ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCE SCHOOL OF PUBLIC HEALTH

GENERAL MPH

ASSESSMENT OF KNOWLEDGE, PRACTICE AND ASSOCIATED FACTORS OF FIRST AID AMONG LONG DISTANCE BUS DRIVERS DEPARTING FROM ADDIS ABABA, ETHIOPIA, 2020

BY

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A THESIS TO BE SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE SCHOOL OF PUBLIC HEALTH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF PUBLIC HEALTH.

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List of acronym and abbreviation

AAU: Addis Ababa University

EDHS: Ethiopia Demography Health Survey

EFPC: Ethiopia Federal Police Commission

ERCS: Ethiopian Red Cross Society

EU: European Union

FA: First Aid

FTA: Federal Transport Authority

IFRC: International Federation of Red Cross and Red Crescent Societies

LDB: Long Distance Bus

MoH: Ministry of Health

PLC: Private Limited Company

RTA: Road Traffic Accident

SNNPR: South Nation, Nationalities, and Peoples' Region

WHO: World Health Organization

Abstract

Background: First aid is the immediate or initial care given to victims of accidents before trained medical workers arrive. In developing countries including Ethiopia, there have been small numbers of drivers with first aid knowledge and few of them are involved in the actual practice. These shows, some of the drivers with first aid knowledge are not applied well. To my knowledge, the evidence is scarce about long-distance bus drivers' knowledge and practice and associated factors of first aid.

Objective: This study, aims to assess the status of first aid knowledge and practice among long- distance bus drivers' departing or leave from Addis Ababa terminal.

Method: Drivers based cross-sectional study was conducted at Kality, Ayer Tena, Asko, Lamberet and Addis Ketema terminals. Systematic random sampling was carried out to select the bus drivers. Buses were listed based on their side numbers and the first respondent was selected randomly then following respondents were selected every 4 intervals (k=4). Drivers of the selected bus were interviewed with structured questioners. Availability and completeness of first aid kits were checked by observational checklist. Epi data software used for data entry and bivariate and Multivariate analysis was done using SPSS V.20.

Result: The mean age of participants was 37.77 (SD=±8.607). Regarding knowledge level 102(31.5%) had high level knowledge, 159(49.1%) of them had moderate level knowledge and 63(19.4%) of the study participants had low level knowledge. Having first aid training, (AOR=5.753:95%CI: 2.726-12.143) and ever used the first aid kit items(AOR=2.334:95%CI: 1.164-4.682) were significant associated with first aid knowledge. Moreover, drivers who had high level knowledge (AOR=4.618: 1.097-19.431), trained first aid (AOR=5.395: 2.391-12.176) and also those had first aid kit in their buses (AOR=9.615:95% CI: 1.588-58.232) has a better first aid practice.

Conclusion and Recommendation: Even though, the majority of respondents had first aid knowledge, only 46.2%of them were provided first aid at the scene. First aid knowledge and training are some of the important factors of the first aid practice of the drivers. At the same time, 25% of respondents had not first aid kit. Federal transport authority should be giving the training to improve first aid knowledge and practice of long-distance bus drivers.

Key Words: First aid knowledge, first aid practice, long distance bus drivers, bus terminals

1. Introduction

1.1. Background

Transportation is a vital role in social and economic development. Road transports are the main transport system preferred by passengers for their mobility. Long-Distance Buses (LDB) are the most important road transportation system, especially for the long-distance passengers. In Ethiopia, the long-distance bus rises in their quality and quantity in the passenger transport industry. One for assuring the quality of buses are making the leveling according to their quality and service provision. The buses which have the quality increasing in number and passengers select quality bus and services(1, 2).

Road Traffic Accident is the major public health problem that has an effect on individual families and countries. According to WHO report every year, more than 1.35 million deaths and an additional 20 to 50 million people with different level of injuries worldwide (3). According to the report obtained from the Ethiopia Police Commission (2008 to 2018), there were 41,282 deaths, 64,101serious injuries and 67,187 minor injuries. The average annual growth rate of deaths, injury series and minor injuries was 9.28%, 11.39% and 10.76% respectively (4).

First Aid(FA) is immediate or initial care for accident victims before medical workers arrive (5, 6). It also includes psychosocial support for emotional distress due to accident or illness. The basic purposes of first aid are to save life, to prevent the causality from getting worse and to minimize pain(6, 7).

First responders are emergency medical trainers, police, firefighters, first aid trained drivers and those on the scene of the accident(6). Anyone who is going to give valuable life-sustaining support should have first aid training. The International Federation of Red Cross and Red Crescent Society (IFRC) is the major voluntary humanitarian network in the world and its main task is to train and give first aid. Between 2011 and 2014, IFRC was trains 127,703 volunteers and 5,148 facilitators and released the initial evidence-based guidelines. In addition, in 2014, more than 180,000 peoples were trained in one hundred sixteen countries (5). The Red Cross Society of Ethiopian was a voluntary humanitarian organization

that was beginning to train in first aid in Ethiopia. Since its foundation in July 1935, more than two hundred fifty thousand first responders have been trained (8).

According to WHO, only 55% of countries have formal pre-hospital provider training and certification (3). In Ethiopia training of first aid is includes in the driver's training curriculum revised by Federal Transport Authority (FTA), in 2019. According to the Federal Transport Authority, it is mandatory for all drivers to carry a first aid kit in their vehicle and to complete the basic items in the first aid kit(9, 10).

Experience-based first-aid trainings for participants built desire knowledge, skills as well as the psychological setup for giving FA for victims and can serve to minimize the number of dead and serious damage to health caused by traffic accidents (11).

The health sector recognizes that injuries are the national health burden and have multiple causes which, with efforts to strengthening the emergency medical services, requires a collaborate among different stockholder approach towards effective prevention and rapid responses when it occurs and strengthens the accessibility and quality of emergency service(12, 13).

1.2. Statement of the Problems

Most death due to road traffic accident occurs at the crash scenes and during transportation of the victims to health care facilities. A study done in Addis Ababa revealed that in 2013/14 from the total death, 91.1% took place at the scene or in route to Hospital after RTA(14). Pre -hospital care which is care given at scene of injuries and during transporting victims to health facility very essential to reduce these deaths and severe injuries of RTA victims. Studies showed that in developing counties pre-hospital trauma care were reduce mortality by 25% (15). Another study showed that basic first aid given for accident injury was reducing the pre hospital death up to 39%(16).

Air way blockage is the most common reason of death at the crash scene. The first one hours are called “golden hours” if proper first aid given during this time minimize the death and severe injuries(7). A study conducted on admitted injured due to RTA in Tikur Anbesa Hospital showed that only 27% of victims arrive within one hour. No one received the first aid at scene and only 22.6% victims were arrived by ambulance(17). Another study done on trauma patient in this hospital showed that only 18% arrived in one hour and 16.7% victims were received some kind of first aid from trained first aider or ambulance staffs, relatives, police and bystanders. The reasons those not gained first aid were lack of knowledge (60.9%), lack of equipment(29.6%) and fears of medico legal(6.5%)(18).

In developing country including Ethiopia, they were small numbers of taxi and intercity bus drivers with first aid Knowledge. Even though, some of the taxi and intercity bus drivers with first aid knowledge, they were not applied well. Most of the study showed that the main reason of most drivers not given first aid are lack of first aid skills due to not gain formal trainings. The most common aids given to the victims by participants were calling to the ambulance, calling to police and transporting to the nearest health facility (8, 19-23).

Most studies showed that fewer numbers of drivers were trained first aid course (8, 19, 22-24). Other studies showed that the types of training such as theoretical and practical influence the knowledge and practice of drivers(11, 24). However, the situation in Ethiopia is different, even though the provision of first aid training in all driver training school is mandatory by

law, there is no trained professional instructors assigned in the school to handle both the theoretical and the practical course. Graduates of mechanical engineering and vocational schools are assigned to handle such training without adequate knowledge and skill(8).

Previous studies did not well address the associated factors of first aid knowledge and practice (19-23, 25). Availability and completeness of first aid kit which is important for giving first aid is not identified in previous study. So the main aim of this study is to identify the knowledge gap and their practice on first aid services and associated factors among long distance public transport drivers.

1.3. Rationale of the study

There were no studies done yet on long distance bus drivers to know their first aid knowledge, practice and associated factors. And also there was no studies done to identify the availability and completeness of first aid kit items on long distance buses.

1.4. Significance of the study

The finding of this study will be used by Federal Transport Authority to strengthen the driving schools training given for drivers. Ministry of Health will be used as input to strengthen the pre hospital care activity. Long-distance bus Association and Owners are used as the base to increase the knowledge of LDB drivers toward first aid and complete first aid kit in their vehicles, and also provide some information that would be useful for further research.

2. Literature Review

2.1. First aid Knowledge of drivers

In developed countries, most drivers were knowledgeable and trained first aid than less developed countries. Most of European countries were trained drivers before giving driving license. For this reason, the amount of victims who die before reaching hospital is two times higher in developing countries than in developed countries(26).

The evidence of more counties indicates that the first aid knowledge of drivers is low (8, 19-21, 23). In Nigeria, a study done on commercial inter-city drivers revealed that 51% of had basic FA knowledge(21). Another study done in Addis Ababa on taxi drivers showed that, half of the drivers had FA knowledge(8). Other similar study done in Addis Ababa, 2015 showed that 46.3% of taxi drivers had knowledge(20).

First aid training is very important for drivers to develop knowledge, skill and confidence to provide FA for victims of RTA. Most studies showed that the first aid trained drivers were low. A study conducted in Port Said, Egypt showed that only 5% of car drivers were trained first aid before the study(24). Another studies done in Zambia, India and in Addis Ababa, Ethiopia revealed that 15.5%, 1.2% and 26.8% of drivers were received any formal and non-formal first aid training in their lifetime respectively(8, 19, 23). Other studies in Saudi Arabia and rural Bangladesh indicate that 73.9% and 16.7% of the study participants were not trained first aid respectively (27, 28).

Even though, the first aid knowledge of some drivers was low, most of the drivers were knew the definition of FA. A study conducted in Kumaon region of India showed that 92.1% of drivers were known the definition of first aid(19). Other studies in Zambia, 2017, in Addis Ababa, 2015 and in Nigeria showed that 77.3%, 46.9% and 34.5% were knew the definition of FA respectively (8, 21, 23).

Studies showed that a large numbers driver knew where and when to give first aid. In India, 90.1% of drivers were knew when and where to give first aid for the victims(19). Study done in Addis Ababa revealed that 78.5% knew when to give first aid for RTA victims(20).

Less numbers of drivers were also known of what is a first step done when evaluating the victims'. A study conducted in Zambia showed that more than 71% of drivers did not know what the first step to do when evaluating the victims(23). Another study done in Addis Ababa, Ethiopia shows that 80%of drivers did not knew the priority done for RTA victims(8).

Most studies showed that drivers had lack of knowledge toward safe victims' position after accident, manages severe bleeding and fractures. A study conducted in Nigeria showed that, 18.3% and 75.1% of drivers believed that placing the victim sideways and face-up position was safe respectively(21). Similar study conducted in Zambia showed that 62.3% of drivers knew the best position of transporting unconscious victims to the hospital and 73.4% of drivers were knew that splint is applied to bone fracture whereas 81.4% were not known the safest way managing severe bleeding(23). Other studies in India 57.9% and in Rural Dominican Republic(Northern America contents) 58.6% of drivers were known the safe way of stopping severe blooding whereas study in Addis Ababa showed 37% drivers did not know the proper managing of severe bleeding(8, 19, 29). Regarding transporting unconscious victims only 31.7% in India, 22.4% in rural Dominican Republic, 62.3% in Zambia and 58% in Addis Ababa, Ethiopia were knew the proper way of moving unconscious victims to the Hospitals(8, 19, 23, 29). Only 40%of taxi drivers in Addis Ababa were knew the appropriate and safest way to stabilize fracture(8).

Regarding to first aid kit, study conducted in India showed that half 50% of bus drivers had the average knowledge of the function of particular items and their correct usage of FA kit. Most of the drivers had no knowledge regarding availability, requirement and use of first Aid Kit. The knowledge of bus drivers on first aid kit items less. Even though, the majority of the respondents substitute the used items, no more than one-third of the studies participants were check the expired date of items once a year(25).

2.2. First aid practice of drivers

Availability and completeness of first aid kit are important for providing of FA for the injured person. A study done in the Kumaon region of India showed that 84.9% of drivers had a FA kit in their cars and 69% of drivers used the items of a FA kit items before

study(19). Other study done in Addis Ababa indicate that, only 11.7% of taxi drivers had FA kit in their cars(8).

A large number of drivers have witnessed the road traffic accident. One of the studies done in the southern district of India illustrate that 60% of participants were witnessed the RTA but out of this witnessed only 55% were provided different types of aid for the victims(22). Another study in India revealed that from the 83.7% witnessed and only 14.6% of drivers were provided first aid for the victims at scene. A similar study in Zambia and Addis Ababa, Ethiopia revealed that from 77% and 59.5% witnessed of RTA, 63% and 44.3% of drivers were provided some form of aid to the victims respectively. In Addis Ababa from those provide First aid 55% were control severe bleeding and 23% were applied splint for fracture victims and in India, 40% applied pressure and dress the blooding site and 54.3% applied fracture for RTA victims(8, 23). Other studies in Nigeria and Saudi Arabia indicate that from 15.7% and 71.1% of witnessed RTA only 16.2% and 20.3% drivers were provided onsite first aid respectively(21, 27).

Most of the drivers, even though had the knowledge of first aid, they didn't practice well due to several factors. A study conducted in Saud Arabia showed that from those who witnessed RTA, 63.1% didn't give first aid and their main reason for not give first aid were not trained and the fear of doing hurt than aid(27). In India 94.7% and Addis Ababa, Ethiopia 39.7% were not give first aid, the main reason of drivers did not provide first aid were fears of legal issues(19, 20). Another study done in rural Dominican Republic showed that the main reason for 46.2% drivers did not provide first aid were because of other helping at the scene(29).

2.3. Factors associated with first aid knowledge and practice

2.3.1. Factors associated with first aid knowledge

Some studies showed that educational status is associated with FA knowledge. In Zambia study conducted on minibus derivers indicate that derivers who had tertiary education level were knowledgeable (55%) than primary (37.5%) and secondary (51.3%)(23). Another study done in the Czech Republic showed that types of first aid training which is standard given for

four hours and experience-based training given for sixteen hours highly associated with first aid knowledge, skills and practice. Drivers those took experience-based training had good knowledge, skills and fewer inappropriate emotional than standard training given during driving license training(11). Another study in Port Said, Egypt showed that training of drivers associated with first aid knowledge(24). A similar study in Poland, 2015 illustrate that trained drivers had good knowledge of checking consciousness (60%) than not trained (46.5%) and also trained drivers had high knowledge of checking to breathe than untrained drivers(30). Other study done in south west Nigeria indicated that first aid training intervention significantly improved the first aid knowledge and skills of the intervention drivers(31).

2.3.2. Factors associated with first aid practice

Some study indicates that socio-demographic factors, training related factors, supply related factors and first aid knowledge are factors associated with first aid practice. Socio-demographic factors are one of the factors that affects the practice of first aid of drivers(8, 23). A study done on taxi drivers in Addis Ababa, Ethiopia revealed that socio-demographic factors like educational status and driving experience are associated with the practice. Participants who had a primary school of educational status were practice 20% less than secondary school. Drives that had greater than 16 and 10 to 15 years driving experience were 8.9 and 16 times like to practice first aid than those who had experience less than 3 years respectively(8). A study done in Bangladesh showed that injured persons who received first aid from medical trained were 1.3 times more likely to recover or on the way of improvement than those did not receive first aid from trained person(28). Other study done in Poland showed that the majority of respondents who completed first aid courses had more knowledge on first aid procedures than those without such trainings(30). A study done in northern Iran revealed that the rate of requesting for help, correctly airway management, victim transportation, control of bleeding and fracture management done by drivers assessed 0-3 months and 4-6 months after training increase when compared with before training(32). In Egypt, a study done on car drivers showed that first aid training is associated with FA

practice (24). Other study done in Addis Ababa on taxi drivers indicate that drivers who had trained in first aid were five times more practice than those not trained in first aid before(8).

Availability and completeness of FA kit is affecting the providing of FA for the RTA victims. A study conducted in Addis Ababa, Ethiopia illustrated that drivers who had a first aid kit in their cars were five times more practice than those did not have a first aid kit. Some study showed that first aid knowledge is associated with first aid practice. A study done in Addis Ababa, Ethiopia on taxi drivers showed that those who had adequate knowledge were five times more practice than those who had inadequate knowledge (8).

In general, study shows educational status, driving experience, first aid training, types of training, every used first aid kit and availability of first aid kit were significantly associated with first aid knowledge and practice(8, 24, 25, 30, 32).

2.4. Conceptual framework of the study

This study was guided by a conceptual framework developed by reviewing different literatures. According to reviewing of different literature socio demographic factors like age, driving experience, educational status and marital status affect directly and indirect the first aid knowledge and practice. On the other hand first aid training is the main important factor of first aid knowledge and practice. Predictors like availability and completeness of first aid and first aid knowledge level were affecting the first aid practice. Ever used of first aid kit items or drivers who used first aid kit items last one year were related to first aid knowledge and practice(8, 16, 19, 21, 23, 31, 32).

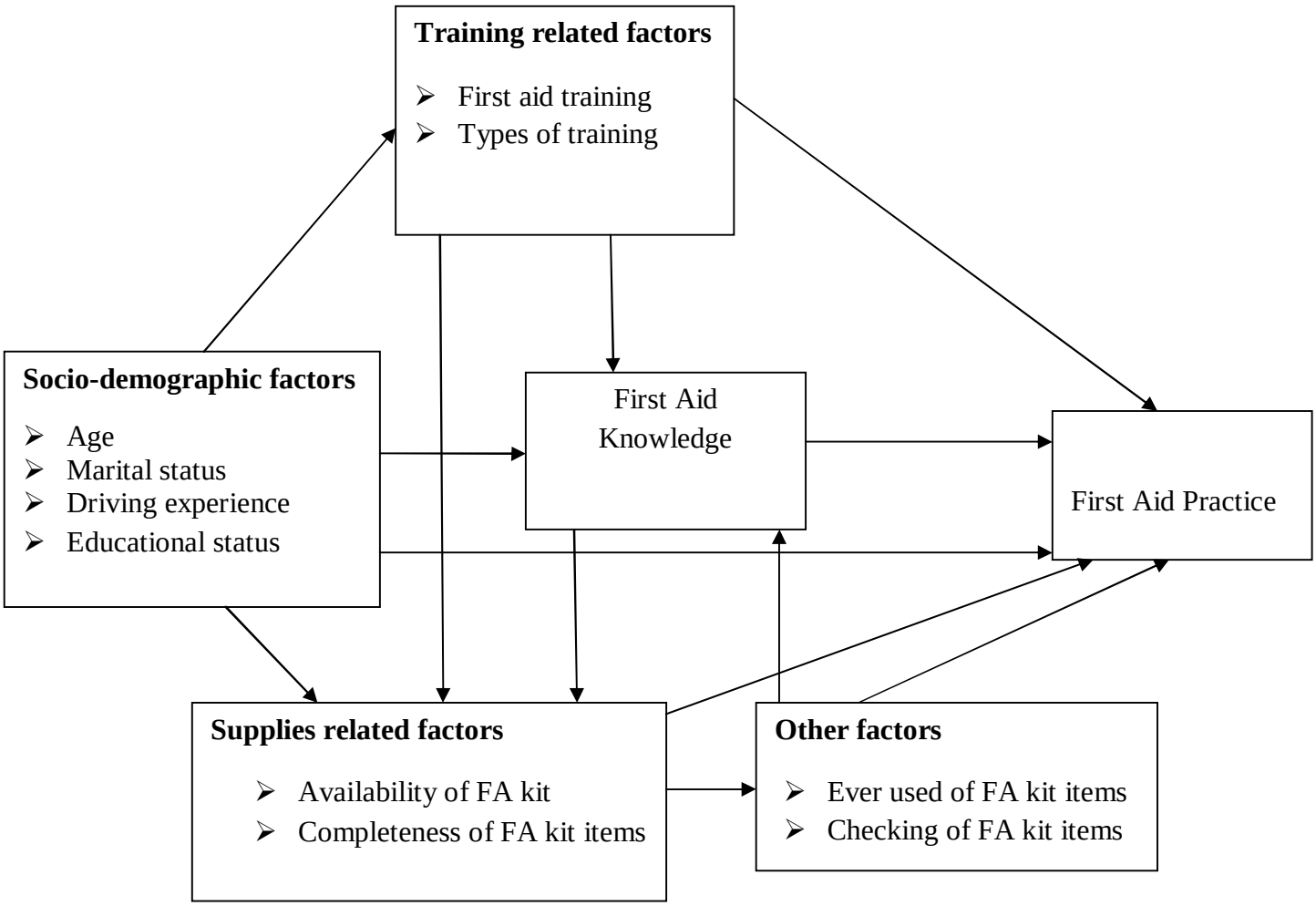

Figure 1: Conceptual frame works develop by reviewing different literatures (8, 21, 23, 31).

3. Objective

3.1. General Objective

- To assess the knowledge, practice and associated factors of first aid related to road traffic accident among long-distance bus drivers departing from Addis Ababa, Ethiopia, 2020.

3.2. Specific Objective

- To assess the knowledge of long-distance bus drivers toward firs aid related to road traffic accident departing from Addis Ababa, Ethiopia.
- To assess the practice of long-distance bus drivers toward firs aid related to road traffic accident departing from Addis Ababa, Ethiopia.
- To identify factors associated with first aid knowledge and practice of long-distance bus drivers departing from Addis Ababa, Ethiopia.

4. Methods and Materials

4.1. Study Design:

Cross-sectional study was carried out to determine the current status of first aid knowledge and practice among long-distance bus drivers, and identify factors associated with knowledge and practice.

4.2. Study area and period:

This study was carried out **in five long-distance bus terminals** such as Kality, Ayer Tena, Asko, Lamberet and Addis Ketema which is the main dispatched center of buses operating throughout the country in Ethiopia. In all bus terminal, there were 1324 long-distance buses were serving the passengers by rotating on five bus terminals. About 139 buses were dispatches from five terminals daily and serve around 8,340 passengers. The study was conducted from January 2019 to September 2020 in Addis Ababa, Ethiopia.

4.3. Source population:

All long distance bus drivers of Kality, Ayer Tena, Asko, Lamberet and Addis Ketema bus terminal in Addis Ababa, Ethiopia were considers as source population. Special buses drivers who categorized under long distance bus drivers were not included in this study. According to information gained from Federal Transport Authority these buses were contained special facility and items than those buses included in this study. They had no specific terminals that controlled by FTA. The time of dispatched from Addis Ababa not known and not controlled by FTA. For this reason, those special bus drivers were not included in this study.

4.4. Study population:

All long-distance bus drivers of five bus terminals that fulfill the inclusion criteria were considered as study population.

4.5. Inclusion and Exclusion Criteria

4.5.1. Inclusion Criteria:

- Long-distance bus drivers who were at work during data collection time,
- The drivers who served as a long-distance bus driver for at least a year.
- Their long-distance buses were carried more than 47 passengers
- The long-distance buses were dispatched from one of the five long-distance bus terminals (Kality, Ayer Tena, Asko, Lamberet, or Addis Ketema).

4.5.2. Exclusion Criteria

- Special bus excluded from this study, because of not have specific terminals, the time of dispatched from Addis Ababa not known and their dispatching time not controlled by FTA.

4.6. Sample size determination:

The sample size was determined using a single population proportion formula for the first and second specific objective and double population proportion formula for the third specific objective. A study done on taxi drivers in Addis Ababa, Ethiopia showed that the magnitude of first aid knowledge and practice were 50.3% and 44.3% respectively(8). Considering 95% confidence level, 5% margin of sampling error and 10% for none response rate. The long- distance bus drivers (N) of five bus terminals were 1324.

4.6.1. Sample size for first aid Knowledge

$$n_1 = \frac{(Z\alpha/2)^2\, p\,(1-p)}{d^2} = \frac{(1.96)^2(0.503)\,(0.497)}{(0.05)^2} = \frac{0.96}{0.0025} = 384$$

Where n= required sample size=384

p= proportion of first aid knowledge of Taxi drivers in Addis Ababa (0.503)

d = margin of sampling error=5%

Z = the standard normal confidence internal = 1.96

The calculated sample size is 384, because of the study/source population which is less than 10,000 , **finite population correction formula** was applied.

$$n = \frac{n_1}{1+\frac{n_1}{N}} = \frac{384}{1+\frac{384}{1324}} = 298$$

#When 10% non respondent rate added the final sample size was 328.

4.6.2. Sample size for first aid Practice

$$n = \frac{(Z\alpha/2)^2\, p\,(1-p)}{d^2} = \frac{(1.96)^2(0.443)\,(0.557)}{(0.05)^2} = \frac{0.948}{0.0025} = 379$$

Where n= required sample size=379

p= proportion of first aid practice of Taxi drivers in Addis Ababa (0.443)

d = margin of sampling error=5%

Z = the standard normal confidence internal = 1.96

Study/source population which is less than, 10,000, **finite population correction formula** was applied.

$$n = \frac{n_1}{1+\frac{n_1}{N}} = \frac{379}{1+\frac{379}{1324}} = 294$$

#When 10% none respondent rate added the final sample size was 323.

4.6.3. Sample size for factors associated with first aid knowledge and practice.

Proportion of two population used from the study done on taxi drivers in Addis Ababa select more significant factors such as educational status and first aid knowledge. The result was showed in the following table.

Formula, $$n = \frac{(Z_{1-\alpha/2}+Z_{1-\beta})^2\, X\, (p1\,(1-p1) + p2\,(1-p2))}{(p1 - p2)^2}$$

4.6.4. Sample size for factors associated with first aid practice

factors	$Z_{1-\alpha/2}$ for 95% CI	$Z_{1-\beta}$ for 80% power	**P1**	**P2**	**n**
Educational status	**1.96**	**0.84**	**64.1%**	**38.7%**	**122**
FA knowledge	**1.96**	**0.84**	**64.9%**	**34.8%**	**80**
FA Training	**1.96**	**0.84**	**74%**	**35.8%**	**46**

- **So sample size for this study was used the largest one 328.**

4.7. Sampling Procedure:

A systematic random sampling method was used to select the bus drivers. According to the Federal Transport Authority, long-distance bus terminals found in Addis Ababa were five such as Kality, Ayer Tena, Asko, Lamberet and Addis Ketema terminals. Within these five bus terminals, there were 1,324 long distance buses were served the passengers by rotating on five bus terminals. The schedule of driving line of bus drivers in all terminals set or programmed per month by Federal Transport Authority and long distance buses association at Addis Ketema bus terminal. The required sample was selected systematically. Because Federal Transport Authority and long distance buses association were already categorized by its level and listed bus by side numbers, it is simple to select the sample by systematic. First, I have been identified the bus drivers that fulfill the inclusion criteria. Then, the long-distance buses listed by their side number and the first respondent selected randomly then following respondents were selected every $k^{th}(4)$ where k=N/n=1324/328=4 (N is a population and n is a sample) from the monthly programmed list.

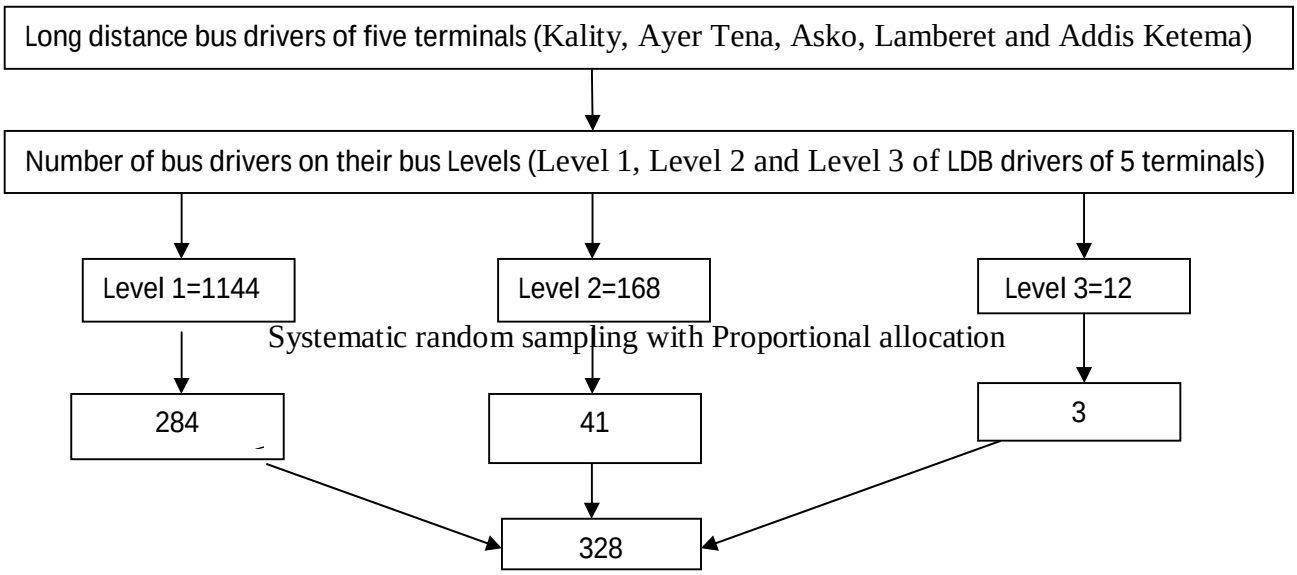

Figure 2: Schematic presentation of sampling technique

4.9. Data collection procedures:

Data were collected by using a pre-tested structured questionnaire and observational checklist and administered by face-to-face interview. All the questionnaires and checklists were prepared by reviewing different literatures and guidelines. The data collection tools were prepared in English version and then translated into the local language (Amharic) and back to English for consistency. Three Bus terminals (Ayer Tena, Lamberet and Addis Ketema bus terminals) were the site selected for data collectors. Because, about 92% of buses were dispatched per day from these three terminals. Three clinical nurses, one public health supervisor and three facilitators from Federal Transport Authority who work on these three bus terminals were participating in the data collection. Principal investigator was give two days training for data collectors and supervisor about the aim of the study, study tools and how to interview, time of data collection and reporting of the collected data on time. The time of data collection was carried out before the drivers leaving the terminals starting from 5:30pm and when back to the terminals starting from 2:00pm according to their schedule. The facilitators which assigned from FTA were facilitating the interview process. Data collectors were assigned on three bus terminals based on the selected sample available in scheduled bus lines for all bus terminals by Federal Transport Authority per monthly for all buses.

4.10. Study variables

4.10.1. Explanatory Variables :

First aid knowledge and First aid practice (Yes, No)

4.10.2. Independent Variables :

Socio- demographic factors: Age ,Marital status, Educational status, Driving experience, Daily Driving hours ,Bus level, Origin of driving license

Training related factors: First aid training, organization trained the drivers, Gain certificate for training, Types of training, numbers of day trained

Supply related factors: Availability of first aid kit, completeness of First aid kit,

Other factors: Check the functionality/expiry date of FA kit items, Time of checking FA kit items, Ever use FA kit items

4.11. Operational Definition

First aid: is the immediate or initial assistance or care given by long-distance bus drivers to RTA victims before trained medical workers arrive. It includes give first aid at scene and proper position during transporting the victims to health facility.

Long distance bus drivers: For this study long distance bus drivers is a person driving long distance bus dispatched from Kality, Ayer Tena, Asko, Lamberet and Addis Ketema bus terminals and their buses carry 47 and more passengers.

First Aid Knowledge: There are 10 knowledge questions which total score were 14 points. Definition of first aid, when and where should be first aid given, who should give first aid, not component of first aid, prioritized done for RTA victims, usually method used for to give breath and management of RTA victims with bone fracture questions were one point for each question and question those had multiple response like safe position for a patient after a traumatic event and sign of air way problems were 2 points and important method to stop severe bleeding was 3 points. Each question contains 1 point for correct single response, 2 and 3 points for multiple responses and 0 for wrong response. The total response contains 14 points overall knowledge of the study participants were assessed using the sum score of each outcome based on Bloom's cut-off point which used by different researchers(33-36). The scores were classify into 3 levels, 12-14 points (80%-100 %) high level knowledge, knowledge score that fell between 9-11 points (60-79%) moderate level knowledge and Knowledge score below 9 points (59%) low level Knowledge. For further analysis considering those scores above mean were adequate knowledge and below mean were inadequate knowledge.

First Aid Practice: First aid provided by drivers for individuals suffering from an injury at the scenes of traffic accident when driving long distance buses for the last one year prior to

study. It includes managing of air way problem, management of severe bleeding and fracture and management of other types of injuries.

Completeness of First Aid Kit: The first aid kit is complete, if the main items of first aid in First Aid Kit greater than 75%, Partial complete if 50-75% and not complete if less than 50%. According to FTA scissors, sterile gauze pads / sterile wound dressing, gentian violet/savilon, alcohol, medical tape/wound plaster, cotton, surgical blade, small towel, disposable gloves and small round basin/kidney dish are the first aid kit items hold by drivers as mandatory.

Ever use of FA Items: Used of first aid kit items by drivers for treating/helping the RTA victims or used for them self for the last one year.

Unconscious: For this study unconscious are RTA victims who have non-responsive and abnormal breathing.

4.12. Data Analysis procedures:

The data from completed questionnaires were entered in to a computer using Epi data 3.1 software and exported to SPSS V.23 statistical software for cleaning and further analysis. Descriptive analysis like measure of frequency, central tendency and dispersion were performed and the results were presented by tables, graph and charts. All independent variables were fit separately into a binary logistic regression model to identify the degree of association with dependent variables. To minimize the loss of an important variables, the variables with a p-value ≤ 0.2 were export to a multivariable logistic regression model to control confounders. Multivariable logistic regression was performed to identify the association of independent variables with the dependent variable. The strength of association was measured using odds ratio and 95% confidence interval, and P-value ≤ 0.05 is considered as statistically significant.

Assumption was checked by checking the dependent variable was dichotomous scale for binomial logistic regression and more than two scales for multinomial logistic regression.

One or more independent variables and the independent variables were not multi-collinarity. Model of fitness checked by Hosmer and lemeshow test of significant value greater than 0.05 and Omnibus tests of model coefficients of significant value was less than 0.05 for binomial regression and Pearson goodness of fit of significant value great than 0.05 and model fitting information the coefficient of the model are statically significant or less than 0.05 for multinomial logistic regression. Multicollinearity was checked by correlation analysis which is colliration coefficient($r<0.7$), Value of tolerance which has greater than 0.1 or variation inflation factors (VIF) which has less than 10.

4.13. Data quality management:

The training was given for data collectors, supervisors and facilitators on data collection tools, field methods, inclusion–exclusion criteria and record keeping. The researcher and supervisor were coordinating the interview process, and spot-checked and reviewed the completed questionnaire daily to ensure the completeness and consistency of the data collected. The interview questionnaires were pre-tested on 5% respondents of non –selected bus station in order to identify potential problem areas and cultural opposition to any of the questions. Based on the pre-test the quotations that had unclear word or sentence and the quotations that might be biased the participants were adjusted.

4.14. Ethical consideration:

Ethical approval and clearance for this study was obtained from Addis Ababa University, Collage of Health Science and School of Public Health, from the research ethics committee. A permission letter was requested from Federal Transport Authority before data collection. Participant's confidentiality was assured by removing personal identifiers like name and call numbers. Study participants were interviewed after having informed verbal consent obtained.

4.15. Dissemination of result:

The result of this study will be disseminated to the Federal Transport Authority, long-distance bus association, and AAU school of public Health.

5. Results

5.1. Socio demographic characteristics of respondents

From the total 328 samples, 324 respondents have participated in the study, this makes the participation rate 98.8%, and all of the study participants were male. The mean age of participants was 37.77 (SD=±8.607), 125(38.6%) and109 (33.6%) of respondents laid in the age group of 30 to 39 and 40 to 49, respectively. One third 116(35.8%) of respondents had more than 10 years of driving experience in operating a long-distance buses. Two hundred thirty-four (72.2%) of respondents had attending secondary (9-12) educational levels whereas 77(23.8%) and 13(4%) were attending primary and above secondary education respectively. The majority 268(82.7%) of participants were married. Concerning daily travel time, 259(79.9%) respondents were driving 5-10 hours and 65(20.1%) driving greater than 10 hours per day. Of the total respondents 153(47.2%) were got the driving license from Addis Ababa and the rest got from different regions (Oromia, Amara and SNNPR). The majority of the respondents 280(86.4%) were operating level 1 buses.(Table 1)

Table 1 Socio-demographic characteristics of long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2019. (n=324)

Variables		Frequency	Percentage (%)
Age in year	20- 29	59	18.2
	30 – 39	125	38.6
	40 – 49	109	33.6
	≥50	31	9.6
Driving Experience	1-5 years	107	33.0
	6-10 years	101	31.2
	>10 years	116	35.8
Educational status	Primary(1-8)	77	23.8
	Secondary(9-12)	234	72.2
	Above secondary	13	4.0
Marital status	Single	56	17.3
	Married	268	82.7
Driving hours per day	5-10 hrs	259	79.9

	>10 hrs	65	20.1
Origin of Drivers License	Addis Ababa	153	47.2
	Oromia	90	27.8
	Amara	31	9.6
	SNNPR	50	15.4
Bus level driving	Level one	280	86.4
	Level two	41	12.7
	Level three	3	0.9

SNNPR - South Nation, Nationalities, and Peoples' Region

5.2. First aid Knowledge of long distance bus drivers

Of the total respondents, 312 (96.3%) knew the definition of first aid. Three hundred four (93.8%) study participants were knew where and when gave first aid for the road traffic accidents victims at the scene. Only 106(32.7%) participants knew the priority done for RTA victims during first aid. Two hundred forty respondents knew the sign of air way problems. The majority of 266(82%) of the study participants responds as apply tourniquet, tying the bleeding site with cloth/bandage and apply pressure and lift the injured part above the body level were important to stop severe bleeding. Only 26(8%) of drivers were responded as both placing the victims in sideways and keep the head and neck not move and face up position were selected as a good position. More than 92% of study participants were knew immobilization using splinting for management of RTA victims.

According to bloom's cut of point levels of the respondent knowledge on first aid this study showed that 102(31.5%) had Good level knowledge, 159(49.1%) of them had Moderate Level Knowledge while only 63(19.4%) of the study participants had Low level knowledge. The respondents who had adequate knowledge which was score above the mean and also answering the question that had the weight more than one points were 52.8% and the rest 47.2% had inadequate knowledge.

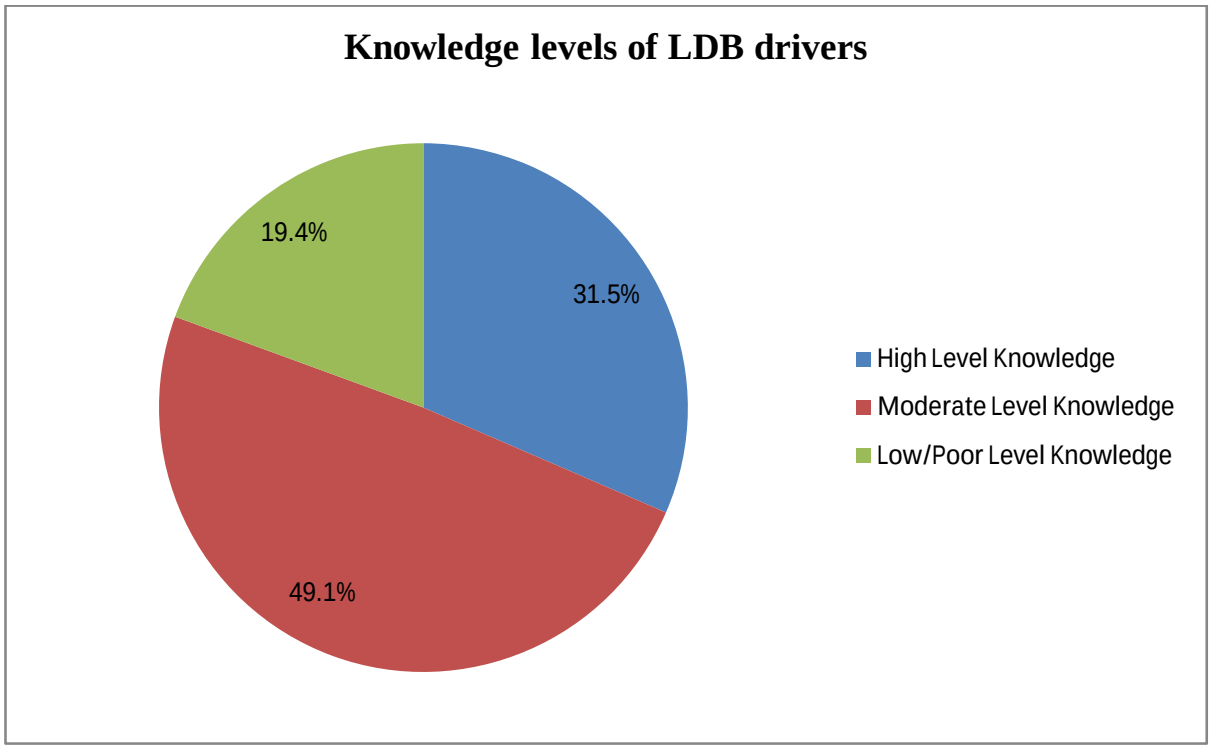

Figure 3: Knowledge levels of long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020 (n=324).

Table 2: Frequency distribution of first aid Knowledge of long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020. (n=324)

Variables		Frequency	Percentage (%)
Definition of FA(n=324)	Care given to victims by only trained medical professional	12	3.7
	Immediate or initial care given to victims before trained medical workers arrive	312	96.3
When and where should be first aid given(n=324)	Immediate at scene	304	93.8
	At Hospital	20	6.2
Who should give first aid(n=324)	Health care workers only	19	5.9
	Trained bystander include drivers	305	94.1
Not components of first aid (n=324)	Airway problem maintenance	118	36.4
	Stopping bleeding	8	2.5
	Splinting fractures	6	1.9

	Give oral fluid for unconscious	117	36.1
	Transport to hospital in safe position	16	4.9
	I Don't know	59	18.2
Priority(first) done for RTA victims (n=324)	Airway problem maintenance	106	32.7
	Transport to hospital	26	8.0
	Stopping bleeding	180	55.6
	Splinting fractures	7	2.2
	I Don't know	5	1.5
Known Sign of air way problems.(n=324)	Unconscious	250	44.3%
	No breathing	307	54.4%
	I don't know	7	1.2%
Known how to give breath(n=324)	Mouth to mouth	218	67.3
	Mouth to nose	74	22.8
	I don't know	32	9.9
Known how to stop severe bleeding(n=324)	Apply tourniquet	279	32.6%
	Tying the bleeding site with cloth/bandage	302	35.3%
	Apply pressure and lift the injured part above the body level	271	31.7%
	I don't know	4	0.5%
Known safe position after trauma(n=324)	Placing the victim sideways.	44	12.5%
	Keep the head and neck not move and face up position.	242	68.9%
	Keep the patient face down position.	16	4.6%
	I don't know	49	14.0%
Management of RTA victims with bone fracture(n=324)	Immobilization using splinting	299	92.3
	Try twist back in to the place by force	17	5.2
	I don't know	8	2.5
First aid knowledge status of LDB drivers based on their score			
First aid knowledge status(n=324)	Adequate	153	47.2
	Inadequate	171	52.8

5.3. Frequency distribution of training related factors of long distance bus drivers

Out of the study participants, 155(47.8%) respondents were trained in first aid before while the rest 52.2% were not trained. From those trained 100(64.5%) gained a certificate for training and 92(59.4%) respondents took theoretical with a practical type of training and the rest 63(40.6%) were took only theoretical types of training. Most of the respondents 90(58.1%) were trained by FTA and 18(11.6%) were trained by regional transport authorities. Sixteen(10.3%) of the study participants were trained by Red Cross Society and only 3.9% participants were trained at driving schools during trained for driving license. The majority of 100(64.5%) of the drivers were trained for one to four days and the rest 35.5% trained for five to nine days.

Table 3: Frequency distribution of training related factors of long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020. (n=324)

Variables		Frequency	Percentage (%)
Trained first aid before?(n=324)	Yes	155	47.8
	No	169	52.2
The organization trained the drivers(n=155)	FTA	90	58.1
	Red cross society	16	10.3
	Regional's transport authority	18	11.6
	During train for driving license	6	3.9
	St. Paulose Hospital	9	5.8
	Other*	16	10.3
Gained certificate for training(n=155)	Yes	100	64.5
	No	55	35.5
Types of first aid training gained(n=155)	Theoretical with practical	92	59.4
	Theoretical only	63	40.6
Numbers of days took	1-4 days	100	64.5

training(n=155)	5-9 days	55	35.5

*Addis Ababa city bus, At Military Camp, At School, Tigray Health bureau, NGO, At Germany

5.4. Frequency distribution of first aid practice of long distance bus drivers

Out of the total study participants, 171(52.8%) were attended to RTA victims for past one year. Of these 141(82.5%) participants were give different types of aid like call to ambulance 5(2.9%), transfer to nearby health facility 55(32.2%), gave FA at scene 79(46.2%) and call to police station 2(1.2%) were some of the aid gave for the victims.

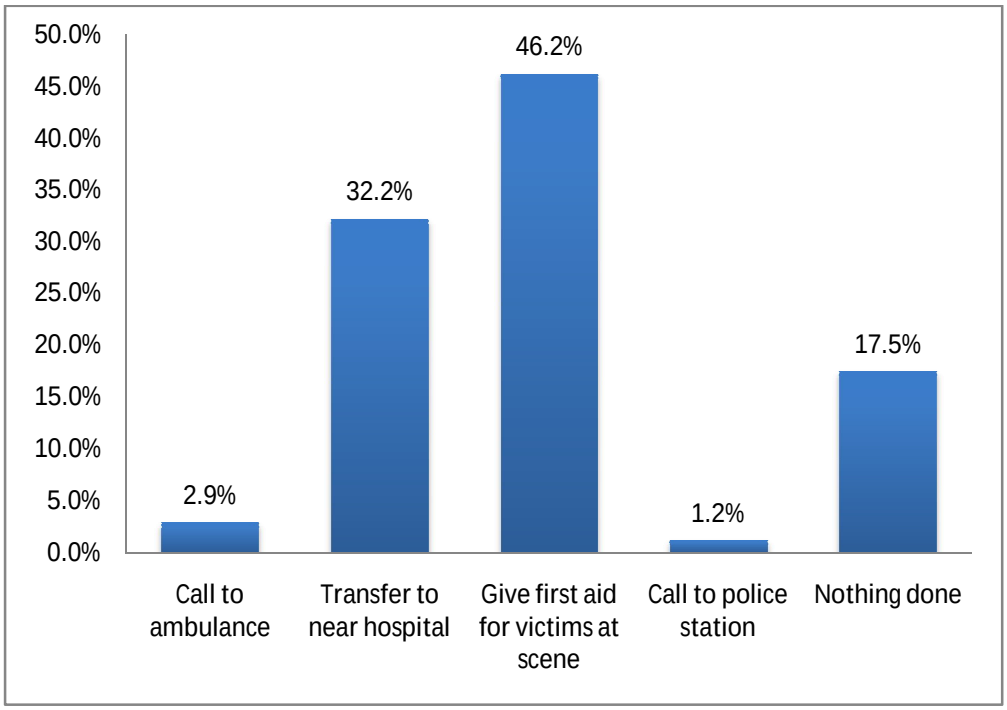

Figure 4: First action of study participant's during attending RTA victims, Addis Ababa, Ethiopia, 2020 (n=171).

Thirty (17.5%) respondents were not giving any aid to the victims. Someone else did it, not trained and fears of the legal issue were some of their reasons not to give first aid to the victims.

Of those 42 drivers attended to RTA victims with airway problem only 2(5.4%) gave first aid and manage airway problem at the scene. Two-third 27(64.3%) of drivers gave aid to victims

by transfer to the nearest hospital and 3(7.1%) call to the ambulance and the rest 10(23.8%) respondents did not give any support.

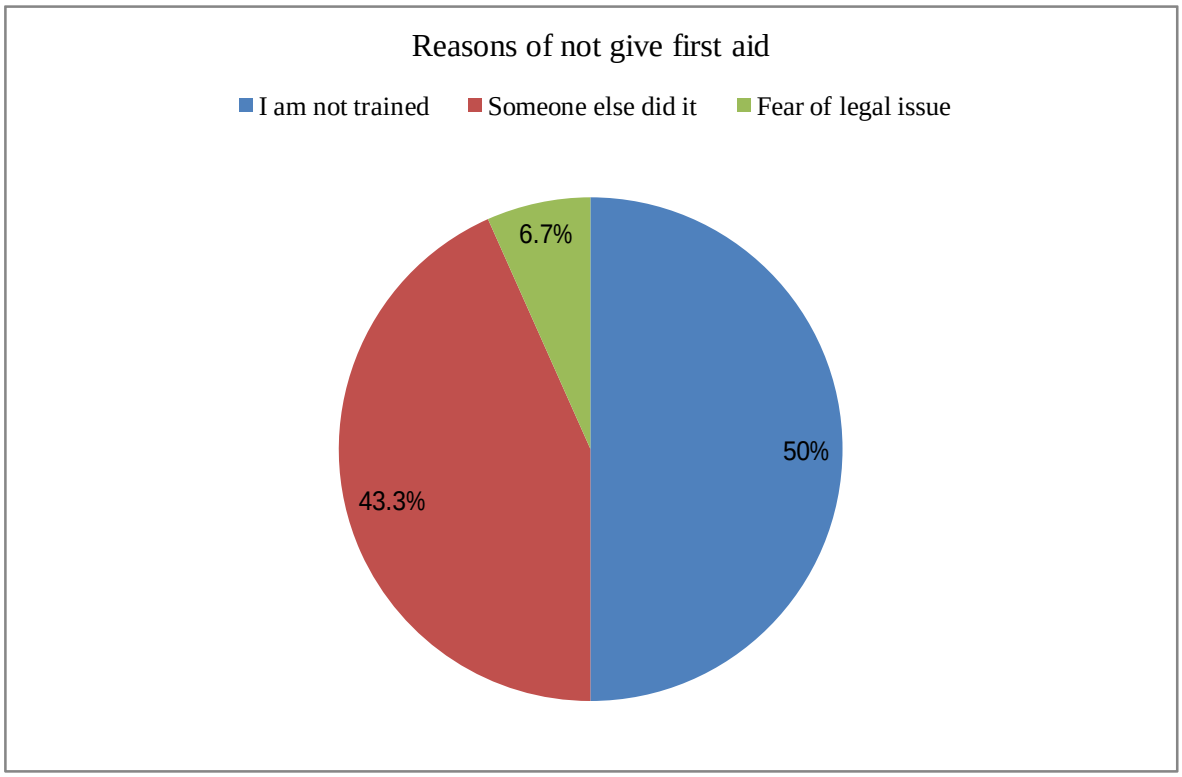

Figure 5: Reasons of not give FA for victims of long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020 (n=30).

Seventy-two (41.5%) of study participants attended to RTA victims with bleeding. Of this, 38 (52.8%) tying the bleeding site with cloth/bandage and 16(22.2%) of them transfer the victim to nearest hospital. The rest 7(9.7%) respondents did not give any support.

Of all attended to RTA victims, 45(26.3%) study participants were attended to victims with a bone fracture. The first action of these respondents was immobilization using splinting (66.7%), call to the police station (2.2%), and transfer to nearest hospital (15.6%). The rest 15.6% of respondents did not support the victims.

The other four respondents were helped the victims by extricate trapped crash victims and two respondents were simple scratch types of injuries of RTA victims were supported by transfer nears hospital.

Table 4: Frequency distribution of first aid practice of long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020. (n=324)

Variables		Frequency	Percentage (%)
Attended to RTA victims for past one year (n=324)	yes	171	52.8
	No	153	47.2
Drivers who commit the accident(n=171)	By Respondent	16	9.4
	By other driver	155	90.6
provided any aid (n=171)	yes	141	82.5
	No	30	17.5
Attended to RTA victims with airway problem(n=171)	yes	42	24.6
	No	129	75.4
First action for victims with airway problem(n=42)	Call to ambulance	3	7.1
	Transfer to near hospital	27	64.3
	Give first aid and manage airway	2	4.8
	Nothing done	10	23.8
Attended to RTA victims with bleeding(n=171)	Yes	72	42.1
	No	99	57.9
First action for victims with bleeding(n=72)	Transfer to near hospital	16	22.2
	Tying the bleeding site with cloth/bandage	38	52.8
	Apply pressure and dress	8	11.1
	call to Ambulance	2	2.8
	call to police station	1	1.4
	Nothing done	7	9.7
Attended to RTA victims with head and neck injury(n=171)	yes	11	6.4
	No	160	93.6
First action for victims with head and neck injury(n=11)	keep the neck not move and transfer to nearest hospital	5	45.5
	Nothing done	6	54.5

Attended to RTA victims with bone fracture(n=171)	Yes	45	26.3
	No	126	73.7
First action for victims with bone fracture(n=45)	Immobilization using splinting	30	66.7
	Call to police station	1	2.2
	Transfer to near hospital	7	15.6
	Nothing done	7	15.6

5.5. Frequency distribution of Supplies related factors of long distance bus drivers

From all the study participants 243(75%) had a first aid kit in their buses. Of those who had a first aid kit 195(80.2%) of drivers were check the functionality/expiry date of first aid kit items. Of them, 83(42.6%), 87(44.6%) and 25(12.8%) of the study participants have checked the functionality or expiry date of first aid kit items per month, per three months and per six months respectively. More than half 132(54.3%) of study participants have used the first aid kit items for the past one year.

Based on Federal Transport Authority proclamation and set as mandatory to complete first aid kit items, 119(49%) respondents were complete 75% and above whereas 108(44.4%) complete 50% to 75% and the rest 16(6.6%) were complete less than 50%.

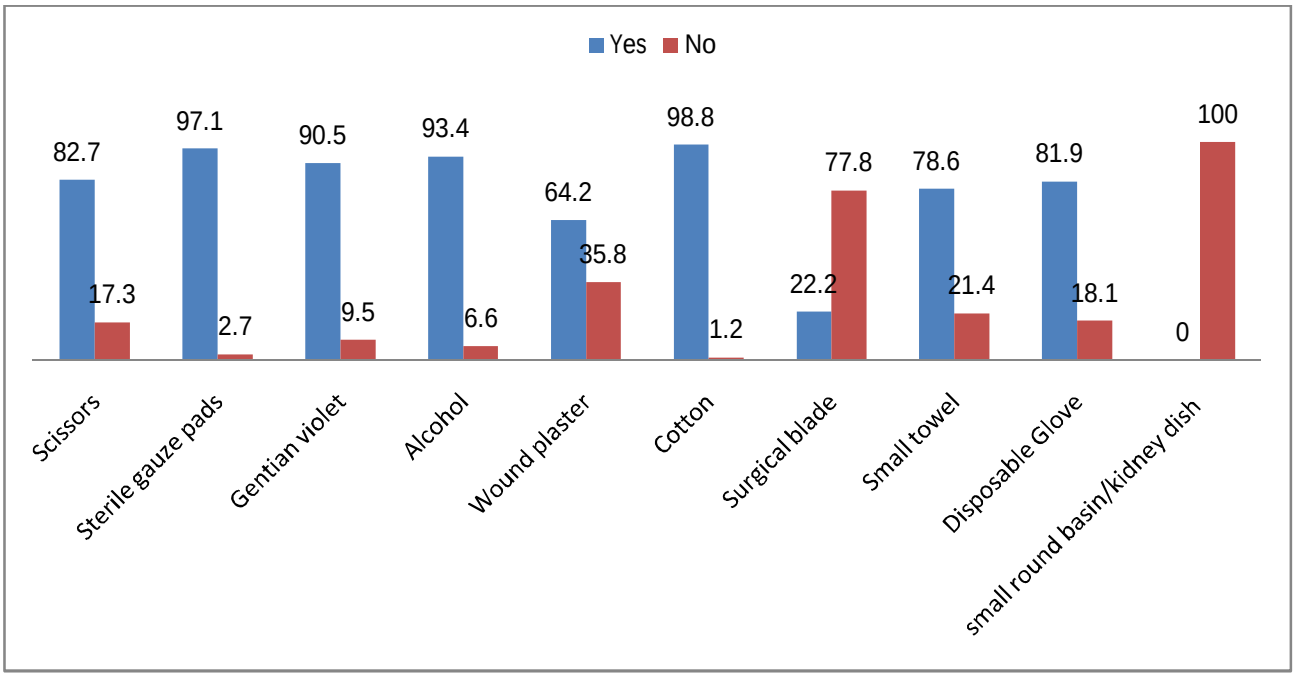

Figure 6: completeness of FA items in percent of long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020 (n=243).

Table 5: Frequency distribution of Supplies related factors of long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020.(n=243)

Variables		Frequency	Percentage (%)
Availability of FA kit(n=324)	Yes	243	75.0
	No	81	25.0
Check the functionality/expiry date of first aid kit items(n=243)	Yes	195	80.2
	No	48	19.8
Times of checking the functionality of first aid kit (n=195)	Per month	83	42.6
	Per 3 month	87	44.6
	Per 6 month	25	12.8
use of first aid kit contents for the last one year(n=243)	Yes	132	54.3
	No	111	45.7
Completeness of FA kit items(n=243)	≥75% complete	119	49.0
	50% to 75% complete	108	44.4
	<50% complete	16	6.6

5.6. Factors associated with first aid knowledge among long distance bus drivers

Logistic regression was used to determine the variables association with first aid knowledge. In bivariate logistic regression age, marital status, driving experience, origin of driving license, first aid training, completeness of first aid kit, checked time of functionality of FA kit items and ever used contents of FA kit items were associated with first aid knowledge of the study participants.

In multivariable logistic regression first aid training and used contents of FA kit items for past one year were significantly associated with first aid knowledge. Respondents who took first aid training were about six times more knowledgeable than those who didn't take the training before **(AOR=5.753:95%CI: 2.726-12.143).** Drivers who ever used the contents of FA kit items were about three times more knowledgeable than those not used FA kit items **(AOR=2.334:95%CI: 1.164-4.682).**

Table 6: Factors associated with first aid knowledge among long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020.(n=324)

Factors		Knowledge level on first aid		COR(95%CI)	AOR(95%CI)
		Adequate Knowledge	Inadequate Knowledge		
Age	20-29	20(33.9%)	39(66.1%)	1	
	30 – 40	65(52.0%)	60(48.0%)	2.112(1.110-4.019)	1.117(.334-3.739)
	40 – 50	72(66.1%)	37(33.9%)	3.795(1.943-7.409)***	2.068(.488-8.770)
	>50	14(45.2%)	17(54.8%)	1.606(.660-3.908)	.522(.095-2.881)
Driving Experience	1-5	46(43.0%)	61(57.0%)	1	
	6-10	50(49.5%)	51(50.5%)	1.300(.753-2.245)	.463(.177-1.212)
	>10	75(64.7%)	41(35.3%)	2.426(1.414-4.162)***	.693(.212-2.269)
Marital status	Single	17(30.4%)	39(69.6%)	1	
	Married	154(57.5%)	114(42.5%)	3.099(1.669-5.755)***	2.093(.626-6.993)
Origin of Driving license	Addis Ababa	83(54.2%)	70(45.8%)	2.108(1.090-4.075)*	.819(.237-2.827)
	Oromia	54(60.0%)	36(40.0%)	2.667(1.304-5.451)**	.918(.243-3.469)
	Amara	16(51.6%)	15(48.4%)	1.896(.763-4.715)	.489(.087-2.756)
	SNNPR	18(36.0%)	32(64.0%)	1	
First aid training	Yes	117(75.5%)	38(24.5%)	**6.557(4.024-10.685)*** **	**5.534(2.563-11.948)*** **
	No	54(32.0%)	115(68.0%)	1	
Completeness of FA kit items	≥75% complete	46(57.5%)	34(42.5%)	5.412(.579-50.616)	.836(.156-4.473)
	50%-75%	30(48.4%)	32(51.6%)	3.750(.396-35.480)	.442(.087-2.241)
	<50%	1(20.0%)	4(80.0%)	1	
Times checked	Per month	57(68.7%)	26(31.3%)	2.790(1.117-6.972)*	1.907(.617-5.900)

functionality of first aid kit items	Per 3 month	50(57.5%)	37(42.5%)	1.720(.701-4.217)	1.042(.352-3.086
	Per 6 month	11(44.0%)	14(56.0%)	1	
Ever used contents of FA kit items	Yes	90(68.2%)	42(31.8%)	**2.431(1.442-4.100)*** **	**2.584(1.238-5.393)***
	No	52(46.8%)	59(53.2%)	1	

*significant at (P≤0.05), **significant at (P≤0.01), ***significant at (P≤0.001), COR: Crude Odds Ratios, AOR: Adjusted Odds Ratios, SNNPR - Southern Nations, Nationalities, and Peoples' Region

5.7. Factors associated with first aid practice among long distance bus drivers

Educational status, knowledge level, FA training and availability of first aid kit items were associated with first aid practice in binary logistic regression analysis which was p- value <0.2 and candidate for multivariate logistic regression. Educational status was not associated with first aid practice in multivariate logistic regression.

In multivariable logistic regression the respondents who had high level knowledge were about four times more practice than drivers who had low level knowledge **(AOR=4.051: 1.117-14.687).** Respondents who took first aid training were also six times more practice than those who didn't take the training**(AOR=6.008: 2.807-12.858).** Drivers who had first aid kit in their buses were five times more practice than those who not had the kit **(AOR=5.295: 1.431-19.589).**

Table 7: Factors associated with first aid practice among long distance bus drivers of five terminals, Addis Ababa, Ethiopia, 2020.(n=324)

Factors		First aid Practice		COR(95%CI)	AOR(95%CI)
		Yes	No		
Educational Status	Primary	16(39.0%)	25(61.0%)	1	
	Secondary(9-12)	59(48.0%)	64(52.0%)	1.440(.701-2.960)	1.165(.497-2.728)
	Above secondary	6(85.7%)	1(14.3%)	9.375(1.030-85.293)*	8.544(.821-88.936)
Knowledge level	High level Knowledge	52(64.2%)	29(35.8%)	**8.517(2.643-27.442)*** **	**4.051(1.117-14.687)***
	Moderate Level Knowledge	25(37.3%)	42(62.7%)	2.827(.863-9.261)	3.136(.847-11.610)
	Low level Knowledge	4(17.4%)	19(82.6%)	1	
First aid training	Yes	62(68.9%)	28(31.1%)	**7.226(3.658-14.272)*** **	**6.008(2.807-12.858)*** **
	No	19(23.5%)	62(76.5%)	1	
Availability of first aid kit	Yes	77(52.4%)	70(47.6%)	**5.500(1.792-16.878)****	**5.295(1.431-19.589)***
	N0	4(16.7%)	20(83.3%)	1	

*significant at (P≤0.05), **significant at (P≤0.01), ***significant at (P≤0.001), COR: Crude Odds Ratios, AOR: Adjusted Odds Ratios

6. Discussion

This study found that more than half of long-distance bus drivers had adequate first aid knowledge which is higher when compared to studies done on taxi drivers in Addis Ababa(8, 20). This might be due to the number of drivers who had first aid training were high on long-distance bus. Drivers who provided first aid to RTA victims at the scene were 46.2%, which was higher when compared to the studies done in India (14.6%) and Nigeria (16.2%) (19, 21). The difference might be due to different in the studies time and sample size. The training in first aid and ever use the contents of FA kit items has been significantly associated with First aid knowledge. First aid training, availability of first aid kit and first aid knowledge were significantly associated with first aid practices. This finding was coinciding with the studies performed in Addis Ababa and in Zambia (8, 23).

This study identified first aid training and ever used first aid kit items as the most important factors in first aid knowledge. Respondents who received first aid training were about six times more knowledgeable than those who had not received any training prior to the study being conducted in Egypt showed that previous training was statistically significant and had first aid knowledge(24). Another survey done in Poland revealed that drivers who took first aid training were more knowledgeable than those who didn't take first aid(30). Another study in Nigeria revealed that drivers who attended first aid training increased the average first aid knowledge score immediately and three months after the training(31). This might be due to the fact that training of lay respondents include drivers could be improved their first aid knowledge and skills.

On the other hand the type of training specifically 16 hours of experience-based training type has more improved drivers' knowledge significantly when compared to the standard 4-hour training(11). In this study, 59.4% of drivers have taken theoretical with practical type of training. This could be the difference of organization give the training for the drivers and the knowledge of the trainers. Drivers who were used first aid kit items in the past one year were about three times more knowledgeable than those didn't used a kit before**.** This might be because of the fact that if bystanders include drivers have knowledge about first aid they used it than those have not knowledge.

In this study, first aid knowledge, first aid training and availability of first aid kit were significant association with first aid practice. Respondents with high levels of knowledge were about four times more practice than those with low levels of knowledge. This funding is less practice when compared with the study done in Addis Ababa on taxi drivers that, drivers who had adequate first aid knowledge were five times more practice than those had inadequate first aid knowledge(8). This difference might be due to the difference in study methodology and study time. At the same time in this study drivers who had FA kit in the buses were five times more practice than those who didn't have the kit. This finding is comparable with the study done on taxi drivers in Addis Ababa, Ethiopia(8). This might be due to if the drivers had first aid kit in their buses they use the first aid kit items for treating the victims.

This study identified that FA training is statistically significant with first aid practice. Drivers with first aid training were about five times more practice than those without previous training. This finding is similar with the study done in Addis Ababa that drivers who had been trained in first aid were five times more practice than drivers who had not been trained(8). Another study conducted in Egypt showed that first aid training and first aid practice of drivers were statically significant relation(24). This is supporting the fact that the first aid training of layperson, including drivers was useful for provided first aid for the road traffic accident victims specially where the emergency medical service system was not fully developed(31).

In this study, 155(47.8%) respondents were trained first aid at least one time before. This finding much higher than study done in Addis Ababa on taxi drivers (26.8%)(8). This might be due to the Federal Transportation Authority and long distance bus associations pay attention to long-distance bus drivers due to long distance driving. It was also higher than studies done in India (1.2%) and Egypt (5%)(19, 24). For most of the drivers participating in this study, the Federal Transport Authority, the health facility and the Red Cross Society are the main organization that provides first aid training. Although there are training programs in the driver's training curriculum, only 3.9% of respondents were trained during the driver's license training. This is an indication that the driving schools have not been training drivers

in accordance with the guidelines of the Federal Transportation Authority. More than half of European countries gave first aid training for drivers before issued driving license(26).

In this study, 96.3% of drivers were aware of the definition of first aid, which is consistent with the study conducted in India (96.4%) and much higher than the study done on taxi Addis Ababa, on taxi drivers 46.9% (8, 19). Most drivers (94.1%) knew who gave first, which was more than the study in India (66.3%) and 93.8% knew when and where to give first aid, which is more than the study in India (90.1%)(19). This might be due to the drivers trained first aid in this study higher than the previous studies. In this study only 36.1% knew not given oral fluid for unconscious, which is much smaller than study done in Nigeria, 77.4 %(21). Participants in this study 32.7% knew the priority done for road traffic accident victims which was smaller than study done in India, 38.9 %(19). This might be due to different in police of the countries, sample size, training style and time of study.

The knowledge of drivers regarding correct bleeding control 82% knew all method, apply tourniquet, tying the bleeding site with cloth/bandage and apply pressure and lift the injured part above the body level which higher than study done in India(57.9%) and Nigeria(51.5%). In the same Nigerian and Indian study showed that use splint for managements of fracture were known by 88.5% and 73.4% drivers respectively ,in this study 92.3% higher than them(19, 21). This might be because of the proportion of first aid trained drivers in this study were higher than others.

In the current study, more than half, 52.8% respondents witnessed RTA victims and 82.5% were provided different types of aid for the victims and 17.5% were not give any aid. The reason of respondent who had not provided first aid was not trained, someone else did it and fear of legal issue were similar with the study done in India and 46.2% of drivers in Dominican Republic not support due to already at the scene helping(19, 29).

Regarding the airway problems victims' only 2(5.4%) respondents provided first aid and mange airway problems. More of them 64.3% support the victims by transferring nearest Hospital while 9.7% did nothings. This is comparable with the study done in India (19). This might be indicating that the training give for drivers are not include management of airway problems or might be the indication of difficult of airway management. In the same study in

Indian the RTA victims of neck and head injuries 41.2% supported by transferring nearest hospital. In this study also 45.5% were keeping the victims head and neck not move and transfer to nearest hospital. The difference might be due to the difference in training style, proportion of first aid trained drivers and different in study period.

In this study, from attended RTA with bone fracture 66.7% of respondents immobilize using splint which is much higher than study done in Addis Ababa, 40.9 % and in India 54.3 %(8, 19). Moreover 15.6% of respondents were nothing provided any support. In India also 11.4% respondent didn't have any support for the victims (19).

This study revealed that 75% of respondents had first aid kit in their bus. This finding was much higher than study conducted in Addis Ababa (11.7%), and lower than the finding done in India (84.9%). This might be because differences in countries regulation law and the difference of knowledge of drivers regrinding importance of first aid kit. Moreover, in India 69% respondents used first aid kit items at least once (19). In this study less used of FA kit items before (54.2%). Although the availability and completeness of FA kit items were mandatory according to federal transport proclamation, only 49%of respondents were completed 75% and above. The rest 44.4% completed 50% to 75% and 6.6% were completed less than 50%. This is might be indicated that the drivers were not obeyed the law and rule of Federal transport Authority and less regulated and followed up by concerned body.

7. Limitation of the study

- Because of the they didn't had fixed terminal that controlled by FTA and the dispatched time was not fixed the driver of special buses which is included under long distance bus drivers were not included in this study.
- Lack of background information (previous studies) on first aid knowledge and practices of long distance bus drivers, such that the results of this study were difficult to compare with those of the previous study.

8. Conclusion and Recommendation

8.1. Conclusion

More than half (52.8%) of the drivers had adequate knowledge in first aid. Only 46.2% of drivers were provided first aid for the RTA victims at the scene. First aid training was an important factor of first aid knowledge and practice. Only 47.8% study participants had been taken first aid training before this study. Even though, the federal transportation authority guidelines for driving schools have included first aid training, only 3.9% of respondents have been trained at the driving school.

Although the guideline of the Federal Transportation Authority is mandatory for the availability and completion of a first aid kit, only 75% of study participants had first aid kit on their buses, and only 49% of respondents completed 75% and above of the items in the FA kit.

8.2. Recommendation

Federal Transport Authority

- It should be improve the knowledge and practice of long-distance bus drivers by providing first aid training.
- It should be regulating the training activities of driving schools whether they training first aid or not.
- It should inspect and regulate the availability and completeness of first aid kit in the buses regularly.

Driving schools

- They should be trained first aid for the drivers based on driving school curriculum.

Long distance bus association and owners

- They should be facilitated the training of first aid for drivers.
- They should be complete the first aid kit items in their buses.

Long distance bus Drivers

- They should be check the availability and completeness of first aid kit regularly.

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ANNEX

ANNEX I.

ANNEX II. Information and informed consent in English

Information sheet

Good morning? / Good afternoon? My name is _____.I came from Addis Ababa University College of Health Science School of Public Health research team. Respectfully I ask few questions which take 15 to 20 minutes to know your knowledge and practice of first aid on RTA. Your information that you are going to provide will help policy makers to revise drivers licensing training and give priority for minimizing fatality and severe injuries related to RTA.

Title of the study: Assessment of Knowledge and practice of FA among long distance bus drivers departing from Addis Ababa, Ethiopia, 2020.

Background of the study: First aid is the immediate or initial care given to victims of accidents before trained medical workers arrive. In developing country include Ethiopia there are small numbers of drivers with first aid Knowledge and not applied their Knowledge well those have Knowledge.

Objective of the study: To assess the level of Knowledge and practice of First Aid service associated with Road Traffic Accident among Long Distance Bus Drivers departing from Addis Ababa, Ethiopia.

Benefit of the study: There is no direct benefit for participants for being participated in responding to this questionnaire. The result will be disseminated to all stockholders for designing awareness creation on first aid and revised their policy.

Risk of the study: the study has no any risk for the participant and interview also will be private to make safe participants from management related problems.

Rights of the participant: Participating and not participating is the full right and participants can stop from participation in the study at any time. And also the participant can skip question which the driver does not want to respond. Participants can ask any questions which is not clear for understanding.

Confidentiality: you will not be asked your name on to be written the survey questions. All the information you give to us will be kept private.

Informed consent

I have read this form or it has been read to me in the language I am understood all conditions stated above.

Therefore, I am willing to participate in this study.

Signature of participant_____

Name of Interviewer _____Signature _____

Name of supervisor _____ Signature_____

Result of interview 1. Completed

2. Respondent not available

3. Refused

4. Partially Completed.

Remark: For any inconvenience and problem related to questionnaire please contact principal investigator.

Name of principal investigator – Kebede Bonsa

Address: Tell- 0911532510

e-mail kebedebonsa50@gmail.com

የመረጃ ፎርም እና የስምምነት ውል ቅፅ

የመረጃ ፎርም

እንደምን አደሩ/ ዋሉ? እኔ ስሜ _____ ሲሆን የመጣዉት ከአዲስ አባባ ዩኒቨርስቲ ጤና ሳይንስ ኮላጅ ከህብረተሰብ ጤና ትምህርት ከጥናት ክፍል ነው፡፡ አሁን ልጠይቆት የሚፈልገው ከ15 እስከ 20 ደቂቃ የሚፈጅ እና ከመንገድ ትራፍክ አደጋ ጋር በተያያዘ የመጀመሪያ ሕክምና እርዳታ ላይ የሀገር አቋራጭ ሹፌሮች ያላቸዉን እዉቀትና ትግበራቸዉን ለማወቅ ነዉ፡፡ የሚሰጡት መረጃ ፖሊሲ አውጭዎችን የመጀመሪያ ሕክምና እርዳታ ጋር በተያያዘ በመንጃፈቃድ ትምህርት ቤቶች የትምህርት አሰጣጥን ለመከለስና ከትራፍክ አደጋ ጋር በተያያዘ የሚደርሰዉን ሞት ለመቀነስ ቅድሚያ ሰተዉ እንዲሰሩ ይረዳቸዋል፡፡

የጥናቱ ሪዕስ

የመጀመሪያ ሕክምና እርዳታ በተመለከተ ከአዲስ አበባ ለሚነሱ የረጅም ወይም የሀገር አቋራጭ አዉቶብስ ሹፌሮች ዕዉቀትና አተገባበር ማጥናት ነዉ

መግቢያ

የመጀመሪያ የሕክምና እርዳታ ማለት የሰለጠነ የሕክምና ባለሙያ ከመድረሱ በፍት ለተጎዳ ሰዉ የሚሰጠዉ የመጀመሪያ ወይም አፋጣፍ ሕክምና እርዳታ ማለት ነዉ፡፡ ባደጉት ሀገሮች ላይ ኢትዮጵያን ጨምሮ ከመጀመሪያ ሕክምና እርዳታ ጋር በተያያዘ የሹፈሮች እዉቀት አናሳ መሆኑ እና እዉቀት ያላቸዉም አናሳ አተገባበር መኖራቸዉ የተለያዩ ጥናቶች ያሳያሉ፡፡

የጥናቱ ዓላማ

የመጀመሪያ ሕክምና እርዳታ በተመለከተ ከአዲስ አበባ ለሚነሱ የረጅም ወይም የሀገር አቋራጭ አዉቶብስ ሹፌሮች ዕዉቀትና አተገባበራቸዉ ማጥናትና ነዉ

የጥናቱ ጥቅም

ጥናቱ ለተሳታፊዎች ፈጣንና ቀጥተኛ ጥቅም ባይኖረውም የመጀመሪያ ሕክምና እርዳታ ጋር በተያያዘ የባለድርሻ አካላት የግንዛቤ ማስጨበጫ ስልጠና ለማጠናከር እና ፖሊሲያቸዉን እንድከልሱ ለማድረግ ይረዳል፡፡

በጥናቱ የሚመጣ ችግር

ይህ ጥናት በተሳታፊዋ ላይ ምንም አይነት ችግር አይኖረውም፡፡ ጥያቀዉም በምስጥር የሚደረግ ነዉ፡፡

የተሳታፊዋ መብት

በዚህ ጥናት ላይ መሳተፍ ሆነ አለመሳተፍ ሙለ በሙለ በርስዎ ፈቃደኝነት ላይ የተመሰረተ እና መጠይቁ በፈለጉት ጊዜ ማቋረጥ ይችላሉ፡፡ መመለስ ያልፈለጉትን ጥያቄ የማለፍ መብት አሎት፡፡ ያልገቦትን ጥያቄ መጠየቅ ይችላሉ፡፡

ምስጢራዊነት

በዚህ መጠየቅ የተሰጠው መረጃ መስጥራዊነት የተጠበቀ ሲሆን የሠራተኛ ስም በፍፁም አይገለፅም፡፡

1. ስምምነት

ከላይ የተፃፈውን መረጃ እኔ በሚችለው ቋንቋ የተገለፀ ስለሆነ ሁለንም በማንበብ/ተነቦልኝ ተረድቻለሁ፡፡ ስለሆነም በጥናቱ ለመሳተፍ ፈቃደኛ ነኝ፡፡

የተሳታፊ ፊርማ _____

የጠያቂዉ ስም_____ ፊርማ_____

የሱፐርቫይዘር ስም _____ፊርማ _____

የመጠይቁ ዉጤት

1. በሙሉ ተሞልተዋል
2. ተሳታፊው አልተገኘም
3. ለመመላት ፈቃደኛ አልሆኑም
4. በግማሽ ተሞልቷል

መሳሰቢያ፡- ያልገባዎት ወይም ጥያቄ የሆነበዎት ሁኔታ ካለ ዋና አጥኚዉን መጠየቅ ይችላሉ፡፡

የዋናዉ አጥኚ ስም ከበደ ቦንሳ

አድራሻ ስልክ ቁጥር 0911532510

ኢ-ሜይል kebedebonsa50@gmail

ENGLISH QUESTIONNAIRE

Interviewer ID. ---------- Interviewee ID. ------- Bus level ---------- Date of interview----------

PART I. SOCIODEMOGRAPHIC CHARACTERSTICS AMONG STUDY PARTICIPANTS			
Code	Questions	Possible responses	Skip
101	How old are You?	_____(Years)	
102	What is your year of Driving Experience?	1. 1-5 years 2. 6-10 years 3. >10 years	
103	What is the highest level of school you attended?	1. No education 2. Primary(1-8) 3. Secondary(9-12) 4. Above secondary	
104	What is your marital status?	1. Single 2. Married 3. Divorce 4. Widowed 5. Other specify ----------	
105	How many hours you driving per day? (Excluding lunch and tea time)	1. <5 hours 2. 6-10 hrs 3. >10hrs	
106	Where region is your current Drivers License from?	1. Addis Ababa 2. Oromia 3. Amara 4. S/N/N 5. Other specify ----------	
107	What is your bus level driving?	1. Level one 2. Level two 3. Level three	

PART II. FIRST AID KNOWLEDGE AMONG STUDY PARTICIPANTS			
Code	**Questions**	**Possible responses**	**Skip**
201	What is first aid?	1. Care given to victims by only trained medical professional 2. Immediate or initial care given to victims before trained medical workers arrive 3. Other specify ----------	
202	When and where should be first aid given during RTA?	1. Immediate at scene 2. When reaching at Hospital 3. I don't know 4. Other (specify)_____	
203	Who should give first aid during RTA?	1. Health care workers only 2. Trained bystander include drivers 3. I don't know 4. Other (specify)_____	
204	Which of the following is a not component of first aid management of road traffic accident victims?	1. Airway problem maintenance 2. Stopping bleeding through applying pressure 3. Splinting fractures 4. Giving oral fluid for unconscious 5. Save transport the victim to the hospital 6. I Don't know	
205	Which of the following is prioritized/done first for RTA victims?	1. Airway problem maintenance 2. Transport to hospital 3. Stopping bleeding 4. Splinting fractures 5. I Don't know	

206	Which of the following are sign of air way problem for RTA victim? (You can give more than one answers)	1. Unconscious 2. No breathing 3. I don't know 4. Other (specify) _____	
207	Which of the following are usually used for to give breath?	1. Mouth to mouth 2. Mouth to nose 3. I don't know 4. Other (specify)_____	
208	Which of the followings are important to stop severe bleeding? (You can give more than one answers)	1. Apply tourniquet 2. Tying the bleeding site with cloth/bandage 3. Apply pressure and lift the injured part above the body level 4. I don't know 5. Other, specify_____	
209	Which position is safe for a patient after a traumatic event? (You can give more than one answers)	1. Placing the victim sideways. 2. Keep the neck and head not move and face up position 3. Keep the patient face down position. 4. I don't know 5. Other(specify)_____	
210	Which of the following is management of RTA victims with bone fracture?	1. Immobilization using splinting 2. Try twist back in to the place by force 3. I don't know 4. Other(specify)_____	

PART III. FIRST AID TRAINING RELATED ISSUES OF PARTICIPANTS			
Code	Questions	Possible responses	Skip
301	Did you have trained first aid before?	1. Yes 2. No	If NO skip to question number 306
302	If yes for 301 where you were trained?	_____	
303	If yes for 301did you gained certificate for training?	1. Yes 2. No	
304	What types of first aid training gained?	1. Theoretical with practical 2. Theoretical only	
305	How many hours/days you have trained first aid?	…….hrs/days	

PART IV. FIRST AID PRACTICE AMONG STUDY PARTICIPANTS			
Code	**Questions**	**Possible responses**	**Skip**
401	Have you ever attended to RTA victims for the last one year?	1. Yes 2. No	If NO skip to question number 501
402	If 'yes' for 401 the accident occur by whom?	1. By Respondent 2. By other driver	
403	If 'yes' for 401 did you gave first aid?	1. Yes 2. No	
404	If 'No' for 403 what is your reason not give first aid?	1. I am not trained 2. Someone else did it 3. The incidence site was crowded 4. Frightened of doing harm than help 5. Fear of legal issue 6. Other (specify)_____	
405	If "yes", for 403 what was your action?	1. Call to ambulance 2. Transfer to near hospital 3. Give first aid for victims 4. call to police station 5. Other (specify)_____	
406	Have you ever attended to RTA victims with airway problem for the last one year?	1. Yes 2. No	If NO skip to question number 408
407	If 'yes' for 406 what is your first action?	1. Call to ambulance 2. Transfer to near hospital 3. Give first aid and manage airway problem 4. call to police station 5. Other (specify)_____	
408	Have you ever attended to RTA victims with	1. Yes	If NO skip

	severe bleeding for the last one year?	2. No	to question number 410
409	If 'yes' for 408 what is your first action?	1. Transfer to near hospital 2. Apply tourniquet to stop bleeding 3. Apply pressure and dress 4. Call to ambulance 5. call to police station 6. Other (specify)_____	
410	Have you ever attended to RTA victims with head and neck injury for the last one year?	1. Yes 2. No	If NO skip to question number 412
411	If 'yes' for 410 what is your first action?	1. keep the neck and head not move and transfer to nearest hospital 2. Call to ambulance 3. Call to police station 4. Other (specify)_____	
412	Have you ever attended to RTA victims with bone fracture for the last one year?	1. Yes 2. No	If NO skip to question number 414
413	If 'yes' for 412 what is your first action?	1. Call to ambulance 2. Immobilization using splinting 3. Call to police station 4. Other (specify)_____	
414	Have you ever attended to RTA victims other than the above mentioned injuries for the last one year?	1. Yes 2. No	
415	If 'yes' for 414 what types of injured victims?	_____	
416	If 'yes' for 414 what is your first action?	_____	

Part V. First Aid kit availability and compilations identification questioners and checklist		
Code	**checklist**	**Possible responses/observe**
501	Do you have first aid kit in your bus?	1. Yes 2. No
502	Have you check the functionality/expiry date of first aid kit items?	1. Yes 2. No
503	If yes for 306 by how many times you have checked?	1. Per month 2. Per 3 month 3. Per 6 month 4. Per year 5. Other(specify)_____
504	Did you ever use contents of the first aid kit for the last one year?	1. Yes 2. No
505	Did you have completed the following basic first aid items/contents in your first aid kit?	1. ≥75% completed 2. 50-75% completed 3. <50% completed
	Scissors	1. Yes 2. No
	Sterile Gauze Pads / Sterile wound dressing	1. Yes 2. No
	Gentian violet/Savilon	1. Yes 2. No
	Alcohol	1. Yes 2. No
	Medical Tape/ Sticky tape /Wound Plaster	1. Yes 2. No
	Cotton	1. Yes 2. No
	Surgical blade	1. Yes 2. No
	Small towel	1. Yes

		2. No
	Disposable gloves	1. Yes 2. No
	Small round dish/kidney dish	1. Yes 2. No
	List if other items are there than above items_____	

የአማሪኛ መጠይቅ

የጠያቂዉ መለያ ቁጥር……የተጠያቂዉ መለያ ቁጥር……የአዉቶብስ ደረጃ…… የመጠይቅ ቀን……

ክፍል አንድ ማህበራዊ እና ስነ-ሕዝባዊ ሁኔታዎችን በተመለከተ			
ተ/ቁ	**ጥያቄዎች**	**አማራጭ መልሶች**	**እለፍ**
101	**እድሜ ስንት ነዉ?**	**……..ዓመት**	
102	**ስንት ዓመት የመንዳት አገልግሎት አሎት?**	1. **ከ1-5 ዓመት** 2. **ከ6-10 ዓመት** 3. **ከ10 ዓመት በላይ**	
103	**የትምህርት ደረጃ ስንት ነዉ?**	1. **አልተማርኩም** 2. **የመጀመሪያ ደረጃ** 3. **ሁለተኛ ደረጃ** 4. **ሰርተፍኬት** 5. **ዲፕሎም** 6. **መጀመሪያ ድግሪ**	
104	**የጋብቻ ሁኔታክ ምን ይመስላል?**	1. **ያላገባ** 2. **ያገባ** 3. **አግብቶ የፈታ** 4. **በሞት የተለየ** 5. **ሌላ ካሌ የጠቀስ----------**	
105	**በቀን ምን ያክል ሰዓት ይነዳሉ?**	1. **ከ5 ሰዓት በታች** 2. **ከ5-10 ሰዓት** 3. **ከ10 ሰዓት በላይ**	
106	**ከየት ክልል ነዉ መንጃፈቃዱን የወሰዱት?**	1. **ከአዲስ አበባ** 2. **ከኦሮሚያ** 3. **ከአማራ** 4. **ደቡብ** 5. **ሌላ ካለ ይጠቀስ----------**	
107	**እርስዎ የምነዱት አዉቶብስ ስንተኛ ደረጃ ነዉ?**	1. **1ኛ ደረጃ** 2. **2ኛ ደረጃ** 3. **3ኛ ደረጃ**	

ክፍል ሁለት ከመጀመሪያ ሕክምና እርዳታ ጋር በተያያዘ የተሳታፊ እዉቀት ለማወቅ የተዘጋጀ መጠይቅ			
ተ/ቁ	ጥያቄዎች	አማራጭ መልሶች	እለፍ
201	የመጀመሪያ ሕክምና እርዳታ ማለት ምን ማለት ነዉ?	1. በሰለጠነ ህክምና ባለሙያዎች ብቻ ለተጎዳ ሰዉ የምሰጥ ሕክምና ማለት ነዉ 2. የሕክምና ባለሙያዎች ከመድረሱ በፊት የምሰጥ አስቸኳይ የሕክምና እርዳታ ማለት ነዉ 3. ሌላ ካለ ይጠቀስ----------	
202	በትራፍክ አደጋ ጊዜ የመጀመሪያ ሕክምና እርዳታ መች እና የት ይሰጣል?	1. ወዲያዩ አደጋ በተከሰተበት ቦታ 2. ሆስፒታል ስደርሱ 1. አላዉቅም 3. ሌላ ካለ ይጠቀስ----------	
203	በትራፊክ አደጋ ጊዜ ማነዉ የመጀመሪያ ሕክምና እርዳታ የሚሰጠዉ	1. በጤና ባለሙያ ብቻ 2. በአደጋ ቦታ የተገኘ ሹፌርን ጨምሮ 2. አላዉቅም 3. ሌላ ካለ ይጠቀስ----------	
204	በትራፍክ አደጋ የተጎዳዉን ሰዉ ለመርዳት መደረግ/መሰራት የለለቤት የቱ ነዉ	1. የአየር ፯ንባ መዘጋትን ማስተካከል 2. የሚደማውን አካል በጨርቅ ተጭኖ ማቆም 3. ስብራተን ጠንካራ ነገር አስደግፎ ማሰር 4. እራሱን ለሳተ ተጎጂ ፈሳሽ ምግብ/ለስላሳ በአፍ መስጠት 5. የተጉዳ ሰዉ ወደ ሆስፒታል መዉሰድ 6. አላዉቅም	
205	ከሚከተሉት በመጀመሪያ ሕክምና እርዳታ ጊዜ ቅድሚያ መሰጠት ያለበት የቱ ነዉ	1. የአየር ፯ንባ መዘጋትን ማስተካከል 2. የተጉዳ ሰዉ ወደ ሆስፒታል መዉሰድ 3. የሚደማውን አካል ማቆም 4. ስብራተን ጠንካራ ነገር አስደግፎ ማሰር 5. አላዉቅም	
206	የትራፍክ አደጋ ወቅት የአየር ባንባ ችግር የገጠመዉ ምልክት የሆነዉ የቱ ነዉ (ከአንድ በላይ መልስ መስጠት ይቻላል)	1. እራስን መሳት 2. መተንፈስ አለመቻል 3. አላዉቅም 4. ሌላ ካለ ይጠቀስ……	
207	ከሚከተሉት ውስጥ ብዙ ጊዜ ትንፋሽ ለመስጠት የሚያገለግልው ዘዴ የቱ ነው?	1. አፍ ለ አፍ 2. አፍ ለአፍንጫ 3. አላዉቅም 4. ሌላ ካለ ይጠቀስ……	
208	ከሚከተሉት ውስጥ ደም ለማቆም የሚረዱ የቱ ነዉ (ከአንድ በላይ መልስ መስጠት ይቻላል)	1. ከምደማዉ በላይ በጨርቅ/በገመድ በማሰር የምደማዉን ማቆም 2. የሚደማውን አካል በፋሻ/በጨርቅ ማሰር 3. የሚደማዉን አካል በፋሻ/በጨርቅ ተጭኖ በመሸፈንና ወደ ላይ ከፍ ማድረግ መያዝ	

		4. አላዉቅም 5. ሌላ ካለ ይጠቀስ……	
209	በአደጋ የተጎዳ ሰዉ ትክክለኛ አያያዝ የሆነዉ የቱ ነዉ (ከአንድ በላይ መልስ መስጠት ይቻላል)	1. በጎን ማስተኛት 2. በጀርባ ማስተኛትና አንገትን ሳያንቀሳቅሱ መያዝ 3. በደረት ማስተኛት 4. አላዉቅም 5. ሌላ ካለ ይጠቀስ……	
210	ከሚከተሉት ውስጥ አጥንቱ የተሰበረ ሰዉ ለመርዳት የሚጠቅም የቱ ነዉ	1. ጠንካራ ነገር አስደግፎ በማሰር እንዳይቀሳቀስ ማድረግ 2. የተሰበረ አጥንት በጉልበት ወደ ቦታ በመመለስ ማሰር 3. አላዉቅም 4. ሌላ ካለ ይጠቀስ……	

ክፍል ሶስት ከመጀመሪያ ሕክምና እርዳታ ስልጠና ጋር በተያያዘ የተዘጋጀ መጠይቅ			
ተ/ቁ	ጥያቄዎች	አማራጭ መልሶች	እለፍ
301	የመጀመሪያ ሕክምና እርዳታ ስልጠና ወስደዉ ያዉቃሉ	1. አዎ 2. አይደለም	አይደለም ከሆነ ወደ ጥ.ቁ.303
302	ለጥ.ቁ. 301 መልሱ አዎ ከሆነ የት ነዉ የሰለጠኑት	……	
303	ለጥ.ቁ. 301 መልሱ አዎ ከሆነ ሰርትፍከት ተሰጥል	1. አዎ 2. አይደለም	
304	ምን አይነት ስልጠና ነዉ የወሰዱት	1. በተግባር የተደገፈ 2. በተግባር ያልተደገፈ	
305	ምን ያክል ሰዓት/ቀን ነዉ ስልጠናዉን የወሰዱት	……ሰዓት/ቀን	

ክፍል አራት ከመጀመሪያ ሕክምና እርዳታ ጋር በተያያዘ የተሳታፊ አተገባበርን ለማወቅ የተዘጋጀ መጠይቅ			
ተ/ቁ	ጥያቄዎች	አማራጭ መልሶች	እለፍ
401	ባለፈዉ አንድ ዓመት በመንገድ ትራፊክ አደጋ የተጎዳ ሰዉ ገጥሞህ ያቃል?	1. አዎ 2. አይደለም	አይደለም ከሆነ ወደ ጥ.ቁ.404 ይለፉ
402	ለጥ.ቁ. 401 መልሱ አዎ ከሆነ አደጋዉ የተከሰተዉ በማን ነዉ?	1. በእኔ 2. በሌላ ሾፌር	
403	ለጥ.ቁ. 401 መልሱ አዎ ከሆነ መጀመሪያ እርዳታ ሰተዋል?	1. አዎ 2. አይደለም	
404	ለጥ.ቁ. 403 መልሱ አይደለም ከሆነ ያልሰጡበት ምክንያት ምንድነዉ?	1. ስልጠና ስላልወሰድኩ 2. ሌላ ሰዉ እርዳታዉን ስለሰጡ 3. የአደጋ ቦታ የተጨናነቀ ስለሆነ 4. የበለጠ እንዳልጎዳ ስለፈራሁ	

		5. የህግ ተጠያቂነት ስለፈራዉ 6. ሌላ ካለ ይጠቀስ……	
405	ለጥ.ቁ. 403 መልሱ አዎ ከሆነ ምን አይነት እርዳታ ነዉ የሰጡት?	1. ለአምቡላንስ መደወል 2. ወደ ሆስፒታል ማጓጓዝ 3. የመጀመሪያ ሕክምና እርዳታ መስጠት 4. ለፖሊስ መደወል 5. ሌላ ካለ ይጠቀስ……	
406	ባለፈዉ አንድ ዓመት በትራፍክ አደጋ ተጎድቶ የመተንፈሻ ወይም የአየር ቧንባ ችግር የገጠመ ገጥሞክ ያዉቃል?	1. አዎ 2. አይደለም	አይደለም ከሆነ ወደ ጥ.ቁ.408 ይለፉ
407	ለጥ.ቁ. 406 መልሱ አዎ ከሆነ ምን አይነት እርዳታ ነዉ የሰጡት?	1. ለአምቡላንስ መደወል 2. ወደ ቅርብ ሆስፒታል ማጓጓዝ 3. የመጀመሪያ ሕክምና እርዳታ በመስጠት የአየር ቧንባ መዘጋትን ማስተካከል 4. ለፖሊስ መደወል 5. ሌላ ካለ ይጠቀስ……	
408	ባለፈዉ አንድ ዓመት በትራፊክ አደጋ ምክንያት የደም መፍሰስ ያጋጠመዉ ተጎጂ ገጥሞክ ያዉቃል?	1. አዎ 2. አይደለም	አይደለም ከሆነ ወደ ጥ.ቁ.410 ይለፉ
409	ለጥ.ቁ. 408 መልሱ አዎ ከሆነ ምን አይነት እርዳታ ነዉ የሰጡት?	1. ወደ ቅርብ ሆስፒታል ማጓጓዝ 2. የደም ዝዉዉር በጨርቅ በማሰር የምደማዉን ማቆም 3. የሚደማውን አካል ለተወሰነ ጊዜ ተጭኖ መያዝ ማሸግ 4. ለአምቡላንስ መደወል 5. ለፖሊስ መደወል 6. ሌላ ካለ ይጠቀስ……	
410	ባለፈዉ አንድ ዓመት በትራፊክ አደጋ ምክንያት የጭንቅላትና የአንገት ጉዳት የተጎዳ ገጥሞክ ያዉቃል?	1. አዎ 2. አይደለም	አይደለም ከሆነ ወደ ጥ.ቁ.412 ይለፉ
411	ለጥ.ቁ. 410 መልሱ አዎ ከሆነ ምን አይነት እርዳታ ነዉ የሰጡት?	1. አንገት ሳላንቀሳቅስ ወደ ቅርብ ሆስፒታል ማጓጓዝ 2. ለአምቡላንስ መደወል 3. ለፖሊስ መደወል 4. ሌላ ካለ ይጠቀስ……	

412	ባለፈዉ አንድ ዓመት በትራፊክ አደጋ ምክንያት የአጥንት ስብራት የገጠመዉ ተጎጂ ገጥሞክ ያዉቃል?	1. አዎ 2. አይደለም	አይደለም ከሆነ ወደ ጥ.ቁ.414 ይለፉ
413	ለጥ.ቁ. 412 መልሱ አዎ ከሆነ ምን አይነት እርዳታ ነዉ የሰጡት?	1. ለአምቡላንስ መደወል 2. ጠንካራ ነገር አስደግፌ በማሰር እንዳይቀሳቀስ አድርጋለዉ 3. ለፖ/ሊስ መደወል 4. ሌላ ካለ ይጠቀስ……	
414	ባለፈዉ አንድ ዓመት በትራፊክ አደጋ ምክንያት ሌላ ከላይ ያልጠቀሱ ጉዳቶች የገጠመዉ ተጎጂ ገጥሞክ ያዉቃል?	1. አዎ 2. አይደለም	
414	ለጥ.ቁ. 414 መልሱ አዎ ከሆነ ምን አይነት ተጎጂ?	---------- ---------- ----------	
415	ለጥ.ቁ. 414 መልሱ አዎ ከሆነ ምን አይነት እርዳታ ነዉ የሰጡት?	---------- ---------- ----------	

ክፍል አምስት የመጀመሪያ ሕክምና እርዳታ መስጫ ኪት መኖሩንና መሟላቱን በማየት ለማረጋገጥ የተዘጋጀ መጠይቅ ወይም ቸክሊሲት			
ተ/ቁ	ጥያቄዎች	አማራጭ መልሶች	
501	በአዉቶብስ ዉስጥ የመጀመሪያ ሕክምና እርዳታ መስጫ ኪት አለ?	1. አዎ 2. አይደለም	
502	የመጀመሪያ ሕክምና እርዳታ መስጫ ኪት ዉስጥ ያሉ ቁሳቁሶች መስራታቸዉን/የመጠቀሚያ ጊዜያቸዉን ያያሉ?	1. አዎ 2. አይደለም	
503	ለጥ.ቁ. 306 መልሱ አዎ ከሆነ በየስንት ጊዜ ነዉ የሚያዩት?	1. በየወሩ 2. በየ 3 ወር 3. በየ 6 ወር 4. በየ ዓመት 5. ሌላ ካለ ይጠቀስ……	
504	በመጀመሪያ ሕክምና እርዳታ መስጫ ኪት ዉስጥ ያሉ ቁሳቁሶች ተጠቅሞ ያቃሉ?	1. አዎ 2. አይደለም	
505	የመጀመሪያ ሕክምና እርዳታ መስጫ ኪት	1. ከ75% በላይ ይዘዋል	

	የሚከተሉትን ቁሳቁሶች በዉስጡ ይዘዋል?	2. ከ50-75% ይዘዋል 3. ከ50% በታች ይዘዋል	
	መቀስ	1. አለ 2. የለም	
	ፋሻ በዓይነት	1. አለ 2. የለም	
	ጂቪ	1. አለ 2. የለም	
	አልኮል	1. አለ 2. የለም	
	የጣት እና የቁስል ፕላስተር	1. አለ 2. የለም	
	ጥጥ	1. አለ 2. የለም	
	የኦፕሬሽን ቢላ	1. አለ 2. የለም	
	አነስተኛ ፎጣ	1. አለ 2. የለም	
	ግላቭ	1. አለ 2. የለም	
	የኒከል ጎድጓዳ ሣህን	1. አለ 2. የለም	
	ከላይ ከተዘረዘሩት ዉጪ ሌላ ካለ ይዘርዝር……		

Annex V: Statement of declaration

By my signature below, I declare and affirm that this thesis is my own original work. I have followed all ethical principles in the preparation, data collection, data analysis and completion of this research thesis.

Name: Kebede Bonsa (BSc).

Signature: _____Date_____

Approval of the primary Advisor

This thesis work has been submitted with our approval as the university advisor.`

Name of the primary advisor: Teferi Abegaz (MPH, PhD)

Signature: _____Date_____

Annex VI: Approval by the board of examination

As a member of the Board of Examiners of the MPH Thesis-Open Defense Examination, I certify that I have read and evaluated the Thesis prepared by Kebede Bonsa and examined the candidate. I recommend that the thesis be accepted as fulfilling the thesis requirement for the degree of Master's in General Public Health.

Name of Examiners:

(1)._____ Signature,_____ Date_____

(2). _____ Signature, _____Date_____