



Traumatic dental injuries in a dental emergency service from 2010-2013



B. Mahmoodi, J. Weusmann, B. Braun, A. Azaripour, B. Willershausen

Department of Operative Dentistry, University Medical Centre of the Johannes-Gutenberg-University, Mainz, Germany

Aim:

Traumatic dental injuries (TDIs) often present as serious and complex injuries of the dentoalveolar system. The aim of this study was to analyse the frequency and pattern of TDI cases in a dental emergency service of a university hospital over a period of four years.

Methodology:

All patients with TDIs between 2010 and 2013 were determined from the hospital database and subjected to further analysis. Demographic data, classification of trauma (according to WHO), teeth involvement, and cause of trauma were evaluated.

Results:

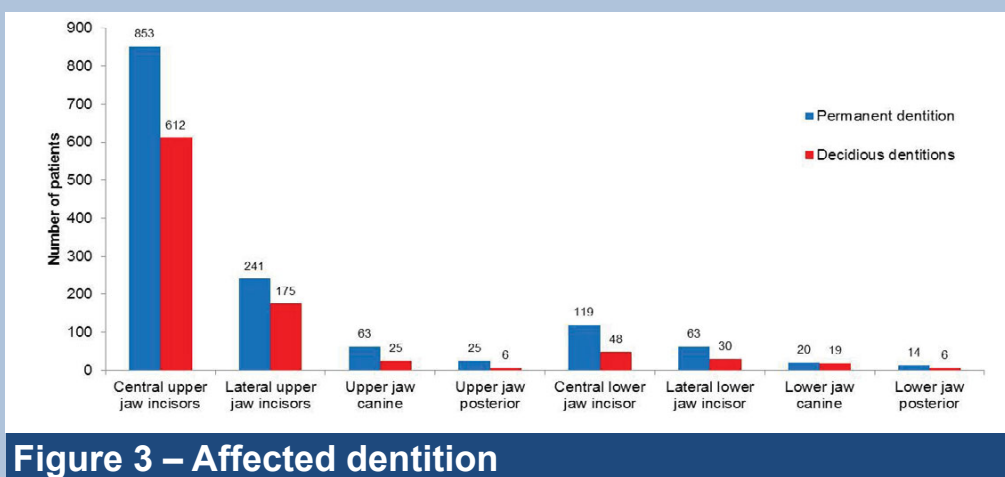
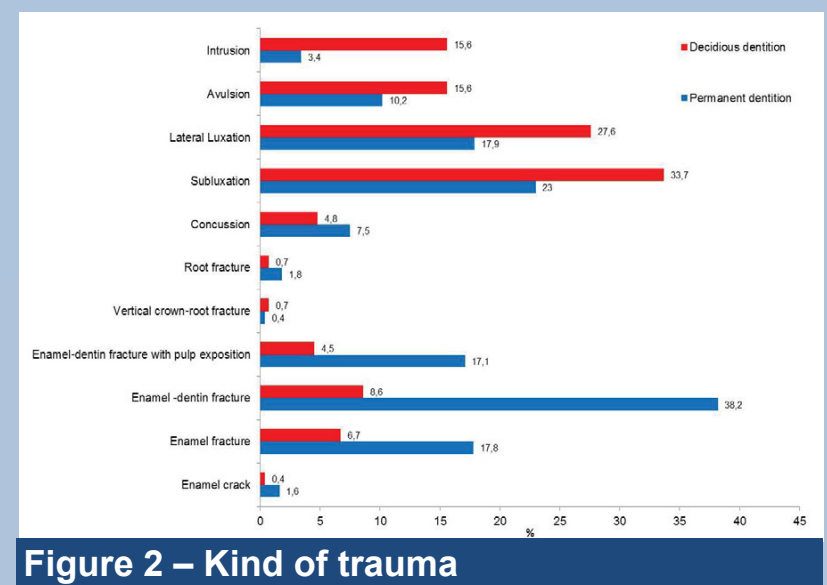
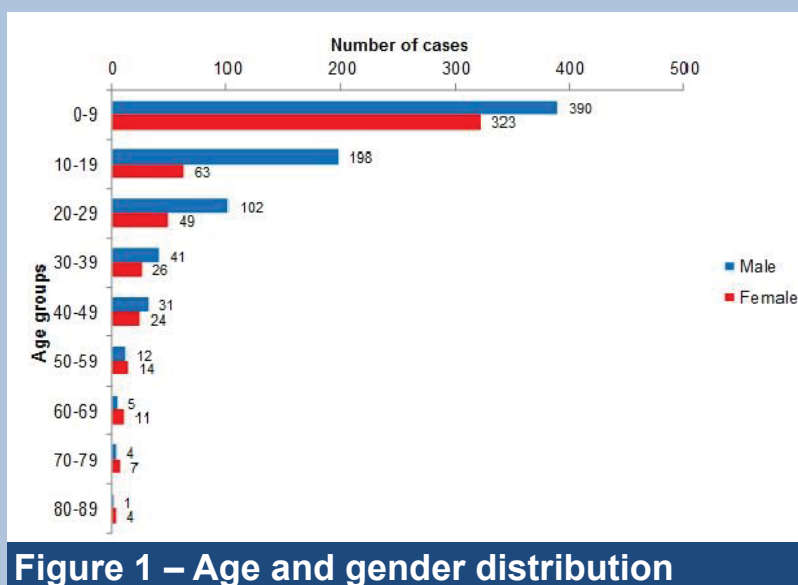
Altogether 16,301 patients presented to the emergency service between 2010 and 2013. Among these patients, 8.0% (n=1,305) came due to trauma. Demographic data of the trauma patients are summarised in Table 1. The age and gender distribution is shown in Figure 1.

The most frequent reasons for TDIs were falls (54.6%), followed by sport (13.4%), and recreational accidents (8.8%). Within the gender, significant differences could be found for the cause of trauma. While assaults were more often the reason for trauma in men (p<0.001), the frequency of falls was higher among females (p<0.001).

The distribution of TDIs among the dentition is shown in Figure 2. While hard-tissue injuries appear significantly more often in the permanent dentition (p<0.001), periodontal injuries were found to be more frequent in the deciduous dentition (p<0.001). There was no statistical difference in the distribution of root fractures (p=0.412). No correlation could be found between the cause of trauma and the type of TDIs. Figure 3 shows the affected teeth.

Trauma cases	1,305
Gender	
Male	784 (60.1%)
Female	521 (39.9%)
Ratio	1.5:1
Age (years)	
Average	14.4 ±13.8
Range	0.6 – 88.1

Table 1 – Demographic Data



Conclusion:

With an 8% share of all patients presenting to the emergency service and the impact on esthetics and function, we legitimately consider TDIs to be a public health issue. To improve the quality of care, further public education, profound knowledge about diagnosis and treatment of TDIs among dental professionals, and a well-structured emergency service will be key.