauma throughout the course of the week or the year showed no discernible pattern. A third of all traumata happened at school, another third at home, and the other third somewhere else. The most frequent site of trauma to the maxillary dental arch was home, whereas the most frequent site of multiple traumas was school. Girls experienced trauma more often than boys did when they fell or were shoved, almost twice as often. Pulpal exposure and multiple traumas from bicycle accidents were more common than average [7].

Because of their lack of cooperation and fear, young children are frequently challenging to examine and treat. Both the youngster and the parents find the scenario to be upsetting. It's crucial to remember that the permanent tooth germ underneath the damaged primary tooth is closely related to the tip of the tooth's root. As a result of significant injuries to primary teeth and/or alveolar bone, tooth deformity, impacted teeth, and eruption disruptions in the developing permanent dentition are some of the possible outcomes. Important aspects that affect therapy include a child's maturity and capacity to handle the emergency circumstance, the timing of the broken tooth's eventual loss, and the occlusion. Children frequently experience repeated trauma events. To guarantee continued root development in the juvenile permanent tooth, every effort should be made to maintain pulpal vitality. The great majority of TDIs happen to kids and teenagers because tooth loss has long-term effects. The developing permanent tooth has a significant

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capacity for recovery from root fractures, luxation injuries, and damage to the pulp [8-10].

Dental trauma types

Fracture

- A superficial fracture is one that only affects the enamel, the tough outer layer that covers the tooth's crown. Unless the tooth has a sharp edge due to the fracture, this is typically not significant. Even then, it is simple to file down the sharp edge.

- A severe fracture The fracture can be more serious if your tooth starts to feel sensitive to pressure, heat, or cold. The pulp and dentine, two of the tooth's most delicate inside components, may have been made vulnerable. This could raise the danger of bacteria.

Displacement

A more severe blow could move the tooth, causing it to hang loosely out of the socket or sink further into it. The tooth could move to the side. When a tooth is struck really hard, it may be totally knocked out or the supporting bone may be broken. The sensitive blood arteries supplying the pulp are typically injured in situations of tooth displacement, necessitating root canal therapy for the affected tooth.

Conclusion

It was quite difficult to receive appropriate care in a timely manner. It is recommended that dental care facilities be built and distributed more widely. These facilities should employ qualified dentists. Restructuring performance-based compensation is necessary, and collaboration between dentistry and medical institutions should be promoted. The many aspects involved in trauma analysis of the skeleton are covered in depth in this special issue of Forensic Science International. Nomenclature, antemortem timing, post-mortem plasticity loss, terminal ballistic/gunshot trauma, sharp force trauma, heat-induced fracture, non-metric traits and pseudo-trauma, taphonomic changes, microscopic evidence for haemorrhage, imaging of perimortem trauma, dental trauma, and connections between soft and hard tissue are among the subjects covered.

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