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Research Article

**STUDY TO KNOW THE VARIOUS CAUSES OF  
MAXILLOFACIAL FRACTURES (A DESCRIPTIVE STUDY)****\*Dr. Maria Kanwal, \*Dr. Aiman Zahra, \*Dr. Fara Majeed, \*Dr. Mohsin Majeed,  
\*Dr. Sara Izhar****\*Nishtar Institute of Dentistry, Multan****Abstract:**

**Objective:** A descriptive study was conducted to analyze the demographic distribution of maxillofacial fractures in 320 patients reported to the Oral and Maxillofacial Surgery service.

**Study Design:** A Descriptive Study.

**Location and Duration:** In the Oral and Maxillofacial Surgery Department of Nishtar Institute of Dentistry, Multan for one year duration from September, 2017 to September, 2018.

**Methods:** Patient records and radiographs were reviewed. Data related to age, gender and cause of fracture were reviewed. The age range was 2 to 76 years (mean 25 years) and the maximum frequency was between 21 and 30 years. The male to female ratio was 5.4: 1.

**Results:** The study showed that 64.7% (n = 206) of the traffic accidents (RTA) and then the decline (n = 60, 18.8%), injury (n = 26, 8.1%) and sport (n = ) were found. 17%, 5.3%), gunshot wounds [FM (n = 3; 0.9%)], industrial trauma (n = 2; 0.6%), 5 cases (1.65%) associated with other causes such as explosion Pump, animal injury and so on.

**Conclusion:** This study may provide a guide for the design of prevention and treatment programs.

**Key words:** Trauma, facial fracture, etiology, traffic accident.

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**INTRODUCTION:**

Like most exposed parts of the body, the face is particularly vulnerable to trauma. The main causes in the world are traffic accidents, falls, attacks, sports, firearms and industrial traumas. Obviously, the etiology is expected to affect the severity and type of injury. The Data collected from the 1960s and early 1970s have a degree of jaw-to-face injury of 20 to 60% of all people injured in the RTAI [1,2]. In developing countries, the incidence of jaw-face injuries due to RTA is high and it is reported that the prevalence of personal violence is higher in developed countries. And the legislation on the consumption of alcoholic beverages significantly reduced the amount and severity of injuries of traffic accidents by 25% and the most serious facial injuries were reduced by two third. Although the second most common cause after the assault was injuries due to fall and it is well recognized. The continuous improvement in individual's quality of life and increased interest in sports activities led to the increased use of sports in the amateur free time [2,3]. As a result, sports injuries have increased steadily since the late eighties. The maxillofacial trauma caused by firearm injuries, which is one of the biggest challenges for maxillofacial surgeons in the mouth, has increased. Major industrial traumas have been reported in industrialized cities. Age and gender were shown as important factors affecting the appearance of maxillofacial injuries. "The highest rate of incidences is observed in the 21-30 age group. The lowest incidence is observed in age groups older than 60 years and less than 5. Most patients are men with male relationship: about 3: 1.1 in women Over

the last 100 years, external fixation of the skeleton, open significant advances have been made in the care of jaw-face trauma victims, such as reduction and cranio-facial exposure, internal wire fixation, primary bone grafts, mini plates and orbital reconstruction, so these injuries are more than once the quality of life due to the advances made by countless people from different disciplines [4-6]. The little effects have led to a major improvement in the primary and secondary correction of traumatic maxillofacial deformities.

**MATERIALS AND METHODS:**

This Descriptive Study was held in the Oral and Maxillofacial Surgery Department of Nishtar Institute of Dentistry, Multan for one year duration from June 2017 to June 2018. This randomized trial was performed on 320 consecutive patients with maxillofacial injury. Patients with maxillofacial trauma in all patients were included in the study. A detailed history of the patient was obtained and a complete clinical examination was performed. Specific examinations such as baseline investigations and radiography were performed to confirm bone trauma. Maxillofacial fractures were evaluated according to etiology, age and gender.

**RESULTS:**

The most common cause of maxillofacial trauma was RTA (n = 207, 64.7%), followed by accidental fall (n = 60, 18.8) and fight-related injuries (n = 26, 8.1%); Sports related injuries in 17 cases (5.3%). FAI (n = 3: 0.9%) Industrial (n = 2: 0.6%). The causes of injury are listed in Table 1.

**TABLE 1: DISTRIBUTION OF MAXILLOFACIAL FRACTURES ACCORDING TO ETIOLOGY**

	Number of cases	Percent
RTA	207	64.7
Fall	60	18.8
Assault	26	8.1
Sports	17	5.3
FAI	3	0.9
Industrial	2	0.6
Other Causes	5	1.6
<b>Total</b>	<b>320</b>	<b>100.0</b>

The remaining fractures, pump explosion, animal injury etc. It is due to several reasons (n = 5: 1.6%). The age of the patient at the time of the injury ranged from 2 to 76 years, with a mean age ranging from 25 to 13 years. In most cases, the patient was between 21 and 30 years of age (n = 105, 32.8%). Only 12.8% of the patients were under the age of 11 years and 1.3% were over 60 years of age (Table 3).

**TABLE 3: DISTRIBUTION OF MAXILLOFACIAL FRACTURES ACCORDING TO AGE**

Age (years)	Number of cases	Percent
1-10	41	12.8
11-20	92	28.8
21-30	105	32.8
31-40	50	15.6
41-50	20	6.3
51-60	8	2.5
Over 60	4	1.3
<b>Total</b>	<b>320</b>	<b>100.0</b>

Almost all age groups were affected by more males than females, with a total rate of 5.4: 1 (Table 2).

**TABLE 2: GENDER DISTRIBUTION OF MAXILLOFACIAL FRACTURES**

	<b>Number</b> of cases	Percent
Male	270	84.4
Female	50	15.6
<b>Total</b>	<b>320</b>	<b>100.0</b>

#### **DISCUSSION:**

The results of epidemiological studies on the causes and frequency of maxillofacial fractures tend to vary according to geographical region, socioeconomic status, culture, religion and age. The prevalence of jaw traumas in the 21-30 age group is consistent with the findings of previously published studies. However, it conflicts with the Karyouti report, which gives the age group the highest incidence between 0-5 years of age [1,2]. The possible explanation for the high frequency of the 21 to 30 age group is that people in this age group are more likely to participate in dangerous exercises and sports, to use motor vehicles carelessly and to participate in violence. The lowest frequency was between 0 and 5 years, in contrast to the study of Kapoor and Srivastava, over

60 years (1.3%) [2,3]. Limited outdoor activities in old age may be the possible cause of this. Previous studies have shown that the prevalence of male-to-female fractures in females is lower than 5.2: 1 to 5.4: 1. The highest age of males in this study was 5.4: 1.3. It is often involved in outdoor activities and is also subject to violent interaction. Male drivers are more than women. In most of the previous epidemiological studies [4-6], traffic accidents were the most common cause of mandibular fractures and this study supports these findings. The use of mandatory seat belts in the UK has been reported to have a significant impact on reducing facial injuries [6-9]. A law mandating the use of seat belts in Pakistan has not been properly implemented. The victims of facial trauma were interviewed because of

RTA, and the carelessness of many drivers was not responsible for the right of way, and the acceleration of roads to compete among the dependent drivers was responsible in the number of male fractures due to regional trade agreements [9-12]. Hill and colleagues and Voss reported that the attack was the most important cause of jaw fracture fractures in the UK and Norway, respectively. The prevalence rate of 8.1% in this study, which was reported in Scotland, [12-14] is 55%, which is in vivid contrast to a finding that may be related to differences in alcohol consumption in social traditions. Depending on the religious background, Pakistanis do not take alcohol.

### CONCLUSION:

This study showed that the frequency of mandibular fractures occurred between the ages of 21-30 and the most common cause was R.T.As (64.7%). The male to female ratio was 5.4: 1. The body of mandibular fractures (30.3%) was the most common site, followed by the condylar region (24.2%). The findings show that there are reasons for worrying about high mandibular injuries caused by RTAs, as several people wear safety belts, protective measures on motor vehicles, especially in an awareness-raising campaign to educate the public about drivers, restrictions and importance. These findings should be mandatory for authorities to implement existing traffic laws to control acceleration during road and careless driving, to provide smooth roads and to use seat belts.

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