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Prevalence of Road Traffic Accident and Outcome among Patients Admitted at Addis Ababa Burn, Emergency and Trauma (AaBET) Hospital in Addis Ababa, Ethiopia

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Abstract
Introduction: Road Traffic Accident is an incident on a way or street open to public traffic that becomes one of the most significant public health problems in the world particularly in developing countries like Ethiopia. In Ethiopia, Road Traffic Accident is the major public health problem even though studies indicate the prevalence and management outcomes among these victims are limited.
Objectives: To assess the prevalence and management outcomes among road traffic accident victims who attended emergency department of AaBET (Addis Ababa burn Emergency and Trauma) Hospital, Addis Ababa, Ethiopia, 2022.
Methods: Hospital based retrospective cross sectional study design was implemented among Patients attending to AaBET Hospital based on patients' record review for one year (from January 1 to December 30, 2021). Records of patients were reviewed until the calculated minimum sample size (399) attained. Simple random sampling technique was applied to recruit the records.
Result: Among a total of 385 trauma victims visited the hospital, the most commonly affected age group were between 26-30 years old, accounting for 68 (17.7%) followed by age <13 years 67 (17.4%). This study also identified 269 (69.9%) of victims were male and 116 (30.1%) were female. Regarding pattern of injury, musculoskeletal fracture was the most frequent type of injury (39.2%). one-third (31%) of them sustained severe injury that urged them to seek intensive surgical management. Regarding mechanism of injury, 45% of the victims reported that they hit by another vehicle. 43.5 % of the victims injured were pedestrians. Regarding management given at ED, almost half (47.5%) of the victims received wound care and about 23.4% of them were given anti- pain and resuscitation, respectively. Among 252 victims who admitted in AaBET hospital about 87% of patients admitted to surgical and orthopedic wards received surgical type of treatment.
Conclusion: From foregoing it is evident that RTA requires proper traffic management; and the mortality and disability from RTA can be minimized by appropriately identifying the priority patient and giving appropriate intervention promptly.
Keywords: AaBET, Accident, Emergency, Hospital, Road Traffic
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1. Introduction

An accident is an incident that happens unexpectedly and accidentally under various conditions (1). Road Traffic Accident (RTA) is an accident happening on a street or road open to community transportation, resulting in the death or harm of one or more persons and the presence of at least one moving means of transportation (2). According to WHO, every day more than 3000 individuals pass away from road traffic accidents which constitute almost 1.3 million individuals killed and disabling between 20-50 million people worldwide every year. By the year 2030, it has been projected that if correct action is not taken, it is predicted to become the 5th driving cause for the loss of life on the earth (3).

Compared to developed countries, in developing countries although only 20% of vehicles being driven, the road traffic accident from these countries account for 90% of global road traffic deaths (4). Even though the challenges are increasing, RTA in developing countries still an under-reported. Estimates of the degree and the magnitude of RTA in these countries are largely obtained from police registers and sometimes healthcare setting registry data; however, both sources are affected by under reporting (5).

Ethiopia, being low-income country, is also the least motorized country but, suffers the highest rates of RTA. According to WHO report, the country is considered as one of the worst countries in the world where RTA causes deaths and injuries of road users. Each year nearly 2000 people die due to road traffic accidents. Among these 48% are pedestrians, 45% passengers and 7% drivers. It has been estimated that over 400 to 500 Million ETB is lost yearly, as a result of RTA (6).

Half of the world´s road traffic deaths occur among motorcyclists (23 %), pedestrians (22 %) and cyclists (5%), car occupants 31 % and the remaining 19 % among unspecified road users (7). Generally, Road traffic accidents are an unintended, non-communicable and preventable and common risk every day to our life that can happen to almost everyone at any place (8, 9).

Road traffic accident is one of the major reasons for trauma-related admission in Ethiopian hospitals and other healthcare set up, and the main causes of patient admission, which raises the population and health care spending beyond the countries capacity. The Ethiopian National Road Safety Coordination Office reported a road crash fatality rate of 114 deaths per 10 000 vehicles per year however the actual figure may be higher due to an improper reporting system (3).

Various researched carried out in Ethiopia have indicated that the country's pattern in road traffic Accident morbidity and mortality has increased from year to year. It also leads to poverty by causing injury and disability to individuals; sorrow to family; loss of productivity and harm to materials as well as death. It is found to be one of the top three causes of death for people between the ages of 5 and 44, so the prevalence and potential findings that can be obtained from RTA can be clearly established in this study (10).

The death rate from car accidents among pedestrians and passengers is growing significantly from time to time in Ethiopia due to an increase in the number of vehicles, not obeying traffic laws, lack of experience and forgery driver license according to a study by the federal police commission (2). In addition, the report by Federal Transport Authority of Ethiopia in 2017 showed, the number of cars in Ethiopia has exceeded 831,000 which were around 708,000 in the year 2016 (16). From the entire number of cars, 62 % of them, i.e. 515, 000 are found in Addis Ababa. According to the latest world health organization data published in 2017 on the website www.worldlifeexpectancy.com, Road Traffic Accidents deaths in Ethiopia reached 27,140 or 4.27% of total deaths ranking Ethiopia at 22 in the world (17).

A study in Ethio-Swedish children's Hospital in Ethiopia showed that road traffic accidents and trauma accounted for 25% surgical admissions in which the commonest conditions were motor vehicle accidents, burns, accidental falls, and foreign body aspirations (18). While a study in Tikur Anbessa Hospital indicated motor vehicle accident accounted for 41% of all injuries. The overall admitted rate due to injuries were 11.6% with mortality rate of 1.47% (16). RTA is a human- made problem which is modifiable to rational analysis and counter measures. In this sense, investigating its pattern and possible risk factors which contribute for unfavorable outcomes is very important for taking evidence based prevention measures (19).

In general, RTA is the major public health problem in Ethiopia that causes disabilities and death even though many studies neglected to consider these problems. Therefore, this study will search the way and come up with the burden, describe the clinical pattern and determine the possible management outcomes. Meanwhile, knowing its burden will help the traffic law enforcement body and the other stakeholder to give due focus and initiate intervention accordingly. Besides, in our country there is problem of data inconsistency and under-report due to different reasons which further hides the impact of RTA on human body, loss of life, material damage and also impact on the economy. Therefore, this study will fill these gaps due to RTA in Addis Ababa and whole Ethiopia at large.

So far, a few studies have been conducted on road traffic accident in Addis Ababa. The studies only recognized the need to show baseline information that can be used by local road safety measures and stakeholders. There has been inadequate study on the prevalence as well as management outcome in Ethiopia. Therefore, this study is designed to fill the gaps in the clinical presentation of RTA and factors associated with its occurrence.

2. Methodology

2.1 Study area and period

A retrospective study was conducted in Addis Ababa Burn Emergency and Trauma (AaBET) Hospital from June 05, 2022 to July 30, 2022. AaBET Hospital is a newly established (in 2007) with 250-bed and 12 ICU-bed teaching and public referral hospital in Addis Ababa, Ethiopia, affiliated with St. Paul's Hospital Millennium Medical College (SPHMMC). AaBET Hospital provides 24/7 specialty services in emergency medicine, critical care, trauma and acute care surgery, orthopedics, neurosurgery, and forensic medicine; patients presenting with complaints requiring additional specialty services (e.g., cardiology, gastroenterology) are stabilized and transferred to nearby SPHMMC. The hospital is administered by the federal minister of health and it is the teaching hospital among in Ethiopia. The hospital offers diagnosis and treatment for approximately 36,650 patients per year. The emergency department sees in average 10,379 injured patients in a year.

2.2 Study design

A hospital based retrospective cross-sectional study design was employed with record reviews of one year data (from January 1 to December 30, 2021) of injured patients who visited and managed at AaBET Hospital.

2.3 Source of population

The records or charts of all injured patients who was treated at Emergency department of AaBET Hospital.

2.4 Study population

The records or charts of injured patients who was treated at Emergency department of AaBET Hospital during the period of January 1 to December 30, 2021.

2.5 Sample size determination and sampling technique

The number of charts included for the study was estimated by applying a single population proportion formula with the following assumptions were held, α = the risk of rejecting the null hypothesis (0.05), d = degree of precision or margin of error (0.05), Z = the critical value for normal distribution at 95% confidence interval, and the proportion of road traffic accident, p, 38% (the pooled prevalence of RTA in Ethiopia) (34). For each of the care provider groups, the sample size (n) is calculated using the single population proportion formula and holding similar assumptions:

$$n = \frac{\left(Z\frac{\alpha}{2}\right)^2 * P(1-P)}{d^2}$$

$$\mathbf{n = \frac{(1.96)2 * 0.38(1-0.38)}{(0.05)2} = \frac{0.905}{0.0025} = 362}$$

Therefore, from the above calculation the final sample size was 362. By Considering 10% of incomplete records of patients which becomes 36.2, the final sample size was 399**.**

2.6 Sampling Technique

The study subjects were selected using simple random sampling technique by taking discharge book. First, lists of 11,215 emergency patients' record were obtained from the patients' registration logbook of AaBET Hospital from January to December 2021. Random sampling method was employed using the total 11,215 emergency cases as a sampling frame; data was reviewed from charts from an interval of every 28 cards. The interval was calculated by dividing the 11,215 of RTA cases in the past one year for the sample size (n=399), i.e., K= 11,215/399. Finally, the data was reviewed after taking the first sample by lottery method.

2.7 Eligibility criteria

2.7.1 Inclusion criteria

The study was conducted on all selected records or charts of all injured patients with complete information or records who was treated at AaBET hospital during the period of January to December 2021.

2.7.2 Exclusion criteria

Patients with incomplete records (absence of major variables) and Records lost from data room were excluded.

2.8 Study variables

Dependent variables were Prevalence of RTA and Treatment outcome, the independent variables were Socio-demographic data (Age, sex, Occupation and Address), Anatomical site injured, Characteristics of injury, Mechanism of injury, Prehospital care, place from which patient comes to emergency department, Time it takes to reach initial health facility, Condition of patient, and care given in emergency department, Type of treatment given for the patient, GCS on admission, Days spent in hospital (LOS)

2.9 Data collection tool and Procedure

First, we sorted out all the RTA cases from log books and medical records. Then, data collectors traced and collected data from randomly identified records of RTA cases. Data was collected by medical chart review using pretested checklist prepared in English. The checklist was designed to contain five parts: The first part was concerned with sociodemographic data, second part was about the cause of injury, the third part contained the mechanism or pattern of injury on the body due to RTA, fourth section was concerned with assessment of severity of injury, the fifth part contained factors associated with RTA, the six and seventh parts contained pre-hospital care and outcome of treatment, respectively. During data collection, two medical record officers and 2 BSc Nurses were involved. Data collectors were read and assessed medical charts carefully and filled the necessary information according to the checklist.

2.10 Data quality assurance

Prior to data collection period, the checklist was pretested on 5% of sample size at Minelik II Hospital which is found Addis Ababa. During the pre-test, the checklist was assessed for its understandability, and reliability of the subject matter. Based on the obtained results necessary modifications were made on that checklist. During compilation, coding, entry, and analysis, data quality was reviewed for completeness and correctness. During data collection, data collectors were equipped with sufficient orientation and follow-up. The supervision of data collectors on how they manage problems was also considered. The completeness and consistency of the

completed checklist was checked by supervisor and principal investigator on a daily basis.

2.11 Data processing and analysis

First, the field checklist was check for completeness and consistency. Then, the collected data was cleaned, coded and entered in to SPSS version 23 for analysis. For evaluation of the study data, Descriptive statistical methods (frequency, percentage, mean and standard deviation) were used. The results were presented using tables and figures.

2.12 Operational definitions

Disposition outcome: is an outcome after the victim is seen by the Emergency physician at ED and planned to be discharged with improvement, admitted or referred (35).
Minor injury: Patient who had minor injury or superficial injury (e.g. Bruises, minor cut) requiring cleaning of the area.
Moderate injury: Patient who had moderate injuries requiring some sort of skilled treatment such as fracture stabilization and suturing of wounds.
Severe injury: Patient who had severe injuries requiring intensive medical/surgical management (e.g. internal hemorrhage, moderate/severe head injuries).
Multiple injuries- a traumatized patient who has more than two injuries at his body part intentionally or unintentionally.
Management outcome: is the condition of the patient at some point during their treatment which can be favorable or unfavorable.
Pattern of RTA- is an injury inflicted on the body due to road traffic accident such as anatomic part of the body involved, characteristics of injury, types of injury and mechanism of injury.

2.13 Ethical consideration

Ethical clearance was obtained from the Research Ethics Review Committee of Addis Ababa Medical and Business College. The advantages and purposes of the study was explained to staff members of the record office. Then, for retrieval of individual record and confidentiality of information, a written consent was given to the record office of AaBET hospital. After completion of data collection, medical records was returned back to their original place properly.

2.14 Dissemination plan

The result of the study was submitted to Addis Ababa Medical and Business College. It will also be disseminated to AaBET Hospital and other concerned and interested organizations. Finally, the result will be published on renowned journal for public use.

3. RESULTS

3.1. Socio demographic characteristics

A total of 399 trauma victims' registry were reviewed and included for analysis with a completion rate of 96.45% (385). The mean (SD) age of the victims was 27 ± 13.7years. Of all victims visited the hospital, the most commonly affected age group were between 26-30 years old, accounting for 68 (17.7%) followed by age <13 years 67 (17.4%). This study also identified 269 (69.9%) of victims were male and 116 (30.1%) were female. One hundred ninety nine (51.7%) of the victims were from urban residence (Table 1).

Table 1: Socio demographic characteristics of road traffic accident victims who visited AaBET from January 1 to December 30, 2021, Addis Ababa, Ethiopia (n = 385)

Variables	Category	Frequency	(%)
Age	≤ 12 years	67	17.4
	13-18 years	18	4.7
	19-25 years	64	16.6
	26-30 years	68	17.7
	31-35 years	43	11.2
	36-45 years	55	14.3
	46-60 years	41	10.6
	> 60 years	29	7.5
Gender	Male	269	69.9
	Female	116	30.1
Address	Urban	199	51.7
	Rural	186	48.3

3.2. Clinical Patterns of Road Traffic Accidents

Among 385 cases reviewed, based on anatomical site, 116 (32.7%) of them sustained lower limb injuries followed by upper limb injuries 92 (25.9%) (Figure 1). RTA victims who developed fracture injury constitute 151 (39.2%) followed by laceration injury which accounted 85 (22.1%). In this study, open wound fracture accounted 150 (39.0%). On the other hand, among the victims affected by the accident 87 (43.5 %) of them were Pedestrians followed by Passenger 67 (33.5 %). Majority of the accident occurred on day time with day light, 248 (64.4%) whereas the remaining 137 (35.6%) occurred at night time. Among the study participants, 241 (62.6%) of them sustained moderate injury followed by severe injury which accounted 119 (30.9%) (Table 2).

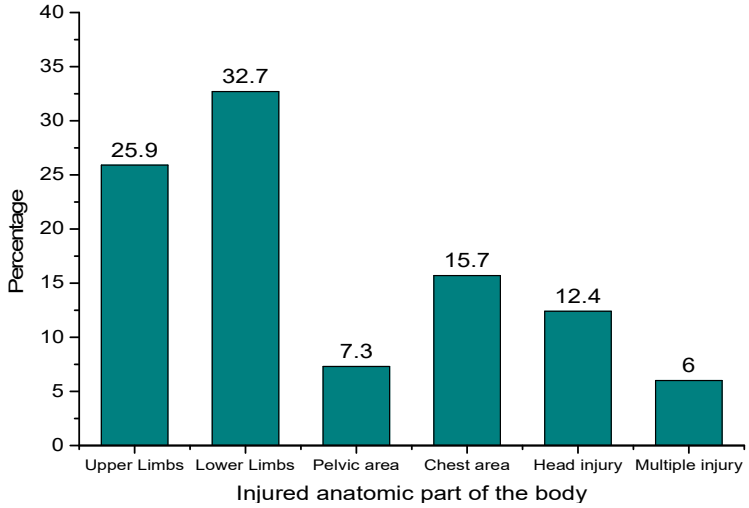

Figure 1: pattern of injury based on anatomic part of the body among RTA victims visited AaBET hospital in Addis Ababa

Table 2: Pattern of injury among RTA patients who attended AaBET from January 1 to December 30, 2021, Addis Ababa, Ethiopia (n = 385)

Variables	Category	Frequency	(%)
Characteristics of injury	Fracture	151	39.2
	Dislocation	45	11.7
	Laceration	85	22.1
	Abrasion	30	7.8
	others	65	16.9
Types of wound/fracture	Open wound	150	39.0
	Closed wound	144	37.4
	Comminuted	3	0.8
Classification of the Victims	Pedestrian	87	43.5
	Driver	46	23.0
	Passenger	67	33.5
Time of Accident	Night time	137	35.6
	Day time	248	64.4
Severity of injury	Minor or superficial injury	22	5.7
	Moderate injury	241	62.6
	Severe injury	119	30.9
	No apparent injury	3	0.8

About 40.3% of injuries due to RTA were caused by Minibus followed by automobile 22.6%. Regarding mechanism of injury, 45% of the victims reported that they hit by another vehicle followed by 29.1% of them fall down from the vehicle. In addition, more than half of the victims 54.5% were extracted from the vehicle by the people around them or bystanders followed by the police man which accounted 23.4%. Regarding mode of transportation, the largest proportion of victims (23.4%) was transported to their nearby health facility using each by Ambulance and private vehicle. The time it takes to reach initial health facility to seek the necessary support was in greater than 1 hour, 193 (50.1%). About 44.2% of the victims were come to AaBET Hospital after visiting other health institution especially health centers (Table 3).

Table 3: The type of vehicle responsible in causing road traffic accident for patients who attended visited AaBET from January 1 to December 30, 2021, Addis Ababa (n = 385)

Variables	Category	Frequency	%
Type of vehicles	Isuzu	17	9.1
	Automobile	42	22.6
	Motor cycle	20	10.8
	Public bus	9	4.8
	Minibus	75	40.3
	Lada taxi	11	5.9
	Truck	12	6.5
Mechanism of injury	Fall down	64	29.1
	Roll over	28	12.7
	Hit by other vehicle	99	45.0
	Collision	29	13.2
Person who extract the extract the victim	Health professionals	85	22.1
	Bystanders	210	54.5
	Police	90	23.4
Mode of Transportation	Ambulance	91	23.6
	Commercial Vehicle	27	7.0
	Police vehicle	84	21.8
	Private vehicle	91	23.6
	Carried by people	59	15.3
	Walking	27	7.0
	Others	6	1.6
Time it takes to initial HF	≤ 1 hour	192	49.9
	>1 hours	193	50.1
Place where patient comes	Scene	6	1.6
	Hospital	21	5.5
	Health Center	170	44.2
	Private institution	110	28.6
	Self	78	20.3

3.3. Management and its Outcomes

More than two-third (77%) of the victims got treatment before arriving to this hospital. From those victims who got treatment, the largest proportion got basic first aid (91.0%) and initial resuscitation (5%). Meanwhile, the condition of the victim after reaching the emergency room of AaBET hospital and evaluated by health professional were unstable 92 (23.9%) and 21 (5.5%) were reported dead on arrival. About two-third of patients had a pulse rate between 60 and 100 b/min, respiratory rate between 12-20 b/min and blood pressure between 90/60 and 120/80 mmHg on admission (Table 4).

Table 4: The treatment type at initial health facility and condition of the patient at ED of AaBET from January 1 to December 30, 2021, Addis Ababa (n = 385)

Variables	Category	Frequency	Percentages
Treatment at initial HF	Yes	299	77.7
	No	32	8.3
	Unknown	54	14.0
Type of treatment given at initial HF	Basic First aid	273	91.0
	Resuscitation	15	5.0
	Medication	12	4.0
Condition of the patient at ED	Stable	272	70.6
	Unstable	92	23.9
	Died on arrival	21	5.5
Pulse rate of the patient on admission	60-100 b/min	274	71.2
	>100 b/min	78	20.3
	<60 b/min	30	7.8
Respiration rate of the patient on admission	12-20 b/min	277	71.9
	>20 b/min	72	18.7
	<12 b/min	33	8.6
Blood pressure the patient on admission	90/60-120/80 mmHg	268	69.6
	>140/90 mmHg	30	7.8
	<90/60 mmHg	75	19.5

Note: HF; Health facility, **ED;** Emergency department

Regarding management given at ED, almost half (47.5%) of the victims received wound care and about each 23.4% of them were given anti- pain and resuscitation, respectively. On triage paper, one-fourth (25.2%) of admitted patients were classified as Red needing urgent/immediate intervention, and more than one thirds (36.6%) of patients were received surgical type of treatment. More than two-third of the patients'/victims (69.9%) who admitted due to road traffic accident had mild GCS followed by moderate GCS 83 (21.6%) on admission. The remaining 30 (7.8%) of patients presented to emergency department had severe GCS score or in deep coma. about 40.5% of patients admitted with road traffic accidents stayed in hospital for less than two weeks followed by those stayed more than 44 days (22.1%) (Table 5).

Table 5: The treatment, care given in ED and condition of the patient at ED of AaBET from January 1 to December 30, 2021, Addis Ababa (n = 385)

Variables	**Category**	**Frequency**	**Percentages**
Care given in ED	Resuscitation	113	24.3
	Medication	113	24.3
	Wound care	221	47.5
	others	18	3.9
Place where patient kept at ED	Red area	97	25.2
	Front evaluation	90	23.4
	Orange	48	12.5
	Yellow	111	28.8
	Green	36	9.4
Type of treatment given	Conservative	49	12.7
	Surgical	141	36.6
	Medical	183	47.5
Mental status (GCS) of the victim	13-15	269	69.9
	9-12	83	21.6
	3-8	30	7.8
Average number of days patient stayed in hospital	<14 days	156	40.5
	15-29 days	52	13.5
	30-44 days	83	21.6
	>44 days	85	22.1

***Others:** care is not given to victims

Regarding the disposition outcome, 97 (25.2%) victims with no apparent or mild injury such as simple abrasion and laceration were treated and discharged to their home from emergency outpatient department. However, about 252 (65%) of victims admitted and 18 (4.7%) of them were died on arrival (Figure 2).

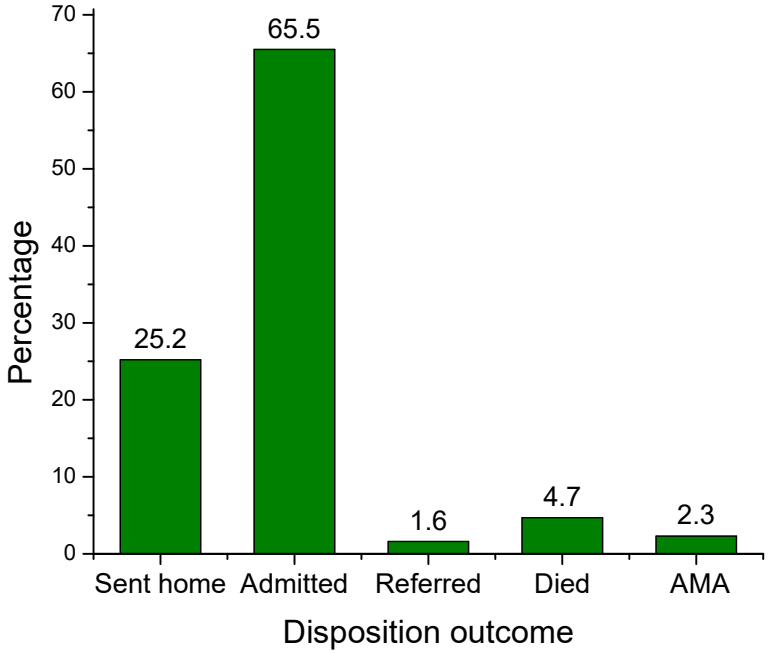

Figure 2: Disposition outcome of patients who visited AaBET hospital from January 1 to December 30, 2021. *AMA: Against medical advice (left the hospital without consent).

Among 252 victims who admitted in AaBET hospital 119 (44.1%) of them were admitted to orthopaedic ward followed by surgical ward 116 (42.9%) for further treatment (Figure 3).

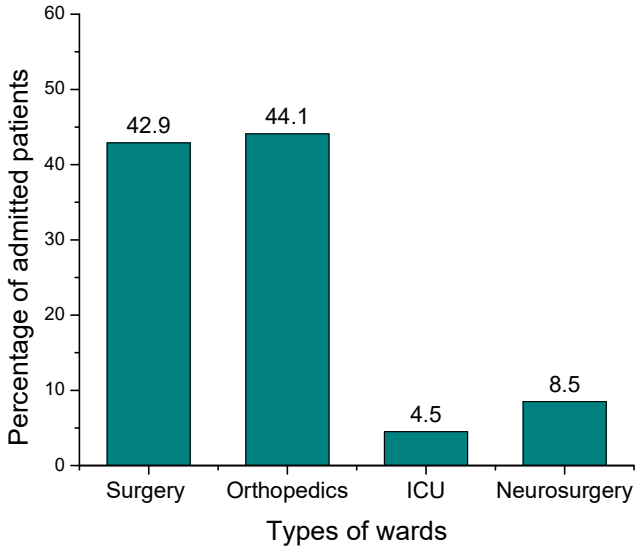

Figure 3: Types of wards and percentage of admitted patients at AaBET from January 1 to December 30, 2021, Addis Ababa

4. DISCUSSION

Road Traffic Collisions have become a major public health and economic problem worldwide. Many studies have revealed that there has been a rapid increase in the number of road traffic accidents in many of the developing nations including our country over the last several decades (18). This study indicated that out of 385 RTA victims, the most commonly affected age group was 26-30 years, (42.0%) which is consistent with the study done in Tirunesh Beijing hospital (41.6%) (27). However, this is slightly higher than other similar studies done in Yemen (34%) which might be due to larger sample size in this study (36).They represent the most economically productive age group who likely has serious economic implications particularly at a family level and nation too; they are more engage to outdoor activities, which might increase the risk of RTA.

About 70% of patients were male, which is in line with the study done in Medellín, Colombia (21), Guinea (37), but lower than the study done in Lagos university state, Nigeria (86%) (24). These study findings agrees with other similar studies done in Cameroon (72.4%) (38), and Wolaita zone (74.8%) (3).The large proportion of

male victims may be due to increased daily movement for work, and the increased level of participation in high-risk activities. Urban resident´s accounted 51.7% of the study population in this study. This result is similar to the study done in referral hospitals in Addis Ababa (53.7%) (26).

Regarding pattern of injury, musculoskeletal fracture was the most frequent type of injury (39.2%).This finding is slightly lower than the study done in India (50.4%)(39), Cameroon (50.76%)(38) and Tirunesh Beijing hospital (56.2%)(27), and significantly lower than the study conducted in Eastern Ethiopia (80.2%) (40).This might be due to the fact that majority of the study participants in those study areas were motor cycle drivers and passengers who sustained falling down injury from the moving vehicle. Moreover, in the current study nearly one-third (31%) of them sustained severe injury that urged them to seek intensive surgical management followed by moderate injury requiring some skilled treatment which accounted 62.6%. This study is much higher than the study done in Nigeria (41), in which severe cases accounted for 24.0% and less than the study done in Medellin, Colombia (45.6%) (21) and Southwest Ethiopia (46.4%) (42). However, it is in line with the study done in Jimma Referral hospital (32.7%) (28), and Central Ethiopia (31.5%) (2).The discrepancy could be due to difference in the nature of the studies and epidemiologic distribution of RTA in different study setting.

Regarding mechanism of injury, 45% of the victims reported that they hit by another vehicle. The second most common mechanism of injury is fall down from the vehicle accounted 29.1% of victims. This result is lower than the study done in Wolaita (62.5%) (3). The difference might be due to the difference in sample size, study period and the type of study design employed by the researchers. But, it agrees with the previous study done in Jimma Referral hospital (30.3%) (28), Guinea (30%) (37) and India (36.9%) (43).

In this study, 43.5 % of the victims injured were pedestrians. It is higher than the study done in Shanghai, China (31%) (44), but lower than the study done in Zewditu Memorial Hospital (66%) (2), in selected public hospitals in Ethiopia (49.7%) (26) and Saudi Arabia (55.4%) (45).The discrepancy could be due to difference in sample size and the study area, in this case Addis Ababa in which traffic flow is high as well as receiving referred cases from different parts of the country. Furthermore, insufficient attention to road safety needs (e.g. lack of pedestrian knowledge of road crossing, poor road design for users) and reckless driving behavior among drivers might increase the risk for the walker.

In the current study most of the road traffic injuries occurred during the day time with day light (64.4 %) which almost agrees with the study done in India (53.2%) (43); and North-Western Tanzania (60.5%) (46). The existence of traffic jam during the daytime, poor road network and mixed traffic flow system in urban areas might be the reasons for a higher collision during daylight. Besides, more than half (54.5 %) of the victims were extracted from the vehicle by the people around them or bystanders. This is in contrast with the study done in central Ethiopia (26) in which 67% of the victims were extricated by the health professionals. This discrepancy could be due to the fact that the accidents occurred in urban areas are accessible for people around the accident.

Regarding prehospital care, in this study about 77.7% of the victims took some type of care before arriving to the hospital. This result is higher than the study done in Central and Northern Ethiopia (18, 47), which reported 0% prehospital service. This discrepancy might be due to the presence of various ambulance services from private, government and NGOs which has played paramount role in provision of better prehospital care particularly in Addis Ababa.

Even though the level of care is better in the study area, it is yet much lower to save life lost due to RTA. Moreover, 23.6% of victims were transported to the nearby health facility using private vehicle and Ambulance. This finding is comparable with the prior study result reported by selected public hospitals in Addis Ababa (24.5%) (26). The low ambulance usage in the current study might be due to the fact that more than half of the victims 54.5% were extracted from the accident site by the family, people around them or bystanders and these people may not have experience or knowledge of calling for ambulance service.

Regarding management given at ED, almost half (47.5%) of the victims received wound care and about 23.4% of them were given anti- pain and resuscitation, respectively. Among 252 victims who admitted in AaBET hospital about 87% of patients admitted to surgical and orthopedic wards received surgical type of treatment. This finding is found to agree with a study done in North West Tanzania (83.3%) (46) and Dilchora hospital (90.5%) (40) where by majority of RTA patients admitted were treated surgically. This consistence might be due to similar study design. Moreover, 40.5% of patients admitted with road traffic accidents stayed in hospital for less than two weeks. It is less than the study conducted in in Northern Ethiopia (60.5%) (15). About 7.8% of victims presented to AaBET hospital had severe GCS which is higher than the study done in Guinea (1.4%)(37). The inconsistence might be due to admission of severe cases in the current study and larger sample size in the later study.

5. CONCLUSIONS

World-wide Road traffic accidents are responsible for premature mortality and morbidity. It is a significant cause of preventable death, particularly among pedestrians and users of motorized vehicles. Predominantly males and people aged 26-30 years of whom urban areas were affected. Nearly one-third of them sustained severe injury in

which majority presented to hospital after an hour of sustaining injury representing a significant delay in presentation. More than one fourth was classified as red patients needing urgent/immediate intervention such as resuscitation and anti-pain. More than three fourth of the patients have undergone surgery. So it is well known that RTA problems a major public health issues having a great economic consequences. From foregoing it is evident that RTA requires proper traffic management; and the mortality and disability from RTA can be minimized by appropriately identifying the priority patient and giving appropriate intervention promptly.

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