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DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS

PREVALENCE OF RISKY DRIVING AND ASSOCIATED FACTORS AMONG DEBRE TABOR TOWN DRIVERS, NORTHWEST, ETHIOPIA

BY: MULUKEN CHANIE (BSc.)

A THESIS SUBMITTED TO THE DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS, SCHOOL OF PUBLIC HEALTH, COLLEGE OF MEDICINE AND HEALTH SCIENCE, BAHIR DAR UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF PUBLIC HEALTH IN EPIDEMIOLOGY.

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DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS

FULL TITLE	PREVALENCE OF RISKY DRIVING AND ASSOCIATED FACTORS AMONG DEBRETABOR TOWN DRIVERS ,NORTHWEST, ETHIOPIA
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STUDY DURATION	FROM NOVEMBER 30 TO DECEMBER 30/2020
STUDY AREA	DEBRE TABOR TOWN NORTHWEST,ETHIOPIA
TOTAL BUDGET	24,661 ETHIOPIAN BIRR

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Abstract

Background: Risky driving is an error that causes the occurrences of road traffic accidents. The reason of risky driving is due to the low enforcement of traffic rules. The majority of crashes in Ethiopia are due to drivers' error. Even though risky driving is the major cause of road traffic accidents, scientific evidence to show the factors of risky driving and why drivers engaged in risky driving is limited in Ethiopia.

Objective: To assess the prevalence of risky driving and associated factors among Debre Tabor town drivers, Northwest, Ethiopia, 2020.

Method: Cross-sectional study triangulated with qualitative study was used among 564 participants from November 30 to December 30/2020. Stratified sampling and purposive sampling techniques were used for quantitative and qualitative methods respectively. A self-administered questionnaire and interview method were employed. Epi-data version 4.6.0.2 and statistical package for statistical science version 23 were used for data entry and analysis respectively. The thematic method was used for qualitative data analysis. Frequency table and bar chart were used for descriptive analysis. Multiple binary logistic regression was employed to identify the factors at p-value <0.05.

Result: The prevalence of risky driving was 82.1%. Drive at night (AOR=3.7, 95%CI; 1.6-8.4) compared to not drive at night , never attending religious organization (AOR=5.6, 95%CI; 1.9-16.4) as compared to attend daily, driving >8 hours/day (AOR=4.3, 95% CI; 1.43-13) as compared to <4Hr/day, think income not enough (AOR=8, 95%CI; 3.6-18.5) as compared to think enough, non-governmental-driver (AOR=0.147, 95%CI; 0.033-0.661) as compared to Bajaj drivers were significantly associated with risky driving. The socio-economic problem, less strict law enforcement, training institutions problem, drive at night, being bajaj drivers and poor faith were the reason for risky driving in the qualitative finding.

Conclusions: Risky driving was high among drivers. Being non-governmental drivers were the protective factor of risky driving whereas never attending a religious organization, driving >8 hours/day, think income not enough and drive at night were the risk factor of risky driving. Except driving >8 hours/day, all factors were supported by the qualitative study. So traffic rules shall be strictly enforced.

Key word: Associated factors, Debre Tabor, Risky driving, RTA.

Abbreviations and acronyms

AOR	Adjusted Odds Ratio
CI	Confidence Interval
CL	Confidence Level
COR	Crude Odds Ratio
Hr	Hour
Km	Kilometer
Km/hr	Kilometer per hour
NGO	Non Governmental Organization
RTA	Road Traffic Accident
SPSS	Statistical Package for Statistical Science
UK	United Kingdom
WHO	World Health Organization

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1. Introduction

1.1. Background

Risky driving is a human error/violation related to the drivers that cause the occurrences of road traffic accidents (1). The effect of risky driving on road traffic accidents (RTA) can be damages of properties, injuries and deaths (2). Risky driving can be manifested by excessive speed, driving after drinking alcohol, unfasten the seat belt, driving while feeling sleepy, using mobile phone while driving, and highway code violation (3, 4). Scholars have classified the causes of RTA into driver errors, road environments, and vehicle conditions (5, 6).

Among the three causes of RTA, driver error plays a major role in RTA (7). Risky driving also classified into two major groups, these are error and violation; the term error define as those actions due to unskilled driver and faults (for example misunderstanding of the road environment, inappropriate handling of the vehicle) and violations, in contrast, refer to the intentional misbehavior of the rules governing the safety of an operation (for example, the deliberate omission of road signs, driving beyond the speed limit) (8). Violation of driving rules including driving beyond speed limits are the major types of risky driving among young drivers (9). The number of vehicles around the world increases from time to time and drivers unfamiliar with their vehicle condition, unskilled drivers, and unsafe driving habit drivers also increase (10).

Nations of the world and the World Health Organization (WHO) has a different strategy to resolve the impact of RTA with a special focus on risky driving behavior reduction which includes improving the road system, limiting the speed, enforcement to use of seat belt, drink-drive laws, prohibition for phoning during driving, and wearing helmets (11, 12).

To promote road safety activities and reducing risky driving, Sustainable Development Goal also included commanding goals in their 3.6 target to reverse RTA by 50% in 2020 (13). Ethiopia also has risky driving reduction strategies like improving the road system, limiting the speed, enforcement to use of seat belts, drink-drive laws, prohibition for phoning during driving to reverse the impact of RTA (14).

1.2 Statement of the problem

Risky driving is a major devastating problem for both developed and developing countries (15). But the magnitude of risky driving is very high in developing countries due to less strict traffic rules (16-18). According to different scholars' report, the most common risky driving is over speed and unfastened seat belts (16, 17, 19). As a Drunk-driving study revealed, about 30 % of the dead drivers have been driving with alcohol in their blood and that the accident risk strongly increases when the excessive blood-alcohol limit is getting higher (20). The consequence of risky driving on RTA is very high and evidence showed that approximately 95% of all RTA is due to risky driving (7). Because of this, now a day RTA becomes a sudden human-made disaster that knocks every household which in turn, has an effect on all human beings at any age group (12).

If more attention will not be given to drivers' behavior and safety measures, globally RTA in 2030 becomes the fifth cause of death and nonfatal injuries (14). Road safety activities including risk driving reduction action like increase the legislation and enforcement of the use of seatbelts, drink driving laws, and speed limits were carried out from 2011 to 2020 but significant change on RTA reduction is not observed (21).

In Ethiopia, the consequence of risky driving on RTA is high and according to Ethiopia's national road safety council, 81% of crashes are due to this behavior (22). A study in Ethiopia also showed that easily preventable errors or risky driving cause a great economical impact on the health system (23). Not observing the priority of pedestrians and speeding were major causes of fatal and non-fatal crashes in Ethiopia contributed to 44.80% and 45.89% respectively (24). Age, sex, educational status, marital status, history of fine, the severity of the accident, numbers of accidents, history of a road traffic accident, smoking, risk perception, attitude towards risky driving, religion/attending a religious ceremony, monthly off duty days, driving at night, monthly income, owner of the vehicle, types of drivers, driving hour per day, getting advice from other, income perception, driving experience were associated with risky driving (3, 4, 6, 7, 15, 25-52).

But the severity of accident, history of fine, numbers of accidents, attending a religious ceremony, monthly off duty days, driving at night, owner of the vehicle and types of drivers were not addressed in Ethiopian studies (3, 4, 33). As study findings in Mekele and Bahir Dar city showed, risky driving among drivers is the major problem and the magnitude of risky driving is increased from time to time (3, 4).

Even though few studies were conducted in Ethiopia before 5 years ago on risky driving but the magnitude and factors of risky driving was not assessed by considering all types of drivers and novice drivers as a source population and the reason why drivers engage in risky driving was not explored qualitatively (3, 4, 33). Therefore this study was aimed to assess the prevalence of risky driving and associated factors among Debre Tabor town drivers by considering all types of the driver and novice drivers as a source population, by adding unaddressed variables and by exploring why drivers engaged in risky driving to be the evidence more powerful.

1.2. Significance of the Study

The findings from this study will be beneficial to the following stakeholders; for road users/communities it will be important to create awareness about which driving behaviors are risky and then participate in law enforcement process through reporting and by avoiding collaboration for risky driving. For drivers, it will be given the basic information about the risky driving and then to refrain from their risky driving. For religious organizations, it is an important source of information to educate/advise their followers and makes a difference in their behavior by creating awareness about the risky driving of drivers. The finding of the study will be also important for government bodies, to designing law enforcement policies, to design possible risky driving prevention strategies, designing traffic rules regulations to ensure good driving behaviors. For traffic police, the finding of the study will be important to RTA planning and prevention practice by focusing on major risky driving and its factors. And also the thesis will be a reference material for someone interested in undertaking research and use it for academic purposes as well.

2. Literature review

2.1. Prevalence of risky driving

The prevalence of risky driving in the context of developed countries, the study conducted in Portugal drivers showed that the self-reported risky driving was 50% (48). Another study conducted among United Kingdom drivers, the risky driving among drivers was 13.6% (49). Similar to quantitative studies, a qualitative study in Scotland revealed that unsafe driving was the most common problem. Particularly speeding and using a mobile phone while driving was the most common unsafe driving behavior among Scotland drivers (53). A study conducted in Greece also showed that 91.2% of the drivers were practicing risky driving (54). Another study conducted among young male Saudi drivers revealed that 62% of drivers engaged in risky driving due to perceiving running late (55).

The prevalence of risky driving in the context of upper-middle-income countries, a study in Tehran (the capital city of Iran) showed that around 53% of taxi drivers engaged in risky driving (56). Similarly, a study among Jakarta of Indonesia drivers also reported that 51.5% of bus drivers were engaged in risky driving (57).

The prevalence of risky driving in the context of Ethiopia, a study conducted in the Northern part of Ethiopia in Mekele town among Bajaj (three-wheeled vehicle) driver, taxi drivers, private owned drivers revealed that 66.6% of drivers from the study participants had risky driving (3). Similarly, another study conducted in Bahir Dar Ethiopia among government-employed professional drivers showed that 79.4% of drivers had risky driving (4).

2.2. Factors associated with risky driving

2.2.1. Socio demographic factors

Risky driving or drivers' error is a multidimensional problem in which influenced by different factors (6). Relevant information towards more target-specific and effective road safety campaigns can be obtained by identifying the factors of traffic violations or risky driving (45). Studies conducted in China, Thailand, Iran, Israel, the United State and Colombia showed that males had more risky driving than females due to biological and cultural reasons (6, 27-31). On the other hand, a qualitative study of regional Victoria (state of south-eastern Australia) showed that female was more at risk for risky driving for the reason that of low confidence and driving skill than men (32).

Regarding age of the drivers, a study in the United Kingdom (UK) showed that age under 35 years positively affected the risky driving (49). Another study conducted in Portugal revealed that the age of the drivers above 65 years had less risky driving behavior than drivers with their ages was 18 to 24 years old (48). A theory of planned behavior study conducted in China showed that drivers age less than 30 years old had more risky driving behavior than drivers older than 50 years (27). An additional study in Addis Ababa Ethiopia also showed that drivers their age 18-35 years were less likely involved in risky driving than 36-60 years old drivers (33).

Attending religious the institution (spirituality) and faith maturity would account for a significant portion of the variance in decreasing risky behavior. those who attend a religious ceremony can practice healthy behaviors like avoiding consuming alcoholic drinks and drugs, obey the rules and regulation, give priority to others (46, 47).

Concerning to marital status, a study finding in Vietnam showed that drivers who got married had less risky driving than unmarried drivers (26). Another study in Iran also revealed that being unmarried was more engaged in risky driving (34).

Regarding the educational status of the drivers, the studies in China and Tehran have shown that lower educational level drivers were more engaged in risky driving than higher educational level drivers (35, 36). On the other hand, studies in Vietnam and Iran Isfahan city revealed that a high level of education had more risky driving than a low educational level (26, 38). Another qualitative study conducted among taxi drivers in Iran explored that the reason why drivers engaged in risky driving was due to a lack of remarkable and continuous education or due to no successful training before one obtains a driving license (58). A study conducted in Sri Lanka showed that drivers whose educational level less than high school were more likely to engage in risky driving behavior than drivers with an educational level more than high school (37). On the other hand, a study conducted in Addis Ababa Ethiopia reported that drivers whose educational levels 1- 8 were less chance to involved in risky driving (33). Another study conducted among Mekele drivers, drivers with high educational levels were more likely engaged in risky driving (3).

As regards monthly income of the drivers, a qualitative study conducted among taxi drivers in Iran explored that the reason why drivers engaged in risky driving was due to social and economic problems (price rises, lack of insurance, low monthly income, joblessness, addiction etc.) (58). On the other hand, a quantitative study conducted in Mekele revealed that drivers with high and very high average monthly salary were more likely involved in risky driving behavior than drivers earned a low average monthly income (3). Another study conducted in Bahir Dar Ethiopia among government-employed drivers also showed that the average monthly income more than 2000 Ethiopian Birr had more likely involved in risky driving (4).

The owner of the vehicle was another factor for risky driving. As study finding in South Korea showed that non-owners of the vehicle were more engaged in risky driving than drivers those were owners (59).

2.2.2. Behavioral factors

Behavioral factors also have an effect on risky driving and the study conducted in Mashhad city of Iran reported that risky driving was positively affected by smoking (7). The same result was reported in a study conducted among UK drivers (49).

Regarding alchool drinking, study conducted among drivers of Mashhad City suggested that alcohol drinking was a factor associated with other risky driving (7). The same result was also reported in a study conducted among UK drivers (49).

A study in Saud Arebia showed that Khat chewing was also significantly associated with a higher rate of traffic violations and may act collectively to make road traffic accidents more severe amongst drivers those were khat chewers (60). In addition, qualitative study from Ethiopia has found that chewing khat was the most important reason to increases driver confidence and vehicle speed or risky driving (61).

Evidence in Vietnam revealed that drivers perceive their income enough were less likely involved in risky driving (26). Regarding attitude towards risky driving, a study conducted among Mekele drivers suggested that a supportive attitude toward risky driving was another significant factor in risky driving (3).

2.2.3. Driving exposure factors

A study done among drivers in China revealed that no history of fine by traffic police was less likely to experience unsafe driving (27). On the other hand, a study conducted among taxi drivers in Iran suggested that drivers with a history of fine by traffic police were more likely involved in risky driving than those with no history of fine by the traffic police (25). A qualitative finding in regional Victoria of Australia also explored that penalties by traffic police make the drivers more engaged in risky driving than safe driving and the reason why drivers engage in speeding was due to for fun and high performance car; for drunk-drive due to stay awake after late night/work; using phone while driving was due to only time to make phone calls when busy and assuming a good driver/in control (32). An additional qualitative study result in Scotland also showed that the reason for drivers engages in unsafe driving and penalize by traffic police were

due to they assume themselves as a competent driver, their behaviors not risky, everyone does it and they considered the law, not credible (53). Another qualitative study conducted among taxi drivers in Iran explored that the reason why drivers engaged in risky driving was due to the role of traffic police was not satisfactory (58).

As regards the working experience of the drivers, studies showed in China Israel, and Poland risky driving decreased as working experience increase (25, 29, 41). Another study conducted in Taiwan showed that less experienced drivers (working experience less than 2 years) were more likely involved in risky driving than drivers working for experience more than 2 years (50). A similar study conducted among government-employed drivers in Bahir Dar Ethiopia suggested that low driving experience (driving experience 1-4 years) was a significant factor for risky driving (4).

Regarding daily driving distance, the study concluded that the distance of driving is the most key factor of risky driving. A study in Taiwan showed that drivers drove less than 280 kilometer were more likely to violate safe driving than drivers drove greater or equal to 280 kilometer (50).

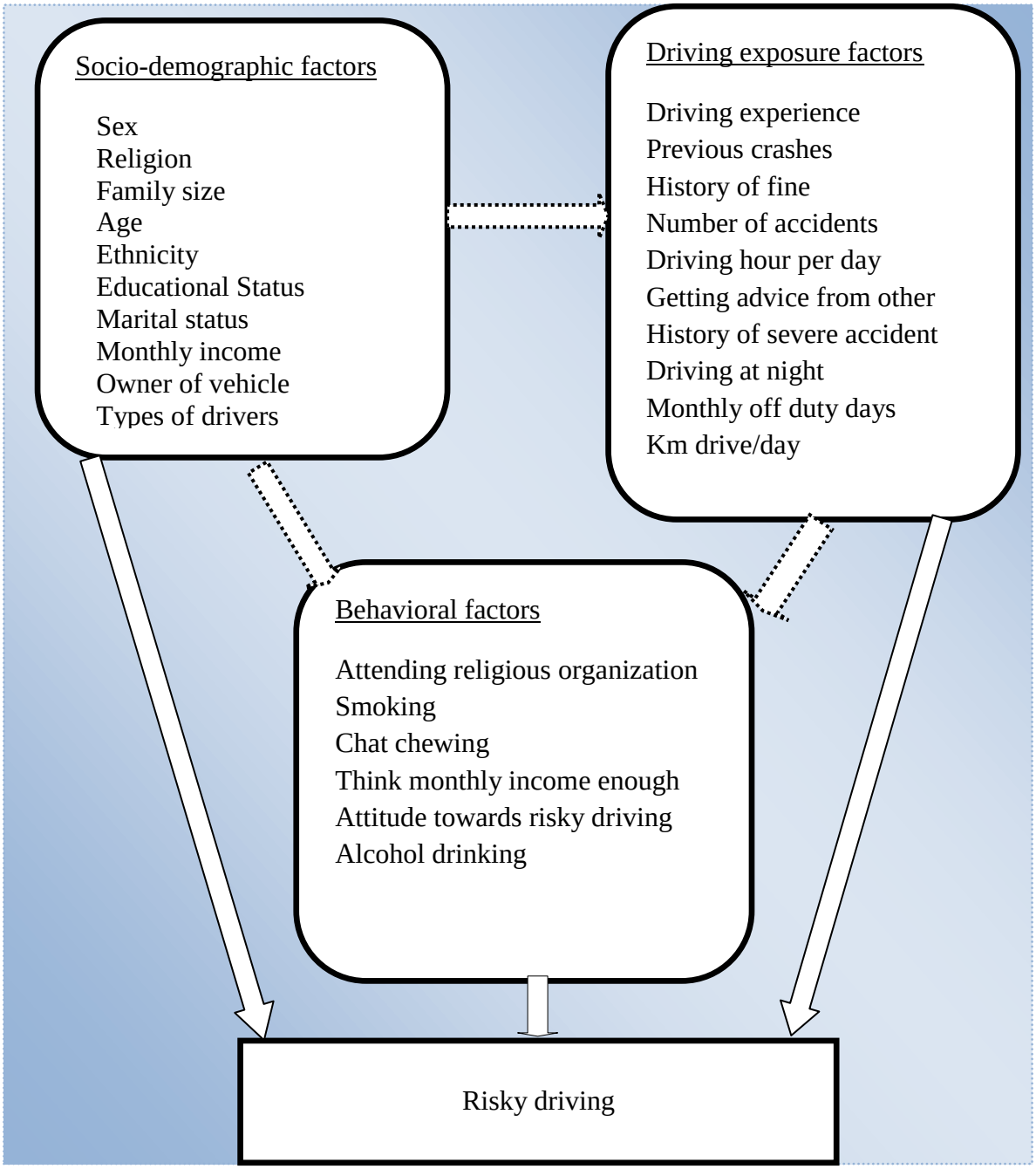
Risky driving is high at night (00:00–06:00). A study conducted in Taiwan, due to traffic condition and less chance to be caught by the traffic police, drivers drove at the night were more likely involved in risky driving than the day time (50). Regarding monthly off duty days a study conducted in the same country Taiwan showed that 0 days,1-2 days, 5-6 days,7-8 days monthly off duty significantly affected risky driving than 3-4 days and 9 or more day monthly duty off (50).

As regards the history of the accident, a study in China, two studies in Iran, showed that drivers who have a history of accidents had more risky driving than no history of accident involvement and accidents more than 3 were more likely to have risky driving than no accident (25, 27, 34). A qualitative study in regional Victoria of Australia also explored that drivers having a history of accidents was more cautious than without a history of accidents (32). On the other hand, a study conducted at Cameron showed that drivers experienced in severe accidents (resulting in serious injuries or deaths) had more risky driving than resulting in minor injuries and no deaths (51). Another study conducted in

Bahir Dar city revealed that drivers having history of RTA were more likely involved in risky driving (4).

Concerning driving hours, two studies of China, Isfahan city of Iran, and Vietnam revealed that drivers who drove more than 8 hours per day have more risky driving than other drivers (25, 26, 38, 52). Regarding getting advice from others, a study conducted among Mekele drivers showed that not getting advice from others about their driving had more risky driving than getting advice (3)

Conceptual framwork



This conceptual framework was adapted from different literatures.

Figure 1: Conceptual framework for prevalence of risky driving and associated factors among Debretabor town drivers in 2020.

3. Objectives

3.1. General objective

To assess the prevalence of risky driving and associated factors among Debre Tabor town drivers, Northwest, Ethiopia, 2020

3.2. Specific objectives

To determine the prevalence of risky driving among Debre Tabor town drivers, Northwest, Ethiopia

To identify factors associated with risky driving among Debre Tabor town drivers, Northwest, Ethiopia

To explore why drivers engage in risky driving among Debre Tabor town drivers, Northwest, Ethiopia

4. Methods and materials

4.1. Study design

Cross-sectional study triangulated with qualitative study was employed.

4.2. Study area and study period

Debre Tabor is the capital of the south Gondar zone. Debre Tabor town is located 666 kilometers away from Addis Ababa in the northwest direction and it far from Bahir Dar city by 103 Km (kilometer). This town has an altitude and longitude of (11°51′N38°1′E) with an elevation of 2,706 meters (8878 ft) above sea level. According to data obtained from the town administration report, in 2020 the town has a total population of 92,535, of whom 52.6% are females and 47.4% are males. According to the Debre Tabor town road transport department report, there are 1120 total drivers in Debre Tabor town. Among the total drivers, the majority of them are three-wheeled vehicle (Bajaj) drivers that provide taxi service in the town. The study was conducted from November 30 to December 30/2020 in Debre Tabor town.

4.3. Source population and study population

All drivers in Debre Tabor town were the source population and the study population.

4.4. Eligibility criteria

4.4.1. Inclusion criteria

All Debre Tabor town drivers were included in the study.

4.5. Variables

4.5.1. Dependent variable

Risky driving (Yes, No)

4.5.2. Independent variables

Socio-demographic factors: Age, family size, marital status, ethnicity, sex, religion, educational status, monthly income, types of drivers, owner of vehicle.

Behavioral factors: Smoking, alcohol drinking, chat chewing, think monthly income is enough, frequency of attending religious organization, attitude towards risky driving.

Driving exposure: Driving experience, history of road traffic accident involvement, history of fine by traffic police, number of accidents, driving hours per day, getting advice from others, driving Km per day, monthly off duty days, history severe accident, driving at night.

4.6. Operational definitions

Risky driving: Those participants have experienced any one of the six risky driving like speeding, drink-drive, driving while feeling sleepy, unfastened seat belt, mobile calling or receiving or texting while driving, high way code violation considered "yes" for risky driving and if not label as "no" (always, often, sometimes =risky driving and never =not risky driving) (3, 4).

Road traffic crash: A crash which is occurred when vehicles collided with other vehicles, with pedestrian and other obstacles (3).

Speeding: Acording to Ethiopian driving licence manual, For three-wheeled and automobile drivers: around city above 60 km/hr, countryside for first-degree speed limit above 100 km/hr, second-degree speed limit above 70 km/hr, third-degree speed limit above 60 km/hr. For trucks: around city above 30 km/hr, countryside for first-degree speed limit above 70 km/hr, second-degree speed limit above 50 km/hr, third-degree speed limit above 40 km/hr. For other types of drivers: around city above 40 km/hr,

countryside for first-degree speed limit above 80 km/hr, second-degree speed limit above 60 km/hr, third-degree speed limit 50 km/hr.

Driver: Persons in control of vehicles other than pedal cycles and two-wheeled vehicles (62).

High way code violation: Those participants have experienced any one of the following; change lanes or turn without using side mirrors, change lanes without signaling to get ahead of other vehicles, drive too close to other vehicles, overtake without a clear view and from the right hand lane, cross pedestrian line while the pedestrian waiting to cross, deliberately going through red lights (4).

Drink-drive: A driver, who drives within 3 Hrs of having one or more alcoholic drinks (62).

Drinking alcohol: For men 4 or more scores and for women 3 or more scores from 0 to 12 scaled scores of Alcohol Use Disorders Identification Test (scores of 0 show no alcohol use) (63).

Attitude towards risky driving: Attitude about risky driving was measured using 24 questions (five items for each questions, strongly agree (1 point), somewhat agree(2 points), somewhat agree (3points), not agree(4 points), strongly disagree(5points)) and scores mean value and above was labeled as supportive, scores below the mean value was labeled as unsupportive attitude towards risky driving

Sever accident: An accident results serious injuries or death (51).

Serious injury: At least one person was injured and admitted in hospital (no deaths) occurred (64).

Ever chat chewing : Was defined as an individual who had ever tried chewed khat in the past, even once (65).

Ever cigarette smoking: An individual who had ever used cigarette at least once in the past (66).

4.7. Sample Size determination

4.8.1 Sample size determination for quantitative study

The required sample size was computed into two ways. The first way of sample size determination was by considering the single population proportion of risky driving 66.6% (3). Confidence level (CL) 95%, a margin of error 5% and design effect 1.5 were considered. Therefore the sample size determination for the prevalence of risky driving was as follows.

Table 1: Sample size calculated for the prevalence of risky driving in Debre Tabor town drivers, Northwest, Ethiopia, 2020

Outcome	Assumption	Sample size
Risky driving	95% CL 5% margin of error(d) 66.6% Proportion(P) Design effect=1.5 10% non-response rate $Z_{a/2= 1.96}$	$n = \frac{(Z\ a/2)^2\ P(1 - P)}{d^2}$ *Design effect $=\frac{(1.96)^2\ (0.666)(1-0.666)}{(0.05)^2}$*Design effect n = 513 None response= 513 x 10%=51 Final sample = 513 +51 = **564**

For factors associated with risky driving, the sample size was determined by using the double population proportion formula. After reviewing different articles (3, 4, 6, 7, 15, 25-52), then the sample size by factors was determined using four key factors (3). The sample size determination by Epi-info version 7.2.01 software computed as follows.

Table 2: **Sample size calculated for the associated factor of risky driving in Debre Tabor, town drivers Northwest Ethiopia, 2020**

variables		Assumptions	Risky driving		sample size	references
			%Outcome among-exposed(p1)	%Outcome among non exposed(p2)		
Monthly income	High Low	CL=95%, Power=80% Ratio =1:1	74.6%	51.6%	154	(3)
Level of education	Secondary Tertiary	CL=95% Power=80% Ratio =1:1	71.89%	53.49%	236	
Attitude towards risky driving behavior	Supportive Unsupportive	CL=95% Power=80% Ratio =1:1	91.08%	43.6%	38	
Got advice from others	Yes No	CL=95% Power=80% Ratio =1:1	72.35%	48.83%	150	

The total sample size by factors was 389 (236 x design effect +10% non respose rate). Comparing to sample size estimation by factor , the maximum sample size was obtained by single population proportion. Therfore the final sample size for the quantitative study was 564.

4.8.2 Sample Size determination for qualitative study

For the qualitative part, the sample size was not decided at the beginning of the study. It depends on the saturation of incoming data or when little new information comes from the interview and the data was saturated at 11 participants. Therefore the total sample size for qualitative study was 11.

4.9 Sampling procedure and sampling technique

4.9.1 Sampling procedure and technique for quantitative study

First, all eligible drivers were stratified based on types of the drivers into Code-1(three-wheeled) drivers, code-2 (automobile) drivers, code-3 (public transport and other business) drivers, code-4 (government-employed) drivers, code-5,35,42(NGO) drivers. Then from each stratum, the number of participants were allocated proportionally (ni=(n/N)xNi). From 748 Code-1(three-wheeled) drivers (748×564)/1120 or 377 participants, among 19 code-2(automobile) drivers (19×564)/1120 or 10 participants, among 198 code-3 (public transport, and others business) drivers (198×564)/1120 or 99 participants, among 114 code-4 (government-employed) drivers (114×564)/1120 or 57 participants, among 41 code-5,35,42(NGO) drivers (41×564)/1120 or 21 participants were allocated. To select participants from each group, first separate sampling frame with vehicle plate number and address was obtained from the Debre Tabor town road transport office. Then after the sampling frame preparation, each participant was selected based on a simple random sampling technique (computer-generated random method using the serial number of the register). For clarification, the schematic diagram of the sampling procedure was presented as follows.

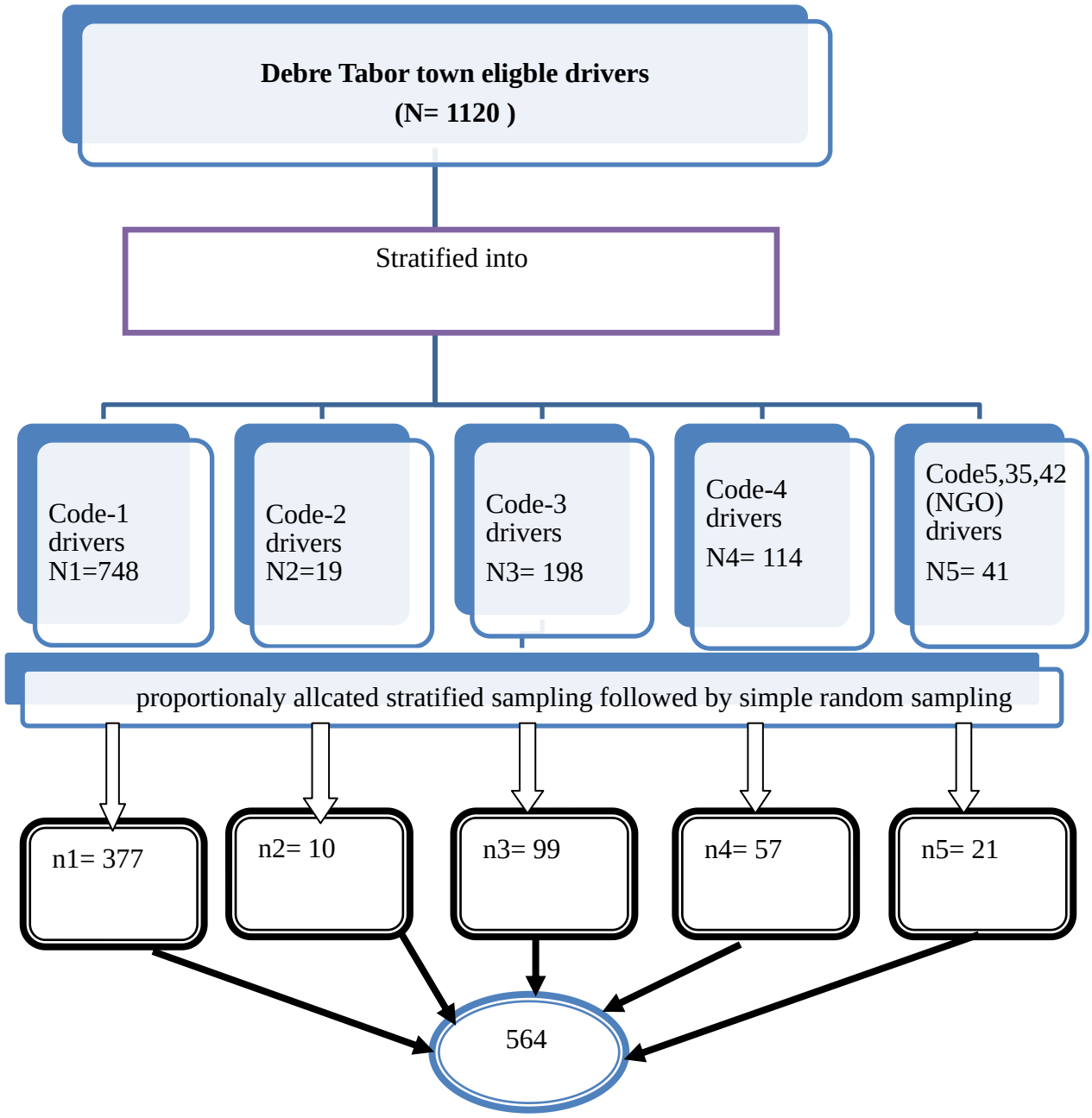


Figure 2: Schematic presentations of the sampling technique and sampling procedure of drivers in Debre Tabor town, 2020.

4.9.2 Sampling procedure and sampling technique for qualitative study

For the qualitative part, participants were selected from drivers, traffic police and voluntarily working in traffic rule enforcement. The traffic police and voluntarily working in traffic rule enforcement act as key informants to interview about why drivers engaged in risky driving using a purposive sampling technique. Participants who were drivers were interviewed their driving experience using a phenomenological approach and a purposive sampling technique was used to identify drivers who provide better information. The sample selection procedure was stopped after the incoming data become saturated.

4.10 Data collection methods and procedures

4.10.1 Data collection methods and procedures for quantitative study

A standardized, structured, and self-administered questionnaire was used to assess the risky driving and associated factors among Debre Tabor town drivers. A self-report, a reliable and validated questionnaire developed by Reason, Manstead, Stradling, Baxter, and Campbell called the driver behavior questionnaires was used (67). Six grade 12 complete data collector and two senior nurse supervisor for monitoring the overall data collection process were recruited. The total duration of data collection was one month (from November 30 to December 30/2020). For three-wheeled vehicle drivers, data were collected when they were coming to their association office to receive their weekly rotation on Sunday and data collection on governmental institution employed drivers and organizational drivers were on their working institution. The data collection for public transport drivers was at the bus station. For Automobile drivers, the data was collected on their residential houses/working place based on personal data obtained from the town road transport office. Other drivers who have no association/station, the data were tried to collect in their parking place by data collectors those were working in related with a truck.

4.10.2 Data collection methods and procedures for qualitative study

The qualitative data were collected by using an in-depth interview for drivers and key informant interviews for traffic police and voluntarily working in traffic rule enforcement to deeply investigate why drivers engaged in risky driving.

The data was collected by the principal investigator at the working place of the participants to obtain field notes/audio record information. Data from 6 participants were obtained via audio record and data from 5 participants was obtained using field notes due to not volunteer to audio record. An interview guide questionnaire was developed after reviewing the literature (58). Besides, data were collected by using open-ended questions contains about risky driving to explore why drivers engaged in risky driving. The information obtained from the qualitative study was used to explain/validate the results of the quantitative study.

4.11 Data quality assurance

4.11.1 Data quality assurance for quantitative study

Data quality was assured using data collector training about the overall process of data collection. The social desirability bias was reduced by informing the purpose of the study carefully; making the questionnaire anonymous, using interval questions than yes or no questions, collect the data by self-administering questionnaire using special percussions for the current Corona Virus Disease-19 pandemic. The questionnaire was first prepared in the English language and then translated to the Amharic language, which was the local language of the study subjects and back to English by language experts to check their consistency and conceptual equivalence. Amharic version of the questionnaires was used to obtain data from participants. The data collectors were supported by supervisors and prompt feedback. Each completed questionnaire was cheeked for coherence, completeness, consistency at the same time. The daily evaluation was performed to correct any problem that could face during the course of data collection and the pretest was conducted in Woreta town among 28 (5%) drivers. One day intensive training was given for both data collectors and supervisors.

4.11.2 Data quality assurance for qualitative study

The quality of qualitative data was achieved by trustworthiness. Credibility was proving by interpreting only based on the data, making interpretations context-rich, probing, show divergent findings and relate to the context, making interpretations sensitive to differing perspectives that may diverge or clash. To meet dependability a dense description of research methods, and code–recode procedures were performed. To achieve conformability, limit the effect of the researchers, re-checking, re-reading and auditing of the collected data was performed.

4.12 Data processing and analysis

4.12.1 Data processing and analysis for quantitative study

After cleaning and checking, data were coded and entered into Epi-data version 4.6.0.2 statistical software and exported to SPSS Version 23 statistical software for analysis. Descriptive statistics were carried out and summarized by using frequency, table, bar graph, median and interquartile range. All variables with a p-value <0.25 in the simple binary logistic regression analysis were kept for multiple analysis. P-values of less than 0.05 were considered statistically significant. Multiple binary logistic regression analyses were done to control for cofounders and adjusted odds ratios with corresponding 95% CL was used to report the association between dependent and independent variables. The model fitness of binary logistic regression was checked by using Hosmer –Lemeshow goodness of fit test with a p-value greater than 0.05. Multi-co linearity was checked to see the correlation between factors.

4.12.2 Data processing and analysis for qualitative study

Thematic method and open code-4.03 software was used for qualitative data analysis. Data in the form of audio-files/field note obtained from the participants was transcribed to the Amharic language (transcribed word by word), and then translated into English language. Before analyzing the data, first, all the contents of the transcripts were read repeatedly. Then coding was performed. After the coding process, displaying the data was performed to get the overall sense of the data and data reduction was done to make the most essential concepts and relationships. Finally, interpretation was performed.

4.13 Ethical considerations

Ethical clearance was obtained from the institutional ethical review board of Bahir Dar University and the supporting letter was obtained from Debre Tabor road transport office and other relevant organizations in the study area. Written informed consent was obtained from the respondents and confidentiality of the participants' information was maintained by anonymous data. The respondents were informed about the purpose of the study that it gives the necessary information for policymakers and other concerned bodies to look after the traffic accident prevention of the study area at large. Also, privacy was assured during the interview as some study questions related to sensitive issues and the participants were informed that he or she had the right either to involve or not in the study and even to withdraw from the study.

5 Results

5.1 Socio demographic characteristics of the respondents

The response rate of this study was 543 (96.3%). Out of these, 511 (94.1%) of the respondents were male. Three hundred seventy-four (68.9%) of the respondents were in the age group of less than or equal to 29 years. More than half 293(54%) of the respondent had greater than or equal to 2000 Ethiopian birr monthly income **(Table-3).**

Table-3: Socio-demographic characteristics of the respondents in Debre Tabor town drivers, Northwest, Ethiopia, 2020

Variables	Category	Frequency	Percent (%)
Sex	Male	511	94.1%
	Female	32	5.9%
Age	<=29	374	68.9%
	>=30	169	31.1%
Marital Status	Single	337	62%
	Married	154	28.4%
	Divorce	20	3.7%
	Widowed	32	5.9%
Education status	Primary school	306	56.4%
	Secondary school	127	23.4%
	Above secondary	110	20.2%
Religion	Orthodox	426	78.5%
	Muslim	64	11.8%
	Protestant	43	7.9%
	Others*	10	1.8 %
Ethnicity	Amhara	453	83.4%
	Tigre	60	11.1%%
	Others**	30	5.5%
Average monthly income	<2000 Ethiopian birr	250	46%
	>=2000 Ethiopian birr	293	54%
	Code-1/three-wheeled	367	67.6%
	Code-2/automobile	10	1.8%
Type of driver	Code-3/other business drivers	96	17.7%
	Code-4/governmental	55	10.1%
	Code-5,35,42/NGO	15	2.8%
Ownership of car	Yes	248	45.7%
	No	295	54.3%

Other: Catholic, Adventist ** Other: Kimant, Oromo

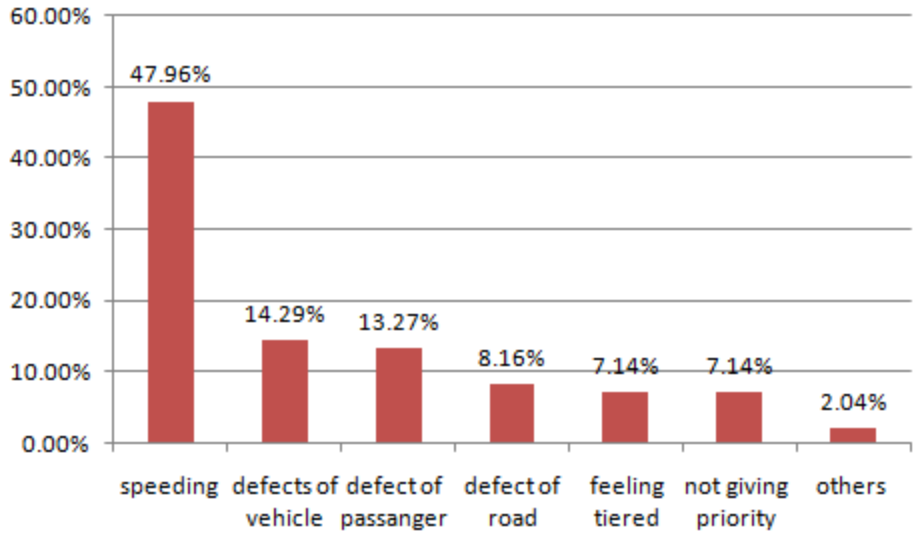
5.2 Driving exposure factors

Four hundred fifty-five (83.8%) of the participants had working experience of less than two years and 364 (67%) of the respondents had driven greater than 8 hours/day followed by 126 (23.2%) driving 4-8 hours/day. Furthermore 69 (12.7%) of the respondents had a history of RTA and 23 (33.3%) of the accidents were severe **(Table-4).**

Table 4: Driving exposure of Debre Tabor town drivers, Northwest, Ethiopia, 2020

Variables	Category	Frequency	Percent (%)
Working experience	<2 years	455	83.8%
	>=2years	88	16.2%
Working hour	<4	53	9.8%
	4-8	126	23.2%
	>8	364	67%
History of accident	Yes	69	12.7%
	No	474	87.3%
Number of history RTA	<3	55	79.7%
	>=3	14	20.3%
Severity of accident	Yes	23	33.3%
	No	46	66.7%
Penalty by traffic police	Yes	177	32.6%
	No	366	67.4%
Driving at night	Yes	422	77.7%
	No	121	22.3%
Kilometer drive/day	<100km	141	26%
	100-129km	85	15.7%
	130-159km	60	11%
	160-189km	36	6.6%
	190-219km	44	8.1%
	220-249km	42	7.7%
	250-279km	25	4.6%
	>=280km	110	20.3%
Getting advice from others	Yes	79	14.5%
	No	464	85.5%
Monthly off duty days	< 1 day	250	46%
	1-2 days	89	16.4%
	3-4days	114	21%
	5-6 days	40	7.4%
	7-8 days	23	4.2%
	>=9days	27	5%

Among participants who had a history of RTA, the highest 47(47.96%) cause of it was speeding followed by deffect of vehicle 14(14.29%) **(figure-3).**



***Others:** Drink drive, using mobile phone while driving and defect of other driver.

Figure 3: Causes of road traffic accident among Debre Tabor town drivers, Northwest Ethiopia, 2020.

5.3 Behavioral factors

Two hundred nineteen (40.3%) respondents had a history of smoking and 100 (45.7%) of the respondents were smoke cigarettes every day. Four hundred twenty respondents (77.5%) had unsupportive attitudes towards risky driving and 280 (51.6%) of the respondents had reported that they never attend a religious ceremony. Furthermore 433 (79.7%) of the respondents were thinking their income is not enough **(Table-5).**

Table 5: Behavioral factor of Debre Tabor town drivers, Northwest, Ethiopia, 2020

Variables	category	Frequency	Percent (%)
Alcohol drinking	Yes	463	85.3%
	No	80	14.7%
Smoking history	Yes	219	40.3%
	No	324	59.7%
Smoking frequency	Daily	100	45.7%
	1-3 days/week	71	32.7%
	Sometimes	48	21.9%
History of khat chewing	Yes	338	62.2%
	No	205	37.8%
Khat chewing frequency	1-2 days/month	69	20.4%
	Once per week	53	15.7%
	1-3 days per week	53	15.7%
	Daily	163	48.2%
Chewing in gram/day	<300g	110	32.5%
	300-500g	94	27.8%
	>500g	134	39.7%
Think monthly income is enough	Yes	110	20.3%
	No	433	79.7%
	Daily	86	15.8%
Frequency-of-attending religious organizations	Every week	64	11.8%
	Every month	46	8.5%
	Once per year	67	12.3%
	Never	280	51.6%
Attitude-towards-risky driving	Supportive	122	22.5%
	Unsupportive	420	77.5%

5.4 Prevalence of risky driving

In general, 446 (82.1%, 95%CI; 78-85.3) of the drivers had found to be engaging in risky driving. More than half 310 (69.5%) of the participants had reported that they drive over the speed limit and 80 (17.9%) respondents had been driving after alcohol consumption. About 80 (17.9%) of the respondents had been driving without using a seat belt. Drivers were also violating highway codes like deliberately going through red lights 173 (38.8%), crossing the pedestrian line while the pedestrians waiting to cross 163 (36.5%) **(Table6).**

Table 6: Frequency/percentage of drivers who were involved in risky driving among Debre Tabor town drivers, Northwest, Ethiopia, 2020.

Risky driving	Frequency	Percent(%)
Drive more than speed limit	310	69.5%
Drive faster than the speed limit to get ahead of another vehicle	274	61.4%
Mobile calling or receiving or texting while driving	284	63.7%
Drive without using a seat belt	80	17.9%
Drive after one or more alcohol drink within 3 hours	80	17.9%
Change lanes or turn without using side mirrors	219	49.1%
Change lanes without signaling to get ahead of other vehicles	203	45.5%
Drive too close to other vehicles	181	40.6%
Overtake without a clear view and from the right hand lane	175	39.2%
Cross pedestrian line while the pedestrian waiting to cross	163	36.5%
Violate the signal from the red-light	173	38.8%
Drive while feeling sleepy	164	36.8%

5.5 Factors associated with risky driving

In the simple binary logistic regression analysis; sex, average monthly income, educational status, frequency of attending a religious organizations, driving at night, types of driver, ethnicity, attitude towards risky driving, ownership of the car, driving hours per day, driving kilometers/day, history of previous accidents, perception towards income, history of penalty by traffic police, history of smoking and family size have a p-value of <0.25 which indicate they were candidate for the multiple binary logistic regression model. The model was fitted with a p-value of 0.287 and Multicollinearity was cheeked and no evidence of co linearity.

The odds of risky driving among drivers who drive greater than 8 hours/day (AOR=4.3, 95%CI; 1.43-13) were 4.3 times as compared to driving less than 4 hours/day and the odds of risky driving among drivers who drive at night (AOR=3.7, 95%CI; 1.6-8.4) were 3.7 times as compared to its counterparts. On the other hand, the odds of having risky driving among NGO drivers (AOR=0.147, 95%CI; 0.033- 0.661) were decreased by 85.3% as compared with three-wheeled (Bajaj) drives. Regarding the frequency of attending a religious organizations; Drivers who never attending religious ceremony (AOR=5.6, 95%CI; 1.9, 16.4) were 5.6 times more likely to have risky driving than those who attended daily and moreover drivers who perceive their income was not enough (AOR=8, 95%CI; 3.6-18.5)] were 8 times more likely to have risky driving as compared to those who did not think their monthly income enough **(Table -7).**

Table 7: Multiple logistic regression analysis of risky driving among Debre Tabor town drivers, Northwest, Ethiopia, 2020

Variables	Category	Risky driving		COR(95%CI)	AOR (95%CI)
		No (N)	Yes (N)		
Type of driver	Bajaj	52	315	1	1
	Automobile	9	1	0.018(0.002,0.148)	0.1((0.009,1.16)
	Code-3	15	81	0.891(0.478,1.664)	0.433(0.149, 1.26)
	Governmental	11	44	0.66(0.32,1.36)	1.325(0.453,3.87)
	NGO	10	5	0.083(0.027,0.25)	0.147(0.033,0.66)*
Income enough	Yes	72	38	1	1
	No	25	408	30.9(17.6,54.32)	8 (3.6,18.5)**
Drive at night	No	56	65	1	1
	Yes	41	381	8 (4.9,12.9)	3.7(1.6, 8.4)*
Frequency of attend religious organization	Daily	46	40	1	1
	Weekly	12	52	4.98(2.3,10.6)	2.9(0.83,10.3)
	Monthly	17	29	1.962(0.942,4.085)	0.781(0.253, 2.41)
	Once/year	8	59	8.481(4.5, 33.85)	3(0.8,10.9)
	Never	14	266	21.85(11.02,43.32)	5.6(1.9,16.4)*
Working Hr/day	<4Hr	22	32	1	1
	4-8Hr	55	71	0.847(0.441,1.628)	0.691(0.24, 2)
	>8Hr	21	343	10.72(5.296,21.69)	4.3(1.43,13)**

Key: *=siginificant with p-value <0.005, ** significant with p-value<0.001, 1=reference.

5.6 Qulitative finding of risky driving

A total of 11 participants (10 male and 1 female) were interviewed. Seven of them were drivers and the rest of participants were traffic police and volentarly working in traffic rule enforcement. Regarding the educational level of the participants, 4 participants were degree holder, 4 participants were diploma level and 3 were grade ten. Eight participants were their working experience greater than 2 years. Three main categories of descriptions have emerged that describe basically in different ways in which the informant explores why drivers engaged in risky driving. The categories were risky driving among drivers (subtheme: common risky driving), the reason for risky driving (subthemes: the socio-economical problem, institusional problem, less strict law enforcement and poor in faith), and the strategy to reduce risky driving (subthemes: strict law enforcement, community involvement and drivers involvement) (**Table 8**).

Table 8: The outcome space showing the ordered internal relationship between the three emerging categories of description

Why drivers engaged in risky driving	
Risky driving among drivers	Common risky driving among drivers
Reason of risky driving	Socio-economical problem Less strict law enforcement Institutional problem Poor in faith
Strategy of risky driving reduction	Law enforcement Community involvement Drivers involvement

5.6.1 Risky driving among drivers

The majority of the participants explored that risky driving was the most critical issue among Debre Tabor town drivers. A 39 years old male driver **(participant-7)** suggested that:

> **"***Extremely dangerous driving behavior is particularly widespread in zonal cities and suburbs. And Debre Tabor is in a very difficult situation"***.**

A 24 years old voluntarily working in traffic rule enforcement **(participant-8)** also added that:

> *"In Debretabor town traffic rule does not apply. They stop at a car with different badges. Then they spend the night by drinking jumbo. They do not care if the same thing happens at night or not. There is also the practice of colliding and escaping after accident is happen. I do not see the nature of obedience to the law in our area. This really needs to be corrected."*

The majority of participants had also explained that even if drivers had good knowledge of risky driving but the challenge was on implementation.

> "*We drivers are well familiar about which one is risky driving and which one is not risky driving. But we have not implemented it"* **(participant-6).**

A 37 years old traffic police **(participant-9)** also added the following remarks:

> *"In general, I do not believe that there is a lack of knowledge among the drivers of Debre Tabor. I think the problem is deliberately violating the rule"***.**

Similarly another 36 years old traffic police **(participant-10)** also added that:

> *"I don't think there is a basic knowledge problem among Debre Tabor drivers, but almost everyone knows what is dangerous and what is not but the problem is their behavior or most of the drivers are engaged in risky driving".*

The problem of risky driving was varied across types of drivers. Especially business drivers were more engaged in risky driving than organizational drivers. A 24 years old traffic police **(participant-3*)*** had made the following remarks:

> *"But even if they take the training, it is clear that most drivers have problems with their performance. That is why not all drivers have the same characteristics. So it varies according to the drivers especially business drivers are implementing risky driving.***"**

Participants explored that practically in Debre Tabor town the problem was not only the drivers but also the traffic police. Traffic police were negotiating with drivers. A 32 years old driver **(participant-5)** mentioned the following suggesion:

> *"law is now on paper only. It does not apply to drivers. The traffic police also don't do it right, they punish us unjustly and they want us to negotiate".*

5.6.1.1 Common risky driving among drivers

Participants had a view that fast driving was the most common problem among drivers.

> "*Most are seen driving fast in order to get more money"* **(Participant-3). "***Fast driving is the most common among drivers in this town due to greedy and not being responsible to the community"(***participant-8).**

A 39 years old driver **(participant-7)** also suggested that

> **"***There are so many risky driving among drivers especially drive fast is the major problem"***.**

Similarly a 30 years old traffic police **(participant-10)** commented that :

> " *fast driving is a common problem and a major cause of accidents".*

As participants explained, fast driving was the most common problem among public transport or business drivers.

> "*The first is the excessive speeding, especially for commercial drivers, as well as for moderately other drivers"* **(participant-5)**.

"Especialy Bajaj and Abadula drivers are practice risky driving" **(participant-8).**

The other risky driving most commonly practiced in Debre tabor town was drink driving, red-light breaking, not giving priority to pedestrians and violating traffic signs.

> "*I think other traffic laws, such as red light breaking, not giving priority to pedestrians, violating signs, are all dangerous driving behaviors among drivers"* **(participant-5)**.

5.6.2 Reason of risky driving

5.6.2.1 Socio-economical problem

The reason for risky driving was explored by study participants in different ways. From the participants' view, the socio-economical problem of the driver was mentioned frequently from the in-depth interview and key informant interview.

The first reason mentioned was not satisfying with their income/greedy. The current corona virus pandemic was affecting the driver's monthly income.

> "*Low income may be one of the reasons for speeding or risky driving. This is because there is a prerequisite for waiting in line to get out of Debre Tabor station and reach Giant. I will do this. It's because I have a lot of pressure. My wife is a housewife so the source of income for the family is me"* **(participant-1).**

A 32 years old driver **(participant-5)** also said that:

> "*From my experience, I believe that greed is the main reason why a driver is exposed to dangerous driving behavior and even someone who loves money or someone who is not content with what he has sold his God. Judas betrayed Christ for 30 pieces of money. So money lovers don't care for others and does not think of the future."*

A 19 years old driver **(Participant-4)** was also added the following points of view:

> "*Since am a Bajaj driver, I earn 3 Birr per trip for 3 people, so I don't earn enough money if I don't travel fast. Some women will*

not look up to you if you do not have enough money. Everyone loves you when you have money and you work day and night. I know running too fast is not good, but I can't live without it because of the high cost of living. My wife was doing self-employment. When corona came, she quit her job and the responsibility of the house fell on me."

Similarly, a 39 years old driver **(participant-7)** supposed that*:*

"You need income. I don't think it is possible to get this income legally, and I think the main reason is the imbalance of cost of living."

Participants also explored that, being a youth in age was another frequently recommended reason for risky driving and driver with a young age influenced by peer pressure and substance abuse. Youth drivers are not strong on their faith rather they spend their time in substance abuse. A 24 years old female driver **(participant-6)** had made the following remarks*:*

"I think youth is a major cause of dangerous driving behavior, as there is a tendency for haste, unstable, and a lack of foresight."

30 years old traffic police **(participant-10)** also mentioned that:

"I think being youth is the cause of dangerous driving behavior because, as I said, most drivers are young and because they have a tendency to look at each other (peer-pressure), they are motivated to do bad behavior. But older age have less dangerous driving skills than young people because of their speed, adventure, and slowing down as they get older."

Another 39 years old driver **(participant-7)** explored that:

" Young people are often treated with peer pressure and alcohol. And if there is a drink, money is not enough. So you have to work day and night and you work hard and you get tired. As a result, you may be exposed to dangerous behaviors."

And 26 years old driver **(participants-11)** had made the following remarks:

> *"Being young is another factor for risky driving because young people are often more adventurous, ignorant and immature."*

Additional 42 years old drivers **(participant-2)** also, describe his view like this:

> *"You do not see many things in your youth; you are in a hurry. Childhood is very difficult. You drive the car too fast. You don't think the driver ate you. These things are dangerous."*
>
> *"Young drivers are more vulnerable to risky driving. Because They also consider giving priority to failure"* ***(participant-8).***

Participants also explored that male drivers were involved in risky driving than female drivers. Twenty four years old drivers **(participant-6)** explained that:

> *"Men are smokers and substance abusers in our culture. So they spend their money on drinking and others. That is why they engaged in risky driving. Not much on women. Women are usually afraid of the law. They are afraid of being punished, and so on."*

Another 30 years old traffic police **(participant-10)** also added an idea like this:

> *"Men are in many ways vulnerable to dangerous driving behavior."*

5.6.2.2 Less strict law enforcement

As participants stated, traffic rule and regulation was not implemented correctly by the different responsible body. The traffic police violate the rule like drivers. The government also gives less emphasis to traffic law enforcement and training institutions.

A 24 years old driver **(Participant-6)** explained that*:*

> *"If I have a major reason for this, the first thing I can understand from what I see is that the law is made for the sake of it or the law is only on the paper."*

A 30 years old traffic police **(participant-10)** also explained that*:*

"We are having trouble enforcing the law. The law, for example, says that if a driver who has lost three times is not corrected, he/she will be fired. If we punish them, the drivers want to hurt us. We want to raise a child. As a result, dangerous behavior is on the rise."

A 39 years old driver **(participant-7)** added that:

"Due to current political instability law is not implemented. Unless the people live by the moral law the legal law is not implemented. As a result, it has had its own negative impact on law enforcement. Especially the traffic rule is not implemented outside the town."

As participants explored, due to law was not implemented at night risky diving becomes worsen.

"*Another reason is that night driving violates traffic rules due to law is not enforced at night"* **(Participant-5).** *"At night I often see the law being violated because there is no traffic police"***(participant-6).**

Participants also explore that the traffic police also promote unsafe driving behavior.

"What we are suffering from are some of the traffic police who are committing some kind of misbehavior that has made not properly comply with the law. There are traffickers/traffic police who receive money and encourage crime" **(Participant-9).**

"*They want money from us. Traffic police is a bargaining chip in human blood. So when drivers are moving, they are calling and saying there is no traffic police"* **(participant-5**

5.6.2.3 Poor in faith

Participants suggested that weak in faith was the main reason for risk driving.

"*Weakness in a person's beliefs can lead not only to dangerous driving behavior but also to other dangerous behaviors. A man*

who is weak in faith, He does not care about the human being, does not give priority to the human being, and does not fear God. Therefore, one must be strong in the belief that one should avoid bad behavior **(participant-7).** *"I think it's because someone else's faith is weak. Because I think people with a strong faith reduce their bad behavior* **(participant-6).**

5.6.2.3 Institutional problem

In addition to less strict law traffic enforcement, the most frequently explained reason for risky driving behavior was the malpractice of training institutions. A 24 years old female driver **(participant-6)** expressed her view about training institutions like this:

"*The people who train in the training institution are bad people. They are corrupt thieves. So what can a trained person learn from them? You are looks like a person teaches you, and your environment."*

30 years old traffic police **(participant-10)** also added an idea of:

"*These institutions are endangering human lives, they want short-term honors, they only want money, and they only challenge the unskilled when they need it."*

A 39 years old driver *(***Participant-7)** as well commented that*:*

"Eye exams are not well done in a health institution. They accept bribes and give false evidence. Then the driver got into a car and was hit by a zebra and a non-zebra. And the trainers in the training institution were not role models. What can you learn from them? Their behavior is like that of a dog and how do you train yourself when you insulted by trainers?"

Another driver **(participant-4)** said that:

"Institutions now issue driver's licenses even to those who have died. The only matter is money."

An additional traffic police **(participant-9)** had made remarks like this:

"These institutions are killing the people. A trainee who has not even received proper training one day is also recklessly and greedily buying a driver's license as a commodity." *"Institutions are not training site now. Rather a place where malpractice is done"* **(Participant-5)**.

5.6.3 Strategy of risky driving reduction

5.6.3.1 law enforcement

As participants stated, less strict law enforcement was the main reason for risky driving. Among the strategy of reducing risky driving, strict law enforcement was the frequent strategy explained by all participants. A 24 years old female driver **(Participant-6)** explained that:

> "*The government should oversee the training institutions, implement the law, and dismiss the driver who violates the rule based on the rule regulation because punishing the driver by money is not enough; the government should look back at the traffic police*."

Another traffic police **(participant-10)** also explained that:

> "*The law needs to be amended, especially for those who choose drivers, traffic bodies/members should work without compromising on the basis of law and order."*

Correspondingly, another 19 years old driver **(participant-4)** had made remarks:

> *"I don't think the government knows about the real existence of training institutes. Ignoring or negotiating. No one controls them. Enforce another law. The law should improve. Only the person who has failed in 10th grade should not be able to enter in the driving profession. Driver must have at least a diploma. You'll be in 10th grade driving while cleaning with a degree."*

In addition, a 37 years old traffic police **(participant-9)** commented that:

"Government: should be committed to upholding the law and no one is above the people because the government lives to protect the public, pay attention to training institutions do not bargain with training institution. If necessary, relinquish their license, set age limits for drivers for example over 30 years, take action on malicious traffic police."

A 32 years old driver **(participant-5)** added a similar idea:

"Because the source of all problems is less strict law enforcement, the government should enforce the law. The other government should enact better laws for recruiters. Being a driver should not an optional profession. The other traffic police punish the driver based on the rule/law. Don't persecute us, just obey the law."

The other issue mentioned by the participants was training institutes provide licenses without adequate training and fake driving license now widespread and participants express their point of view as follows:

"It is rumored that there are some people who get a driver's license without training so everyone should stop this malpractice" **(Participant-1).** *" "As Well, I said, if the responsible public transport law enforcement agency is strictly enforce the rule on training institutions, then the risk will be reduced*"**(participant-8).**

5.6.3.2 Community involvement

Participants' explored that in adition to traffic police and government, the community also take a responsibility to reduce risky driving. Participants had made the following remarks:

"*The public should be discouraged by exposing unscrupulous drivers and preventing crime"* **(participant-10).** *"community should play their part by exposing unethical traffic to the*

government. Passengers should also say that they are not ashamed of driving illegally, for example, They should say that they are not ashamed when they drink and drive. socially exclude these illegal drivers" **(participant-9).** *"And I think all drivers are a member of the community and they need to be educated and reprimanded so that they can drive slowly and advise their children or their brothers and sisters because it is a loss of human life."* **(participants-3)** *"I also believe that the community should be cooperating with law enforcement, road coordinators and road transport coordinators"* **(participant-8).**

5.6.3.3 Drivers involvement

Drivers' role was also mentioned by participants to reduce risky driving.

"*First of all, drivers themselves need to do the following. 1st: Obey the law 2nd: Peer pressure should be ignored 3rd: they need to manage the period of youth carefully and drive it 4th: They should have respect for the profession"* **(Participant-10).** " "*Well, the drivers are missing something. They are no longer wearing belts. If they wear a belt, this is one of the best ways to handle it.. It should not be the only focus. They must inspect their vehicle before moving"* **(participant-8).** "*Drivers must also play a very important role. example: They must love their profession, they have to take care of themselves while they are in danger, they should not endanger their lives by getting a driver's license improperly, They must always obey their conscience, obey the law and protect themselves and other citizens"***(participant-9***).* "*We must put the pursuit of money ahead of our own"* **(participant-5).**

6 Discussion

In this study an attempt has made to assess the prevalence and associated factor of risky driving among Debre Tabor town drivers. The results of this study revealed that drive at night, driving greater than 8 hrs/day, never attending a religious organization, being an organizational driver, not think that monthly income enough were found to be the factors of risky driving and the prevalence of risky driving was found to be 82.1% , 95%CI (78-85.3). Similarly, the qualitative finding of this study also reported that risky driving was the most critical problem. This finding is in line with a study conducted in Bahir Dar city (79.4%) (4).

But the prevalence of risky driving in this study is higher than the studies conducted in Mekele(66%) (3), Jakarta of Indonesia(51.5%) (57), Portugal(50%) (48), United Kingdom (13.6%) (49), Saudi (62%) (55), and Tehran (53%)(56). The possible reason for higher than Mekele might be due to the exclusion of novice drivers from the study. Methods of data collection also might be the possible reason for this difference since interview method reduces the tendency of giving honest response. The reason for higher than Asian and European countries is due to the variation of traffic rule enforcement across the countries (16-18). The other possible reason for this variation might be due to economical difference across the countries. However, the finding of this study is lower than the finding from Greece (91.2%) (54). This might be due to that a study of Greece was conducted among those age 18-20 years old drivers and this segment of drivers might have different risky driving than another age group.

The quantitative finding of this study showed that NGO drivers had less risky driving than three-wheeled (Bajaj) drivers. The finding is supported by the qualitative findings of this study. The qualitative study participants explored that risky driving was most common among Bajaj and other business drivers. The possible explanations for these results might be due to NGO drives do not work for-profit but Bajaj (three-wheeled) drivers are work for businesses so, in order to get more money, business drivers are violating traffic rules like speeding and others.

The other possible reason for this result might be due to most of the time Bajaj drivers are young in age and these young drivers are frequently involved in the highest proportion of risk behavior and traffic accidents than other age groups. Number of training days also the other possible explanation for this difference. Three-wheeled drivers get their driving license after attending 30 days of training which is lower than other types of drivers.

In this study, drivers who were driving at night had more risky driving than drivers who were not driving at night. The finding is supported by the qualitative part. Participants explored that especially risky driving was high at night. This finding is also supported with a study conducted in Taiwan (50). This might be due to traffic conditions and less chance to be caught by the traffic police at night. This study finding also demonstrated that respondents who drive greater than 8 hours per day had more risky driving as compared to drive less than 4 hours per day. This finding is supported by studies conducted in Isfahan city of Iran, Vietnam and two studies of China (25, 26, 38, 52). This might be due to drivers driving a prolonged hours per day does not get adequate rest and they became fatigued (drive while they are feeling sleepy due to long hour driving).
Drivers who never attend the religious organization also had more risky driving than those drivers who attend religious ceremonies daily. Similarly, the qualitative finding of the current study also explored that weak in faith was a frequently mentioned reason for risky driving. This is due to faith maturity would account for a significant portion of the variance in decreasing risky behavior and therefore drivers those who attend a religious organization can practice healthy behaviors like avoiding consuming alcoholic drinks and drugs, obey the rules and regulations, give priority to others (46, 47).

In addition, drivers who think their income not enough were more likely involved in risky driving. This result is supported by the qualitative finding and explored that perceiving their income not enough was the reason for their risky driving. This finding is supported by a study done in Vietnam (26). This might be due to drivers considered their income, not enough have a strong desire to get more money by fast driving, not giving priority for passengers and impatient.

Another reason for risky driving not addressed by quantitative study but explored by the qualitative part of this study was less strict law enforcement. The report showed that the main reason for risky driving was due to the traffic rules not properly implemented. This finding is supported by qualitative studies conducted in Iran and Scotland (53, 58). It is also supported by quantitative studies conducted in northwest India, Bahrain, and Ujjain city (16-18).

The other most frequently explored idea about the reason for risky driving by participants in the current qualitative approach was the malpractice of training institutions (giving a fake driving license without adequate training). The drivers also trend this type of malpractice. This finding is supported by a qualitative study conducted among taxi driver of Iran (58). This might be due to the government is not adequately monitor and evaluate the training institutions. Being greedy and not being responsible also might be the other possible reason.

In the qualitative finding, male drivers were more engaged in risky driving. This finding is agreed with studies conducted in China, Thailand, Iran, Israel, United States and Colombia (6, 28-31). This is due to biological and cultural difference between male and female (6, 28-31). But it is not corroborated with a qualitative study conducted in regional Victoria (state of Australia) (32). The possible reason for this difference might be due to the cultural differences between the two countries. It was also not consistent with the quantitative finding of the current study. This might be due to chance and small sample size in female (lack of power).

Another factor that was not statistically significant in the quantitative part of the study, but it was explored by the qualitative approach was the age of the driver. Young drivers were practiced risky driving more than older age drives. This finding is supported with studies conducted in the UK, Portugal and China (27, 48, 49). This might be due to younger drivers are bravery, agility, impatient and they are easily offended. But it is in contrast with a study conducted in Addis Ababa (33). This inconsistency might be due to that variation in study method.

7 Strengths and limitations

Strength of the study

All types of drivers considered as a target population by making strata to be more representative and novice drivers were also involved. In addition, using triangulated method makes the evidence more powerful.

Limitation of the study

Even if social desirability bias was tried to minimize in this study but the problem may not be removed totally. So the effects of social desirability bias still likely happen. Recall bias might be also affecting the actual result.

8 Conclusions

For every hundred drivers, eighty-two of them had risky driving. Being NGO drivers were the protective factor for risky driving whereas never attending religious organization, driving more than 8 hours/day, think income not enough, drive at night were the risk factor for risky driving. In qualitative finding, socio-economical problem (low monthly income, perceiving income is not enough, being young, sex), being business/Bajaj drivers, poor in faith, drive at night, less strict law enforcement and the problem of training institutions were the reason for risky driving.

9 Recommendations

For road transport office/bureau/minster: Better to enforce traffic rules strictly. Speed limits better to strictly monitor using radars and speed breakers. Better to give special attention to three-wheeled drivers (better to revise the training days, revise the law example regarding age, educational level) and enforce the law strictly on training institutions.

For training institution: Better to train the trainees as per the law**.**

For traffic police: Better enforce the traffic law properly including at night.

For religious organizations: Since the root cause for any bad behavior is weak in faith, the religious organizations better to teach their followers.

For drivers: Better to consider safety first rather than being greedy. In addition, better to get adequate rest instead of drive while they are feeling sleepy due to long hours driving. Better to attend on their religious organization according to his or her faith and practice what he or she believes.

For communities: The community shall be part of the law enforcement process through reporting and by avoiding collaboration for risky driving.

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11 Annexes

Code_____

Annex- I: English version verbal Consent Form

Bahir Dar University

College of Medicine and health sciences

School of public health

Department of Epidemiology and Biostatistics

Survey questionnaire to assess risky driving and associated factors among drivers in Debre Tabor town, Northwest of Ethiopia.

Consent form

My name is _____ I am working with a postgraduate Epidemiology student Mr. Muluken Chanie. I brought these questions to ask you a few questions about risky driving conditions that can cause an accident. This will help us to identify the main risk factors for risky driving based on your answers to our questions. Your name will not be written in this form and will never be used in connection with any information you tell us. All information given by you will be kept strictly confidential. Your participation is voluntary and you are not obliged to answer any question you do not wish to answer. If you fill discomfort with the interview please fill free to drop it any time you want. This interview will take about 20 minutes.

1. Investigator's name Muluken Chanie sig----------phone 0918371286

2. Data collector Name---------- signature--------phone----------

3. Supervisor name----------Sig. ---------phone----------date of data collection--/--/--

Annex II. English version information sheet

Name of the investigator: Muluken Chanie Agimas

Name of organization: Bahir Dar University College of medicine and health science school of public health

Sponsor: self

Title of the study: Risky driving and associated factors among drivers in Debre Tabor town Northwest Ethiopia.

The objective of the study: To assess risky driving and associated factors among drivers in Debre Tabor town Northwest, Ethiopia.

Introduction:

These information sheets and consent forms are prepared to explain the study you are being asked to join. Please listen carefully and ask any questions about the study before you are agreeing to join. You may ask questions at any time after joining the study.

Procedure: To determine risky driving and associated factors among drivers in Debre Tabor town, we invite you to take part in this study. If you are willing to participate in this study, you need to understand and sign the agreement form. Then, you will be interviewed by the data collector to give your response. You do not need to tell your name to the data collector and all your responses will be kept confidential by using a coding system whereby no one will have access to your response. The questionnaire will take 20 minutes.

Risk of the study: The study has no risk for the participant and your answer also will be private to make safe participants from any problems.

Benefits of the study: The study participants will not get direct benefits for being participated. The result will be used to reduce road traffic accident by design different prevention strategies

The result will be presented to Amhara National Regional State Labor and social affair bureau, Amhara national regional state transport bureau, South Gondar Labor and social affair office and for those stakeholders for designing and carry out a road traffic accident prevention programs.

Confidentiality: The information collected from this study will be kept confidential and information about you that will be collected by this the study will be stored in a file, without your name, but a code number assigned to it and it will not be revealed to anyone except the principal investigator.

Rights to refuse or withdraw: You have the full right to refuse to take part in this study. You have also the full right to withdraw from this study at any time you wish

Persons to contact: The research project was reviewed and approved by the Ethical committee of Bahir Dar University.

Are you willing to take part in the study Yes No

If yes signature…….

If you have any questions you can contact me by the following address

1. Mr. Muluken Chanie
   Cell phone: 0918371286
   Email address: mulukensrc12@gmail.com

2. Mr. Taye Abuhay
   Cell phone: 0975112576
   tabu1980@gmmail.com

3. Mr. Abebayehu Bitew
   Cell phone: 0921528949
   abebayehubitew@gmail.com

Annex III. English version questionnaire for quantitative study

Part I: Socio-demographic factors

No	***Questions***	***Possible Response***	***Skip***	***Code***
101	Sex	1.Male 2.Female		
102	Age	In years----------		
103	Educational Status	1. Primary education 2. Secondary education 3. Above secondary		
104	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Other specify_____		
105	Ethnicity	1. Amhara 2. Tigre 3. Oromo 4. Other specify		
106	Marital Status	1. Single 2.married 3. Divorced 4. Widowed		
107	Family size	_____		
108	Average monthly income	_____Birr		
109	What types of driver you are?	1. code-1 driver 2. code-2 driver 3. code-3 driver 4. code-4 driver 5. code-5,35,42/non-governmental		
110	Is the vehicle you drive yours?	1. Yes 2. No		

Part II: Driving Exposure Factors

No	Description	Alternative Choices	Skip	Code
201	What is your driving experience?	_____years		
202	Approximately the number of kilometers did you drive per day?	_____km		
203	Approximately how many hours do you drive per day?	_____hr		
204	Did you drive at night (after 12 PM)?	1. Yes 2. No		
205	Monthly off duty days	____days		
206	Have you ever fined by traffic police?	1) Yes 2) No		
207	Have you ever had road traffic accident?	1. Yes 2. No		If no skip to Q212
208	If yes for 207 How many accidents happen?	_____		
209	What was the cause of the accident? (You can select more than one possible answer)	1. Speeding 2. Not giving priority for pedestrians 3. Vehicle defects 4. Road defects 5. Pedestrian defects 6. Driving while tired 7. Other, specify		
210	Was the accident causes death?	1. Yes 2. No		
211	Was the accident causes hospital admission?	1. Yes 2. No		
212	Have you ever getting advice about your driving behavior from others?	1. Yes 2. No		

Part III: Risky driving

No	To what extent do these traffic violations apply to you	Alternative Choices	Skip	Code
301	How often would you drive more than speed limit?	1. Always 3. Sometimes 2. Often 4.Never		
302	How often would you drive faster than the speed limit to get ahead of another vehicle?	1. Always 3. Sometimes 2. Often 4.Never		
303	How often would you mobile calling or receiving or texting while driving?	1. Always 3. Sometimes 2. Often 4.Never		
304	How often would you drive without using a seat belt?	1. Always 3. Sometimes 2. Often 4.Never	If you are no eligible skip to Q305	
305	How frequently drive after one or more alcohol drink within 3 hours?	1. Always 3. Sometimes 2. Often 4.Never		
306	How often would you Change lanes or turn without using side mirrors?	1. Always 3. Sometimes 2. Often 4.Never		
307	How often would you change lanes without signaling to get ahead of other vehicles?	1. Always 3. Sometimes 2. Often 4.Never		
308	How often would you drive too close to other vehicles?	1. Always 3. Sometimes 2. Often 4.Never		
309	How often would you overtake without a clear view and from the right hand lane?	1. Always 3. Sometimes 2. Often 4.Never		
310	How frequent you cross pedestrian line while the pedestrian waiting to cross?	1. Always 3. Sometimes 2. Often 4.Never		
311	How often violate the signal from the red-light?(Deliberately going through red lights?)	1. Always 3. Sometimes 2. Often 4.Never		
312	How often do you drive while feeling sleepy?	1. Always 3. Sometimes 2. Often 4.Never		

Key: speeding

For three-wheeled and automobile drivers: around city above 60 km/hr, countryside for first-degree speed limit above 100 km/hr, second-degree speed limit above 70 km/hr, third-degree speed limit above 60 km/hr.

For trucks: around city above 30 km/hr , countryside for first-degree speed limit above 70 km/hr, second-degree speed limit above 50 km/hr, third-degree speed limit above 40 km/hr. **For other types of drivers:** around city above 40 km/hr, countryside for first-degree speed limit above 80 km/hr, second-degree speed limit above 60 km/hr, third-degree speed limit 50 km/hr.

Part IV: Behavioral factors

No	Questions	Possible Response	Skip	Code
401	How often did you have a drink containing alcohol?	0. Never 1. Monthly or less 2. Two to four times a month 3. Two to three times a week 4. Four or more times a week	If you say never skip to 404	
402	How many drinks did you have on a typic day when you were drinking?	0. No. I didn't drink 0. 1 or 2 1. 3 or 4 2. 5 or 6 3. 7 to 9 4. 10 or more		
403	How often did you have six or more Drinks on one occasion?	0. Never 1. Less than monthly 2. Monthly 3. Weekly 4. Daily or almost daily		

404	Have you ever smoked since you started driving?	1. Yes. No	If no skip to Q 406	
405	How often did you smoke cigarette?	1. Every day 2. 1-3 days/wk 3 .Occasionally		
406	Have you ever chewing khat since you started driving??	1. Yes 2. No	If no skip to Q 409	
407	How often did you chat chewing?	1. 1-2 days/month 2. 1 day/week 3. 2-4 days/week 4. Daily		
408	How many grams of chat did you chew per day?	1. <300 gram 2. 300-500 gram 3. >500 gram		
409	Do you think your income is enough?	1. Yes 2.No		
410	Frequency of going to church/mosque	1. Every day 2. At least once a week 3. At least once a month 4. At least once a year 5. Never		
Attitude towards risky driving behavior				
601	I feel enjoy while driving beyond the speed limit	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
602	The faster I drive the more alert I am.	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		

603	I often get impatient with slower drivers	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
604	I try to get where I am going as fast as I can	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
605	Seat belt is not really necessary if I drive carefully	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree	If you are not eligible skip to 609	
606	Seat belt doesn't reduce risk in accident	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
607	I feel less comfortable when wearing seat belt	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
608	There is risk of being trapped by belt I case of emergency	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
609	It is not easy to tell for someone if driving using a phone has been affected	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
610	I would need a lot of convincing to believe using phone during driving is dangerous	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		

611	using the phone while driving is likely to be only very minor adverse effects on the driving ability	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
612	The only people at risk are those who use a mobile while driving	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
613	It is quite safe for me personally to drive after one or two drinks	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
614	The only person who could be affected by my driving after drinking is me	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
615	Like drive after drinking, speed is a not much more serious problem	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
616	Nothing will stop me from driving after drinking	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
617	Driving while feeling sleepy has very minor effect on my driving ability.	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
618	The only person who could be affected by my driving while feeling sleepy is me.	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		

619	I don't think I should be careful not to drive while feeling sleepy.	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
620	Driving while feeling sleepy have no risk on accident at all	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
621	Violation of high way code is important to reach faster.	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
622	Respecting the high way code is enough if traffic police are there.	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. strongly disagree		
623	Respecting the high way code is not preventing accident.	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		
624	The only people at risk for accident are those who violate a high way code	1. Strongly agree 2. Somewhat agree 3. Somewhat disagree 4. Not agree 5. Strongly disagree		

This is the end of our questionnaire. Thank you very much for taking time to answer these questions!!!

Annex IV: interview guide Questions for qualitative study in English version

Good morning! Well come to our in-depth interview. I am Muluken Chanie. I come from Bahir Dar University. I am here today to ask you about why drivers engaged in risky driving. The interview will take a minimum of 30 minutes. The answer you will respond is neither right nor wrong. All answers whether positive or negative are welcome. In the interview, your name will not record and the information is strictly confidential. The study does not have any risk on you rather it is important for finding necessary intervention to reduce road traffic accidents. To not miss all the interviews, I will use a tape recorder.

Are you willing to participate in the interview? Yes No

Thank you again for participation

For drivers

1. Gender ----------

2. Age ----------

3. Education level ----------

4. Work Experience ----------

5. What do you say about risk driving?

6. In your view, which driving behavior is dangerous? Can you list them?

7. What are the possible factors of risky driving?

8. Have you, like others, ever practiced these dangerous driving behaviors? Why would you explain it in detail?

8.1 does the training you receive affect your driving behavior? Why?

9. What do you think should be done to prevent risky driving?

10. What are the barriers to safeguarding risky driving?

11. What do you think is the best way to prevent risky driving?

For traffic police

Gender ----------

2. Age ----------

3. Education level ----------

4. Work Experience ----------

5. How is risky driving viewed by drivers?

6. Which driving behavior do you think is dangerous for drivers?

7. What are the possible factors of risky driving?

8. How do you describe the driving behavior of Debre Tabor city drivers?

    8.1 Do drivers engage in risky driving while driving? Why?

    8.2 Which drivers are most likely to have risky driving? Why?

    8.3 Are training facilities related to risky driving? Why?

9. What do you think should be done to prevent risky driving?

10. What are the barriers to implement risky driving prevention activities?

11. What do you think is the best way to prevent risky driving?

Annex-V: Amharic version consent form **ኮድ----------**

ባህር ዳር ዩኒቨርሲቲ

ሕክምናና ጤና ሳይንስ ኮሌጅ

የህብረተሰብ ጤና ት/ቤት

ኢፒድሚዮሎጅ እና ባዮስታቲስቲክስ ት/ት ክፍል

ቃለ መጠይቅ ከማድረግ በፊት የተሳታፊዎች ፈቃደኝነት መጠየቂያ ቅጽ፡

ይህ መጠይቅ በደብረታቦር ከተማ ሹፌሮች ላይ አደገኛ የሆኑ የማሽከርከር ባህርያትና መንስኤቸው ላይ ጥናት ለማጥናት የተዘጋጀ ነው፡፡

ጤና ይስጥልኝ ---------- እባላለሁ፡፡ የምሰራው በባህር ዳር ዩኒቨርሲቲ የማስተር ተማሪ ከሆነው ከሙሉቀን ጫኔ ጋር ሲሆን እዚህ የመጣሁት ስለ አደገኛ የሆኑ የማሽከርከር ተግባራት የተወሰኑ ጥያቄዎችን ልጠይቀዎት ነው፡፡ ከርስዎ የሚገኘው መልስ በሀገራችን በከፍተኛ ሁኔታ እየጨመረ የመጣውን የመንገድ ላይ የትራፊክ አደጋ ለመቀነስ ትልቅ እገዛ ይኖረዋል፡፡

ከርስዎ የምናገኛቸውን ማናቸውም መልስ በሚስጥር እንጠብቃልን፡፡ ከዚህ ጥናት ጋር በተያያዘ በማናቸውም ቦታና ጊዜ ስምዎ እንደማይጠቀስ ልንገልጽዎ እንወዳለን፡፡ በአጠቃላይ መጠይቁ ወደ 20 ደቂቃ ገደማ የሚወስድ ሲሆን በጥናቱ የምናሳትፈዎት የእርስዎን ሙሉ ፈቃደኝነት ስናገኝ ብቻ ነው፡፡ በመጠይቁ ሂደት ለመመለስ የማይፈልጉትን ጥያቄዎች ያለመመለስ መብትዎ የተጠበቀ ነው፡፡

1. **የአጥኚው ስም <u>ሙሉቀን ጫኔ</u> ፊርማ----------ስልክ** 0918371286
2. **የመረጃ ሰብሳቢ ስም----------ፊርማ----------ስልክ----------**
3. **የሱፐርቫይዘር ስም----------ፊርማ----------ስልክ----------**

መረጃ የተሰበሰበበት ቀን----/----/----

Annex VI: Amharic version information sheet

<u>የጥናቱ መረጃ መስጫ</u>

የዋና ተመራማሪው ስም- *መ*ሉቀን ጫኔ

የተቋሙ ስም - ባህር ዳር ዩኒቨርሲቲ

የምርምር ወጭ የሚሸፍነው- በግል የሚሸፈን

የጥናቱ ርዕስ - በደብረ ታቦር ከተማ በሚሰሩ ሹፌሮች ላይ የአደገኛ የማሽከርከር ባህርያት እና ተያያዥነት ያላቸዉ ምክንያቶች

የጥናቱ አላማ- በደብረ ታቦር ከተማ ሹፌሮች ላይ አደገኛ የሆኑ የማሽከርከር ባህርያት እና ተያያዥነት ያላቸዉን ምክንያቶች መለየት

መግቢያ- ይህ የመረጃና የስምምነት ቅፅ የተዘጋጀው እርስዎ ተሳታፊ እንዲሆኑ ለተጋበዙበት በምርምር ቡድኑ የሚካሄደውን ጥናት በተመለከተ የእርስዎን ፈቃደኝነት ለማወቅ ነው። **የጥናቱ ዘዴ-** አደገኛ የሆኑ የማሽከርከር ባህርያት እና ተያያዥነት ያላቸዉን ምክንያቶች ለመለየት በሚደረገው ጥናት ውስጥ እንዲሳተፉ የጋበዝንዎ ሲሆን ፈቃደኛ ከሆኑ ይህንን የስምምነት ፎርም ይፈርማሉ። ከዚያ በኋላ መረጃን በሚሰበስቡ የጥናት ቡድኑ አባላት አማካኝነት ምላሽዎን ለማወቅ የመጠይቅ ቅጹን እንዲሞሉ ይደረጋል። በመጠይቁ ቅጽ ላይ ስምዎን መፃፍ አያስፈልግም። የሚሰጡት መረጃም በሚስጠር የሚያዝ ሲሆን በተጨማሪም ማንም ሰው ወደ መረጃው እንዲቀርብ አይደረግም። መጠይቁ 20 ደቂቃ ይወስዳል።

የጥናቱ ጉዳት:- ተሳታፊው በዚህ ጥናት ውስጥ በመሳተፋቸው የሚደርስባቸው ምንም አይነት ጉዳት የለም። ተሳታፊው የሚሰጠው መረጃም በሚስጥር ስለሚያዝ ተሳታፊው ከማንኛውም ዓይነት ጫና ነፃ ነው።

የጥናቱ ጥቅም- ተሳታፊው በጥናቱ ተሳታፊ በመሆናቸው በቀጥታ የሚያገኙት ጥቅም የለም።

ከዚህ ጥናት የሚገኘው ውጤት የትራፊክ አደጋን ለመከላከል የተለያዩ ስትራቴጅወችን ለመማውጣት እነደ ግብዐት ያገለግላል።

የጥናቱ ውጤት ለሠራተኛና ማሕበራዊ ጉዳይ ቢሮ፣ ለክልሉ ትራንስፖርት ቢሮ እና ለደቡብ ጎንደር ሠራተኛና ማህበራዊ ጉዳይ መምሪያ እንዲሁም የመንገድ ላይ አደጋን በመከላከል ለሚሰሩ አጋር አካላት ጠቀሜታ ይኖረዋል።

ሚስጥራዊነቱ፡- በዚህ ጥናት የሚሰበሰበው መረጃ ሚስጠራዊነቱ የተጠበቀ ሲሆን መረጃውም በፋይል ተደርጎ ሚስጢራዊ ኮድ ተሰጥቶት ሥምዎን ሳይጨምር ተቆልፎ ይቀመጣል፡፡ በተጨማሪም የሚሰጡት መረጃ ከዋናው አጥኝ በስተቀር ለማንም ግልፅ አይደረግም፡፡

የመቃወምና የማቋረጥ መብት፡- በዚህ ጥናት ላይ የመሳተፍም ሆነ ያለ መሳተፍ ሙሉ መብትዎ የተጠበቀ ነው፡፡ በመሳተፍ ላይ እያሉም በማንኛውም ሰዓት ማቋረጥ ወይም ከጥያቄዎቹ ውስጥ ለመመለስ የማይፈልጉት ጥያቄ ካለ አለመመለስ ይቻላል፡፡

በጥናቱ ለመሳተፍ ፈቃደኛ ነዎት

1. **አዎ-** **ፊርማ----------**
2. **የለም-**

ለተጨማሪ መረጃ

የተመራማሪው ስም

1. **ሙሉቀን ጫኔ**

ስልክ፡+251-918-371286 Email: mulukensrc12@gmail.com

አማካሪዎች፡-

1. **ታየ አቡሃይ**

   ስልክ፡+251-975112576

   Email: tabu1980@gmmail.com

1. **አበባየሁ ቢተው**

   ስልክ፡+251-921528949

   Email: abebayehubitew@gmail.com

Annex-VII: Amharic version questionnaire for quantitative study

ክፍል ፡ ማህበራዊ ስነ-ህዝባዊ ገጽታዎችን በሚመለከት

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	መሸጋገር	ኮድ
101	ጸታ	1.ወንድ 2.ሴት		
102	ዕድሜ	---------- ዓመት		
103	የትምህርት ደረጃ	1. አንደኛ ደረጃ 2. ሁለተኛደረጃ 3. ከሁለተኛ ደረጃ በላይ		
104	ሀይማኖት	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ሌላ ካለ ይጠቀስ----------		
105	ብሄር	1. አማራ 2. ትግሬ 3. ኦሮሞ 4. ሌላ ካለ ይጠቀስ		
106	የጋብቻ ሁኔታ	1. ያላገባ/ች 2. ያገባ/ች 3. የፈታ/ች 4. የሞተበት		
107	የቤተሰብ ብዛት	----------		
108	አማካይ የወር ገቢ	----------ብር		

109	የምን አይነት ተሽከርካሪ ሹፌር ነወት	1. ኮድ-1/ባጃጅ 1. ኮድ-2/የቤት መኪና 2. ኮድ-3/ሌሎችንግድ መኪኖች 3. ኮድ-4/የመንግስት 4. ኮድ-5፣35፣42/የድርጅት		
110	የሚያሽከረክሩት ተሽከርካሪ የርስዎ ነው	1. አወ 2. አይደለም		
ክፍል ሁለት፡ የአሽከርካሪነት ቆይታን በተመለከተ				
ተ.ቁ	***ጥያቄዎች***	***አማራጭ መልሶች***	***መሸጋገር***	***ኮድ***
201	በሹፌርነት ምን ያህል ጊዜ አገልግለዋል?	----------አመት		
202	በአማካይ ምን ያህል ኪሎ ሜትር በቀን ያሽከረክራሉ?	----------ኪሎ ሜትር		
203	በቀን በአማካይ ምን ያህል ሰዓት ያሽከረክራሉ?	----------ሰዓት		
204	ማታ ማለትም ከ 12 ሰአት በኃላ ያሽከርክራሉ?	1. አወ 2. የለም		
205	በወር ምን ያክል የማያሽከረክሩበት ቀን አለ?	---------ቀን		
206	በትራፊክ ፖሊስ ተቀጠው ያውቃሉ?	1. አወ 2. የለም		
207	የትራፊክ አደጋ አጋጥሞዎት ያውቃል?	1. አዎ 2. የለም	የለም ከሆነወደ ጥ.212 ይለፉ	

208	ምን ያክል አደጋ ገጠምወት?	----------		
209	የአደጋው ምክንያት ምን ነበር? (ከአንድ በላይ መልስ መስጠት ይቻላል)	1. በከፍተኛ ፍጥነት ማሽከርከር 2. ለእግረኛ ቅድሚያ አለመስጠት 3. የተሸከርካሪ ጉድለት 4. የመንገድ ጉድለት 5. የእግረኛ ጉድለት 6. በድካም ስሜት ማሽከርከር 7. ሌላ ካለ ይግለጹ		
210	በአደጋው ሰው ሞቶ ነበር?	1. አወ 2. የለም		
211	አደጋው ሆስፒታል ያስተኛ ከባድ የአካል ጉዳት አድርሶ ነበር?	1. አወ 2. የለም		
212	ስለ ማሽከርከር ባህሪም ከሌሎች ሰወች ምክር አግኝተው ያውቃሉ	1. አወ 2. የለም		

ክፍል III: አደገኛ የማሽከርከር ባህርያትን በተመለከተ

ተ.ቁ	*የሚከተሉት የትራፊክ ደንብ ጥሰቶ በእርስዎ ላይ ምን ያህል ይታያሉ?*	*አማራጭ መልሶች*	*መሸጋገር*	*ኮድ*
301	ከፍጥነት ወሰን በላይ የማሽከርከር ልምድዎ በርስዎ አሰተያየት ድግግሞሹ ምን ይመስላል?	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
302	ሌላ ተሽከርካሪን ለመቅደም ከሚፈቀደው ፍጥነት በላይ ያሽከረከሩበት ጊዜ ድግግሞሹን ቢገልጹልኝ	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
303	እያሽከረከሩ ስልክ ያነሱበት ወይም የደወሉበት ወይም መልክት የተፃፃፉበትን ድግግሞሽ ቢገልጹልኝ	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
304	ቀበቶ ሳይጠቀሙ ያሽከረከሩበት ጊዜ ተደጋጋሚነቱ ምን ይመስላል?	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም	የባጃጅ ሹፌር ከሆኑ ወደ ጥያቄ ቁጥር 305 ይለፉ	
305	በ3 ሰዓት ውስጥ አንድ ወይም ሁለት የአልኮል መጠጥ ጠጥተው ያሽከረከሩበት ጊዜ ተደጋጋሚነቱን ቢገልፁልኝ	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
306	የኋላ ማሳያ ወይም የጎን መስታዎት ሳይጠቀሙ የታጠፉበት ጊዜ ተደጋጋሚነቱ ምን ይመስላል?	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		

307	ሌላ ተሽከርካሪን ለማለፍ ምልክት ሳያሳዩ በመታጠፍ የተጓዙበት ድግግሞሽ እንዴት ይገልፁታል?	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
308	ከሌላ ተሽከርካሪ ጋር በጣም ተጠግተው ያሽከረከሩበት ጊዜ ተደጋጋሚነቱ ምን ይመስላል	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
309	ከፊት የሚመጣን ተሽከርካሪ ማየት በማይቻልበት ሁኔታ እና በስተ-ቀኝ በኩል ያሽከረከሩበት ጊዜ ተደጋጋሚነቱን ቢገልጹልኝ	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
310	ዜብራ መንገድ ላይ እግረኞች ለማቋረጥ እየጠበቁ ሳይቆሙ ያሽከረከሩበት ጊዜ ድግግሞሹን ቢገልጹልኝ	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
311	የቀይ መብራት ምልክቱን እያዩ አልፈው ያሽከረክሩበት ጊዜ ድግግሞሹን ቢገልፁልኝ?	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		
312	የእንቅልፍ ስሜት እየተሰማዎ ያሽከረከሩበት ጊዜ ተደጋጋሚነቱ ምን ይመስላል?	1.ሁልጊዜ 2.በአብዛኛውጊዜ 3.አንዳንድጊዜ 4.ምንም		

ቁልፍ: በፍጥነት ማሽከርከር ማለት፡

ለሶስት እግር እና ለአውቶሞቢል አሽከርካሪዎች፡ በከተማ 60 ኪ.ሜ. በሰዓት በላይ ፣ ለገጠር፤ ለ1ኛ ደረጃ አውራ ጎዳና ከ100 ኪ.ሜ በሰአት በላይ ፣ ለሁለተኛ ደረጃ አውራ ጎዳና 70 ኪ.ሜ.በሰአት በላይ ፣ ለሦስተኛ ደረጃ አውራ ጎዳና 60 ኪ.ሜ.በሰአት በላይ

ለጭነት መኪናዎች፡ በከተማ ዙሪያ 30 ኪ.ሜ. በሰዓት በላይ ፣ ለገጠር 1ኛደረጃ አውራ ጎዳና ከ70 ኪ.ሜ. በሰአት በላይ ፣ ለሁለተኛ ደረጃ አወራጎዳና 50 ኪ.ሜ.በሰዓት በላይ ፣ ለ 3ኛደረጃ አውራ ጎዳና 40 ኪ.ሜ.በሰአት በላይ

ከላይ ከተገለጹት ውጭ ላሉ አሽከርካሪዎች፡ በከተማ ዙሪያ 40 ኪ.ሜ. በሰዓት ፣ ገጠር ለ1ኛ ደረጃ አውራ ጎዳና 80 ኪ.ሜ. በሰዓት ፣ ለ2ኛ ደረጃ አውራ ጎዳና 60 ኪ.ሜ በሰዓት በላይ. ፣ ለሦስተኛ ደረጃ አውራ ጎዳና 50 ኪ.ሜ.በሰአት በላይ

ክፍል IV: የአሽከርካሪው ስነ-ባህሪ በተመለከተ

ተ.ቁ	ጥያቄዎች	አማራጭ መልሶች	መሸጋገር	ኮድ
401	አልኮል መጠጥ የሚጠጡበትን ተደጋጋሚነት ቢገልፁልኝ	0. ምንም 1. በየወሩ ወይም በታች 2. በወር ከ2-4 ጊዜ 3. በሳምንት ከ2-4 ጊዜ 4. በሳምንት 4 ጊዜና በላይ	መልስዎ ምንም ከሆነ ወደ ጥ.ቁ.404 ይለፉ	
402	በቀን ምን ያክል የአልኮል መጠጥ ይጠጡ ነበር	0. ምንም 0. 1 ወይም 2 1. 3 ወይም 4 2. 5 ወይም 6 3. 7 ወይም 9 4. 10 እና ከዚያ በላይ		
403	በአንድ ጊዜ 6 እና ከዚያ በላይ የአልኮል መጠጥ የሚጠጡበትን ድግግሞሹን ቢገልጹልኝ	0. ምንም 1. በየወር ባልሞላ ጊዜ 2. በየወሩ 3. በየሳምንቱ 4. በየቀኑ ወይም ከሞላ ጎደል በየቀኑ		
404	ማሽከርከር ከጀመሩበት ጀምሮ አጭሰው ያውቃሉ?	1. አወ 2. የለም	የለም ካሉ ወደ ጥያቄ ቁጥር 406 ይለፉ	
405	ሲጋራ አጭሰው የሚያውቁበትን ድግግሞሹን ቢገልፁልኝ ?	1.በየቀኑ 2.በሳምንት ከ1-3 ቀናት 3.አልፎአልፎ		
406	ማሽከርከር ከጀመሩበት ጀምሮ ቅመው ያውቃሉ?	1. አወ 2. የለም	መልስዎ የለም ከሆነ ወደ ጥያቄ ቁጥር 409 ይለፉ	

407	ጫት ቅመው የሚያውቁበትን ድግግሞሹን ቢገልፁልኝ ?	1. በወር 1-2 ቀን 2. በሳምንት 1ቀን 3. በሳምንት 2-4 ቀን 4. በየቀኑ		
408	በቀን ምን ያክል ግራም ቅመው ያውቃሉ?	1. ከ300ግራም በታች 2. ከ300-500 ግራም 3. ከ500 ግራም በላይ		
409	በርስዎ እይታ የሚያገኙት ገቢ በቂ ነው ብለው ያስባሉ	1. አዎ 2. የለም		
410	ሀይማኖታዊ ተቋም የሚሄዱበትን ጊዜ ድግግሞሹን ቢገልፁልኝ	1. በየቀኑ 2. በየሳምንቱ 3. በየወሩ 4. በአመት1 ጊዜ 5. ምንም		
ስለ አደገኛ የማሽከርከር ባህሪ አመለካከት በተመለከተ				
601	ከፍጥነት ገደቡ በላይ በማሽከረከርበትጊዜ እንደተደሰትኩ ይሰማኛል።	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
602	በፍጥነት ባሽከረከርኩ መጠን የበለጠ ንቁ ነኝ ።	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
603	በዝግታ በሚያሽከረክሩ ሾፌሮች ብዙ ጊዜ ትዕግሥት የለኝም።	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
604	የምችለውን ያህል በፍጥነት ወደ ምሄድበት ለመድረስ እሞክራለሁ።	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		

605	በጥንቃቄ ካሽከረከርኩ ቀበቶ መልበሴ አስፈላጊ ነው ብየ አላምንም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም	የማይመ ለከትዎ ከሆነ ወደ ተ.ቁ 609ይለፉ	
606	የመቀመጫ ቀበቶ በአደጋ ጊዜ አደጋን አይቀንስም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
607	የመቀመጫ ቀበቶን ስለብስ ምቾት አይሰማኝም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
608	ድንገተኛ ሁኔታ በሚኖርበት ጊዜ ቀበቶ አንቆ በመያዝ ዘልየ እነዳልወጣ ያደርገኛል፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
609	ስልክ በመጠቀም ማሽከርከር ተጽዕኖ እንደደረሰበት ለአንድ ሰው መናገር ቀላል አይደለም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
610	ስልክ እየተጠቀምኩ በማሽከርከሬ አደገኛ ነው ብዬ ለማመን ብዙ አሳማኝ እፈልጋለሁ፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
611	በሚያሽከረክርበት ጊዜ ስልክን መጠቀም በመንዳት ችሎታ ላይ በጣም አነስተኛ አሉታዊ ተጽኖ አለው፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
612	በሚያሽከረክሩበት ጊዜ ሞባይል መጠቀም ለአደጋ ተጋላጭ የሚሆኑት እራሳችው ሾፌሮች ብቻ ናቸው፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		

613	ከአንድ ወይም ከሁለት መጠጦች በኋላ ማሽከርከር በግሌ ችግር የለውም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
614	ከጠጣሁ በኋላ በማሽከርከር ሊጎዳኝ የሚችለው እኔ ብቻ ነው፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
615	ከጠጡ በኋላ እንደ ማሽከርከር በፍጥነት ማሽከርከር በጣም ከባድ ችግር አይደለም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
616	ጠጥቶ ከማሽከርከር የሚያግደኝ ነገር የለም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
617	የእንቅልፍ ስሜት እየተሰማኝ ማሽከርከር በመንዳት ችሎታዬ ላይ በጣም አነስተኛ ጉዳት አለው፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
618	የእንቅልፍ ስሜት እየተሰማኝ በማሽከርከሬ ልጎዳ የምችል ብቸኛው ሰው እኔ ነኝ	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
619	የእንቅልፍ ስሜት እየተሰማኝ ላለማሽከርከር ጥንቃቄ ማድረግ አለብኝ ብየ አላምንም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
620	የእንቅልፍ ስሜት እየተሰማኝ ማሽከርከሬ በፍጹም ለአደጋ አያጋልጠኝም፡፡	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		

621	የመንገድ ላይ የትራፊክ ደንብ ጥሶ ማለፍ በፍጥነት ለመድረስ ይጠቅማል።	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
622	የትራፊክ ፖሊሶች ካሉ ብቻ የመንገድ ላይ የትራፊክ ደንብ ማክበሩ በቂ ነው	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
623	የመንገድ ላይ የትራፊክ ደንብ ማክበር አደጋን አይከላከልም ።	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		
624	የመንገድ ላይ የትራፊክ ደንብን በመጣስ ተጎጅወች የሚሆኑት ሹፌሮች ብቻ ናቸው።	1. በጣም እስማማለሁ 2. በመጠኑ እስማማለሁ 3. በመጠኑ አልስማም 4. አልስማማም 5. በጣም አልስማማም		

ይህ የመጠይቃችን መጨረሻ ነው። እነዚህን ጥያቄዎች በቅንነት ውድ ጊዜዎትን መስዋት አድርገው በመመለስ ላደረጉልን ትብብር ከልብ እናመሰግናለን።

Annex VIII: interview guide Questions for qualitative study in Amharic version

ሹፌሮች ለምን ለአደገኛ የማሽከርከር ባህርያት እንደሚሰማሩ ለማብራራት ለተሳታፊወች የተዘጋጀ የመጠይቅ መምሪያ

እንደምን አደሩ/ዋሉ! እንኩዋን ወደዚህ ቃለ መጠይቅ በደና መጡ የመጣሁት ከባ/ዳር ዩኒቨርሲቲ ሲሆን በዚሁ ዩኒቨርሲቲ የ2ኛ ዲግሪ የህብረተሰብ ጤና ተማሪ ነኝ። ከዚህ የተገኘሁት ሹፌሮች ለምን በአደገኛ የማሽከርከር ባህርያት እነደሚሰማሩ እርስወን ለመጠየቅ ነው። መጠይቁ ቢያንስ 30 ደቂቃ የሚፈጅ ሲሆን ሀሳብዎን በነፃነት መግለፅ ይችላሉ። ስህተት ወይም ትክክል የሚባል መልስ የለም። በመጠይቁ ስምዎ የማይመዘገብና ምስጢራዊነቱ እጅግ የተጠበቀ ሲሆን ጊዜወን መስዋት ከማድረግ ውጭ ጥናቱ በርስዎ ላይ ምንም አይነት ጉዳት የለውም ። ጥናቱ ዋና አላማው አሰቃቂ የሆነውን የመንገድ ላይ የትራፊክ አደጋ ለመቀነስ መፍትሄ ለመዘየድ ነው። የመጠይቁን ሙሉ ሀሳብ ለመያዝ ያመች ዘንድ ቴፕ መቅጃ ቢፈቅዱልኝ

ለመሳተፍ ፈቃደኛ ነዎት አወ አይደለሁም

በድጋሚ ከልብ አመሰግናለሁ !

<u>ለ ሹፌሮች</u>

1. **ዕድሜ----------**
2. **እድሜ----------**
3. **የትምህርት ደረጃ----------**
4. **የስራ ልምድ----------**
5. **አደገኛ የማሽከርከር ባህሪ ምንድን ነው ይላሉ?**
6. **በርስዎ እይታ የትኛው የማሽከርከር ባህሪ ነው አደገኛ? ቢዘረዝሩልኝ?**
7. **የአደገኛ የማሽከርከር ባህሪ ምክንያቶቹ ምንድን ናቸው?**
8. **እርስዎም እንደ ሌሎች እነዚህን አደገኛ የማሽከርከር ባህሪ ተግብረው ያውቃሉ? ለምን ምክንያትወትን ቢያብራሩልኝ?**

   8.1 የሰለጠኑበት ተቋም በማሽከርከር ባህሪወት ላይ ተፅኖ ይኖረው ይሆን? ለምን?
9. **አደገኛ የማሽከርከር ባህሪን ለመከላከል ከማን ምን ይጠበቃል ይላሉ?**

10. አደገኛ የማሽከርከር ባህሪን የመከላከያ መንገዶችን ለመፈጸም መሰናክሎች ምንድን ናቸው?
11. አደገኛ የማሽከርከር ባህሪን ለመከላከል ምን ምቹ ሁኔታ ቢፈጠርልዎ ጥሩ ነው ይላሉ?

<u>ለትራፊክ ፖሊሶች</u>

1. ዕድሜ----------
2. እድሜ----------
3. የትምህርት ደረጃ----------
4. የስራ ልምድ----------
5. አደገኛ የማሽከርከር ባህሪ በሹፌሮች ዘንድ እንዴት ይታያል?
6. ሹፌሮች የትኛውን የማሽከርከር ባህሪ ነው አደገኛ የሚሉት?
7. የአደገኛ የማሽከርከር ባህሪ ምክንያቶቹ ምንድን ናቸው?
8. የደብረታቦር ከተማ ሹፌሮችን የማሽከርከር ባህሪ እንዴት ይገልፁታል?
   8.1 የሹፌሮችን የማሽከርከር ባህሪ እንዴት ያዩታል? ለምን?
   8.2 የትኞቹ ሹፌሮች ላይ ነው አደገኛ የማሽከርከር ባህሪ የበለጠ ሚታየው? ለምን?
   8.3 የማሰልጠኛ ተቋማትና አደገኛ የማሽከርከር ባህሪ ግንኙነት ይኖራቸው ይሆን? ለምን?
9. አደገኛ የማሽከርከር ባህሪን ለመከላከል ከማን ምን ይጠበቃል ይላሉ?
10. አደገኛ የማሽከርከር ባህሪን የመከላከያ መንገዶችን ለመፈጸም መሰናክሎች ምንድን ናቸው?
11. አደገኛ የማሽከርከር ባህሪን ለመከላከል ምን ምቹ ሁኔታ ቢፈጠር ጥሩ ነው ይላሉ?

DECLARATION

This is to certify that the thesis entitled "**prevalence of risky driving and associated factors among Debre Tabor town drivers**", submitted in partial fulfillment of the requirements for Master of Epidemiology in college of medicine and health sciences, school of public health, department of Epidemiology and Biostatistics, Bahir Dar University, is a record of original work carried out by me and has never been submitted to this or any other institution to get any other degree or certificates. The assistance and help I received during the course of this investigation have been duly acknowledged.

Name of the candidate	Date	Signature
_____	_____	_____

ADVISOR'S APPROVAL FORM

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SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS

APPROVAL OF THESIS FOR SUBMISSION

I hereby certify that I have supervised, read, and evaluated this thesis titled "**Prevalence of risky driving and associated factors among Debre Tabor town drivers**" by **Muluken Chanie** prepared under my guidance. I recommend the thesis be submitted.

_____	_____	_____
Advisor's name	Signature	Date
_____	_____	_____
Co-Advisor's name	Signature	Date
_____	_____	_____
Department Head	Signature	Date

EXAMINERS' APPROVAL FORM

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DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS

APPROVAL OF THESIS FOR DEFENSE RESULT

As members of the board of examiners, we examined this thesis entitled "**prevalence of risky driving and associated factors among Debre Tabor town drivers**" by **Muluken Chanie**. We hereby certify that the thesis is accepted for fulfilling the requirements for the award of the degree of masters in Epidemiology.

BOARD OF EXAMINERS

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