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Research Article

**EPIDEMIOLOGY OF MAXILLOFACIAL FRACTURE AT
TEACHING HOSPITAL****Dr. Bilal Shirazi¹, Dr. Nebras Saqib², Dr. Anum Rehman³****Article Received:** October 2020 **Accepted:** November 2020 **Published:** December 2020**Abstract:**

Objective: A descriptive study was undertaken to analyze the demographic distribution of maxillofacial fractures in 320 patients reported to the Department of Oral and Maxillofacial Surgery, Nishitar Institute of Dentistry.

Duration: For 6 months duration from May 2019 to October 2019.

Methods: Patient records and radiographs were taken. Data on age, gender, and cause of fractures were reviewed. The age range was 2-76 years (mean 25 years) and the peak incidence was in the age group 21-30 years. The male-to-female ratio was 5.4: 1.

Results and Conclusion: The study found that 206 (64.7%) were due to road traffic accidents (RTAs) followed by a fall 60 (18.8%), seizure 13 (8.1%), sports 17 (5.3%), occupational injuries 2 (0.6%), while 5 cases (1.65%) were related to other causes such as animal induced injuries etc. This study could provide a guide for creating prevention and treatment programs.

Keywords: injuries, facial fractures, etiology, road accidents.

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INTRODUCTION:

The face, as the most exposed part of the body, is particularly vulnerable to injury. The main causes around the world are road accidents, falls, assaults, sports, injuries to the hands of firefighters and work injuries. Of course, one would expect the etiology to influence the severity and type of injuries suffered. " Data collected in the 1960s and early 1970s show that 20% -60% of all people injured in R.T.A have some degree of maxillofacial injuries. A high incidence of R.T.As maxillofacial injuries is reported in developing countries, while the incidence of personal violence is higher in developed countries. The introduction of mandatory seat belts and drunk driving regulations significantly reduced both the number and severity of road traffic injuries by 25%, and more serious facial injuries were reduced by two-thirds. It turns out that falls were the second most common cause after being assaulted, although it is known that many patients who committed the assault reported that their injuries were due to falls. The constant improvement in the quality of life of the individual and the growing interest in sports activities resulted in the increasing use of sports in free time at the amateur level. As a result, the number of sports injuries has steadily increased since the late 1980s. Maxillofacial injuries from fire arm injuries have been increasing over the past decades, presenting one of the greatest challenges for maxillofacial surgeons. More industrial trauma is reported in industrialized cities. Age and gender are mentioned as important factors influencing the occurrence of maxillofacial injuries. "The highest incidence is observed in the 21-30 age group. The lowest incidence is observed in the age group over 60 and under 5. patients are male with a male-to-female ratio of approximately 3: 1.1 'Considerable progress

has been made in the care of maxillofacial trauma victims over the last 100 years, such as external skeleton stiffening, open reduction, craniofacial exposure, internal wire fixation, primary bone grafting, mini-plates and orbital reconstruction. Consequently, such injuries today adversely affect quality of life less often than before, due to the progress made by countless people from a variety of disciplinary backgrounds. Taken together, these advances have had tremendous benefits in improving the primary and secondary correction of posttraumatic maxillofacial deformities.

MATERIALS AND METHODS:

The information obtained was based on an analysis of maxillofacial injuries recorded at Maxillofacial Surgery Department of NID Multan. The study was conducted from May 2019 to October 2019. This randomized study was conducted in 320 consecutive maxillofacial trauma patients. The study included all patients of all ages and both sexes who suffered from maxillofacial trauma in the ward. A detailed patient history was collected and a detailed clinical examination was performed. Basic and detailed examinations, such as a radiograph, were performed to confirm the bone injury. Maxillofacial fractures were assessed on the basis of etiology, age and gender.

RESULTS:

320 patients with various types of maxillofacial fractures were treated. The most common causes of maxillofacial injuries were RTA (n = 207; 64.7%), followed by accidental falls (n = 60; 18.8) and combat injuries (n = 26; 8.1%); sports injuries in 17 cases (5.3%). FAI (n = 3; 0.9%) Industrial (n = 2; 0.6%). The causes of the injuries are summarized 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
Total	320	100.0

The remaining fractures resulted from various causes ($n = 5$: 1.6%), such as bomb explosion, animal injuries, etc. 236 The patient's age at the time of injury ranged from 2 years. -76 years, with an average age of 25 ± 13 years. In virtually all age groups, more men than women were involved, and the overall ratio was 5.4: 1 (Table 2).

TABLE 2: GENDER DISTRIBUTION OF MAXILLOFACIAL FRACTURES

	Number of cases	Percent
Male	270	84.4
Female	50	15.6
Total	320	100.0

In most cases, the patient was 21-30 years of age ($n = 105$; 32.8%). Only 12.8% of patients were below 11 years of age, and 1.3% were above 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
Total	320	100.0

DISCUSSION:

Epidemiological studies of the causes and incidence of maxillofacial fractures vary by geographic region, socioeconomic status, culture, religion and age. The prevalence of maxillofacial injuries in the 21-30 age group is consistent with the results of previous published studies. But it contrasts with the Karyouti report, which identified the 0-5 year age group as the group with the highest incidence. A possible explanation for the high frequency in the 21-30 age group is that people in this age group engage in hazardous exercise and sports, drive motor vehicles carelessly and are most likely violent. The lowest incidence was observed in the age group over 60 years

(1.3%) compared to the Kapoor and Srivastava study of 0-5 years. A possible reason would be limited outdoor activities in old age. Previous studies have found a lower incidence of maxillofacial fractures in women with a male to female ratio ranging from 5.2: 1 to 5.4: 1. In this study, there was 5.4: 1.3 left. The higher age of a person may be due to the fact that men are mainly engaged in outdoor activities and are also at risk of violent interactions. Men are more than women. In most previous epidemiological studies, road traffic accidents were the most common cause of jaw fractures, and this study supports these findings. In England, it has been reported that the introduction of compulsory seat belts has a significant impact in

reducing facial injuries. In Pakistan, the law mandating the use of seat belts has not been properly implemented. In interviews with victims of facial injuries due to RTA, it was observed that the carelessness of many drivers, failure to give priority, excessive speed on highways in the competition of addicted drivers, contributed to the increase in the number of jaw fractures caused by RTA. Hill et al. And Voss reported seizure as the leading cause of maxillofacial fractures in England and Norway, respectively. The 8.1% incidence in this study is due to a strong control of contrast with the 55% reported in Scotland, which may be related to differences in social alcohol consumption. Due to their religious background, Pakistanis do not drink alcohol.

CONCLUSION:

The conducted studies showed that the highest frequency of mandible fractures occurred in the age group of 21-30 years, and the most common cause was R.T.As (64.7%). The male to female ratio was 5.4: 1. The most common site was fracture of the mandibular body (30.3%), followed by the condylar region (24.2%). The results show that there is concern about the high percentage of RTA jaw injuries as few people use seat belts, an awareness campaign to educate the public, especially drivers, about the importance of restraints and protective measures in motor vehicles should be implemented. These arrangements should alert authorities to the need to enforce existing traffic laws to control speeding on motorways and careless driving, smooth roads and the use of seat belts must be mandatory.

REFERENCES:

1. Khan, Ahmad, Sertaj Khan, Mohammad Tariq Khan, Khadija Syed, Syed Asad Shah, Ruqayyah Younis, Muhammad Sohail, and
2. Umar Khatab. "Pattern of maxillary fractures in patients presented to tertiary care hospital-a study." *Pakistan Oral & Dental Journal* 39, no. 3 (2019): 247-250.
3. Alam, Beenish Fatima, and MFDS RCSED. "Patterns of Facial Fractures Associated with Socio-demographic and Causative Factors: A Multi-Center Analysis from Karachi." *JPDA* 28, no. 03 (2019): 104.
4. Zahra, Rubbab, Syed Gulzar Ali Bukhari, Muhammad Umar Qayyum, Muhammad Adil Asim, Muhammad Umair, and Sehrish Liaqat.
5. "SCREW LOOSENING AS A COMPLICATION OF SELF-TAPPING IMF SCREWS USED FOR INTERMAXILLARY FIXATION IN MANDIBULAR FRACTURES."

- Pakistan Oral & Dental Journal* 39, no. 2 (2019): 144-148.
6. Tetteh, Sophia, Richard J. Bibb, and Simon J. Martin. "Maxillofacial prostheses challenges in resource constrained regions." *Disability and rehabilitation* 41, no. 3 (2019): 348-356.
 7. Mohamed, Abdulrahman, Jeffrey Mulcaire, and Anthony James P. Clover. "Head and neck injury in major trauma in Ireland: a multicentre retrospective analysis of patterns and surgical workload." *Irish Journal of Medical Science (1971-)* (2020): 1-7.
 8. Li, Lifeng, Hongrui Zang, Demin Han, Bentao Yang, Shaun C. Desai, and Nyall R. London. "Nasal Bone Fractures: Analysis of 1193 Cases with an Emphasis on Coincident Adjacent Fractures." *Facial Plastic Surgery & Aesthetic Medicine* (2020).
 9. Cohn, Jason E., Jordan J. Licata, Sammy Othman, Tom Shokri, and Seth Zwillenberg. "Comparison of Maxillofacial Trauma Patterns in the Urban Versus Suburban Environment: A Pilot Study." *Craniofacial Trauma & Reconstruction* (2020): 1943387520910338.
 10. Söz, Gülbahar, and Zeynep Karakaya. "The evaluation of geriatric patients who presented with trauma to the emergency department." *Archives of Medical Science: AMS* 15, no. 5 (2019): 1261.
 11. Kobayashi, Leslie M., Elliot Williams, Carlos V. Brown, Brent J. Emigh, Vishal Bansal, Jayraan Badiie, Kyle D. Checchi, Edward M.
 12. Castillo, and Jay Doucet. "The e-merging epidemic of e-scooters." *Trauma surgery & acute care open* 4, no. 1 (2019): e000337.
 13. Park, Han-Kyul, Jin-Young Park, Na-Rae Choi, Uk-Kyu Kim, and Dae-Seok Hwang.
 14. "Sports-related oral and maxillofacial injuries: a 5-year retrospective study, Pusan National University Dental Hospital." *Journal of Oral and Maxillofacial Surgery* (2020).
 15. Partiali, Benjamin, Sandra Oska, Antonio Barbat, Joseph Sneij, and Adam Folbe. "Injuries to the Head and Face from Skateboarding: a 10 Year Analysis from NEISS Hospitals." *Journal of Oral and Maxillofacial Surgery* (2020).
 16. George, Elizabeth, Catherine H. Phillips, Nandish Shah, Annie Lewis-O'Connor, Bernard Rosner, Hanni M. Stoklosa, and Bharti Khurana. "Radiologic findings in intimate partner violence." *Radiology* 291, no. 1 (2019): 62-69.
 17. Osadolor, O. O. "Trauma to anterior teeth in a Nigerian tertiary health facility." *Age* 10, no. 19 (2019): 7.

18. Gunneweg, Jakob CF, Georgios F. Giannakopoulos, Wietse P. Zuidema, Niels AA Matheijssen, and Ferco H. Berger.
19. "Distribution of radiation exposure in patients with partially stable and unstable pelvic ring fractures: first-time use of highly accurate assessment by Monte Carlo calculations." *European Journal of Trauma and Emergency Surgery* (2020): 1-9.
20. Chung, Shin Hye, Kyung A. Chun, Hae-Young Kim, Young-Sun Kim, and Juhea Chang.
21. "Periapical Healing in Single-visit Endodontics under General Anesthesia in Special Needs Patients." *Journal of endodontics* 45, no. 2 (2019): 116-122.