An Epidemiological study of orthopaedic Trauma cases attending at Sub regional Hospital, Nepal

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ABSTRACT:

INTRODUCTION: Physical trauma is one of the major causes of mortality and morbidity among young and active age group and gradually trauma cases are increasing because of significant urbanization, motorization, industrialization and a change in the socioeconomic values. The aim of the study is to assess the various epidemiological parameters that influence the cause of injury in the patient and there are only few study concerning the spectrum of physical trauma in Nepal.

METHOD: A retrospective study was done in Narayani Sub-Regional Hospital over a period of one year (January 2016 to December 2016) in 2170 trauma cases attending to hospital and epidemiological information, mode, type and pattern of injury were recorded. Obtained data was analyzed in Spps..

RESULT: In a period of one year 2170 trauma cases presented to the hospital and maximum number of cases (235) was in the month June. Injuries occurs predominantly in the age group of 15-49 year. Male incurred more injury with male to female ratio of 5:1. Road traffic accident (RTA) was the commonest mode of injury(70%) followed by fall injury (15%). The lower limb were the most common body region injured (42%) followed by upper limb(38%).

CONCLUSION: RTA and fall related injuries are the most common mode of trauma involving young adult in their active period of life, so appropriate preventive measure through public health approach, improved road condition, proper traffic knowledge with comprehensive trauma management for reducing mortality and morbidity rates related to physical trauma.

KEY WORDS: Orthopaedic, trauma, epidemiology, fractures.

INTRODUCTION

Physical trauma is one of the major public health problem worldwide. In its various forms, like fall related injuries, road traffic accidents, physical assaults and other forms of violence cause more than five million death per year which makes around nine percent of global mortality[1] . More than 90% of world's injury related death occurs in low and middle income countries, for which south-East Asia and Western pacific regions account for the highest (26%) for injury related death[2]. Disability due to violence and injuries is increasing in Nepal, and accounts for about eight percent of death. This is mainly attributed to population growth, modernization and changing patterns of lifestyle of the people. Injuries, violence and disabilities have become a major public health problem in Nepal as well[3].

The information received from injury surveillance helps in understanding the extent of problem, the pattern of injuries, high-risk population, and seasonal trend and compares the problem among and within the geographical area which helps in creating awareness and in further planning[4]. Limited studies so far are available in literatures regarding the study on epidemiology, patterns and outcome of physical trauma in a hospital set up. Such type of study not only important for the clinician to plant treatment at individual level but they are also important for educational and policy making purpose, there for the purpose of this study is to access the various epidemiological parameters that influences the causes of injuries in the patients.

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METHOD

This is the retrospective study. All the patient of physical trauma(2170 cases) attending at Narayani Sub-Regional Hospital over a period of one year(January 2016 to December 2016) were included in the study. Epidemiological information, mode of injury, pattern of injury and anatomic location of injury were recorded. Obtained data were analyzed in Spps.

RESULT

Over a period of one year total 2170 patient of physical trauma presented to Narayani Sub-Regional Hospital. Among them 1818 (83.8%) Patient were Male 352(16.2%) Female. Most of the cases were observed in the month of June. The most common mode of injury was road traffic accident (70%). Following RTA fall related injury are the second major mode of injury (15%). Physical trauma is the most common in 15-49 year age group (37%) followed by 5-14 year age group (34%) and least in >65 year age(4.2%). In all age group male patient is having more physical trauma(83.8%) as compared to female(16.2%). In this study lower limb fracture were most common pattern of injury(42%) followed by upper limb fracture(38%). Spine and pelvic fractures were 5% each. Similarly 5% patients were having chest and head injury.

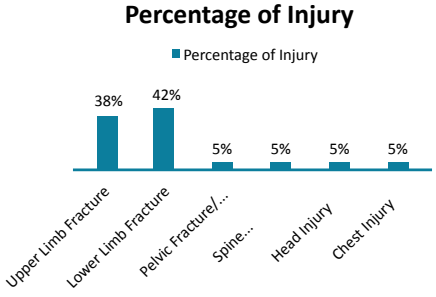

Figure 1.

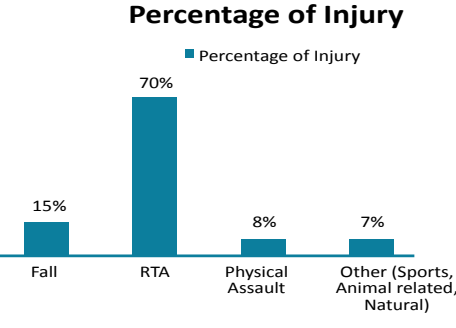

Figure 2.

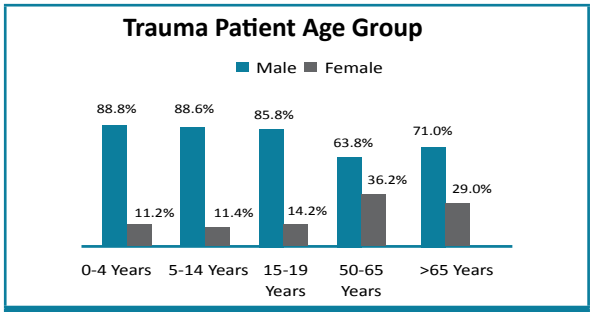

Figure 3.

DISCUSSION

In this study we found that male patients were more commonly affected (83.8%) than female (16.2%). Similar finding have been reported by various other studies. In a meta analysis of studies on injuries in south Asia, Hyder et al mentioned that majority (67-80%) of injuries occurred in males[5]. Similarly Singh et al. Study at Ghaziabad showed 74.4% male involvement[6]. Region for male preponderance may be due to their more active involvement in outdoor activities than female. In this study we also found that young people were mostly involved in the physical trauma and there was a steady increase in trauma patients till the age group 15 to 49 year than gradual decrease in the trend with increasing age. Shrestha R et al. study at Dhulikhel Hospital had similarly finding[7]. This could be due to the fact that younger people are more active and reckless, however with increasing age people tend to be more careful and take more safety measures[3-5-7].

In this study in the month of June/July observed the highest number of trauma cases this could be because of rainy seasons, bad condition of road (RTA) and seasons of mango, litchi, Jamun (Fall related injury). This study differs from Shrestha R et al study which showed more injury in the month of October(Festival seasons)[8].

Various mode of trauma have been discussed in literatures, however RTA and Fall related injuries are the commonest ones. In this study Road traffic accidents (RTA) is the commonest mode of injuries (70%) followed by Fall related injuries (15%). Devarshin Rastogi et al. study in india also showed similar finding where RTA related injuries was 74% and Fall related injuries in 16.2%[9]. But this study slightly differs from Ghimire et al. studies which showed RTA related injuries 42% and Fall related injuries 34.8% . This could be due to poor road condition and maximum use of

motor bike in our areas of villages and poor implement of traffic rules in this area.

In this study lower limb trauma is the most common pattern of injuries(42%), Fallowed by upper limb 38%. Banthia P, Koirala B et al study also showed similar results where lower limb is most commonly involved body part(42%)[11]. In this study spine facture/ spinal cord injuries is five percent of all trauma cases and Lenehan B et al study also showed 5% of spine trauma[12].

CONCLUSION

RTA and Fall related injuries are the commonest mode of trauma in our set up and mostly young adults in their active period of life are involved in physical trauma therefore appropriate in hospital management and preventive measures through public health approach(awareness programme) should be included in comprehensive trauma management for reducing mortality and morbidity rates related to physical trauma.

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