COLLEGE OF HEALTH SCIENCE AND MEDICINE

DEPARTMENT OF PUBLIC HEALTH

ASSESSEMENT OF PREVALENCE OF ROAD TRAFFIC ACCIDENT AMONG SURGICAL EMERGENCY ATTENDANTS AT WOLKITE UNIVERSITY SPECIALIZED HOSPITAL, GURAGE ZONE ETHIOPIA 2014 E.C.

PREPARED BY: ID.NO

1. **REGASSA ATIRE**……..092/11
2. **TEREZA TESHALE**…….. 905/11
3. **AMALESHET HUNEGNAW**……O66/11

A RESEARCH PAPER SUBMITTED TO WOLKITE UNIVERSITY, DEPARTMENT OF PUBLICHEALTH FOR PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR BACHELOR DEGREE IN PUBLIC HEALTH

JUNE, 2022

WOLKITE, ETHIOPIA

COLLEGE OF HEALTH SCIENCES AND MEDICINE

DEPARTMENT OF PUBLIC HEALTH

A RESEARCH PAPER SUBMITTED TO WOLKITE UNIVERSITY, DEPARTMENT OF PUBLIC HEALTH FOR PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR BACHELOR DEGREE IN PUBLIC HEALTH.

Group members	Regassa Atire Tereza Teshale Ameleshet Hunegnaw
Name of Advisor(s)	Mr. Amare & Mr. Adane (BSC,MPH,Lecturer)
Full title of the research proposal	Assessment of prevalence of road traffic accident, among surgical emergency attendants in Wolkite university specialized hospital ,Gurage Zone, Ethiopia 2014 E.C
Duration of research	April- June, 2022 G.C
Study area	In Wolkite university specialized hospital
Total cost of the project	2,000 ETB
Source of funding	SELF
Date of submission	13/10/2014 E.C

APPROVAL SHEET

THIS IS TO CERTIFY THAT THE RESEARCH PAPER ENTITLED **FOR ASSESSMENT OF PREVALENCE OF ROAD TRAFFIC ACCIDENT AMONG EMERGENCY OPD ATTENDANTS AT WOLKITE UNIVERSITY SPECIALIZED HOSPITAL,GURAGE ZONE,WOLKITE ,ETHIOPIA, IN 2022 G**.C ,SUBMITTED TO WOLKITE UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE, DEPARTMENT OF PUBLIC HEALTH AS ORIGINAL WORK CARRIED OUT BY REGASSA ATIRE, TEREZA TESHALE,AMALESHET HUNAGNEW, THE ASSISTANCE,AND HELP RECEIVED DURING THE COURSE OF THIS WORK HAVE BEEN DULY ACKNOWELEDGED.THEREFORE WE RECOMENDS THAT IT HAS BEEN ACCEPTED AS FULFILLING THE REQUIRMENTS.

INVESTIGATOR(s)	SIGNATURE	DATE
REGASSA ATIRE	_____	_____
TEREZA TESHALE	_____	_____
AMALESHET HUNEGNAW	_____	_____

ADVISOR(S)	SIGNATURE	DATE
Mr. AMARE (MPH)	_____	_____
Mr. ADANE (MPH)	_____	_____

EXAMINOR(S)	SIGNATURE	DATE
Mrs. FEDILA (MPH)	_____	_____

Table of Contents

ACKNOWLEDGMENTS

We would like to acknowledge Wolkite university Department of Public health for fulfilling all things to go through and facilitating this study, and we would like to extend our great gratitude to our advisor Mr. Amare and Mr. Adane for their great advice in compiling this research.

Also we would like to express our appreciation to emergency department workers for their collaboration of giving permission and providing access for patient's card.

Finally we would like to thank heartily to our friends for their support for computer supply

Abbreviation and Acronyms

DALYS – Disability-Adjusted Life Years

ED – Emergency Department

EOPDD_ Emergency OPD Department

WUSH _ Wolkite University Specialized Hospital

GNP – Gross National Product

LMIC– Low and Middle-Income Countries

LOS – Length of Hospital Stay

RTA– Road Traffic Accident

RTI – Road Traffic Injuries

RTCS– Road Traffic Collisions

GCS – Glasgow coma scale

SPSS – Statistical Packages for the Social Sciences

UNEC – United Nations Economic Commission

USA – United States of America

USD – United States Dollars

WHO – World Health Organization

Abstract

Introduction: Road traffic accident (RTA) is an incident on a way or street open to public traffic that becomes one of the most critical public health problems in the world especially in developing countries. According to WHO, every day more than 3000 people die from a road traffic accidents. The report done by the GBD indicate that estimated 973mllion people sustained injuries that need some types of health care and 5.1million dead from injuries. The major cause of injuries associated death where road traffic injuries followed by assault. Developing countries account for 90% of global road traffic deaths. Road traffic accidents are being the critical public health problem that causes disabilities and death in Ethiopia which could need due investigations. In Ethiopia, despite government effort to reduce RTA, injures is increasing at an alarming rate and constitute around half of surgical emergency in most part of the countries.

Objective: the aim of this study is to assess the prevalence of road traffic accident among surgical emergency department attendants in Wolkite University specialized hospital, from March 2013 to March 2014 E.C.

Methods: A descriptive retrospective cross-sectional study was conducted on prevalence of road traffic accident among emergency department attendants of Wolkite university specialized hospital from March 2013 to March 2014. The data was collected by using systematic random sampling technique. A semi-structured pre-tested checklist was used to gather the data from the patient´s chart and the collected data were analyzed using SPSS version 21. A descriptive statics such as graphs, tables and charts were used to present prevalence of road traffic accident and other variables.

Results: A total of 321 patients who visited Wolkite University specialized hospital and registered on patients folder card from March 2013 to March 2014 were included in the study. The prevalence of road traffic accident was found to be 67(20.9%) of them 66.7% occurred by public transport and 29.9% were pedestrian and among the victims about 5 (7.5%) were died

Conclusion: The prevalence of road traffic injury in the study area was high. Therefore the government intervention is needed to reduce road traffic accident and its impact on individual, family and community level.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Road traffic accident (RTA) is an incident on a way or street open to public traffic resulting in one or more persons being injured or killed and involving at least one moving vehicle [1,2]. Road traffic accidents have become a huge global public health and development problem killing nearly 1.2 million people a year and injuring or disabling between 20-50 million people worldwide; thus making the loss of US 518 billion dollars globally [3]. According to Who Global Burden of Disease (GBD) Estimates, in 2008, 5.1 million people died worldwide every year as a result of injuries and violence. this account for around 9% of the world's deaths and the majority of injury related deaths are unintentional or "accidental "with road traffic crashes, falls and drowning ranking among the main causes (4).In the past few decades, due to urbanization, industrialization, rapid motorization and unsafe driving, the risk of accidents have increased, contributing a large burden of mortality and morbidity, especially in developing countries (5) road traffic injuries (RTIS) are among the leading causes of death and lifelong disability globally and according to the 2015.WHO global status report on road safety, about 1.25 million people die annually on the world's roads, with 20–50 million sustaining non-fatal injuries (6).

Traumatic injuries represent a significant and growing disease burden in the developing world, and now it is one of the leading causes of death in economically active adults in many Low and middle income countries (LMICSs) (7). Developing countries account for 90% of global road traffic deaths; while accounting only 20% of cars being driven and men comprise a mean 80% of casualties [8]. Estimates of the magnitude of road traffic injuries in low-income countries are primarily obtained from police records and sometimes hospital registry data; however, both sources are affected by under reporting [9]. The African Region remains the least motorized of the six world regions but, suffers the highest rates of road traffic accident having death rates well above the global average of 18 deaths per 100 000 population while the regional average is 24.1 deaths per 100, 000 [10], and RTIS death rates are highest in the African region. In developing countries, traumatic injury ranks third as a major cause of death and permanent disability among the adult population next to Tuberculosis and HIV/AIDS (11). The main reason of this burden of injuries is due to lack of organized efforts to reduce its occurrence; and the cost-effectiveness of injury prevention and emergency treatment in these resource limited settings is not yet well understood as the development of emergency care systems is in its nascence (12).

1.2-statement of the problem

Road Traffic Accident (RTA) is a collision between two or more vehicles, between vehicles and pedestrians, between vehicles and fixed obstacles (13). It considered as a serious public health problem worldwide (26). They are a significant public health challenge and predicted to be 5th leading contributing factor to the global burden of disease by 2030(27, 28). in Ethiopia RTA is common public health problem according to World Health Organization (WHO) report, Ethiopia is considered one of the worst countries in the world where RTA kills and injures a large number of road users every year nearly 2000 people die due to road traffic accidents where, 48% are pedestrians, 45% passengers and 7% drivers and over 400 to 500 Million ETB is lost yearly, as a result, RTA [13]. Even though the challenges are increasing, RTA in developing

countries including Ethiopia the focus is still an under-reported and neglected area to be studied and solutions to be obtained promptly [14]. The productive parts of population aged 15-44 years accounted for more than half of all road traffic deaths globally [15,16]. 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 [17]. In Ethiopia, like that of other developing countries road traffic injuries are common and the 2008 national report on road safety indicated that nearly 19,000 road traffic accidents occurred per year, claiming over 2500 lives and property worth of us$ 56 million (18). Even though some previous studies done in other regions of the country indicated high burden of injury, the occurrence and increasing public health importance haven't received due attention and a comprehensive injury data still remains limited (19).Like other African countries in Ethiopia, road traffic accident is a common public health problem that affects majorly the economically active groups. Despite government efforts to reduce RTA, Injury is increasing at an alarming rate and constitute around half of all surgical emergencies.

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 [20, 23].in today's world, road traffic accident is treated as a major epidemic of non-communicable disease and incurs permanent disability, through amputation, head injury, or spinal cord injury (25).

RTA is considered a serious public health problem worldwide (26). They are a significant public health challenge and predicted to be 5th leading contributing factor to the global burden of disease by 2030(27, 28). Although road death and injury are preventable they are among the leading cause of premature deaths hospitalization and disabilities and socioeconomic losses (27, 28 ,29).RTAS rank the 11th leading cause of death and account for 2.1% of all deaths globally (30).pedestrians ,cyclist, two wheeler riders ,and public transport passengers are the most vulnerable road users(30). RTA related deaths are predicted to increase by 83% in developing countries and to decrease by 27% in the developed one (31).

A road traffic accident is a growing public health problem, being responsible for or up to 50 million nonfatal injuries globally (32). The burden of road traffic deaths is disproportionately high among low and middle than high-income countries concerning the size of their populations and the number of motor vehicles in circulation with an average rate of 27.5 deaths per 100,000 population, in low-income countries, and 8.3 deaths per 100,000 Population in high -income countries (33). Ethiopia is one of the most affected countries by RTA (34), with national RTA fatality rate of 22% (35).

In Sub-Saharan Africa, there are challenges to delivering high-quality emergency medical services such as patient overload, poor integration with other health services, limited and inefficient services, poor clinical documentation, and a shortage of physicians and necessary supplies (36). Even though Ethiopia is a country with a low rate of motorization, the number of people killed and injured as a result of traffic accidents has been increasing and the country was experiencing a tremendous loss of life and property each year as one of the leading countries of the world with worst accident record (37). In Ethiopia, the largest proportion of series injuries comes from road traffic accidents and become major causes of death in the emergency room among trauma victims [38].

1.3-significance of the study

In Ethiopia the occurrence and health impact of RTA have not received due attention despite higher burden of injury. This can mainly be attributable to the lack of information on the magnitude of the problem and related information needed for prevention. The finding of this study might help as, as a reference for those who work on injury prevention & needs further study regarding it. It encourages other researchers to carry out extensive research on devastating trauma and to overcome the problem faced by it. It can also be used as making a sole input to the literature, it help us to encourage skills toward road traffic accident with its outcome and to develop solution needed. Finally, the study may provide information that will help in the improvement and implementation of road traffic laws enforcement by the traffic polices and other concerned bodies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Magnitude of Road Traffic Accident

The burden of road traffic accident is high through the world. For instance study conducted in Vietnam shows that there were 526 deaths from RTIS in 2008, and 535 deaths in 2009, totaling 1,061 deaths over the two year period. The annual crude RTI death rate was 21 and the annual age standardized mortality rate was 20.3. Aggregately, 73% of the deceased were aged from 15 to 49, the most economically-productive group, 17% died on the way to a health facility, totaling 42% of the deaths happening before reaching a health facility; and a further 29% of people died at home. Only 29% of deaths occurred in a health facility, although some deaths at home may have followed discharge when treatment appeared unlikely to succeed (39).

Another study conducted in French stated that; the most frequent injury categories, irrespective of gender and the studied period, were open wounds, followed by fractures, dislocations and sprains. For all injuries together, the prevalence of Year lived with disability (YLD) rate for male were 24% and 32% for women. The years of lost life(YLL) rates for male were 36% and from women 29% for(40).So in this study the trained and magnitude of road traffic morbidity and mortality for all age groups and both genders between the two study periods in French is decreased.

In British Colombia, Canada state that Over the 10 year study period, there was an annual average of 143,424 insurance claim collisions and 38,633 police reported crashes which included 1,710 incidents involving. The prevalence of fatality among different group of population was pedestrians 63%, pedal cyclists 9%, motorcyclists 39% and heavy vehicles 63%. The annual number of traffic citations per 1,000 licensed drivers in each police patrol ranged from 26 to 1,645 [41]. In China showed that a total of 346 extremely serious road accidents (ESRAS) were reported nationally from 2004-2015, with an annual average of 29 cases [42].

In Nepal showed that half 50% of the victims represented the age group 21- 40 years and 34% were below 20 years. Majority 71.4% of the victims were male. More than half 56.2% of the victims were educated from secondary to higher secondary level of education. The prevalence of occurring in accidents was 38.4% in two wheeler, 36.6% four wheelers, passengers 55.4% and bike riders 29.5% were the main victims of RTAs. The prevalence of collision between two motorized vehicles was 26.8%. Yet, this Findings showed that half 50.9% of the victims had minor injury, 42% had moderate and 7.1% had severe injury (43).

In India Road accidental fatalities have increased more than 9 times, from 14,500 in 1970 to 137,400 in 2013. In comparison to 2003, fatalities and injuries in 2013 are higher by 53,000 and 87,000, respectively. From 2003 to 2013, fatalities have increased at a rate of 5% per year. Consequently, road accidental deaths per 100,000 people, has increased from 7.9 to 11.2 in 2013. Although fatality rate has decreased over the years from 87.5 to 8.6 in 2013.The prevalence of death among 30-44 years age group population was 35%, by sex categories male was 64.6%, female 53.1%. Number of injuries faced by males 21.8%, females 26.9%, from 69,843 in 2003 to 88,654 in 2013[44].

Study conducted in Kigali, Rwanda stated that a total of 2589 crashes were analyzed with 4689 victims involved, of which 685 were injured and 85 died. 92.5 % were male drivers in the average age of 36.4 years. The prevalence of fatal/grievous injuries were18.5%.the crashes mainly 65.9 % day time. Prevalence of road conditions at crashes were frequently paved 95.6 % and dry 95.5%. By types of vehicle cars 43.8%, trucks 26.8%, followed by buses 14.6% and motorcycles 14.5%. Primary victims of crashes were mainly in cars 53.9%, followed by motorcycles 15.4%, trucks 11% and pedestrians and

cyclists 11.4 %. Primary victims with grievous injuries were mostly pedestrians and cyclists 51.8 % or motorcyclists 32.8%, while non-grievous crash victims were predominantly in cars 64.6%(45).

According to study conducted in central Ethiopia showed that RTCS steadily increased in the study area over this period of time; From July 2007 to June 2012, 2,335 collisions were registered. The prevalence of death was 29.5%, severe injuries 31.5%, slight injuries 39%. These collisions affected about 1,745 individuals (46).An institutional based study conducted in Amhara regional state referral hospitals (university of Gondar hospital, B/Dar Felegehiwot hospital and D/Birhan hospital) in a total of 414, the prevalence of injury in ed of the referral hospitals was 55.6 %.the study evidenced that unintentional injuries are the primary causes with 165 (71.7 %) of cases. Most (46%) of the unintentional injuries were contributed by RTA (47)

In a study conducted in Jimma University specialized hospital, the prevalence of road traffic accident was (30.9%). Fracture was the leading outcome of injury (41.2%), followed by bruise or skin laceration (36.7%). Significantly more males had cut, and stab, injuries compared to females. Conversely, significantly fewer males had burn, and road traffic accident, than females. Eighty three (7.5%) of the patients died and road traffic accident alone accounted for almost half (49.7%), of the severe injuries (50).

A prospective cross sectional study was conducted in Tikur anbessa specialized referral hospital from February 1 to April 30, 2013. A total of 3287 patients who visits the ED, the ratio of m: f was 3.58:1 and more than 41% of patients were between age of 20 and 29.the result indicates that the most common cause of injury was road traffic accident (RTA) 123(38.3%), Followed By Assault 101(31.5%), And Falling Accident 68(21.2%). In Addition, the Commonest Occupation Was Farmer (20.9%) followed by Civil Servant (19.9%) and Students (15 %).By looking the outcome of injury, (41.4%) patients had fracture followed by open wound in (26.2%), organ system injury in 60(18.7%) and the frequent locations of the injury were head, neck and face (43.6%) followed by lower extremity 23.1% and the upper limbs 17.1%. In the same study (71%) had moderate injury, (14.6%) and 34(10.6%) had severe and minor injuries respectively. The main determinants of injury in this study were sex, age, and income, living in rural area and being a pedestrian (51)

CHAPTER THREE: OBJECTIVE OF THE STUDY

3.1 General Objective

- To assess the prevalence of road traffic accident among surgical emergency department attendants in Wolkite university specialized hospital in 2014 E.C

3.2 Specific Objectives

- To determine magnitude of road traffic accident among patient visited Wolkite university specialized hospital from March,2013 to March In 2014 E.C
- To identify pattern of injury after road traffic accidents among patient visiting Wolkite university specialized hospital from March,2013 to March in 2014 E.C
- To assess the vehicle which causes RTA frequently at surgical emergency attendants of WUSH from March, 2013 to march, 2014 E.C.?

CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study Area

The study was conducted in Wolkite university specialized hospital which established and have been started to work well organized activities in 2012 E.C, which is located in Cheha woreda ,Gurage zone, south nation nationalities and peoples regional state about 14 km North East of Wolkite town (Gurage Zone administrative center town) ,about 166 km from Addis Ababa, the capital city of Ethiopia . The Wolkite university referral hospital has inpatient, outpatient and operation service. They provide clinical services for the town of Wolkite and its surrounding communities, serving referred people so as, or in general for two or more regional state. Health services provided in this hospital include: Emergency, Gynecology/Obstetrics, Surgery, Antenatal Care and Family Planning, Pediatrics, TB treatment, Anti-Retroviral Therapy (ART) VCT, Dermatologic, Psychiatric Center, Ophthalmologic and Dental Care. Currently this hospital has about 332 health worker from this 30 Senior doctor,3 radiologist,71 GP,10 Health officers, 2Environmental health worker,2Pschiatrist ,5 Anesthetics, 26 Pharmacy, 130 Nurse,30 Midwife and 23 lab technician.

4.2. Study Design and Period

The hospital-based retrospective cross sectional study was conducted to assess prevalence of Road traffic accident among emergency attendants at Wolkite University specialized hospital Surgical ED from April up to June 14, 2014 E.C.

4.3. Population

4.3.1 Source Population

- The source population are all attendants of Wolkite university specialized hospital at surgical ED

4.3.2 Study Population

- The study population attendants whom registered on chart at surgical emergency department of Wolkite University specialized hospital from March 2013 to march 2014 E.C

4.4 Inclusion & Exclusion Criteria's

4.4.1. Inclusion criteria

- ✓ Those who are attending from march 2013 to march 2014 E.C and those which have complete registration and full information on card.

4.4.2. Exclusion Criteria :

- ✓ When attendants death happened on arrival ,
- ✓ When attendants immediately referred ,
- ✓ Incomplete attendant information on charts (missing very important variable).

4.5. Sample Size and Sampling Technique

The sample size is determined by using single population proportion formula. By assuming the prevalence rate of road traffic accident to be 30.3 % based the study conducted among patients

visited emergency department at Jimma, with 5% marginal error, and 95% confidence interval [50].

$$n = \frac{Z^2 p(1-p)}{d^2}$$

Therefore, the sample size will be estimated by using the formula,

$n = (1.96)^2(0.303)\ (1-0.303)/\ (0.05)^2 \quad = 324$

Where

n= the required sample size

Z= Standard score (1.96) corresponding to 95% confidence interval

P= prevalence rate (30.3%)

D= the margin of error (precision)

By considering 5% of incomplete records of patients which becomes 32, the final sample size becomes 340. From the chart we used about 19 charts records were incomplete, then our sample size becomes 321 and we collected data for 321 attendants.

The number of patient's card who is registered visiting WUSTH with period of March 2013 to March 2014 E.C is 3321.so dividing this number to sample size, the interval (k) is 10.

Systematic random sampling was employed using patients register from March 2013 to March 2014 E.C as sampling frame. Study unit were selected by calculating sampling interval (k) from the sampling frame and sample size n (k=N/n), interval (k=10). Then first number was selected randomly by lottery method.

4.6. Variable of the study

- Road traffic accident
- Age, sex, residence, ethnicity, religion, marital status
- Time of accident
- Weather condition

4.7. Data Collection Instrument and Procedure

Data was collected by using checklist developed from reviewing literature which were prepared in English .This checklist gathers data on socio-demographic characteristics, injury events, and final outcome of the patient. Data was collected from randomly identified charts of patient visited Wolkite university specialized hospital from May 5, 2014 – May 20, 2014 by group members with the help of record office worker.

4.8. Data Quality Control

The quality of data collection process was controlled by giving clear instructions to the data reviewers.

All the collected data were revised and checked for its completeness by the principal investigator and necessary corrections were made each day.

4.9. Data Analysis

Data was manually collected and tested for completeness and accuracy then coded and entered EPI data version 4.6 computer programs. Subsequently, the data was exported to SPSS version 21 computer program for study. The result was presented in narratives, graphs, tables, bar chart and pie chart.

4.10. Operational and Standard Definitions

- **Minor injury** -patient who had minor injury or superficial injuries (e.g. bruises, minor cuts) respectively requiring cleaning the area. [58]
- **Moderate Injury**: -patient who had moderate injury requiring some sort of skilled treatment such as fractures stabilization and suturing of wounds.[58]
- **Severe injury** : - patient who had severe injury requiring intensive medical/surgical management (e.g. internal hemorrhage, moderate and severe head injuries) - At least one person was injured and admitted in hospital, but no deaths occurred. [57,58]
- **Pedestrian-** a person walking rather than traveling in a vehicle[1,2,10]
- **Passenger**-a person traveling/transport/ by vehicle[
- **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, and types of injury and mechanism of injury.[53].
- **Road Traffic Accident**-is an accident involving at least one vehicle on a road open to public traffic in which at least one person is injured or killed/ defined as a rare, random and multiple factor events always preceded by a situation in which one or more road users have failed to cope with the road and its environment.
- **Accident Rate** - is a measure of the rate of occurrence of accidents in relation to time for example, 10 accidents per year.

- **Injury or trauma** is tissue damage resulting from a transfer of different forms of energy either intentionally or unintentionally. [1,10].
- **Fatal accident** at least one person (driver, passenger or pedestrian) died, within 30 days, from injuries received as a result of RTA.[1]
- **Disability-adjusted life year** a health-gap measure that combines information on the number of years lost from premature death with the loss of health from disability [7].

4.11. Ethical Consideration

To begin collecting data an ethical clearance was obtained from the University of Wolkite College of Medicine and Health Science, Public health department head office and Permission was obtained from the head office of the hospital with a formal letter of cooperation. Finally the Confidentiality was kept anonymously.

CHAPTER FIVE: RESULTS

5.1 Socio-Demographic Characteristics of the Respondents

A total of 321 patients medical records (chart) were included in the study with respondent rate of 94.4%. Among these, 224 (69.8%) were male, 138 (43%) were in age range of 20-39 years and 167(52%) were living in urban area of residence (table 1) and Related to occupational status most attendants were, student 108(33.6%) followed by Farmer, 54(16.8%).out of this 154(48%) were single by marital status., Majority144 (44.9%) of patients were Orthodox Christian followed by Muslim 121 (37.7%) (**Table 1**).

Table 1 : Socio–demographic characteristics of surgical emergency attendants at Wolkite university specialized teaching hospital ,Gurage zones, SNNPs region, Ethiopia from march ,2013 to march ,2014 E.C (n=321)

variable(s)	Category	Frequency	Percentage (%)
Age	0-9years	27	8.4
	10-19 years	63	19.6
	20-39 years	138	43
	40 years and above	93	29
Sex	Male	224	69.8
	Female	97	30.3
Residence	Urban	167	52
	Rural	154	48
Occupation	Governmental employee	19	5.9
	NGO	9	2.8
	Student	108	33.6
	Farmer	54	16.8
	Merchant	49	15.3
	House wife	30	9.3

	Other	52	16.2
Marital status	Single	154	48
	Married	146	45.5
	Divorced	8	2.5
	Widowed	13	4
Ethnicity	Gurage	248	77.3
	Oromo	30	9.3
	Amhara	25	7.8
	Silte	10	3.1
	Other	8	2.5
Religion	Orthodox	144	44.9
	Muslim	121	37.7
	Protestant	34	10.6
	Catholic	20	6.2
	Other	2	0.6

Based on referral source about, 145 (45.2%) attendants come to hospital by themselves as shown figure 1 below.

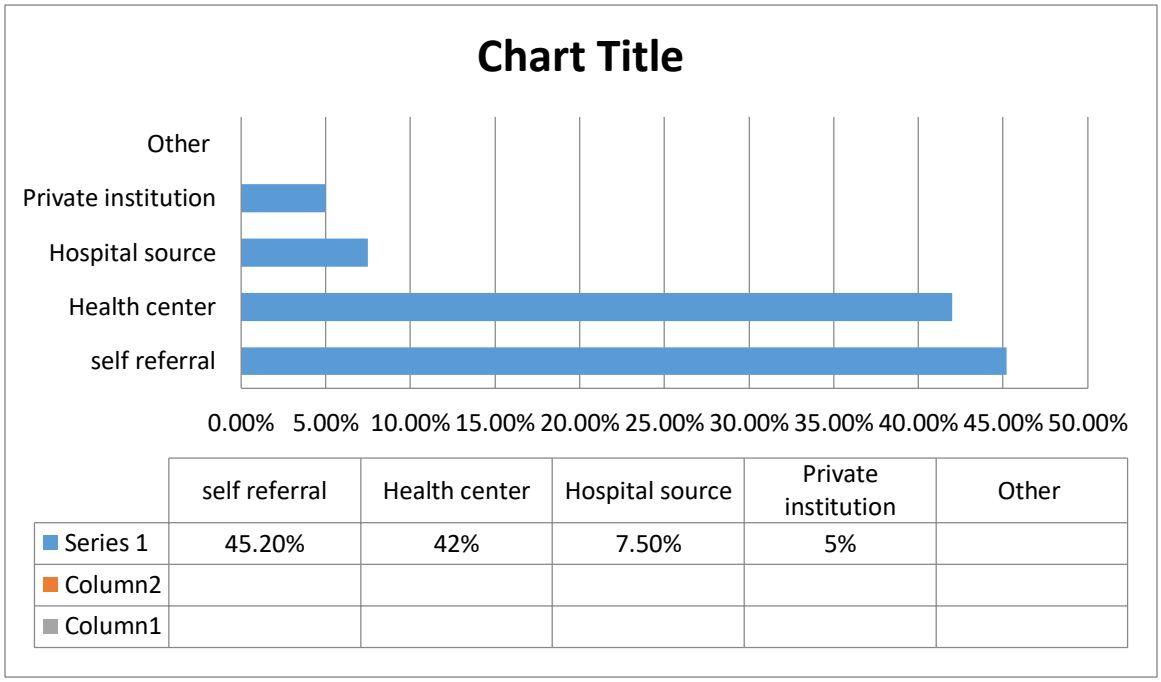

Figure 1: Referral source from where attendants come to Wolkite University specialized hospital, from March, 2013 to march, 2014 E.C (n=321)

5.2 Arrival Status, Mode of Arrival,

Among 321, attendants about 313(97.5) were alive before reaching the hospital and about 79(24.6) of attendants come to the hospital by an ambulance (table 2 below)

Table 2: Arrival status of attendants, their mode of arrival while they traumatized or not and if traumatized secondary RTA, or **not** at Wolkite University specialized hospital from March, 2013 to march 2014 E.C before reaching the hospital.

Characteristics	Category	Frequency	Percentage (%)
Arrival status of attendants	Alive	313	97.5
	Dead	8	2.5
Mode of arrival	Ambulance	79	24.6
	Police car	10	3.1
	Bajaj	50	15.6

	Other	182	56.7

5.3 prevalence of road traffic accident

The magnitude/prevalence of RTA in the emergency departments of WUSTH was found to be 67 (20.9%) (95CI:25.4%, 35.2%) as shown figure 2 below) .The most commonly affected age group was from 20 to 39 years (43%) followed by 40 and above (29%), then 0-19 years´ age group (29.8%). Males were more frequently affected than females (61.2% vs. 38.8%). The majority of the victims 67.2% were from urban and 32.8% were from rural areas. Regarding the occupation; students 25(37.3%) were frequently injured by road traffic accident followed by farmer (22.4%) and drivers´ injury is at last rank (7.5%). Among 67 roads traffic accidents victims, 21(31.3%) were due to minibus followed by the motor bike 20.9% and 13.4% due Isuzu-related accident. Among the victims of road traffic victims, 23 (34.3%), 20(29.9%), 13 (19.4%) were passengers, pedestrians and motor cyclist respectively. Among the car accident victims, 13(19.4%) of car accident injury patients have died; immediately, 5(7.5%) after surgical intervention and 8(11.9%) on arrival respectively. Outnumbered of car accident injury patients had multiple injuries that accounted for 18 (26.9%) followed by lower extremity injury 16 (23.9%)

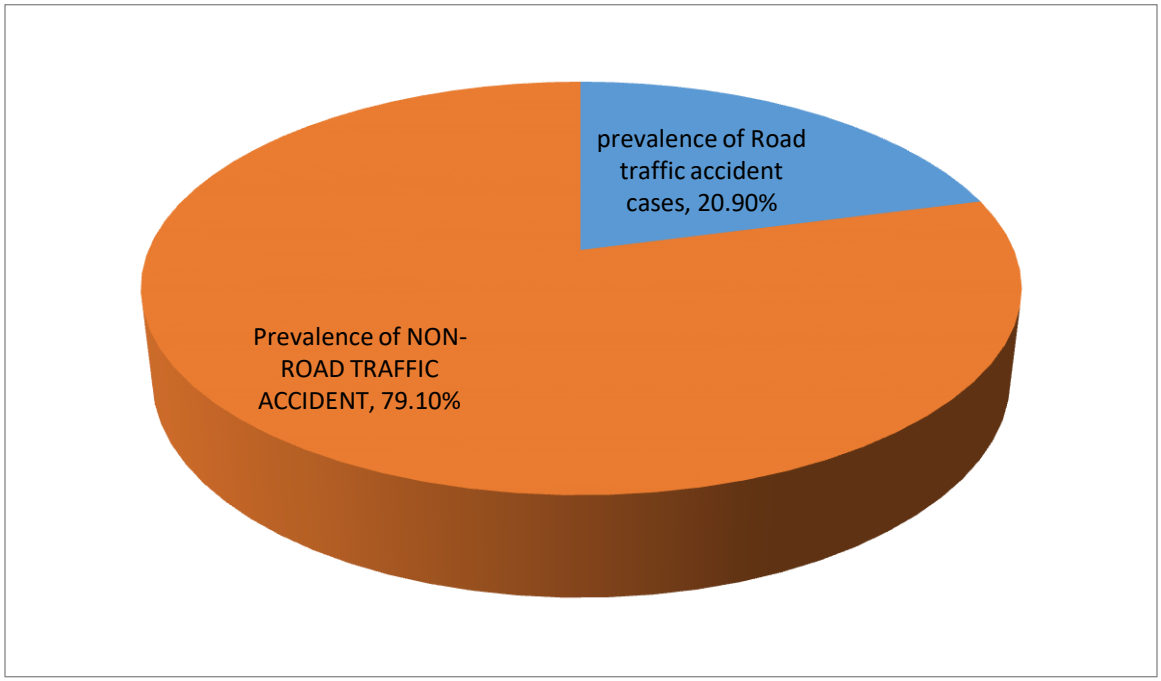

Figure 2: prevalence of road traffic accident among surgical emergency attendants, at Wolkite university specialized hospital from, March 1, 2013 to March 1, 2014 E.C by percentage (n= 321)

About 29(43.3 %) of the injured person Glasgow coma scale was between 13-15 and 24(35.8%) of them had GCS of 3-8 (**Table 3**). About 44.8% have severe injury and about 29.9% are in red triage category

Table 3: The age, sex and residence , occupation ,pattern of injury among RTA attended of WUSTH from march ,2013 to march ,2014 E.C, vehicle involved in the accident, injury severity and time of the accident Wolkite Ethiopia(n=67)

Characteristics	Category	Frequency	Percent (%)
Age	0-19	20	29.8
	20-39	29	43.3
	40 and above	19	26.9
Sex	Male	41	61.2
	Female	26	38.8
Residence	Urban	42	67.6
	Rural	25	37.4
Occupation	Student	25	37.3
	Gov`t employees	8	11.9
	NGO	2	3
	Farmer	15	22.4
	Merchant	10	14.9
	House wife	5	7.5
	Other	2	3
RTA victims	Pedestrian	20	29.9
	Passenger	23	34.3
	Motor cyclist	13	19.4
	Driver	5	7.5

	Driver assistant	6	9
Triage category	Red	20	29.9
Glasgow coma scale	13-15	29	43.3
	9-12	14	20.9
	3-8	24	35.8

Pattern of injury	Head injury	8	11.9
	Neck injury	2	3
	Chest trauma	10	14.9
	Abdominal trauma	5	7.5
	Pelvic injury	6	9
	Upper extremity	6	9
	Lower extremity	16	23.9
	Multiple injury	18	26.9
Vehicle type with which the accident happen	Public bus	8	11.9
	Isuzu	9	13.4
	Minibus	21	31.3
	Bajaj	7	10.4
	Motor bike	14	20.9
	Other	8	11.9

5. 4 Time of accident, position of victims and length of the stay in hospital

Most of the road traffic accidents occurred during day time. During the day time 40(59.7%) and about 79.1% stay in hospital less than 2 weeks (table 4), among the total of car accident victims, % occurred from June to August (40.3 %) and the least 17.9% occurred during December to February (**Figure 3**). Fifty four (84.6%) were injured on asphalt among this 15(27.8%) were the pedestrians from them 2(3%) accident happen when crossing the zebra line.

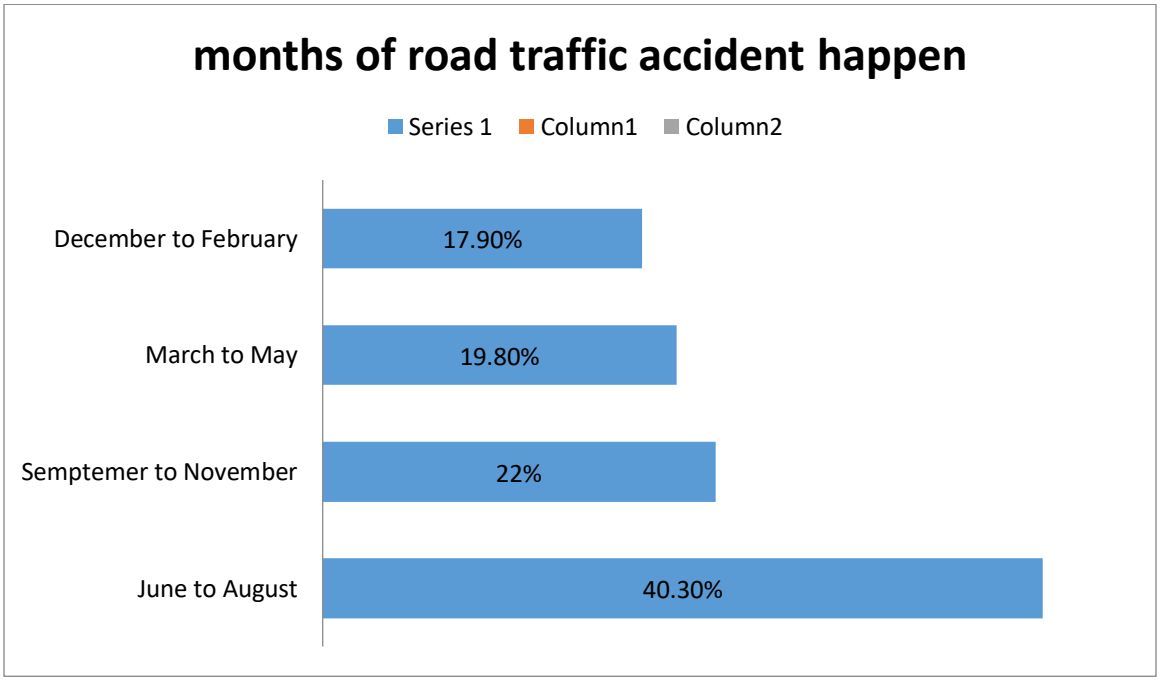

Figure 3; month of year when the accident happen ,among surgical emergency attendants at wolkite university specialized from march, 2013 to march ,2014 E,C (n= 67)

CHAPTER 6: DISCUSSION

6.1 Magnitude of road traffic accident:

This study found that the magnitude of road traffic accident was 20.9 %(95CI:25.4%, 35.2%). This finding is in line with the study conducted at Tikur-Anbesa specialized hospital at Adult Emergency Department (36.23 %) [14], at Jima University specialized hospital 30.3% [52], Emergency Departments of Amhara Regional State Referral Hospitals 33.9% [53]. But still the finding of this study is lower than a study conducted in Lusaka, Zambia, (25.6%) [54], in Nigeria at Kaduna state (27.7%) [55], again the finding of this study was much more less than with the study conducted in Saudi Arabia (84.4%) [56], in Vellore district, southern India (73 %) [57], in Diredawa, Eastern Ethiopia (80%) [58], in Wolita Zone, SNNPR, Ethiopia (62.5%) [11]. the differences may be due to the study period, the sample size, data reviewing technique and quality of the emergency department. The result of the current study is much lower [3]. This difference might be due to the difference in sample size and study period. The result also found that males were more victims by RTA than females with a ratio of 1.48:1, this result is consistent with the study conducted in Jimma specialized hospital Ethiopia, Tanzania, Saudi Arabia [54,56,57]. This is maybe due to the nature of the men´s work (outfield), which increased the risk. Our study revealed that majority of RTA victims were passengers 23 (34.3%), followed by pedestrians 20 (29.9%) which is similar to the study conducted in Wolita zone southern Ethiopia, Tanzania, Two neighboring nation in Africa [3,56,57], it was found to be that pedestrians were majority of the victims followed by passengers in studies conducted in Tikur-Anbesa Ethiopia, Diredawa administrative zone Ethiopia and central Ethiopia [2,55 ,56,61]. Among 67 roads traffic accidents victims, 21(31.3%) were due to minibus by the motor bike 20.9% and 13.4% due Isuzu-related accident.

This study reveal among the victims of road followed traffic victims, 23 (34.3%), 20(29.9%), 13 (19.4%) were passengers, pedestrians and motor cyclist respectively. Among the car accident victims, 13(19.4%) of car accident injury patients have died; immediately, 5(7.5%) after surgical intervention and 8(11.9%) on arrival respectively. Outnumbered of car accident injury patients had multiple injuries that accounted for 18 (26.9%) followed by lower extremity injury 16 (23.9%). About 29(43.3 %) of the injured person GCS was between 13-15 and 24(35.8%) of them had Glasgow coma scale of 3-8. Again as this studies reveal, most accidents happen in the day (59.7%), more common with male, more frequently occur with minibus, most accidents happen during winter, this may be due to rainy season, weather condition especially related to morning fog and cloud which contributes to crash, as the front car not seen at distance with the vehicle moved with high speed. Most attendants take stabilized and discharged, in relation to residence the road traffic accident is common in urban. This difference may be due to low public awareness on road traffic accident, poor road design and poor road safety measures taken by the population.

UNIT SEVEN: CONCLUSION AND RECOMENDATIONS

Based on our study results the prevalence of road traffic accident when compared with other area study, it is lower. But still according Wolkite university emergency OPD attendants, it accounts more percentage it is high. In conclusion, RTAs are major public health problem in Ethiopia. The magnitude of trauma caused by RTA had been increased day to day. Urgent road traffic accident preventive measures and prompt treatment of the victims are warranted to reduce morbidity and mortality among the victims of the road traffic accident. Education on the proper use of sideways by pedestrians and periodic Vehicle examination should be given due emphasis by Government especially by transport minister and Federal police in collaboration. Furthermore, advice on the use of seat belts and safety measures should have been enforced strictly. As the data were collected retrospectively by reviewing the medical records/charts at the hospital; some information like educational status of victims was difficult to assess. .

7.1 Recommendation

Based on the finding of the study the following recommendations were forwarded:-

- For Gurage zone, road and transport sector and other concerned body organization should work together to reduce road traffic accident and its outcome like morbidly at individual, family and community level.
- For driver, he/she should respect traffic rule and regulation.
- For pedestrian, he/she should know the traffic rule, while her/him crossing the road/identify zebra line.
- Gurage zone, road and transport sector should work together with community to create awareness about traffic rule and regulations and formulate rules accordingly.
- For Wolkite university should grant more research related to road traffic accident, to bring more solution.

7.2 The strength of the study

- ✓ Can be done in every situation
- ✓ Researcher remains neutral.
- ✓ Needs large amount of data

7.3 Limitation of the study

- The study used secondary data (medical records) of patient information, this limited us to assess all the contributing factors of road traffic injuries
- shortage of time

REFERENCES

1. Odero W GP, Zwi A. Road traffic injuries in developing countries: a comprehensive review of epidemiological studies. Tropical Medicine & International Health. Trop Med Int Health. 1997 May; 2(5):445-60. **PubMed** | **Google Scholar**
2. Tiruneh BT, Bifftu BB. Incidence of road traffic injury and associated factors among patients visiting the emergency department of Tikur Anbessa specialized teaching hospital, Addis Ababa, Ethiopia. Emergency medicine international. 2014; 2014:439818. **PubMed** | **Google Scholar**
3. Hailemichael F, Suleiman M, Pauolos W. Magnitude and outcomes of road traffic accidents at Hospitals in Wolaita Zone, SNNPR, Ethiopia. BMC research notes. 2015; 8:135. **PubMed** | **Google Scholar**
4. . Bartolomeos K, Kipsaina C, Grills N, Ozanne-Smith J, Peden M, Editors. Fatalinjury Surveillance in Mortuaries and Hospitals: A Manual for Practitioners.Geneva: World Health Organization; 2012.
5. Mohammad Fararoei, Seyed Javad Sadat, Mohammad Zoladl: Epidemiologyof Trauma in Patients Admitted to an Emergency Ward in Yasuj In press: 2016 E3057
6. World Health Organization. Global Status Report on Road Safety 2015.Geneva: World Health Organization; 2015
7. . Haagsma JA, Graetz N, Bolliger I, Et Al. The Global Burden of Injury: Incidence, Mortality, Disability-Adjusted Life Years and Time Trends From The global Burden of Disease Study 2013. Inj Prev. 2015; 0:1–16
8. Woldeyohannes SM, Moges HG. Trends and projections of vehicle crash related fatalities and injuries in Northwest Gondar, Ethiopia: A time series analysis. International Journal of Environmental Health Engineering. 2014; 3:30. **Google Scholar**
9. Abegaz T, Berhane Y, Worku A, Assrat A, Assefa A. Road traffic deaths and injuries are under-reported in Ethiopia: a capture-recapture method. PloS one. 2014; 9(7):e103001. **PubMed** | **Google Scholar**
   World Health Organization: Road Traffic Injuries: Fact Sheet. 2015. Http://Www.Who.Int/Mediacentre/Factsheets/Fs358/En/Index.Html
10. . GBD. 2013 Mortality and Causes of Death Collaborators: Global, Regional, and National Age-Sex Specific All-Cause And Cause-Specific Mortality For 240causes Of Death, 1990-2013: A Systematic Analysis for the Global Burden of Disease Study2013.Lancet.2015; 385(9963):11771.Https://Doi.Org/10.1016/S0140-6736 (14)61682-2.
11. Amdeslasie F, Kidanu M, Lerebo W, Ali D. Patterns of trauma in patient seen at the emergency clinics of public hospitals in Mekelle, northern Ethiopia. Ethiopian medical journal. 2016; 54(2). **PubMed** | **Google Scholar**
12. Peden M, Scurfield R, Sleet D, Mohan D, Hyder AA, Jarawan E et al. World report on road traffic injury prevention. World Health Organization Geneva. 2004. **Google Scholar**
13. Bashah DT, Dachew BA, Tiruneh BT. Prevalence of injury and associated factors among patients visiting the Emergency Departments of Amhara Regional State Referral

Hospitals, Ethiopia: a cross-sectional study. BMC emergency medicine. 2015; 15:20. **PubMed** | **Google Scholar**

14. Seid M, Azazh A, Enquselassie F, Yisma E. Injury characteristics and outcome of road traffic accident among victims at Adult Emergency Department of Tikur Anbessa specialized hospital, Addis Ababa, Ethiopia: a prospective hospital based study. BMC emergency medicine. 2015; 15:10. **PubMed** | **Google Scholar**
15. . National Road Safety Coordinating Office Ethiopia: Overview of the Road Safety in Ethiopia. 2008.
16. Tadesse B, Tekilu S, Nega B, Seyoum N. Pattern of Injury and Associated Variables As Seen In The Emergency Department At Tikur Anbessa Specialized Referral Hospital, Addis Ababa, Ethiopia. East Central Afr J Surg. 2014; 19(1):73–82
17. Organization WH. Global status report on road safety: time for action. World Health Organization. 2009. **Google Scholar**
18. Shah Ta. Prevalence of Road Traffic Accidents; Admitted In One Surgical Ward at Allied Hospital Faisalabad during One Year. Professional Medical Journal. 2016; 23(4):378-382. **Google Scholar**
19. Peden M, Scurfield R, Sleet D, Hyder AA, Mathers C, Jarawan E, Et Al. World Report On Road Traffic Injury Prevention: World Health Organization; 2004.
20. . Odero W GP, Zwi A. Road Traffic Injuries in Developing Countries: A Comprehensive Review of Epidemiological Studies. Tropical Medicine &International Health.Trop Med Int Health.
21. American Public Health Association Transportation and Public Health. Washington DC: American Public Health Association; 2001.
13. Dandona R, Mishra A. Death Due to Road Traffic Crashes in Hyderabad City in India: Need for Strengthening Surveillance. Natl Med J India 2004; 17(2):74-9.
22. .Ameratunga S, Hijar M, Norton R. Road-Traffic Injuries: Confronting Disparities to Address a Global-Health Problem. Lancet 2006; 367(9521):1533-40
15 .Peden M. World Report on Road Traffic Injury Prevention. Geneva, Switzerland: World Health Organization; 2004.
23. World Population Prospects: The 2002 Revision Highlights. New York, NY, USA: United Nations Population Division; 2003 Feb. 22 P. Report No.: ESA/P/WP.180
24. . Odero W, Garner P, Zwi A. Road Traffic Injuries in Developing Countries. A Comprehensive Review of Epidemiological Studies. Trop Med Int Health 1997; 2(5):445-60.
25. . World Health Organization. Global Status Report on Road Safety: Time for Action. Geneva, Switzerland: World Health Organization; 2009.
26. . Ahmed E, Chaka T. The Pattern of Orthopedic Admissions in Tikur Anbessa University Hospital, Addis Ababa. Ethiop Med J 2005; 43(2):85-91.
27. Peden M, Scurfield R, Sleet D, Hyder AA, Mathers C, Jarawan E, Et Al. World Report On Road Traffic Injury Prevention: World Health Organization; 2004.
28. Global Status Report on Road Safety. World Health Organization, 2018

29. . World Health Organization. Global Status Report on Road Safety: Time for Action. Geneva,Switzerland: WHO, 2009. Which is available on, Http://Www.Un.Org/Ar/Roadsafety/Pdf/Roadsafetyreport.Pdf May 2016
30. Getu ST, Washington, S., & King, M. J. Characteristics Of Police- Reported Road Traffic Crashes in Ethiopia Over A Six Year Period. Centre for Accident Research and Road Safety Queensland (CARRS- Q), Queensland University of Technology. Retrieved From: Eprints.Qut.Edu.Au/ 63884. 2013.
31. . Mac Farlane C Vlc, Kloeck W. International EMS Systems: South Africa-Past, Present and Future. Resuscitation. 2005; 64: 145-148.
32. . Abegaz T, Berhane Y, Worku A, Assrat A. Effectiveness of an Improved Road Safety
Policy in Ethiopia: An Interrupted Time Series Study. BMC Public Health. 2014; 14 (1):539.
33. RTA. Trafic Safety Activity in Ethiopia Report Fiscal Year 2016/2017. 2017
34. WHO. Global Status Report on Road Safety 2002.Supporting A Decade Of Action. Geneva.2017.
35. Asefa F, Assefa D, Tesfaye G. Magnitude Of, Trends In, And Associated Factors of Road Traffic Collision in Central Ethiopia. BMC Public Health. 2014; 14(1):1072.
36. Ayaga Bawah Pw DK, George Wak,James F,Philips Abrham Oduro. Road Traffic Fatality -Neglected Epidemic In Rular North Ghana:Evidenc From The Navrongo Demographic Surveillance System. 2016. 30. Ngo AD, Rao C, Hoa NP, Hoy DG, Trang KTQ, Hill PS. Road traffic related mortality in Vietnam: Evidence for policy from a national sample mortality surveillance system. BMC Public Health [Internet]. 2012; 12(1):1. Available from: BMC Public Health
37. Lapostolle A, Gadegbeku B, Ndiaye A, Amoros E, Chiron M, Spira A, et al. The burden of road traffic accidents in a French Departement: The description of the injuries and recent changes. BMC Public Health. 2009; 9:1–10.
38. Brubacher JR, Chan H, Erdelyi S, Schuurman N, Amram O. The association between regional environmental factors and road trauma rates: A geospatial analysis of 10 years of road traffic crashes in British Columbia, Canada. PLoS One. 2016; 11(4):1–21.
39. Patel A, Krebs E, Andrade L, Rulisa S, Vissoci JRN, Staton CA. The epidemiology of road traffic injury hotspots in Kigali, Rwanda from police data. BMC Public Health [Internet]. 2016; 16(1):1– 10. Available from: http://dx.doi.org/10.1186/s12889-0163359-4.
40. `Central Statistical Agency (CSA). (2000-2012). Summary and Statistical Report of the 2007Population and Housing Census Results, Addis Ababa, Ethiopia
41. Bashah DT, Dachew BA, Tiruneh BT. Prevalence of Injury and Associated Factors Among Patients Visiting the Emergency Departments of Amhararegional State Referral Hospitals, Ethiopia: A Cross-Sectional Study. Bmcemerg Med. 2015; 15(20):3.
42. Tadesse B, Tekilu S, Nega B, Seyoum N. Pattern of Injury And Associated Variables As Seen In The Emergency Department A t Tikur Anbessa Specialized Referral Hospital, Addis Ababa, Ethiopia. East Central Afr J Surg. 2014; 19(1):73–82.

43. Woldemichael K, Berhanu N. Magnitude and Pattern of Injury in Jimma University Specialized Hospital, South West Ethiopia. Ethiop J Health Sci. 2011; 21(3):155-65.

44. . WHO: (2009). Global status report on road safety: time for action. Geneva: World Health Organization.
45. Mathers CD, Loncar D: Projections of global mortality and burden of disease from 2002 to 2030. PLoS Med 2006, 3(11):e442.
46. . Anteneh Kebede Sebsbie BSN, Road Traffic Accident related Fatalities in Addis Ababa City, Ethiopia: An Analysis of Police Report 2013/14
47. Asaye, Y. (2015). The Causes of Road Traffic Accidents in Bahir Dar City, Ethiopia
48. Guyu, F. (2011). The Development of Bullen Town in Benishangul-gumuz Regional State ofEthiopia: From Historical, Socioeconomic and Institutional Perspectives; VDM Verlag Publication, Germany.
49. United Nations Economic Commission for Africa (UNECA). (2009). Case Study: Road Safety in Ethiopia, Unite Nations Economic Commission for Africa Report.
50. Asefa, F., Assefa, D., & Tesfaye, G. (2014). Magnitude of, trends in, and associated factors of road traffic collision in central Ethiopia. BMC public health, 14(1), 1072.
51. Bashah, D. T., Dachew, B. A., & Tiruneh, B. T. (2015). Prevalence of injury and associated factors among patients visiting the Emergency Departments of Amhara Regional State Referral Hospitals, Ethiopia: a cross-sectional study. BMC emergency medicine, 15(1), 20.

52. Mansuri FA, Al-Zalabani AH, Zalat MM, Qabshawi RI. Road safety and road traffic accidents in Saudi Arabia. A systematic review of existing evidence. Saudi medical journal. 2015; 36(4):418-24. **PubMed** | **Google Scholar**
53. Mohan VR, Sarkar R, Abraham VJ, Balraj V, Naumova EN. Differential patterns, trends and hotspots of road traffic injuries on different road networks in Vellore district, southern India. Tropical Medicine & International Health. 2015;20(3):293-303. **PubMed** | **Google Scholar**
54. Belachew M, Zeleke D. Statistical analysis of road traffic car accident in Dire Dawa Administrative City, Eastern Ethiopia. Science Journal of Applied Mathematics and Statistics. 2015;3(6):250-6. **Google Scholar**
55. Boniface R, Museru L, Kiloloma O, Munthali V. Factors associated with road traffic injuries in Tanzania. Pan African medical journal. 2016 Feb 19; 23:46. **PubMed** | **Google Scholar**
56. Ghaffar U, Ahmed S. A review of road traffic accidents in Saudi Arabia: the neglected epidemic. Indian journal of forensic and community medicine. 2015;2(4):242. **Google Scholar**
57. Wiebe DJ, Ray S, Maswabi T, Kgathi C, Branas CC. Economic development and road traffic fatalities in two neighbouring African nations. African journal of emergency medicine. 2016; 6(2):80-6. **PubMed** | **Google Scholar**

58. Asefa F, Assefa D, Tesfaye G. Magnitude of, trends in, and associated factors of road traffic collision in central Ethiopia. BMC public health. 2014; 14:1072. **PubMed** | **Google Scholar**
59. Akway M Chama AL, Riing Y Chanc, Angelo L Jockmetc, Asmaa S Korokonc, Malong A Aguerc, John L. Otwaric Causes of road traffic accidents in Juba. South sudan medical journal. 2017; 10(7). **Google Scholar**
60. Osoro Mogaka , Ng'ang'a Zipporah, OJ, OJ, LE. Factors associated with severity of road traffic injuries, Thika, Kenya. PanAfrica Medical Journal. 2011. **Google Scholar**
61. Bewket Tadesse Tiruneh AD, and Berhanu BB. Incidence of Road Traffic Injury and Associated Factors among Patients Visiting the Emergency Department of Tikur Anbessa Specialized Teaching Hospital, Addis Ababa, Ethiopia. Hindawi Publishing Corporation. 2014; 2014. **Google Scholar**

ANNEXES

ANNEX 1: Declaration

We want to declare that this BSC thesis is our original work and it has not been presented for a degree in any other university for any attempt to copy or modify this thesis without consent of the investigator(s). We confirm this declaration with our signature.

ANNEX 2: Data Extraction Tools by English Version Based on Logbook At EOPDD.

Questionnaire format

Dear record officer, the purpose of obtaining the patients' record is to collect data about the Prevalence of Road Traffic Accident Victims in wolkite university specialized hospital at EOPD. Questions included in this checklist enable the researcher to gather information relating to the topic of interest. The information collected from the records will be kept strictly confidential. The data that will be collected is very vital in achieving goal of the *study*. Hence, I pleasantly ask your honest cooperation!

GENERAL INFORMATION

1. *Questionnaire Code/MRN _____*
2. *Kebele _____ Woreda /Town _____ Zone_____, Region_____*

PART I: SOCIODEMOGRAPHIC DATA

Serial number	*Variable(s)*	*Possible response(make a circle)*	*Remark*
1	*Age of attendant*	*1.0-9 year* *2.10-19 year* *3. 20-29 year*	

		4. 30-39 year *5. 40 year and above*	
2	*Sex of attendant*	*1. Male* *2. Female*	
3	*Residence of attendant*	*1. Urban* *2. Rural*	
4	*Occupation of attendant*	*1. Governmental employee* *2. NGO* *3. Student* *4. Farmer* *5. Merchant* *6. Housewife* *7. Other*	
5	*Marital status*	*1.Single* *2. Married* *3. Widowed* *4. Divorced*	
6	*Ethnicity*	*1.Gurage* *2.Oromo* *3. Amara* *4. Silte* *5. Other*	
7	*Religion*	*1.Orthodox* *2. Muslim* *3. Protestant* *4.Catholic* *5. Other*	
8	*Referral source*	*1. Self* *2. Health center* *3. Hospital* *4. Private* *5. Other*	
9	*Mode of arrival*	*1. Ambulance* *2. Police car* *3. Bajaj* *4. Other*	
10	*Arrival status*	*1. Alive* *2. Dead*	

PART II: CLINICAL INFORMATION BASED ON LOG BOOK AT EOPD.

11. Is attendant's diagnosis secondary to Road traffic accident

1. Yes

2. No

Part III: IF THE ANSWER OF QUESTION ABOVE IS YES / RTA FILL THE BELOW GIVEN INFORMATION

Time it takes to reach initial health facility after the accident happen?	1.within "1" hour 2. after "1" hour	
RTA Victims	1. Pedestrian 2. passenger 3. motor cyclist 4. driver 5. driver assistant	
Triage category	1.red 2. orange 3. yellow 4.green 5.blue	
Driver behavior	1. alcoholic 2.chat chewer 3.smoker 4. /not respect traffic rule, aggressive over speed and etc.	
Road condition	1. asphalt 2.not asphalt	

IF asphalt and pedestrian, is the accident happen on	1. Zebra line 2. Not on zebra line	
Type of road	1. upward 2. downward 3. little curved 4. other(straight)	
Weather condition	1. rainy 2. sunny 3. cloud 4 other(dry, cold)	
Month of the accident	1.September to November 2. December to February 3. March to May 4.June to August	
Vehicle type	1. public bus 2. Isuzu 3. Minibus 4. Bajaj 5. motor bike 6. other	
Time of the accident happen	*1. Night Time (6:00 pm-6:00 am* *2. Day Time (6:01am-5:59pm)*	
Length of stay in hospital after the accident happen by weeks	1.< 2 weeks 2.> 2 weeks	
Patient outcome	1. referred 2.stablized and discharged 3.admitted 4. died	

Pattern of injury	*1. Head* *2. neck injury* *3. Chest injury*	

	4. *Abdominal injury* 5. *Pelvic injury* 6. *Upper* 7. *Lower extremity injury.* 8. *Multiple injury*	
GCS Score	1.13-15 2.9-12 3.3-8	
Injury severity	1. No apparent injury 2. Mild injury 3. Moderate injury 4. Severe injury	
Type of accident happen	1. Vehicle to vehicle crash 2. Rolling over crash 3. Pedestrian crash 4. Animal crash 5. Falling down crash 6. Crashing with object 7. Unknown crash	
Magnitude of accident	1.fatal 2.non-fatal	

Date and time of discharge _____

Data collector name_____ date, _____sign_____

Data investigator_____, sign_____

THANK YOU FOR YOUR COOPERATION!!!

THE END