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RESEARCH ARTICLE

BURDEN OF ROAD TRAFFIC ACCIDENT AMONG VICTIMS ADMITTED TO DESSIE REFERRAL HOSPITA AT DESSIE TOWN, SOUTHWOLLO ZON, ETHIOPIA 2018 G.C.

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ABSTRACT

Objective: To assess Burden of road traffic accident among victims admitted to Dessie Referral hospita at Dessie town, South Wollo Zone, Ethiopia 2018 G.C. **Results:** A total of 306 injury victim medical records were considered and of which 270 were actually included in this study. Of which 51(18.9%) were due to road traffic accidents. The male to female ratio was 2:1. The highest number 177(66%) of victims who came to facilities were between 25-40 years of age. Concerning the place where the accidents happened, major accidents 258(95.6%) was occurred on the streets. Out of the total road traffic injury, most of them were passengers 190(70.4%).

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INTRODUCTION

World Health Organization (WHO) defines, RTA as it is an accident which happened on a way or street open to public traffic; resulted in one or more persons being killed or injured, and at least one moving vehicle was involved. Thus, RTA is collisions between vehicles; between vehicles and pedestrians; between vehicles and animals; or between vehicles and fixed obstacles. Road traffic accidents (RTA) are a major public health problem worldwide, accounting for almost 1.24 million deaths per year and it is a number one cause for the death among those aged 15-29 years (Peden et al., 2004; Alinia, 2015; Sebsbie, 2013; Organization, 2015). Road traffic injury (RTI) is estimated to be the fifth largest killer worldwide by 2030. Most of those deaths are from low- and middle-income countries (LMIC). In addition to the statistics on death and injuries, road traffic related crashes result in vast pain and suffering and many billions of dollars in medical expenses and lost productivity. The number of people killed and injured as a result of traffic accidents has been steadily increasing. In Ethiopia, from the emergency medical services, pre-hospital care is not widely developed (Mannering, 2014; ABEBE, 2014).

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MATERIALS AND METHODS

A hospital based retrospective cross-sectional study was conducted to determine burden of RTA injury among admitted victims in Dessie Referral hospita at Dessie town, South Wollo Zone, Ethiopia 2018. All charts with traumatic Victims admitted in Emergency and surgical ward were considered as study population. All charts with injury victims found in emergency department and surgical ward were included and records with incomplete, illegible as well those less than 12 years old were excluded from the study. Sample size was determined by using a single population proportion formula with sample size of 306.Sample were selected bysystematic random sampling technique. Data was collected by examining previously medical records and a well-structured questioner using registration case sheets. To keep quality of data, pretest was done on Hidar 11 Hospital on 5% ofsample. Also training for data collectors how & where to collect data. Principle investigators were checked the collected data for consistence, completeness & editing. The collected data was entered, edited, cleaned and analyzed by SPSS version 21. The outcome was presented by using tables, graphs and figure.

RESULTS

From the calculated sample size which is 306, the total number of respondents who were included in the study was270, with a response rate of 88.2%. Ofwhich51(18.9%) were due to road

Table 1. Socio-demographic characteristics, at Dessie Referral hospita at Dessietown SouthWollo Zone, Ethiopia, 2018 (n=270)

Age	Frequency	Percent
<15	2	1
15-24	49	18
25-40	177	66
40	42	15
Total	270	100
Sex		
Male	194	71.85
Female	76	28.15
Total	270	100

Table 2. Injury description, at Dessie Referral hospita at Dessie townSouth Wollo Zone, Ethiopia, 2018 (n=270)

Injury Description	Frequency	Percent (%)
Injury mechanism		
Fracture/broken bone	112	41.5
Sprain/strain	12	4.4
Dislocation	19	7
cut or open wound	33	12.2
Bruise or superficial injury	20	7.4
Contusion/head injury	47	17.4
Internal organ injury	27	10
Total	270	100
Place of injury		
Street/highway	258	95.6
Sports and athletics area	2	0.7
Commercial area	5	1.9
Other	5	1.9
Total	270	100
Victim Activities		
Paid work/travel to and from work	19	7
Unpaid work/travel to and from work	29	10.7
Sport	1	0.4
Travelling	204	75.6
Unspecified	14	5.2
Others	3	1.1
Total	270	100

Table 3. Determinants of RTA, at atDessie Referral hospita at Dessie townSouth Wollo Zone, Ethiopia, 2018 (n=270)

Determinants Means of Transport	Frequency	Percent
Walking	15	0.6
Bicycle	2	0.7
Motor cycle	8	3
Personal car	5	1.9
Vehicles with less than 10 seats	107	39.6
Truck/Lorry	18	6.7
Bus	88	32.6
Bajaj	27	10
Total	270	100
Role of the victim		
Pedestrian	46	17
Driver	34	12.6
Passenger	190	70.4
Total	270	100
Vehicle collide with		
Pedestrian	34	12.6
Bicycle	1	0.4
Motorcycle	6	2.2
Motorized vehicle	56	20.7
Fixed object	102	37.8
Other	71	26.3
Total	270	100
Time		
Day light	238	88.1
Dark	16	5.9
Dust/Down	16	5.9
Total	270	100

traffic injuries. The highest number 177(66%) of victims who came to facilities were between 25-40 years of age. About 49(18%) of the victims were between 15-24 years age group, and almost all the rest participants were above the age of 40.

From the total of 270 respondents more than half of the participants 194(71.85 %) have been found to be male and 76(28.15%)were female participants, giving a ratio of 2:1. Respondents who had no formal education were 49(18.15%),

whereas, 112(41.48%) were had engaged university or college education (Table 1).

Injury description: Major accidents 258(95.6%) were occurred on the streets and 5(1.9%) were commercial area; so almost all injures occurred on the street. 204(75%) were injured during traveling from place to place and also 29(10%) travel to and from unpaid works. The result indicates that most peoples were injured during traveling. Broken bone was the abundant type of injury which accounts for 112(41.5%) of the response. Contusion or brain injury was the 2nd most mentioned injury 47(17.4%). Cut or other open wound injuries being the third which account of 33(12.2%), other injuries were also encountered like internal organ injures 27(10%) and strain 12(6.3%). People who were vehicles with less than 10 seats accounted higher percentage 107 (39.6%), also people who used bus accounted for a number of 88(32.6%). Bajaj vehicle accounts for 27(10 %) of the transportation methods (Table 2).

Most injured were passengers 190(70.4%). The pedestrians were the 2nd most seen people to come across the road traffic injury46 (17%). Drivers also accounted for 34 numbers from the participants with having proportion of (12.4%). higher number of injury was seen with the day light environment accounted 238(88.1). Dark environment was the small number 16(5.9%). The rest was occurred in dusk/down environment. 102 (37.8%) participants, collision was with a motorized vehicle. Others were either driver or passenger mentioned that they have collided with fixed objects 71(26.3%), bicycle or motorcycle was also the counterpart in 62(22.9%) of the participants. Other matters like animals and falling down from a vehicle was raised to have caused the accident (Table 3).

Transportation & First Aid: 233(86.2) were transported to the health facility by motorized vehicles like private cars, taxi, ambulance and bus. Only 37(13.8%) don't know transport methods. More than half 138(51.1%) of respondents reached the first health facility less than one hour after injury and 43(15.9%) between 1 to 2 hours, the rest of the participants came late after two hours and not known exact time. Hospital has played a major role by giving first aid for more than half of the participant 177(65.6).Patients also went to health center first and were brought to hospital with referral were 53(19.6%).37(13.7%) went to nearby clinics and 3 patients were not remember.

DISCUSSION

In this study of medical recordings assessed 51(18.9%) were due to road traffic accident injury. Of which, 38(14.1%) have got first aid before reaching to the health facility this result was less than of other study were conducted in Addis Ababa prevalence of pre hospital care was 43%(Shrivastava et al., 2014). This might be due to lack of first aid awareness and basic life support training give to the community in the study area than Addis Ababa. Majority of the participants who sustained the road traffic injury were young in their reproductive and productive years within age group of 25-40 with a number of 177(66%) and regarding sex, 194(71.85%) male and 76(28.15%) were female that means 2:1 ratio. Which is similar from Arbaminch hospital in 2017, 162 (68.1%) were male and 76 (31.9%) were female (Negesa, 2013). Additional study in Iran the trend shows increasing male to female ratio was 4:1 (8). People who had University/college education had higher number 112(41.6%) than people who had primary school education or no formal education, this is in contrary to other studies done in Tanzania and Iran which indicated people with primary education or with no formal education had higher number (Soroush, 2015; Meskere, 2015). This might be because this study has excluded the pediatric age groups less than 12 years old. From the place where accidents happened maximum number of participants had the road traffic injury in major streets 258(95 5%) while the rest of the accidents happened on minor streets like commercial areas. This value is consistent with other studies (Soroush, 2015). This might be attributed to the fact that people tend to drive with high speed in major streets than in minor streets. In our study the most kind of injury victims have gotten fracture of the bone (41.5%) and 17.4% were head injury, similar with that of two studies from Tanzania (ABEBE, 2014; Soroush et al., 2015). A study done in Dire Damavand India revealed a higher percentage of head injured victims 29.8% and 50.4% respectively (Baru, 2017). Next to fracture of the bone, head injury was the second most injured part in this study112 (41.5%).

Conclusion

According to this study the burden of victims due road traffic insults were 18.9% and male, respondents aged 25-40 and passengers have been found to be abundant; and were the most vulnerable groups to have an injury due to road traffic accident. Almost half of the victims were passengers while the accident happened; whereas, more than half of the accidents happened in major streets and day time. Bystanders were among the people who mostly gave initial help for injured patient from the scene indicating for the fact that to integrate and organize pre-hospital care is beneficial. Reaching the health facility within one hour of the accident has been suggested for better outcome after traumatic event. In our study, almost near half of the respondents were reached to a health facility within the first hour of the accident.

Abbreviations

ED: Emergency Department
LMIC: Low Middle Income Countries
RCS: Research and Community Service
RTA: Road Traffic Accident
RTI: Road Traffic Injury
WHO: World Health Organization
WU: Wollo University

DECLARATIONS

Ethics approval and consent to Participate: Ethical clearance was obtained from WU, Medicine and Health Sciences College, Research and Community Service (RCS) office. After gaining permission from the hospital data collection commenced.

Consent for Publication

"Not applicable"

Data Availability

"Not applicable"

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Author Contribution

LT & HK brought the original idea and drafted and revised the work. LT& HK also supervised data collection, analyzed and interpreted the finding. Finally LT wrote the manuscript

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REFERENCES

Abebe A. Assessment of Knowledge Attitude and Practice of Residents about pre hospital care in Addis Ababa ADDIS ABABA UNIVERSITY; 2014.

Al LNe. 2006. Motor vehicle crash pedestrian deaths in New York City: the plight of the older pedestrian. *Injury Prevention.,* 12:414-6

Alinia S., Khankeh H., Maddah SSB., Negarandeh R. 2015. Barriers of pre-hospital services in road traffic injuries in Tehran: the viewpoint of service providers. International journal ofcommunity basednursing and midwifery. 3(4):272.

Baru A. 2017. Injury Severity Levels and Associated Factors among Road Traffic Accident VictimsReferred To Emergency Departments of Selected Public Hospitals in Addis Ababa, Ethiopia: The StudyBased On Haddon Matrix..

Chalya PL., Mabula JB., Dass RM., Mbelenge N., Ngayomela IH., Chandika AB. et al., 2012. Injury characteristics and outcome ofroad traffic crash victims at Bugando Medical Centre in Northwestern Tanzania. *Journal of trauma management & outcomes.,* 6(1):1.

Mannering FL., Bhat CR. 2014. Analytic methods in accident research: Methodological frontier andfuture directions. Analytic methods in accident research. 2014;1:1-22.

Meskere Y., Dinberu MT., Azazh A. 2015. Patterns and determinants of pre-hospital care among traumapatients treated in TikurAnbessa specialized hospital, emergency department. *Ethiopian medical journal.,* 53(3).

Negesa L., Mohammed J. 2017. Assessment of Magnitude and Treatment Outcome of Road Traffic Accident from January 2013-January 2015 in DilchoraReferal Hospital, Diredawa Eastern Ethiopia. *World Journal of Surgical Research.,* 6(1).

Organization WH. 2015. Global status report on road safety 2015: World Health Organization.

Peden M., Scurfield R., Sleet D., Mohan D., Hyder AA., Jarawan E. et al., 2004. World report on road traffic injury prevention. World Health Organization Geneva.

Sebsbie AK. 2015. Road Traffic Accident related Fatalities in Addis Ababa City, Ethiopia: An Analysis of Police Report 2013/14. 2015.

Shrivastava SR., Pandian P., Shrivastava PS. 2014. Pre-hospital care among victims of road traffic accident in a rural area of Tamil Nadu: A cross-sectional descriptive study. *Journal of neurosciences in rural practice.* 5(Suppl 1):S33

Soroush D., TalebiDeloei M., Reihani H., Vakili V., MahmoodiGharaee A., Tafakori A. et al., 2015. Characteristics of road traffic injuries in the second largest city of Iran. *Journal of Emergency Practice and Trauma.*, 1(2):48-51.

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