

KNOWLEDGE, ATITUTE AND PRACTICE TOWARDS ROAD
TRAFFIC REGULATION AMONG YOUTH IN HULHUMALE'

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KNOWLEDGE, ATITUDE AND PRACTICE TOWARDS ROAD TRAFFIC
REGULATION AMONG YOUTH POPULATION AGE BETWEEN 18 AND 34 IN
HULHUMALE'

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DECLARATION

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I hereby declare that this Project is the result of my own work, except for quotation and summaries which have been duly acknowledged.

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ABSTRACT

Globally, 1.25 million people die every year due to road traffic accident. Road traffic accidents are the world leading cause of deaths among the youth and major public health problem in global. Major factors are speed, seat belt, road traffic sign and use of mobile phone while driving. These are the factors on which most countries have made regulation and these regulations were violated by the youth every day. Road traffic accident has increased 4.6 times from 2013 to 2015 and vehicles and population increasing dramatically. A cross sectional descriptive study was conducted to identify the knowledge, attitude and practice road traffic regulation among the youth age between 18-34 years of Hulhumale.

Results: With 100 percent response, 98.9 percent participants knew the road traffic regulation. Questions about attitudes towards regulation were positive more than 80 percent. However, the 79.9 percent breach law, 60.7 percent drive vehicles without license, more than 85 percent drive more than the speed limit, 88% does not use zebra cross and 93.7 percent do not follow traffic sign.

Conclusion: Majority has a positive and high degree of knowledge. Even though, the high negative behavior was found from the participants. In contrast, a large number of participants has breach law. Therefore, in the light of results it is important traffic controlling authority to strengthen the system.

Keywords: Knowledge, Practice, Attitude, Youth, Road traffic regulation, Hulhumale

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LIST OF ABBREVIATIONS

WHO – World Health Organization

RTA – Road Traffic Accidents

HBM – Health Belief Model

KAP – Knowledge, Attitude and Practice

SEAR – South East Asia Region

PAHO – Pan American Health Organization

CHAPTER 1

INTRODUCTION

1.1 Background to the Study

Road enables us to transport goods and services to one place to another. The road made the lives of the people more interest and provides enormous positive health impact. However, increased of road users and motorized vehicles directly and indirectly causing negative health impact. Dual problems of smokes and heat release by vehicle cause respiratory illness, road injury and physically inactive due to preferring motorized vehicle rather than walk (WHO, 2009).

Every day, approximately 3397 people die due to road traffic accidents and a lot of people around the world suffering from disabilities. The disability rate due to road accidents and road traffic deaths has increased dramatically in the middle income countries. However, families faced direct and indirect cost lost. Example of the direct cost is the money spend in the hospital due to road traffic accident and the indirect cost example is injured person cannot earn money, therefore family loses a person who earn money and the majority of people are financially unstable (WHO, 2013).

According to WHO (2013), road traffic injuries are the 8th leading death among 20 leading deaths in the world and only twenty eight countries has established laws on all five risk factors of road traffic accidents, which are speed, helmet use, child restraint, drink driving and seat belts. WHO (2009) stated that the road traffic injuries were the

second leading cause of death among age between 5-14 years old young children. However, between aged of 15 to 29 years were the death topper due to road traffic accidents and the third leading cause of death were among aged 30 to 44 years due to road traffic accident (WHO, 2013).

In South East-Asia region approximately every day, 930 people die due to road traffic accidents in the year 2010. The prevalence of road traffic death rate is 18.5 per 100,000 (WHO, 2013).

Maldives consisted of approximately 1190 coral islands in the Indian Ocean. Regions were separated over 26 Atoll and cover approximately 90,000 square kilometers. (Visit Maldives, n.d.). Male' is the capital of Maldives where approximately one third of the population live and it is one of the densest populations in the world. Male' city consisted of separate two wards Hulhumale and Vilimale with different environments and Hulhumale' is the first island, which developed according to a proper planning. According to the National bureau of statistics (2015), census 2014 report results show that, the total number of population of the Maldives is 341,256. Population Distribution of Male' is 153,379 people and in Hulhumale' 15,769 people (National bureau of statistics , 2015). However, in Census 2006 shows Hulhumale distribution, population is 2,866. It means an 81.8 percent increase of population of Hulhumale.

According Hulhumale Police Station (2016), motorized vehicle increased rapidly, due to that road traffic accident has also increased (Hulhumale Police Station, 2016). According to Transport Authority (2014), total number of registered vehicles of Male' and Hulhumale' is 45,503 and 218 respectively (Transport Authority, 2014). However, there is no barrier from transporting vehicle from one place to another.

1.2 Problem Statement and Justification

According to WHO (2015), every 25 seconds a person dies due to road traffic accident in the world and the leading cause of death due to road traffic accidents was highest among age between 15-29 years. Compare to deaths with injuries, it shows that between 16 to 40 times more people suffer from minor to severe injury than deaths, with many of people suffer from disabilities (WHO, 2015).

According to the global report on road safety (2013), 90 percentages of road traffic deaths occur among low and middle income countries and half of the vehicles are shared by the low and middle income countries. Region of South East-Asia everyday 930 people die due to road traffic accidents and statistic shows every 18.1 of 100,000 people (WHO, 2013).

High income regions like Mediterranean have a dramatic increase of death; however, most of the countries have decreased public health preventable death and non-fatal injuries among different ages. Youth or the young age between 15 to 29 years old was the highest risk group who deals with highest risk factor like speed, which is the critical risk factor among those ages in the entire regions (WHO, 2015).

The Maldives Police Service (2016), statistics show that 12 deaths in 2013 and 11 deaths in 2014 due to road traffic crashes and compare to Male' and other atolls traffic violence are 20 times higher in 2014 (Maldives Police Services, 2016). These figures show Male' region needs more attention on this area. Data from police show that 0.05 percent increase of road traffic clashes in 2014 accidents than year 2013 and 4.6 time increase of road traffic accident in 2015 compare to 2013 (Maldives Police Services, 2016).

According to a Master plan for the government the Hulhumale' ward is developing and also planned to bring small population to a place where they can get better services like good education, better health and job. Hulhumale' population is increasing day by day and also the vehicles simultaneously. It is a good place to freely ride a cycle at maximum speed because the roads are wide and well structured. However, Hulhumale' is the second most dangerous deaths occurred in the country after Addu Link road. Youth population increased dramatically and government encouraging the youth come to Hulhumale. Therefore, the government announced that the second phase project of housing development of Hulhumale' will give prior to the youth community and Hulhumale' labeled as a youth city of the country (HDC, 2016). United Nation defines youth age at the range of 15 – 24 (UNESCO, 2016). However, in the Maldives, youth defined as age between 18 and 34 years (Ministry of Planning , 2006).

World leading cause of deaths among road traffic accidents were aged between 15 to 29 years old. To prevent and control the road traffic accidents we need to address the risk factors to minimize the accidents and even identify the perception of the community. One study has been done in the Addu city to determine the increasing of accidents on Addulink road (MoHF, WHO, & Consulting, 2011). According to Police (2016), the parking violation stickers issued and other traffic violation was 54,303 and 40,057 respectively, and also year by year road traffic violation were increasing dramatically (Maldives Police Services, 2016). So, we need to identify the knowledge, attitudes and practices of Hulhumale' population, on road traffic regulation.

1.3 Purpose of the Study

The purpose of the study is to identify the knowledge, attitude and practice of road traffic regulation among youth age between 18 and 34 years in Hulhumale’.

1.4 Objectives of the Study

1.4.1 1.4.1 General Objective

The general aim of the study is to identify Knowledge, attitude and practice towards road traffic regulation among Youth age between 18 and 34 years of Hulhumale’.

1.4.2 1.4.2 Specific objectives of the study are:

1. To identify the level of knowledge towards road regulation among age between 18 and 34 years.
2. To know the practice towards road regulation among between 18 and 34 years
3. To identify the attitude towards road traffic regulation among between 18 and 34 years

1.5 Research Questions

1. Does the youth have enough knowledge on road traffic regulation among age between 18 and 34?
2. What are their attitudes towards road traffic regulation?
3. What are practices towards road traffic regulation among the age between 18 and 34?

1.6 Significance of the Study

This study was aimed to identify the knowledge, attitude and practice of road traffic regulation among the age between 18 and 34 years old. This is the major risk group

all over the world. The study results can be used to make better intervention and policies to control the road traffic violation.

1.7 Scope of the Study

The study focused to the age between 18 and 34, because this age group comes under the world highest leading cause of road traffic accidents age group. The scope of the research is limited because geographically constrain to Hulhumale'. However, the study can be applied to similar islands like Male' and Addu.

1.8 Definitions of Terms

Road traffic regulation: regulation for the road users

Knowledge: Refers to information acquired on road traffic regulation

Practice: Refer to Obedient to road traffic regulation

Attitude: Refer to think of road traffic regulation

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Theoretical Framework

Health belief model (HBM) is the psychological model and a framework used to predict the health behaviors. According to Becker (1974), the model was developed by psychologist Hochbaum, Rosenstock and Kegels in 1950 in U.S public health services. The model focuses on the personal belief and attitude to predict the health behaviors. And later the Model was extended to identify the behavior and towards diagnosing the disease. According to GlanzL, Rimer, & Viswannath (2008), it is one of the widely used models. Health belief model is divided into three categories. Those are Individual perception, Modifying factor and Likelihood of action. Individual perception has two concepts which are perceived susceptibility of the disease and perceived severity of disease or illness. Even modifying factor has three concepts, include sociodemographic factors, perceived threats and causes of action. Final category contains two concepts which are perceived benefit minus perceived barrier and likelihood of behavior (Becker, 1974).

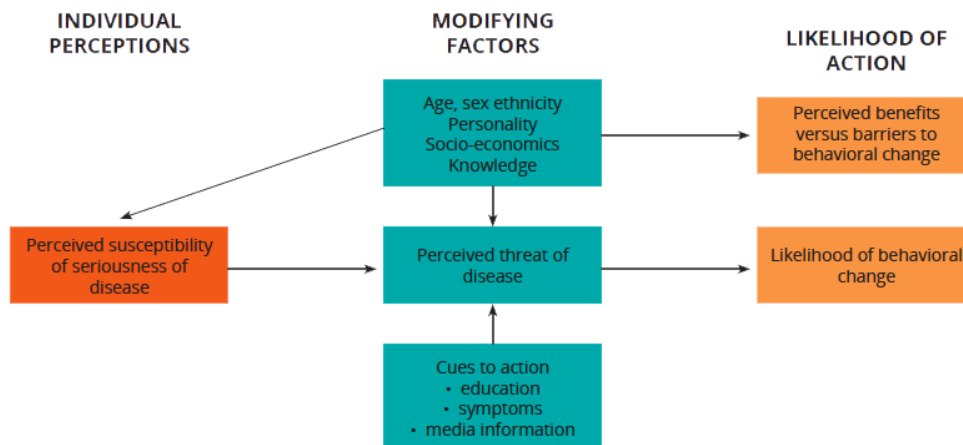


Figure 2.1: Health Belief Model (Urban Adolescent SRH SBCC, 2016).

2.2 Road traffic accident and world

Road traffic accident was an accident occur on the street or places by collision of vehicles or self-accident which may lead to death or injuries. Road traffic accident is neglected public health problem and dies due to carelessness and negligence of road users. Road traffic accident is a cause which is most preventable deaths by applying better intervention which has scientifically approved (WHO, 2015).

Annually, 1.25 million people die due to road traffic accidents which affect the development and health of the world. Youth are the most vulnerable population who claims top one cause of deaths among people of age between fifteen and twenty nine (WHO, 2015). WHO (2015) states that, economically all countries contribute great loss and increase the burden to the health care system. Low and middle income countries losses up to 5 percent of gross domestic product caused by road traffic deaths and injuries. World losses estimately 3 percent of gross domestic product because of road traffic crashes (WHO, 2015).

WHO (2015), states that road traffic injuries and disability due to it, suffers a 20 to 50 million of people in the world. A huge number of peoples' deaths, injuries and disabilities definitely increase the burden to the government, household, family and individual. Prinja S et al. (2015), study shows families faces heavy burden due to road traffic accident. Loss of the person or get injured or prolong disabilities suffers more poverty, because a family loss an income earner or bread winner. Loss of direct cost, of spending for hospital reduces the quality of life of the families, experience from the incident. The capacity of the family reaches to the limit due to unbearable burden which reduce the productivity of the country. People who suffer from disability suffer a lot and became burdened to the family.

2.3 Road traffic accident and region

The Highest road traffic fatality rate among WHO regions is African region (26.6 per 100 000) and European region at the rate of 9.3 per 100 000 below the global rate of 9.3 per 100 000 as the lowest fatality among the entire regions. Western Pacific, Southeast Asian and the region of the Americans the road traffic fatality rates were of 17.3, 17 and 15.9 per 100 000 population respectively (WHO, 2015).

In South East-Asia region approximately every day 878 people die due to road traffic accidents in the year 2013 (WHO, 2016). Globally, road traffic injuries kill 1.2 million people among grand total South-east Asia account 25% of road traffic deaths. 8 countries of the SEA region face various types of road users' deaths, for example: Drivers/passengers of motorized 2-3 wheelers have the highest rate of deaths among Thailand, India, Indonesia, Sri Lanka and Myanmar and Maldives (WHO, 2016). However, In Bhutan, above 90% of deaths occurs due to 4 wheeled vehicle crash

(WHO, 2016). WHO (2015) states that, in the SEA region only 6 countries have an emergency access number.

2.4 Road traffic accident and income countries

According to WHO (2015), year 2013, 70 percentage of the population covered by middle income countries. Low and middle-income countries contribute more than double of road traffic deaths than high-income countries. Middle income countries cover 74 percent of road traffic deaths. Low-income and high-income countries cover 16% and 10% respectively. Even, registered motorized vehicles are high among middle income countries with percentage of 53. Hence, high income countries own 46 percentages of registered motorized vehicles of the world.

Road traffic deaths per 100 000 population by the income countries shows that the highest number of deaths occurs on low income with 24.1 per 100 000 population. Average world road traffic deaths are 17.4 per 100 000 population. High-income countries contribute fewer deaths and the low-income countries which is twice higher in low-income countries and with a figure of 24.1 deaths per 100,000 populations in low income countries (WHO, 2015). According to World Bank (2015), great disparities have among high income and other income countries (World Bank, 2015).

2.5 Road traffic accident and Maldives

In 2014, Maldives Road traffic accidents killed 11 people and Road traffic accident compares to Male' (Vilimale', Hulhumale' and INIA) and other Islands shows 20 times higher (Maldives Police Service, 2015).

Total number of vehicles registered in 2014 is 68,208, There are 49, 976 vehicles in Male' it means 73.3% vehicles of total number of vehicles in the country are in Male' only (National Bureau of Statistics, 2015). In year 2014, motorcycles cover 82.8% of

vehicles with a total of 56,503 and 9,171 four wheeled vehicles registered (National Bureau of Statistics, 2015).

Among imported vehicles, 75.8% motor cycles were registered in Male'. In year 2014, Maldives has imported nearly 30 percent of vehicles compare to 2010 and Motor cycle increased 31.2%, a 47.8 percentage increase of newly registered (National Bureau of Statistics, 2015).

Proper planned island of Hulhumale' is also increasing of vehicles and there is no data to confirm how many vehicles present in now. However, Transport Authority data shows nearly 200 vehicles being registered.

2.6 Factors Related to Accidents

2.6.1 Speed

Frith et al. study in 2005 (cited in Global Road Safety Partnership, 2008) shows that speed is the major factor contributes road traffic injuries, disabilities and death. The acceleration increases the severity of injury, increase due to movement, energy transfer to a person. When speed increases time reduces for the journey, which increases the productivity and increase development. However, the reality is speed kills and potential of severity increases as speed increases. Approximately 30 percentages of road traffic deaths occurred in income countries are due to speed faster. However, half of the death populations of road traffic deaths are in low and middle income countries due to speed. Now, forty seven countries have implemented law on urban speed less than or equal to 50 km/hr (WHO, 2015). According to WHO

(2015), driving less than 50 km per hour will reduce the road traffic accident (WHO, 2015).

2.6.2 Mobile use while driving

WHO research shows that handheld mobile use increased dramatically in high income and middle income countries and use of mobile while driving increases the road traffic accidents due to the distraction of mobile use (WHO, 2004).

2.6.3 Helmet use

Around the world only 44 countries have implemented proper helmet laws. In the law states all users should wear the helmets of all engine types with proper fasteners. Helmet must meet international standard, which reduces the head injuries and health. Statistics show proper wearing of standard helmet will reduce deaths and injuries 40% and 70%, respectively (WHO, 2013). Helmet law in Maldives, only allowed the helmet uses, where the roads can exceed the normal speed. Few areas like Addu Link road and L.Gan some roads mandated to wear helmet. In land vehicle law no. (5/2009) has not referred to the standard of the helmet (People Majlis, 2009).

2.6.4 Socio demographic Factor

Age

2015 global status report on road safety shows leading cause of deaths among 15 to 29 years is due to road traffic accidents. A special report on Youth and Road safety (2007), states that the leading cause of death among youth under 25 years is 15 to 19 years around the world. While, 10 to 14 years and 20 to 24 years are the second leading cause of death due to road traffic accidents. Youth age is the most active and experimental age, as a result they take all kinds of risky behavior.

Gender

McAnally & Kypri (2004), conducted studies on alcohol and road safety behavior among New Zealand tertiary students, which shows males were more prone to drive after use of alcohol and accelerate speeds. According to WHO (2007), males are approximately three times killed due to traffic accidents and even males are more road user than female or more risk taker than female group. Another study shows, male usually own their own vehicles than female in most part of the world due to the social, cultural belief (Daponte-Codina & Babio , 2006).

2.7 Related Studies

A study done by Al-Khaldi (2006), in Abha of Aseer region in Saudi Arabia shows that the knowledge among the male students of Health Science College has high level of knowledge, and even had large majority of students with use of seatbelt while driving. A similar study shows that students of Health Sciences College of Taif region had average knowledge regarding the road traffic regulation of 90% percentage and 85 percent admitted that wearing seatbelt was very important. In same study found that practice regarding road traffic regulation was weak and road traffic accidents happened mainly due to high speed (Al-Zahrani, 2015).

In a cross sectional study on risk perception, road behaviour and pedestrian injury among adolescent students in Kathmandu of Nepal found that students almost every times they cross the road without look both ways and green light. Hence, study found that have an association between the road crossing practice and education of road safety (Poudel-Tandukar, Nakahara, Ichikawa, Poudel, & Jimba, 2007).

A case study done in Vietnam on education and influence of in road safety research mentioned that when attitudes are good then the practice will be good. For that long term attitudes changes need to be done by increasing the awareness among the Vietnam.

CHAPTER 3

METHODOLOGY

3.1 Research Design

A cross sectional descriptive study was designed to identify the knowledge, attitude and practice among youth age between 18 – 34 years. A self-administered questionnaire was used to identify the KAP of traffic regulation among youth. To get final conclusion, the study assessed the demographic factors and risk factors by analyzing the knowledge, attitude and practices.

3.2 Study area and Target population

The study was done on Hulhumale', a fast speed developing area of the Maldives and the second most migrating places to get better services. Hulhumale' is the one of the wards of Male' and according to the Census (2014), Hulhumale' has 15,769 population. Among 15,769 people, 8,175 are male and 7594 are female. Target population was only youth age between 18 to 34 years. The total number of youth age between 18 and 34 year was approximately 3,866 (HDC, 2016).

3.3 Sampling Techniques

Convenience sample techniques were used in the study. Reason for the use of this technique is fast, inexpensive, easy and the samples are readily available. This technique suit to the study because time constrained.

3.4 Sample size

The sample was calculated from Rao soft with the adjustment of 95 percent confidence interval and 50 percentage of the respond distribution which shows 350 as a sample with a margin of error of 5. The sample was taken near every bus stop and terminal area. Only Maldivians were who are living in Hulhumale' were included. Due to time constrain half of the sample was taken for the study. The sample size was finally 150 youths from the Hulhumale.

The actual formula was explained in the site of Rao soft. It was so useful, that show the result intensively. Sample calculation formula of the population was computed at the site was as shown in below.

$$\begin{aligned}x &= Z^{(C/100)^2} r(100-r) \\n &= N^x / ((N-1)E^2 + x) \\E &= \text{Sqrt}[(N-n)x / n(N-1)]\end{aligned}$$

The letter represents below

N = Population size

r = Fraction of responses

Sqrt= Square root

Z = Critical value

C = Confidence level

3.5 Instrumentation

Well structured, self-administered questionnaire (see Appendix A) was developed by review of previous related literature to the study. Questionnaire was divided into four different parts; it is socio demographic factor, knowledge, attitude and practices. Each part contains dichotomous questions for the convenience of participants.

3.6 Pre-Testing

A pretest was done among 10 people from the target population. The study was conducted for 9 days consecutively due to time. Date from 14th May 2016 to 22th May 2016.

3.7 Validity and Reliability

Pretest was done among 10 youths aged between 18 and 34 years to increase the validity of the survey. The data were collected using a self-administered which is used as pretest in the study to understand the interviewer feedback was used and made the appropriate correction. The questionnaire was finalized with the help of supervisor and questionnaire was designed to achieve the research objectives.

3.8 Data Collection Procedures

Corrected questionnaire was used to get data from the sample population. 5 enumerators were used to collect the information. Before starting data collection, the enumerators were given a training regarding how to collect data by using the questionnaire. To reach the sample population the enumerators stayed at a different bus stop. A written consent (see Appendix B) was taken from each participant and explained them properly about the study. Participants were well explained that they can terminate at any point of study.

3.9 Framework for Data Analysis

Collected data were analyzed by using (Statistical Package for the Social Sciences) SPSS 20 software. For the analysis, the descriptive statistics, such as, central tendency (mean, medium, and mode), frequency and percentage were carried out.

3.10 Ethical Consideration

A written consent was given to every participant to ensure that their rights will be confidential and will not share with anyone rather than the study purpose. Participants were informed that they have right to withdraw from the study any time.

3.11 Conceptual framework and management of variables

The conceptual framework was developed using the Health Belief Model to identify the belief and behavior. Health belief model helps to explain and predict the health related behaviors of the individuals. The major factors that influence an individual is based on knowledge, attitude and practice towards a particular health related condition. Therefore, independent variables for this research are socio-demographic factor, knowledge, attitude and practice and the dependent variables is the awareness of road traffic regulation.

Dependent variables

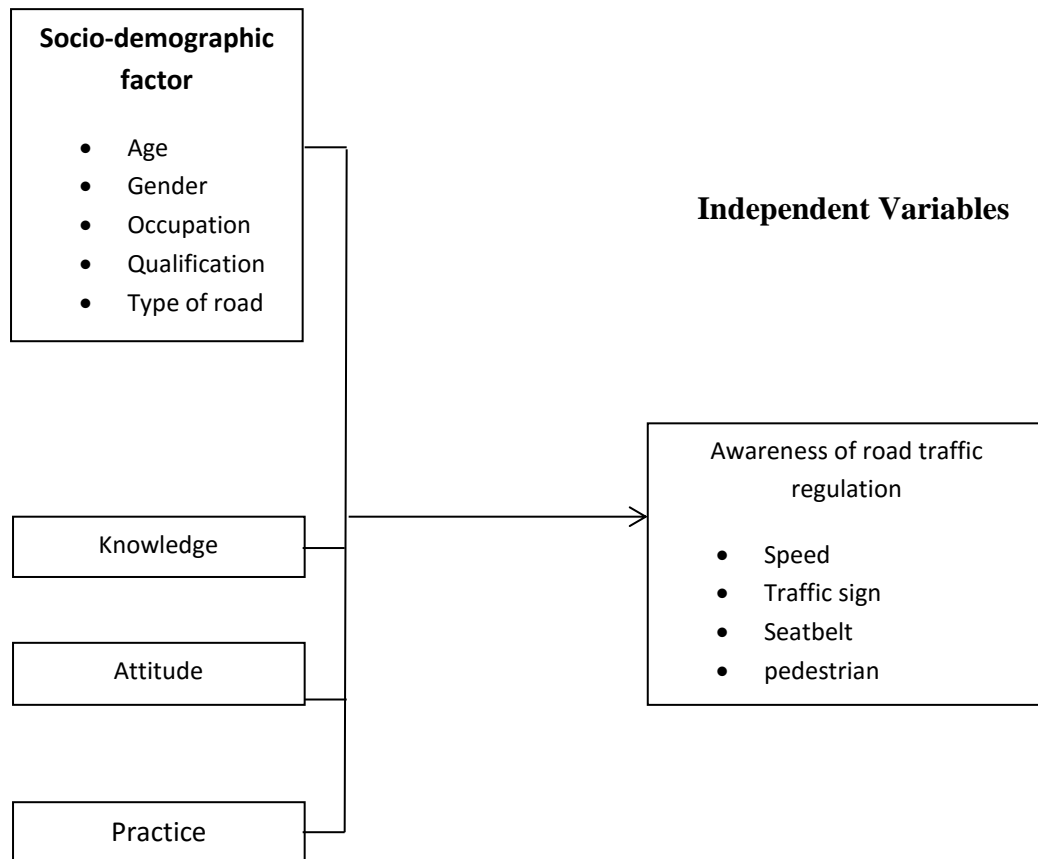


Figure 3.1: Conceptual framework for KAP of Youth among Hulhumale’

Most of the studies show socio demographic factors play great role in road traffic accidents and the regulation are enforced for all the people in the area or the country. Speed, helmet use, mobile use and drink drive are the major risk factor related to road traffic accidents and a law which is ratified by the government

CHAPTER 4

DATA ANALYSIS AND RESULTS

Table 4.1: Frequency and percentage of youth by socio-demographic characteristics

Characteristics	Frequency n = 175	Percent
Age		
18-21 years	54	30.9
22-25 years	65	37.1
26-29 years	23	13.1
30-34 years	33	18.9
Median = 24 Min = 18 Max = 34		
Gender		
Male	122	69.7
Female	53	30.3
Educational Level (n = 175)		
Basic Literate	0	0
Primary School	13	7.4
Secondary	101	57.7
Higher Secondary	33	18.9
Diploma	17	9.7
Degree and Above	11	6.3
Occupational Status		
Employed	112	64
Unemployed	63	36

Table 4.1 shows socio-demographic characteristic of youth. The total number of participants in this study was 175 youth from Hulhumale with the 100% respond rate. The mean age of participants was 24 years, minimum 18 and maximum was 34. Majority age was 22-25 years (65%), 18-21 years (30.9%), 26-29 year (23%) and finally 30-34 year (33%). Out of 175 participants, 122 (69.7%) were Males and 53 (30.3%) were Females.

The majority of the participants 101 (57.7%) mentioned they had Secondary education, 33% were having higher education, 17% have Diploma, 13% had completed the primary and 11% have a degree and above qualification. No one at the level of basic literacy and Majority (64%) of the participants were employed and 36% were unemployed.

Table 4.2: Frequency and percentage of Knowledge of Youth about Road traffic regulation

Statements	Frequency n = 175	Percent
Are there any rules and regulation on road safety in Maldives		
Yes	173	98.9
No	2	1.1
Is there any regulation on seatbelt		
Yes	161	92
No	14	8
Is there any regulation on Speed		
Yes	174	99.4
No	1	0.6
Is there any regulation on using mobile while driving		
Yes	174	99.4
No	1	0.6

Table 4.2, Continued

Statements	Frequency n = 175	Percent
Is there any regulation on Pedestrians		
Yes	152	86.9
No	23	13.1
Is there any regulation which prohibits driving without license		
Yes	175	100
No	0	0
Road traffic Sign 1		
Speed limit is 30 km per hour	173	98.9
Can drive more than 30 km per hour	2	1.1
Road Traffic Sign 2		
Cannot enter a vehicles to the street	174	99.4
Can enter to the road	1	0.6
Road Traffic Sign 3		
Speed breaker sign	175	100
Funeral Sign	0	0
Road Traffic Sign 4		
Zebra cross is near for the pedestrian to cross	173	98.9
Zebra cross is not permissible	2	1.1

Table 4.2 indicates that the participants were asses to identify current knowledge on regulation. Among the youth who know there are a regulation on speed and using mobile while driving was 99.4% simultaneously. 98.9% know there was a road safety

regulation, 92% know there was seatbelt regulation, 86.9% knows about the pedestrian regulation and everyone know the regulation prohibited driving without license.

Regarding traffic signs, the participant was shown a common sign in Hulhumale. 98.9% know the speed limit of 30 km per hour and zebra crossing near for the pedestrian to cross, 99.4% know no entry sign and everyone knows the speed breaker sign.

Table 4.3: Frequency and percentage of Attitude of Youth about Road traffic regulation

Statements	Frequency n = 175	Percent
Do you believe pedestrian should follow the rules and regulation on the road		
Yes	173	98.9
No	2	1.1
Do you believe drivers should follow the rules and regulation on the road		
Yes	175	100
No	0	0
Above 18 years, it is and appropriate age to issue the license		
Yes	158	90.3
No	17	9.7
Do you believe road sign prevent road traffic accident		
Yes	147	84
No	28	16

Table 4.3, Continued

Statements	Frequency n = 175	Percent
Do you believe exceeding the speed increase the road traffic accidents		
Yes	146	83.4
No	29	16.6
Do you believe you age people, do all the risky behavior related to road traffic accidents		
Yes	169	96.6
No	6	3.4
Do you believe use of mobile phone while driving vehicle will not cause road traffic accident		
Yes	17	9.7
No	158	90.3

As shown in Table 1.2, all the participants believe that the drivers should abide by the rules and regulation and 98.9% say that the pedestrian follow the rules and regulation. Among participants, 90.3% believe that above 18 years was an appropriate age for license and 9.7% believe that it is not an appropriate age. 84% youth believes road traffic sign prevent road traffic accidents, 83.4% believe exceeding speed will increase the road traffic accidents, 96.6% of youth believe among them have risky behavior related to road traffic accident and 90.3% of youth believe use of mobile phone while driving increases road traffic accident.

Table 4.4: Frequency and percentage of Practice of Youth about Road traffic regulation

Statements	Frequency n = 175	Percent
Have you breach any law of road traffic regulation last 3 month		
Yes	139	79.4
No	36	20.6
Due to breach of law, did you paid any fine		
Yes	10	7.2
No	129	92.8
Do you have driving license		
Yes	114	65.1
No	61	34.9
Do you drive vehicles without license		
Yes	37	60.7
No	24	39.3
Do you pass the zebra cross while a person was tried to cross it		
Yes	52	36.1
No	92	63.9
Do you usually use zebra crossing to cross the road		
Yes	21	12
No	154	88
At what speed do you drive motor cycle in the land normally		
20 km per hour	1	0.7
25 km per hour	20	14
30 km per hour	21	14.7
Above 35 km per hour	101	70.6

Table 4.4, Continued

Statements	Frequency n = 175	Percent
Do you motivate friends, family and relatives to abide law		
Yes	175	100
No	0	0
Do you follow the road traffic sign		
Yes	11	6.3
No	164	93.7

As shown in Table 1.3, the majority of the participants 139 (79.4%) mentioned that, they had breached the rules and regulation on last 3 months and 36 (20.6%) of participants have not breached any rules and regulation on last 3 months. Among 139 youth who have breached law, only 10 (7.2%) mentioned that, they were fined for violation of traffic rules and other 129 (92.8%) have not fined. Majority of participants 114 (65.1%) have license and 61 (34.9%) do not have.

Among participants who do not had license, 37 (60.7%) people drive and 24 (39.3%) people do not drive without license. 92 (63.9%) youth do not give way to pedestrian while tried a person to pass the zebra cross and 52 (36.1%) youth give way to pedestrian to cross the road. Majority, 88% of the youth mentioned that they do not use zebra cross to cross the road and only 12% use the zebra cross.

Majority of youth, 101 (70.6%), drove motor bike at above speed of 35 km per hour, 21 (14.7%) at the speed of 30km per hour, 20 (14%) at 25km per hour and below 20 km per hour were 1 (0.7%) participant. 100% of youth motivate friends, family and relatives to abide law and However, most of the participants, 164 (93.7%) does not follow the road traffic sign. Only 11 (6.3%) follow the road traffic sign.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Summary and Main finding

In general, road traffic accidents cannot completely be mitigated but can minimize or prevent the road traffic deaths and injury by following rules and regulation enforced in the country. The objective of this study was to identify knowledge, attitude and practice towards road traffic regulation among youth age between 18 and 34 years of Hulhumale'. A cross sectional descriptive study with a convenient sampling was used for the study. It is a quantitative study, to find out the knowledge, attitude and current practice of the youth regarding the road traffic regulations. The data presented in results were given in frequency and percentage for each part of the questionnaire namely socio-demographic factor, knowledge, attitude and practice of road traffic regulation among youth in Hulhumale'.

High percentage of participants among youth knew that there are special regulations on road safety in Maldives. Even, majority knew specific regulations like using seatbelt while driving, maximum speed that can drive, not to use mobile phone while driving, not to drive without license and major road traffic sign boards that has to be followed in Hulhumale'.

Apart from the knowledge of the youths, majority of the respondents' attitude regarding road traffic regulations were fairly good. However, minority of the participants involved in this study do not believe that road traffic sign prevent road

traffic accidents. Also they did not believe that many people drive above the maximum speed in Hulhumale’.

On the other hand, most of the participants have bad practice towards road traffic regulation, but almost all the participants participated in the research study encourage and motivate their family, friends and relatives to abide by the law regarding road traffic accidents.

5.2 Youths’ knowledge on Road Traffic Regulation

The youngest participants of the study were 18 years old and eldest participants were 34 years old with the mean age of 24 year old. The majority of the participants were in the age groups of 18 to 21 and 22 to 25 years, with 30.9% and 37.1% respectively of the total number of participants. Several studies and reports showed that this age group was the most vulnerable and risk group among youth population. Moreover, the age group who break the regulation more frequent than any other age (Masuri, Isa, & Tahir, 2012; Hassan, 2010; Kohli , Aathi , & Sethi , 2013; WHO, 2015).

According to similar finding reported by WHO (2016), the age between 15 to 29 years old were the most leading age group among youth that die due to the road traffic accidents. Factors of road traffic deaths were over speed, not using seatbelt and helmet while driving, pedestrian and use of mobile phone. It is because they were the most active user of the road throughout the world (WHO, 2016).

Most participated gender group in this study were male with 122 compare to female with 53. The study further stated that, 73 percent of road traffic deaths were shared by the male. All the participants were educated with at least they have completed the primary education. The reason in which educational level of youth is higher may be

due the factor that the literacy rate of Maldives is above 98 percent. Moreover, it showed that the employment rate were high among the youth in Maldives.

In addition to that, this study showed the high degree of knowledge about the road traffic regulation (speed, seatbelt, using mobile phone while driving and driving without license) were among the youth. Participants' agreed they were aware to these regulations more than 90 percent except regulation on pedestrians of 86.9 percent. Similar study done in Saudi Arabia among Health sciences college students showed that degree of knowledge about the road traffic regulation among the students were from moderate to high with greater than 75 percentage (Al-Khaldi, 2006).

On other hand, a cross sectional study done in Lagos city of Nigeria about the drivers' knowledge on road traffic regulation showed that merely 1% of the drivers knew the correct knowledge of Nigeria road traffic regulation. Moreover, they had low degree of knowledge about road traffic signs (Kofoworola, Ifeoma, & Duro, 2013). According to Kofoworola, Ifeoma , & Duro (2013), 100 percent of the participants had low degree of knowledge about the maximum speed limit of the Nigeria.

Likewise, most of the participants were aware about the regulation on seatbelt use in this study. Another related study done in eastern province of Saudi Arabia stated that 75 percent were aware of seatbelt (Ali Aba Hussein & El-Zobeir, 2007). However, a study done on Iran showed that few number (20.7%) of participants have knowledge about the importance of seatbelt while drivinmg (Tajvar, et al., 2015).

A cross sectional study conducted in South Indian state, about the awareness and practice of road safety measures among undergratude medical students indicated, more than the 50 percentage of students had correct knowledge of road traffic sign (Kulkarni , et al., 2013). Even this research study found that Hulhumale's youth have

better knowledge about the road traffic sign it may be due to frequent exposure to road traffic sign. However, another study identified that 32.6 percent of participants have good knowledge about road traffic codes in Anambra state of Nigeria (Adogu & Ilika , 2006). It means different area had different level of awareness among the community it may be due to information provided by the government and the information seeking pattern in the community. However, learning from experience may lead to complication because it is an incomplete information.

This study found that more than the average respondent has a high degree of knowledge regarding the road traffic regulation. However, a study conducted by Al-Naggar & Al-Jashamy (2010), states that the medical students have moderate knowledge on road traffic regulation and also moderate knowledge increases the chance for students to involve in road traffic accidents. On other study related to this stated that education influence in traffic safety as knowledge of traffic law increases the accidents decreases simultaneously (Hung & Huyen, 2011). However, we need to know how the participants have gained the knowledge to come up a conclusion and having knowledge is a good sign which helps to reduce road traffic accidents.

5.3 Youths' Attitude on Road Traffic Regulation

The majority of the youth participated in this research study have a positive attitude towards the road traffic regulations. Even though this study showed a positive attitude towards road traffic regulation a study conducted in Norwegian showed that they had aggressive attitudes towards regulation, due to that the chance of involving road traffic risk were increased among the Norwegian. This means positive attitude regarding the road traffic regulation can play an important role in minimizing accidents among youth.

In this research study, the majority of youth agreed that exceeding the speed limit was the factor which leads to road traffic accidents in the Maldives. A related survey done by Department of transport in London on attitudes to road safety and to analyze driver behavior showed that fifty-five percent of participants strongly believed over speed had influenced to cause severe injury. In addition to that, 82 percent respondents disapproved to driving vehicles as fast as anyone want. They even mentioned that, it was an indication in which people need a speed limit to prevent the road traffic accident which cause great loss to the individual and the government (Lee & Humphrey, 2011).

Almost all of the participants had a positive attitude that the drivers and pedestrians should be following the rules and regulations. A related survey done in Washington, D.C. about pedestrian safety and attitudes towards automated traffic enforcement identified that, more than 90 percent of respondents knew the Washington law on road traffic regulations and also the drivers used to stop for the pedestrian to cross the road (Cicchino, Wells, & McCartt, 2014).

Most of the countries restrict allowing driving license to children under 18 years old. However, some countries issue driving license to age under 18 years under certain conditions. For example El Salvador, consider the minimum age of issuing driving license was 15 years (Sertracen, 2016). Even, Malaysia, South Africa, Tanzania and Indonesia were some countries that issue driving license under 18 years old. This research study found that 90.3 percentage of youth believed above 18 years was an appropriate age to issue license in the Maldives.

In this research study identified that, almost of the respondents (90.3%) accept mobile phones while driving will cause road traffic accidents. One of the common factors that

leads to road traffic accidents is using a mobile phone while driving. Therefore, the majority of the countries in the world has prohibited to use mobile phone while driving and legal action or penalties were also assigned for those who break the road traffic laws and regulations.

Pennay (2006), conducted a survey on Australian community's attitudes towards road safety. The survey showed that 43 percent of people use a cell phone while driving vehicles and 40 percentage of people had never used the mobile phone while driving. Even, nearly 16 percentage of people do not have a mobile phone with them.

A study conducted in Australia on risk perceptions of mobile phone use while driving had identified that, hand use mobile phone was the one of the riskiest behaviors for road traffic accidents and about the hand free cell phone were relatively less riskier. They further examined the relationship between use of mobile phone and road traffic accident. The study showed, almost 50 percentage of land vehicle drivers were probably having an accident among those who use cell phones while driving (White, Eiser, & Harris, 2004).

A large cohort study done by Laberge-Nadeau, et al. (2003), to find out the association between road traffic accident and mobile phone use among the drivers and non driver showed that out of 36,078 participants, 38 percentage were associated with all types of road traffic accident among youth.

Compare to this study sample, large population sample of 11,965 french employees of Électricité de France–Graz found that participants have high negative practice and highly negative attitude towards the road traffic regulation (Hermann, et al., 2005). However, In this study, shows participants has positive attitude towards road traffic

regulation. A good attitudes from the youth of Hulhumale this will help to reduce the road traffic accidents by increasing correct knowledge to change them.

5.4 Youths' Practice on Road Traffic Regulation

A research done by Professor Stephen Stradling from London stated, the drivers break the speed limit when they overtake a vehicle, urgent to reach to a place, night and day time the road was empty and participants mentioned it was the time that they freely can drive at any speed (Stradling, 2008).

High knowledge and attitude towards road traffic regulations were identified from this research. However, low practice of road traffic regulation among the youth. The study found that more than 85 percent of participants admitted they drive motor cycle which exceeds the speed limit. A similar study showed that the participants had crossed the speed limit on several times on multiple occasions in South Indian State (Kulkarni, Kanchan, Palanivel, & Papanna, 2013). According to Cicchino, Wells, & McCartt (2014), that youth has good practice by giving the pedestrian to cross the road with 63.9 percent. It was indication of following road traffic regulation.

A study on French employees of Électricité de France–Gaz regarding behaviour pattern, risky driving behaviours and serious road traffic accidents in a prospective cohort study showed that age between 39 to 54 years has higher percent of used mobile phone while driving vehicles, even driving vehicles more than the speed limits in highways and rurals area (Hermann, et al., 2005).

In this research study conducted in Hulhumale' found that many youths do not have driving license. Even though, they do not have driving license, most of them drive vehicles. One major finding was merely 12 percent of people cross the road by zebra cross. Most of participants do not use the zebra cross to cross the road. All the

participants motivate their family; friends and relatives to abide by the law. However, most of the participants (93.7%) do not follow road traffic sign.

Most of the participants had breached at least some of the road traffic regulations on last three months from the day the data have collected. Such a high amount agreed that they had breached the laws and few had even fined by the government as penalties. In contrast, youth may be undetectable population by the police most of the time.

The majority of youth (60.7%) do not drive vehicles without license in this research study. A study conducted by Thomas (2016), regarding road safety rules and regulations to Ernakulam district in India stated that 85 percent do not drive vehicles without driving license.

93.7 percent participants follow the road traffic signs; it is a good indication of good practice of road traffic regulation and respect for it. This result was different in Fikri, Ismail, & Halim (2015), they identified that 77.5 percent people do not follow the road traffic sign regulation. However, a study done by Salve, Dase, Jadhav, Mahajan, & Adchitre (2014), in Mahatma Gandhi Medical College, Aurangabad city of India on awareness and behavior of adolescents towards road traffic accidents shows 66 percent participants do not follow the road traffic signs.

This study found that the general practice of the youth on the road was against road traffic regulation. A study done by Salve et al., (2014) shown that the strengthen of enforcement will impact on the behaviour of the road user towards the traffic regulation. On study of conceptual framework for reducing risky behaviour among minority teen recommended sustainable works will change the behaviors of youth by

continous health education, through media and focus on community level changes to get better results (Juarez, Goldzweig, Schlundt, & Stinson, 2006).

5.5 Conclusion

This research study tells us about the current youth population regarding road traffic regulations established in the Maldives. Youth possess the knowledge regarding road traffic regulation on seatbelt, speed, road traffic sign, pedestrian, mobile phone use while driving and driving a vehicle without license. More than the average, participants have good attitude regarding road traffic regulations. However, obeying and following road traffic accidents among youth was low. So, need better intervention to make the situation better by addressing to risk factor. To identify the real situation need to assess and get better conclusion.

5.6 Limitation of the Study

Sample size for this research study was come up with an appropriate amount only from Hulhumale'. However, due to time constraint made me take only half of the sample.

5.7 Recommendation

This research study found that most of the participants' behaviors were wrong towards road traffic accidents. High degree of knowledge and attitude were found among the study population. Though, level of knowledge and attitude were in the best position, we need to identify the why youth practice towards road traffic regulations were low and need to assess risky behavior deeply.

5.7.1 Recommendations for implementation

This study further identified that a large number of people who drove vehicles without license were left without getting any fine or penalties. It may be due to poor

inspection towards road traffic regulations by the police. So, I recommend strengthening the road traffic law enforcement in the country.

5.7.2 Recommendation for policy makers

The study revealed that a fair number of people cross the road while pedestrian try to cross the road. So, policy makers can review and strength the system regarding road traffic laws and regulations by using advanced technology and expertise.

5.7.3 Recommendation for further research

Present study shows that the practices among youth were not the level that has to neglect. Further study needed to find out the why risky behaviors were among youth to reduce the violating road traffic regulation to reduces the road traffic accidents.

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TOWARDS VARIOUS ROAD SAFETY RULES AND REGULATIONS
WITH SPECIAL REFERENCE TO ERNAKULAM DISTRICT

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APPENDICES

APPENDIX A: Consent form for the participant

CONSENT FORM

My name is Jaadhulla Saeed and I am studying Bachelor of Primary Health Care in Faculty of Health Sciences, the Maldives National University. As a part of Research in Health final project, I am conducting a research on knowledge, attitude and practice towards road traffic regulation among youth population age between 18 and 34 in Hulhumale'. I would be glad if you could participate in this study.

The following questionnaire will be used to obtain information. Information you provide will be used for only this research purpose and provided information will be strictly confidential. You have right stop or refuse to give information any point of time. To complete the question will take not more than 7 minutes.

I was informed completely about the research, the term and condition of data collection. Therefore, I willingly agree to participate in this research, without any force and I understand the purpose of the research.

Sign:

Date:.....

Mobile no.: (Not compulsory)

APPENDIX B: QUESTIONNAIRE

QUESTIONNAIRE ON KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS ROAD TRAFFIC REGULATION AMONG YOUTH POPULATION AGE BETWEEN 18 AND 34 IN HULHUMALE'

BIO DATA

1. Age:
2. Gender
a) Male
b) Female
3. Educational status
a) Basic Literacy b) Primary
c) Secondary d) Higher secondary
e) Diploma f) Degree and above
4. Occupational status
a) Employed b) Un-employed

KNOWLEDGE

5. Are there any rules and regulations on road safety in Maldives?
a. Yes
b. No
6. Is there any regulation on seatbelt while driving vehicle?
a) Yes
b) No
7. Is there any regulation on speed?
a) Yes
b) No

8. Is there any regulation on road traffic sign?

a) Yes

b) No

9. Is there any regulation on using mobile phone while driving?

a) Yes

b) No

10. Is there any regulation on Pedestrian user?

a) Yes

b) No

11. Is there any regulation which prohibits driving without license?

a) Yes

b) No

12. What is the speed limit for motor cycle in the land?

a. 20 km/hr

b. 25 km/hr

c. 29 km/hr

13. what does the below sign 1 represents



1.

a) Speed limit is 30 km per hour on that area

b) Can drive more than 30 km per hour

14. what does the below sign 2 represents



2.

a) Cannot enter a vehicle while driving or by holding to the street

b) Can enter to the road

15. What does the below sign 3 represents



3.

a) sign represent speed breaker

b) funeral is going on

16. What does the below sign 4 represents



4.

- a) Zebra cross is near for the pedestrian to cross
- b) Zebra crossing is not permissible

ATTITUDE

17. Do you believe pedestrian should follow the rules and regulation on the road?

- a) Yes
- b) No

18. Do you believe drivers should follow the rules and regulation on the road?

- a) Yes
- b) No

19. Above 18 years, is it an appropriate age to issue the license?

- a) Yes
- b) No

20. Do you believe road sign help to prevent road traffic accident?

- a) Yes
- b) No

21. Do you believe exceeding the speed limit increase the road traffic accident?

- a) Yes
- b) No

22. Do you believe your age people; do all the risk activity behavior related to road traffic accident?

- a) Yes
- b) No

23. Do you believe use of mobile phone while driving vehicles will not cause road traffic accidents?

- a) Yes
- b) No

PRACTICE

24. Have you breach any law of road traffic regulation last 3 month?

a) Yes

b) No

if No, go to Question 26

25. Due to breach of law, did you paid any fine?

a) Yes

b) No

26. Do you have driving license?

a) Yes

if Yes go to Question 28

b) No

27. Do you drive vehicles without license?

a) Yes

b) No

if No go to Question 29

28. Do you pass the zebra cross while a person was tried to cross it?

a) Yes

b) No

29. Do you usually use Zebra crossing to cross the road?

a) Yes

b) No

30. At what speed do you drive motor cycle in the land normally? (Skip the Question if you say NO to Question 28)

a) 20 km/hour

b) 25 km/hour

c) 30 km/hour

d) Above 35 km/hour

31. Do you motivate friends, family and relatives to abide law?

a) Yes

b) No

32. Do you follow the road traffic sign?

a) Yes

b) No

THANK YOU