



**ORIGINAL RESEARCH PAPER**

**Dental Science**

**PATTERNS OF MAXILLOFACIAL INJURIES IN A TERTIARY CARE HOSPITAL**

**KEY WORDS:** Maxillofacial trauma, road traffic accidents, Nasal Fracture, Mandible fracture

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**ABSTRACT**

**Introduction:** Facial injuries are present in marked proportion in trauma patients requiring prompt diagnosis and management. The incidence of facial injuries is rising day by day due to failure in taking precautionary measures in the traffic leading to accidents.

**Objective:** To evaluate the etiological factors and patterns of oral and maxillofacial trauma in patients treated in a tertiary care hospital in Karnal.

**Methods:** The data was collected from the records of the patients who reported with oral and maxillofacial trauma from January 2018 to December 2018 at a tertiary care hospital in Karnal. The records of 47 patients between the ages of 5–67 years were taken in a predesigned performa. Parameters recorded include mode of injury, etiology, site, age & gender.

**Results:** It was revealed that mandibular fractures were most common (65.9%), closely followed by nasal fractures (46.8%), zygomaticomaxillary complex fractures (40.4%) & maxillary fractures (34.4%). It was seen that males were more affected (89.3%) and the highest rate of injuries was in seen the age group of 21-30 years (34.4%). Road traffic accidents [RTA] (82.97%) were the most common cause of maxillofacial trauma followed by Interpersonal Violence (8.51%) & fall (4.25%).

**Conclusion:** From this study, it was concluded that maxillofacial injuries are more common in young males. It was also seen that RTA was the most common cause of maxillofacial trauma. Most of the patient suffered mandibular fractures. It can be concluded that adherence to road safety measures and stricter enforcement of traffic legislations can significantly decrease the incidence of severe facial trauma.

**INTRODUCTION**

The maxillofacial skeleton is prone to fracture due to its prominent position. [1] The World Health Organization estimated that approximately 3000 people are killed, and another 30,000 are wounded or disabled every day due to road traffic accidents (RTAs).[2]

Pattern of maxillofacial injuries can vary from geographic location, gender & age. Understanding risk factors of maxillofacial trauma assist in the evaluation of behavioral patterns of different populations and also helps set up effective preventive measures.[3]

**MATERIALS AND METHODS**

A retrospective study was done on records of patients treated for maxillofacial injuries between January 2018 to December 2018 at a tertiary care hospital in Karnal, Haryana, India. Only patients who reported with maxillofacial injuries & whose hospital records available were included in the study. Parameters like age, gender, etiology & anatomical fracture site were analysed from the collected records in a predesigned Performa.

Etiology studied was further distinguished into road traffic accident, interpersonal violence, sport injuries, falls & others. Anatomical fracture site was divided into Mandible, Maxilla, Zygomatic Bone & Nasal Bone. Data was tabulated and analyzed using Microsoft excel.

**RESULTS**

Of the 47 patients in our study, 89.3%(n -42) were males with a mean age of 31 years & ages ranging from 5-70 years while 10.7%(n -5) of the patients were females with a mean age of 39.8 years & ages ranging from 30-60 years & overall mean age was 31.9 years with a range of 5-70 years. Hashmi S.H. et al also observed that 11 – 20 (31.1%) years of age group was most affected followed by 21 – 30 (21.1%) years age group[4]. Bhojar et al. noted that highest incidence is seen in 20-30 year age group (49.33%) followed by 31-50 year age group (26.67%)[5].

RTAs were the most common etiological factor for maxillofacial trauma in 82.9% (n 39) interpersonal violence was the second most common in 8.51% (n 4) while sports injury & fall were reported two cases each.

In our study 65.9% (n -31) patients had mandibular fracture followed by nasal in 46.8%(n- 22), Zygomatic Bone in 40.4% (n -19) & maxilla in 34% (n -19). Isolated fracture in one facial bone was seen in 51% (n - 27) patients while Pan facial fractures were seen in 8.5% (n-4) patients.

In our study 89.3% (n- 42) patients were males and 10.6% (n -5) were females, this finding is in concordance with the study of Sohns et al [6] who also found higher rate of trauma in males (64%)[6] This could be due to lesser involvement of females in outdoor activities, driving & inter personal violence.

In our study we recorded highest prevalence of Maxillofacial trauma in the age group of 21–30 years (34.04%) and least in 1 to 10 years (4.2%). This can be because this age group is associated with additional travelling, outdoor activities & aggressive behavior.

The study has some limitations in terms of sample size as several cases had to be excluded because they were not willing to get radiographic examination done due to financial constrains and had to be referred to government hospitals after first aid.

**CONCLUSION**

From this study we conclude that maxillofacial injuries are more common in young males. It was also seen that RTA was the most common cause of maxillofacial trauma and most of the young males who suffered maxillofacial trauma were two wheeler drivers and it seems that were either not wearing helmets or helmets were not full coverage. The patients who suffered mandibular fractures alone were those riding two wheelers which can be due prominent position of mandible. Most of the panfacial injuries were in patients who were

travelling on a four wheeler and it seems most were not wearing a seat belt. It can be concluded that adherence to road safety measures and stricter enforcement of traffic regulations can significantly decrease the incidence of severe facial trauma. We believe that studies with more sample size which will include all hospitals which cater trauma patients in the given region will help the government bodies to formalize better policies for prevention of facial trauma in particular and road traffic accidents in general.

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**Performa**

S no.	Age	Gender	Cause	Vehicle	Seatbelt/helmet	Mandible	Maxilla	ZMC	NOE

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