

Two Years Retrospective of Trauma Incidents presented to Emergency Department, JDWNRH. (Jan 2014-Dec 2015)

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Abstract

Trauma is the leading cause of morbidity and mortality in population worldwide. When the patient is received in trauma unit, first consideration always goes to life-threatening injuries, open wounds, and radiologically visible injuries. Emergency department in JDWNRH is the apex hospital in the capital (Thimphu) and had been functioning as one of the emergency medical centers and serves for all the emergencies of Bhutan. The study was about analysing all trauma and injured cases presented to emergency department of JDWNRH within 2 years (January 2014- December 2015) retrospectively. It is an observational and descriptive statistic on demographic profile, time of the presentation, types of injuries which will be useful in assessing the impact by various injuries in the population and the development of preventive measures. Beside fall injury, the road traffic accident had been increasing in the capital city. The numbers are not significantly high for other injuries but, the impact from individual injury is noticeably substantial as there were admission to the wards, ICU, OT, and several were even brought dead. Statistically, men were twice the number of women even though there are women who were injured. Frequent prevention and promotion are essential as it can potentially reduce the incidence of emergency visit. Through zero tolerance day, the number had reduced as presented in the chart, however, the prevalence of trauma remained high.

Key Words: Trauma, Injuries, life-threatening, morbidity, mortality.

Introduction

Trauma is the leading cause of morbidity and mortality in population worldwide. As a patient is received in a trauma unit, first attention always goes to life-threatening injuries, open wounds, and radiologically visible injuries. Emergency department in JDWNRH is the apex hospital in the capital, Thimphu and had been functioning as one of

the emergency medical centers and serves for all the emergencies of Bhutan. The study was to investigate trauma related injuries and the conclusion obtained by this study should be useful for assessing the impact of this type of injuries in the population and the development of preventive measures. Although no systematic information is available regarding trauma cases in Bhutan, police reports and data from the hospitals reveal escalating occurrences of trauma

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cases. The statistical analysis was done to determine different types of trauma cases in emergency department in JDWNRH and identify characteristics associated with trauma patients over the 2 years of period. The Emergency Department (ED) visit is generally preceded by an urgent condition due to injury, accident, disaster, or disease that requires immediate medical management.² Trauma continued to be a major public health problem worldwide as it is associated with high morbidity and mortality both in developed and developing countries. And it had been reported to be the leading cause of death, hospitalization, and long-term disabilities in the first four decades of life. Age and likelihood of admission to trauma centre for injured patients were observed with the factors which play a major role in determining which injured receive trauma care. Elderly persons account for an increasing number of trauma patients. Morbidity and mortality from traumatic injury are higher in elderly patients compared with younger patients. While trauma is at times unforeseeable or inevitable but developing community awareness about prevention measures can potentially reduce the number of emergency visits.¹ Though it was shown that women had higher rate of injuries than men³ but in Bhutan, the numbers are high among men although there are women who were injured. The injuries, illnesses and fatalities always have the impact on social and economic burden among injured people, subsequently it is important of awareness and to focus special on injury prevention.⁴ To prevent certain proportion of avoidable deaths through trauma and reduce injuries, the suggestion to improve trauma treatment process and trauma rescue system were required.⁵ We set up the Triage system which eventually helped to assess the injured cases according to the severity triage color code Red, Yellow and Green. The ZERO tolerance implemented by the police department had drastically reduced the preventable injuries, however, the public health education is required continuously to promote the public to prevent themselves from life threatening injuries.

Methodology

Retrospective analysis of trauma cases presented

to emergency department of JDWNRH within 2 years (January 2014- December 2015).

Statistics

The data which is recorded in the excel sheet in the triage area was further analysed by SPSS 17 to extract the report demographically, types of injuries and the treatment eventually.

Study limitations

It focuses only in JDWNRH, nevertheless, we have involved all the referral from districts hospital.

Results

Prevalence

The prevalence of trauma remained still high although the total number had reduced as in the figure and the referral cases related to trauma had remained high.

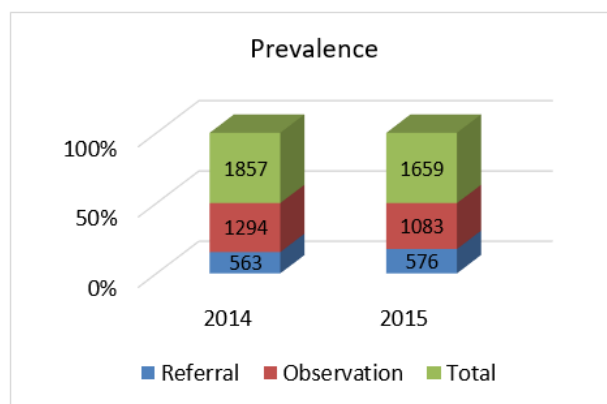


Figure 1: The number of the patients visited emergency department in 2014 and 2015 (n=3516)

Injuries

Types of injuries seen among the trauma patients are stab injury, self-harm, penetrating injury, pedestrian struck, RTA, fall injury, burn, bull gore, bear maul, assault and others which are undefined minor injuries. Among different types of injuries, fall injuries is the highest followed by road traffic accident. Among different category of injuries, the injury from fall is the highest followed by RTA. Next to fall injury, the road traffic accident had been increasing in the capital city.

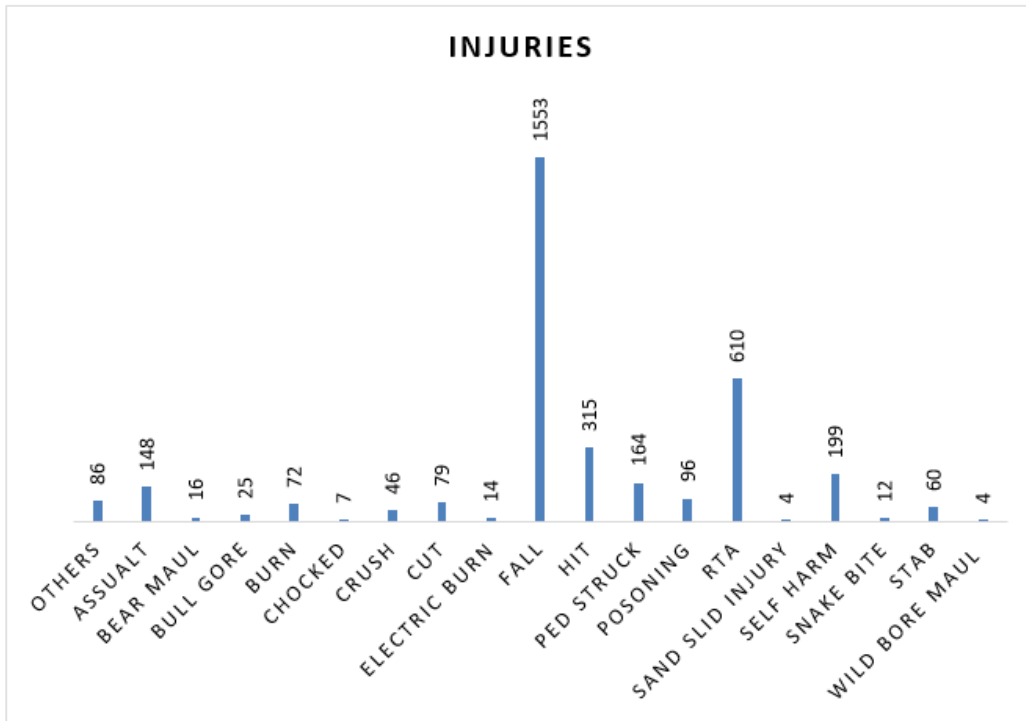


Figure 2: Types of injuries among the patients in 2014 and 2015 (n=3510)

Disposition

There are patients admitted to the wards respectively and ICU and even to OT as reflected in the chart depending on the injuries which evidently

indicates the severity of the trauma. Prevention and Promotion is essential as the impact from individual injury is clearly substantial.

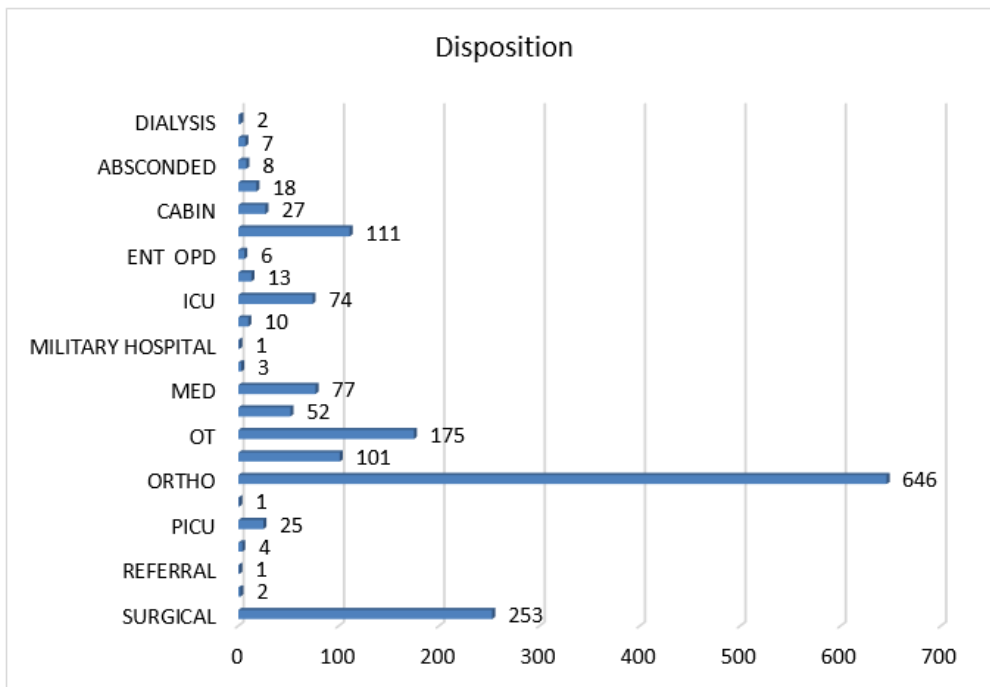


Figure 3: Disposition of the patients in 2014 and 2015 (n=1621)

Gender and Shift Patterns

Statistically, majority were men 62% in 2014 & 67% in 2015 (twice the number of women) despite the

fact there are women who were injured. Referrals are relatively high during the evening shift.

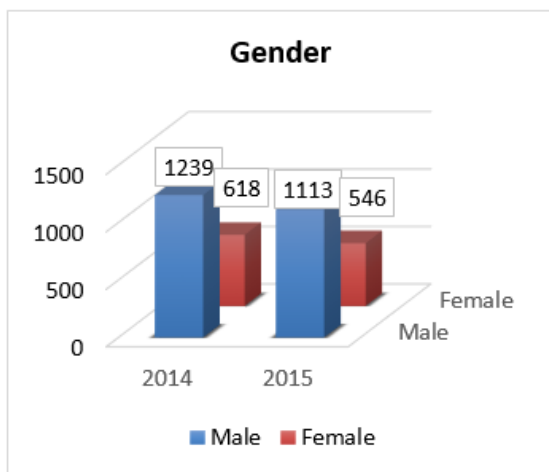


Figure 4: Gender (n=3516)

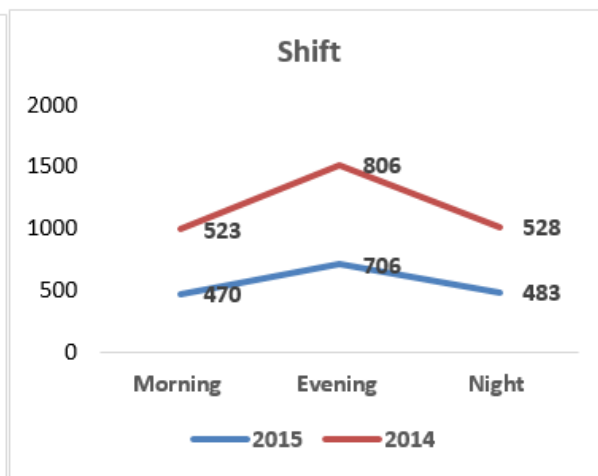


Figure 5: Shift system (n=3516)

Discussions

Based on the graphical presentations, Figure 1 shows that the prevalence of trauma remained still high (1857 in 2014 and 1659 in 2015) although the total number had reduced as in the figure, but the referral cases related to trauma had remained high. According to figure 2 above, types of injuries among the trauma patients are stab injury, self-harm, penetrating injury, pedestrian struck, RTA, fall injury, burn, bull gore, bear maul, assault and others which are undefined minor injuries. Among different category of injuries, the injury from fall is the highest followed by RTA (Road Traffic Accident). Following fall injury, the road traffic accident had been increasing in the capital city. Figure 3 above shows the disposition of the patients admitted to the wards in 2014 and 2015 respectively. The chart shows the patient admitted to ICU (Intensive Care Unit) and OT (Operation Theatre) depending on the injuries which evidently indicates the severity of the trauma. Prevention and Promotion is essential as the impact from individual injury is clearly substantial. Figure 4 indicates that majority were men, 62% in 2014 & 67% in 2015 (twice the number of women) even though there are women who were injured. Figure 5 shows that referrals are relatively high during the evening shift.

Conclusion

The prevalence of the injury is 1857 in 2014 and 1659 in 2015. Fall injury is the highest followed by RTA among the different types of injuries. Beside fall injury, the road traffic accident had been increasing in the capital city. Statistically, men were twice the number of women, though, there are women who were injured. People are being more vigilant as we even have Zero tolerance day observed by the department of police. There are patients admitted to the wards respectively as reflected in the chart depending on the injuries and some were even brought dead, which evidently indicates the severity of the trauma. Prevention and Promotion for every injury is essential constantly because the prevalence of trauma remained still high and the impact from individual injury is clearly substantial.

Conflicts of Interest: The authors declare no conflicts of interest

Funding: The research received no funding

Limitations: The limitations are that data are collected at the triage area by the staff who are non-researchers, and it was conducted retrospectively. Biases may be as the result of unclear or erroneous clinical documentations.

Ethical Consideration: The study was approved by the ethical committee on 5th June 2016. **REBH/Approval/2016/020.**

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