

# Maxillofacial injuries among Mewati population

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## ABSTRACT

*Aim: To analyze the frequency and patterns of maxillofacial injuries in Mewati population and to provide a reference point to improve health strategies in an attempt to reduce the incidence of these injuries.*

*Patients and methods: This was a retrospective study of maxillofacial trauma patients of Mewat region of haryana, who presented to SHKM GMC Mewat during the period of two years from 2015 to 2017. The files and radiographs of patients enrolled were retrieved, reviewed, and analyzed. The following data were collected: the patient's age, gender, mechanism of injury, details of maxillofacial injuries, associated injuries.*

*Results: A total of 146 Patients' files were reviewed, 123 males and 23 females. The motor vehicle collisions(MVC) constituted the highest incidence as a cause of traumatic maxillofacial injuries. More than half the patients presented with isolated maxillofacial injuries (56.5%).*

*Conclusions: Motor vehicle collision is the major cause of injuries in Mewati population and associated injuries are frequently encountered*

*Key Words:Maxillo facia,.Motor vehicle.*

## 1. Introduction

Maxillofacial trauma and associated injuries account for a significant number of admission in emergency department.<sup>1,2</sup>

Analysis of the etiology of maxillofacial fractures provides insight into the behavioral patterns of people from different regions and also can help to identify ways to prevent such injuries.<sup>3,4</sup> Many causes of maxillofacial fractures have been reported, including road traffic accidents, assaults, sporting injuries and fall from height.<sup>5</sup>

Factors such as geographic location, culture, alcohol and drug abuse, and socioeconomic status influence the causes and incidence of such injuries

and it is different between countries.<sup>3,5,6</sup> With some consistent findings like the predominance of men, high men to women ratio ranges from 3 to 6.1:1, and people in 20 to 29-year old age group are the most affected.<sup>7,8</sup> However, the recent literature shows a trend toward a more equal male-to female ratio.<sup>9,10</sup> This can be attributed to a changing workforce and the fact that more women work outdoors in more high-risk occupations, thus becoming more exposed to RTA and other causes of maxillofacial fractures.<sup>9,11,12</sup>

The aim of this study is to determine the frequency and pattern of occurrence of traumatic maxillofacial injuries in Mewati population during the years 2015–2017 and to provide a statistical analysis that can help to reduce or prevent such injuries.

## 2. Patients and methods

This retrospective study was conducted by the department of ENT HNS at SHKM GMC Mewat during the year 2015 to 2017. Patients of Mewat region with maxillofacial injuries were included in this study. The files and radiographs of 146 patients were retrieved, reviewed, and analyzed.

The following data were collected: the patient's age, gender, mechanism of injury, details of maxillofacial injuries and associated injuries. For assessment of maxillofacial trauma injury facial injury severity scale FISS was used as shown below.

### FACIAL INJURY SEVERITY SCALE(FISS)

#### Mandible

Dento Alveolar (1 point)

Each fracture of body/ramus/symphysis (2 points)

Each fracture: condyle/coronoid(1point)

#### Mid-face

Each midfacial fracture is assigned one point, unless Part of a complex

Dento Alveolar (1point)

Le Fort I (2points)

Le Fort II (4points)

Le Fort III (6points)

- (Unilateral Le Fort fractures are assigned half the Numeric value)
- Naso-Orbital Ethmoid (NOE) (3points)
- Zygomatico Maxillary Complex (ZMC) (1point)
- Nasal (1point)
- Upper face
  - Orbital roof/rim (1point)
  - Displaced frontal sinus/bone fractures (5 points)
  - Non-displaced fractures (1 point)
- Facial laceration
  - Over 10 cm long (1 point)

### 3. Results

A total of 146 Patients files were reviewed during the study. One twenty-three patients were males (84.2%), 23 patients were females (15.8%), with a mean age of 22.11 years (SD ± 4.363).

The motor vehicle collisions constituted the highest incidence as a cause of traumatic maxillofacial injuries accounting for 98 patients (67.1%), followed by assault 22 patients (15%), fall from height in 22 patients (15%) and sports related injury in 4 patients (2.9%).

Assault as a mechanism of injury was found to be present only among the younger age between 17 and 20 years and fall from height was more common (72.7%) in patients less than 8 years of age.

More than half the patients presented with isolated maxillofacial injuries (56.5%).The most common associated injuries were injury to the limbs (28.3%), brain (28.3%), followed by Chest injury (8.7%), abdomen (2.2%) and pelvis injury 1 (2.2%).

The distribution of fish score and mechanism of injury is shown below

FISS score	Mechanism of injury			
	MVC	Assault	Fall from height	Sports injury
0	12	5	2	1
1	23	3	1	1
2	19	5	2	2
3	12	2	6	
4	13	4	3	
5	11	3	2	
6	8		4	
7			2	
9				
10				
15				
18				

Out of 190 maxillofacial injuries counted in the study patients based on FISS principles, 41.1% were encountered in the midface, followed by mandible 30%, and upper face 23.4%. Five patients 5.5% suffered from extensive facial lacerations.

### 4. Discussion

In our study we found out that motor vehicle collision was the most common cause for maxillofacial trauma in Mewati population followed by fall from height, physical assault and sports related injury. Males were more commonly affected with male to female ratio of 5.34:1.

Assault as a mechanism of injury was found to be present only among the younger age group between 17 and 20 years, while in other studies, assault peaked in the third decade.5 Fall from height was common among the age group less than 8 years of age.The most common associated injuries in the current study were injuries to the limbs, followed by head injuries, chest injury, and abdominal injuries.

In a study conducted by Hussaini et al., on a Malaysian population, limb injuries were the most common associated injuries followed by head injuries,24 whereas in other studies, head injuries were the most common associated injuries.25

Based on FISS principles of all the maxillofacial injury, 41.1% were encountered in the midface, followed by mandible 30%, and upper face 23.4%. Five patients 5.5% suffered from extensive facial lacerations.

#### Second and Following Pages

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### 5. Conclusion

The current study focused on mewati population. Motor vehicle collision remains the major cause of maxillofacial. Almost half of the patients presenting to the emergency department of SHKM GMC had associated injuries along with the maxillofacial injuries. The current study found that majority of population in mewat region use two wheelers for transport without wearing helmets and thus many cases of maxillofacial trauma can be avoided by using helmets.

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