

Original research Study

Clinico-demographical patterns of maxillofacial injuries due to Road traffic accidents treated at rural Medical College and Hospital- a Retrospective study

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Abstract-

Introduction: Maxillofacial trauma is becoming the most important health problem in developing India, due to increase in vehicular traffic. Though 2017 statistics show decline in RTA to 25% in Tamilnadu, increase in road fatalities comes as bad news. In 2013 WHO conducted a review of existing laws and regulations in Government of India motor vehicles act and proposed to increase fines for road traffic violations and to address post trauma care.

Aim: The aim of this study is to know the clinico-demographic pattern of maxillofacial fractures among the RTA victims. They were referred to Dental surgery department from trauma ward of this Rural Medical College and Hospital. The data will throw light on clinico-demographic details of RTA victims in this region which will further help the policy makers to decide on planning and resource allocation improve the quality of health care provided at trauma wards and TAEI [Tamilnadu Accident and Emergency care Initiative] centers.

Materials and Methods: The study population included were those patients with maxillofacial trauma reported to the department of Dental surgery of Government Villupuram Medical College and Hospital, Villupuram. Its a retrospective study from July 2018 to February 2019.

Observation and Results: We studied 150 cases of RTA population with maxillofacial trauma. Males of age 21 to 30 years (48%) of age were the majority met with RTA sustaining maxillofacial trauma. Common cause of RTA found to be two wheeler drivers (74%) under influence of alcohol (48%). Two wheeler versus two wheeler (21%) is the common motor vehicle collisions observed. Zygomatico-maxillary complex (43%) fracture found to be the most common type of fracture pattern followed by mandibular (35%) fractures among the RTA victims. Adherence to usage of helmet (1%) and seat belt found to be negligible among the RTA victims. Accidents found to occur commonly in arterial roads (88%) than National highway (2.6%) and State highways (8.6%).

Conclusion: This study reflects younger age group, males driving two wheelers under the influence of alcohol as the major cause for maxillofacial trauma in this region of Tamilnadu. Mid face region commonly found to be injured in RTA. Zygomatico-maxillary complex fractures are the common pattern of maxillofacial trauma. Adherence to road safety measures was negligent among crash occupants. Oral and maxillofacial specialist services to be included in trauma wards and TAEI centers.

Keywords: Maxillofacial trauma, Mid face injuries, Fracture of facial skeleton, TAEI centers and Trauma wards

Introduction:

Maxillofacial region is the most frequently traumatised in RTA. Patients with maxillofacial trauma have been increasing steadily every year(1). The global status report on road safety-2018 estimates that more than 1.35 million people were killed in RTA worldwide annually. Approximately half of the deaths were among motorcyclists, pedestrians and cyclist(2). There are many studies that have analysed the epidemiology, pattern, cause, demographic factors associated with facial trauma. Variations in the Pattern, extent, clinical features results in mild to severe disfigurement of maxillofacial skeleton along with functional loss(3).

Maxillofacial trauma requires multi professional and complex treatment approaches, longer hospital stay and higher expenditure to the public health care system(1). Inadequately treated facial fractures lead to significant functional and aesthetic disabilities(2). Retrospective studies on maxillofacial trauma are extremely important to develop and implement policies that guarantee immediate and quality care to the trauma victims(4,5). Continuous long term collection of data helps in better understanding of the cause, pattern, severity and distribution of the facial trauma to improve health care provided at trauma and TAEI centers(6-12). So a retrospective study to evaluate the clinic-demographical pattern of maxillofacial injuries was done.

Materials and methods:

We retrospectively studied 150 cases of maxillofacial trauma cases that reported to the Department of Dental surgery, Government Villupuram Medical College and Hospital, Villupuram, Tamilnadu. Study was conducted for a period of eight months from July 2018 to February 2019. Patients with trauma to face of all age group were included in the study. Patients with poly trauma, patient associated with brain injury necessitating neurosurgical intervention, patients with assault injuries were excluded from the study.

A detailed history with various parameters like crash occupants, cause of injury, alcohol intake, place of accident, usage of helmet, seat belts were assessed .The data was tabulated and analysed.

Results:

We studied 150 cases of RTA population with maxillofacial trauma. Males of age 21 to 30 years (48%) of age were the majority met with RTA sustaining maxillofacial trauma. Common cause of RTA found to be two wheeler drivers (74%) under influence of alcohol (48%). Two wheeler versus two wheeler (21%) is the common motor vehicle collisions observed. Zygomatico-maxillary complex (43%) fracture found to be the most common type of fracture pattern followed by mandibular (35%) fractures among the RTA victims. Adherence to usage of helmet (1%) and seat belt found to be negligible among the RTA victims. Accidents found to occur commonly in arterial roads (88%) than National highway (2.6%) and State highways (8.6%).

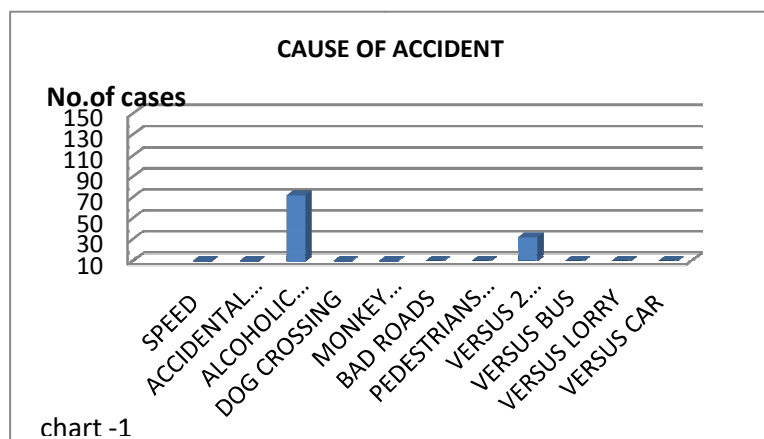
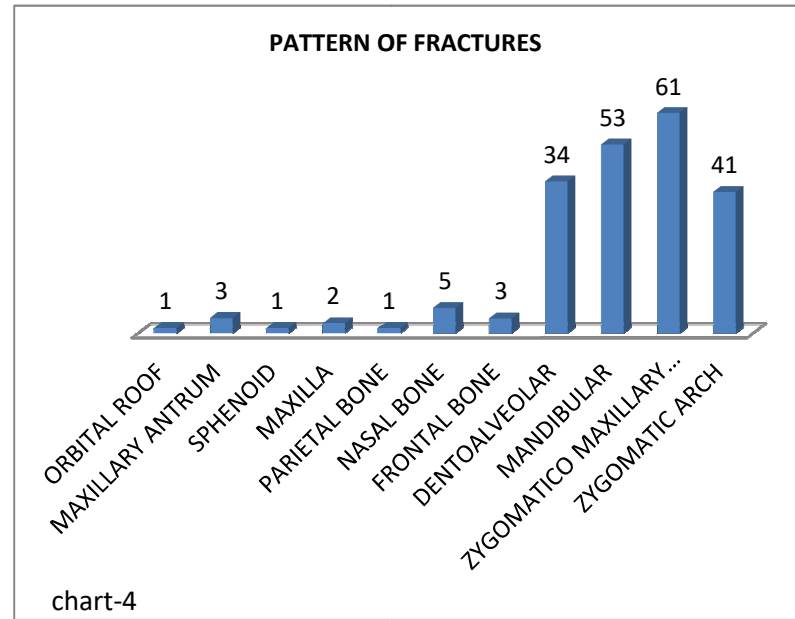
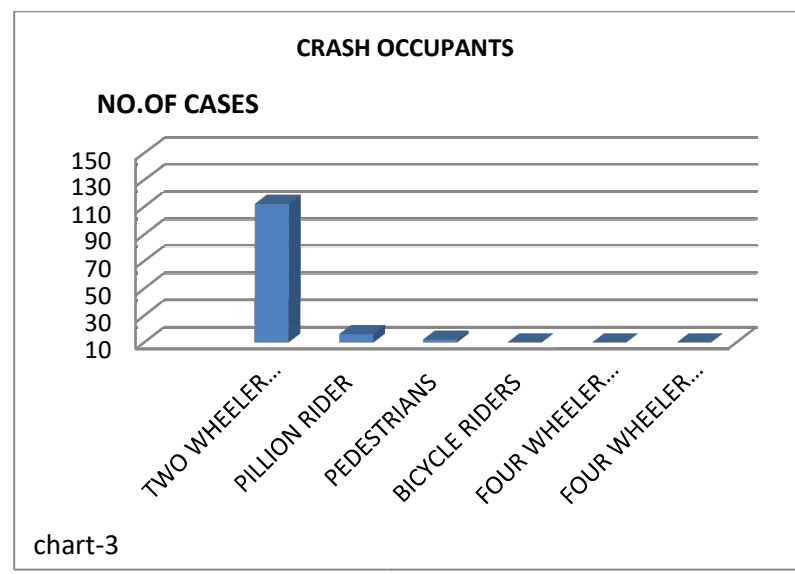
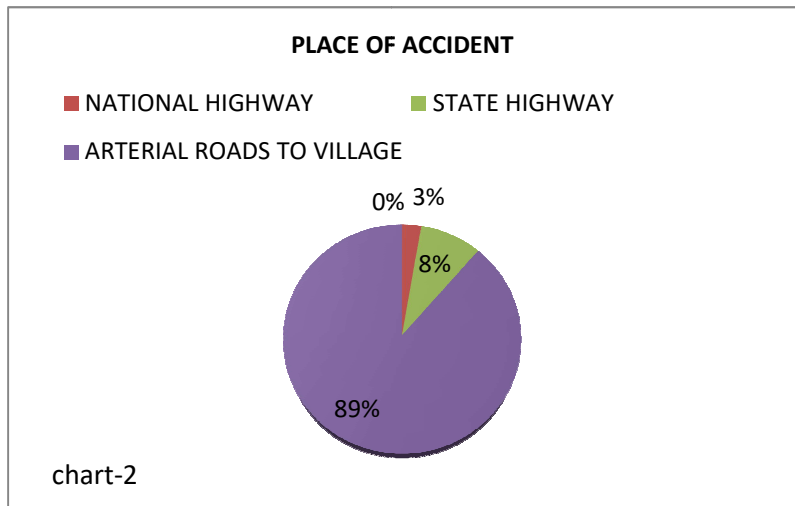
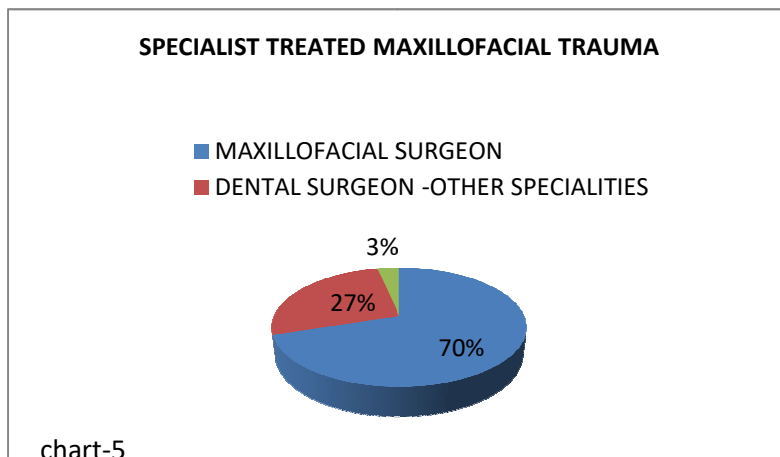


chart -1





Discussion:

The Study population consisted of 150 individuals between 10 years to 70 years of age. 140 individuals were males (93%), 10 were females (6.6%). Majority of the patients were from 21 and 40 (48%) years of age [chart-1]. Maxillofacial trauma was found to occur most commonly in males in our study. Females, paediatric and geriatric groups fall under low risk. This might be because males drive vehicles more than females as they engage more in social work in this part of our country.

This study shows high morbidity for facial fractures in the 21 to 30 years of age followed 31 to 40 years (36%) of age group. Our study shows the leading cause of maxillofacial trauma is due to RTA under influence of alcohol (48%) [chart-2] in this rural region of Tamilnadu. Two wheelers are the most involved vehicle in motor vehicle collisions [chart-4]. Helmet (1%) usage was poor as it was noticed only in two of our study individuals. Seat belt usage was not reported in our study group. Mid facial fractures zygomatico-maxillary complex fractures (43%) were found to be most common, followed by mandibular (35%) fractures [chart-5]. Apart from bony injury tooth and associated dento-alveolar fractures also were commonly noticed in 34 (22%) cases in combination with other fractures of our study group. Single bone fractures were seen in 112 (74%) cases and multiple bone fracture in 38 (25%) of our cases. Accidents were commonly noticed to have occurred in arterial roads (88%) than in NH (2.6%) and state highways (8.6%) [chart-3] in our study group. Majority of the cases were treated by maxillofacial surgeon (70%) followed by general dentist. Plastic surgeons treated only 3% [chart-6] of the cases studied.

Conclusion:

Males driving two wheelers in their second decade of life under the influence of alcohol are the common victims with mid facial fractures as they are more exposed to outdoor activities. Public awareness regarding road traffic rules, safety measures such as seat belt and helmet usage have to be increased. Enforcement of law regarding drunken driving must be made stringent. Speed control measures should be enforced in arterial roads also. Long term studies regarding facial fractures in RTA victims will help the healthcare providers to develop ways to prevent and to plan resource allocation for the needy, like a specialist Oral and Maxillofacial Surgeon in TAEI centers.

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