Shendi University

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Assessment of Knowledge Regarding Pedestrian Safety among Students of Primary Government Schools in Al-Salma Area in 2016-2017

Thesis submitted as partial fulfillment of the requirment of M.sc in community and family health nursing

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Dedication

I dedicate this research:

To those who lit my way and put flowers on it and the crown of my head the And source of my happiness

My father ***Hassan and*** *my mother* ***Mahassin***

To who stood with me sincerely, always supporting me and perserverance with me

My dear husband ***Khalid abd-Alaziz***

To beloved my brother ***Mohammed*** *and my sisters* ***Lemia*** *and* ***Tagowa*** *who stand with me always and they are pushing me to get to what i wish*

Finally to my uncle's daughters ***Ansam*** *and* ***Aseel*** *who helped me to complete this research*

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For great support, patience, leadership and his all advice during this work

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ملخص الدراسة

اجريت هذه الدراسة الوصفيه لتقيم معرفة طلاب المدارس الابتدائية الحكومية عن السلامة المرورية للمشاة في فتره من سبتمبر 2016 حتي مارس 2017 .

اختيرت عينة الدراسه فى منطقة السلمة وشملت 287 طالب تم اختيارهم بواسطة تقنية الاختيار الطبقي العشوائ البسيط . و تم جمع البيانات باستخدام استبيان مغلقة الاسئلة . والذي ضم اسئلة لتقيم معرفة طلاب المدارس عن اشارات المرور وسلوكهم في قطع الشارع واكثرالعوامل التي تؤدي للحوادث وتم تحليل البيانات بالكمبيوتر باستخدام الحزمة الاحصائية للعلوم الاجتماعية اصدار (21).

اوضحت الدراسة ان اكثر من ثلثي الطلاب عمرهم اكثر من 11 سنة (75%) وان الغالبية العظمي من الطلاب يذهبون للمدرسة سيرا علي الاقدام (88%) . وايضا اوضحت الدراسة ان نصف الطلاب (47%) ليس لديهم معرفة لاشارات المرور وان اكثر من ثلث الطلاب (37%) ليس لديهم معرفة لاشارات المشاة كما اوضحت ان الطلاب ليس لديهم معرفة (56%)(44%) حول اتجاهات الطلاب اثناء المشي بجانب الطريق وعند وجود سيارة متوقفة بجانب الطريق علي التوالي اما من ناحية معرفة الطلاب لخطورة استخدام الهاتف اثناء قطع الطريق وما خطورة استخدامه كانت جيده جدا (90%) (79%) علي التوالي وايضا لدي الطلاب معرفه ممتازه (98%) حول الوقاية من حدوث حوادث واصابات السير .

وتوصلت الدراسة لبعض التوصيات ومن اهم التوصيات ان تكون البرامج التعليمية لسلامة المشاه من اولويات برامج الصحه المدرسية و علي المسؤلين في ادارة المرور اعادة هندسة الطرق وفصل طرق المشاه عن طريق السيارات.

Abstract

A descriptive study was done to assess the knowledge of primary government students schools regard pedestrian safety during the period from September 2016 to march 2017.

This study was done in al salma, include 287 students by stratified simple random sampling technique. Data was collecting by using questionnaire with close ended questions, Composed questions about sociodemographic data from , questions about knowledge of pedestrian safety, questions about behaviors of cross the street, questions and about the risk factors of pedestrian injuries, Data was analyzed by computer, using the statistical package of social science (SPSS) version (21) and data was presented in form of tables and figures**.**

The study clarified more than two third (75%) of students there age more than 11 years, On other hand the majority of student (88%) come to school by foot, also the study clarified that the half (47%) of students not aware about traffic signals, and more than one third (37%) of students not aware regarding pedestrain signals

The study showed that (56%) (44%) of students not aware about directions when they beside the roads and when parking car in the road respectively, mean while the majority (90%) (79%) of students aware about dangerousness of using a mobile phone or headphones respectively, and majority (98%) of students have good knowledge about the prevention of pedestrian

The present study recommended that the educational programes about pedestrian safety must be a priority of school health programs and general directorate of traffic must reengineering roads and separation of pedestrian routes for the motorway

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Abbrevation

ACEP	American College of Emergency Physicians
AVV	Alles Voor Vlaanderen
DOT	Department of Transportation
GBD	Global Burden of Disease
NHTSA	National Highway Traffic Safety Administration Traffic Safety Facts
NSC	National Security Council
OECD	Organization for Economic Co-operation and Development
SES	Socioeconomic Standing
UAE	United Arab Emirates
UNICEF	United Nation International Child Emergency Fund
WHO	World Health Organization

Chapter One

Introduction Problem Statement

Justification Objectives

1.1 Introduction

Pedestrian injuries are a worldwide problem, resulting in nearly three-quarters of a million deaths per year. Globally, pedestrian deaths comprise 22 percent of all motor vehicle-related deaths, with especially high contributions in low- and middle-income countries that are becoming motorized. In some countries, more than half of those killed on the road are pedestrians. [1]

Motor vehicle crashes are the leading cause of death among young children. Twenty percent of fatal crashes involving children between the ages of 5 and 9 involve pedestrian-related fatalities. [2]

Pedestrian-vehicle crashes are a major problem in the United States. In 2003, the National Highway Traffic Safety Administration reported that approximately 4,700 pedestrians were killed and another 70,000 injured due to pedestrian-vehicle crashes

On average, a pedestrian is killed in a traffic collision every 113 minutes and injured every 8 minutes. [3,4]

Everyone has different preferences when it comes to transportation, but there's one that all road users share — everyone is a pedestrian. Unfortunately, pedestrians were one of the few groups of road users to experience an increase in fatalities in the United States in 2013, totaling 4,735 deaths. We are working hard to raise awareness of the dangers to pedestrians, and to provide leadership, expertise, and resources to communities across America to combat these crashes. We urge parents, caregivers, educators, traffic safety officials, and advocates to make the most of our pedestrian safety resources to improve the quality of life in their communities. Around ten million children are estimated to be injured in road traffic crashes each year, and many are disabled as a consequence. [5,6]

More than one fifth of the people killed on the world's roads each year are not travelling in a car, on a motorcycle or even on a bicycle – they

are pedestrians,child pedestrian safety should be an important parental concern once children develop more mobility and independence. Parents often turn to popular magazines to get the latest information on parenting concerns and strategies. Parenting magazine reaches nearly 11 million readers yet, very few articles are published about child pedestrian safety. [7,8,9]

Pedestrians are extremely vulnerable in crashes with the faster moving and much more massive motor vehicles. Although pedestrians made up only 2 percent of highway crash injuries, in 2003 they constituted 11 percent of the highway fatalities in the United States and 85 percent of all non-occupant fatalities in motor vehicle crashes ,Walking is one of the best things we can do to stay healthy, but only if we put safety first. [10,11]

1.2 Problem statement

Road traffic crashes are a routine occurrence on roads throughout the world. Thousands of people lose their lives on the roads every day. Children and young adults are among the most vulnerable.

pedestrian injuries among children in khartoum state was increase from 2015 to 2016 and the pedestrian injuries can be perventable by increase the community awareness regard the pedestrian safety.

it is difficult to achive the safety of pedestrians in its entirey, but by raising the awareness of the community about the safety of pedestrians and the laws of cross the street and the correct behaviors can reach the maximum prevention of injuries and deaths.

1.3 Justification

The road traffic injuries are the leading cause of death, while among the 10–14 yeary, in Khartoum state there was 156 of children dead and 1918 0f children was injured due to road traffic accident while 170 was dead and 1424 of children was injured in 2015, Although the number of death in 2016 decreased but the number of injuries rose. [12, 13]

pedestrian safety is important issue to protect the student of primary schools in sudan when not all the roads have signal lights, spacial zone for pedestrian and the majority of peoples have not good behaviors when crossing the street, many hosiptal e.g khartoum hospital(ER and icu)there was alot of pedestrian injuries and deaths incidance due to road traffic accident most of them children, and generally the children have high risk of pedestrian injuries due to lack of judgment when they crossing the street, and lack of street crosing smart, so this study condect to assessement the knowlegde of primary government schools student regard there behaviors when crossing the street to safe there life and minimize the risk of injuries.

1.4 Objectives

General objective:

Assessment knowledge of Pedestrian safety among students of primary government schools

Specific objectives:

1- To assess the knowledge of primary schools students about the street crossing roles.
2- To identify the primary schools student behaviors when crossing the street.
3- To determine the factors contribute to pedestrian injuries.

Chapter Two

Literature Review

2. Literature review

2.1 Background:

A sustainable transport system is one that provides mobility and accessibility to all residents in a safe and environmentally friendly manner ,understanding exactly who the pedestrian is and why the crash occurred are essential for identifying and implementing appropriate counter measures,as children age, they are generally at increased risk for pedestrian injuries, In 2010, According to NHTSA, in 2010 more than 3,000 people were killed and 416,000 injured in motor vehicle crashes involving a driver who was distracted in some way. (14,15,16)

Police are the source of official road traffic fatality data in 71% of countries. Data from police sources tend to have higher levels of under reporting than health sector data. particularly in low- and middle-income countries, because it can be difficult for police to follow up on the outcomes of road traffic crash victims ,even in high-income countries, road traffic crashes among young people impose a huge economic burden on societies. In the United States of America, crashes involving 15–20-year-old drivers cost the country about US$41 billion in 2002.(17,18)

The economic costs also strike hard at a national level, imposing a significant burden on

health, insurance and legal systems. This is particularly true in countries struggling with other development needs, where investment in road safety is not commensurate with the

scale o f the problem. (19)

2-2 definition:

pedestrian

A pedestrian is any person on foot, walking, running, jogging, hiking, sitting or lying down who is involved in a motor vehicle traffic crash. .(20)

The meaning of the pedestrian according to the member countries of OECD, is someone whouses feet for movement or carries a baby car or wheelchair, or travels by cycling or riding two wheeler vehicle. According to the Wisconsin Community, a pedestrian is: "Any person afoot or any person in a wheelchair, either manually or

Mechanically propelled, or other low-powered, mechanically propelledvehicle designed specifically for use by a physically disabled person." (21)

2.3 Pedestrian safety definition:

Traffic safety is the whole activities and regulations to maintain a safer environment for thoseusing the roads in an out of the city. For that inside the city has a more active running cycle of movements, greater attention should be given to interactions between motorized and non-motorized road users. (22)

People travel on foot for a variety of reasons and in a variety of locations. While some travel occurs off the roadway system, there are many instances in which pedestrians share space with motor vehicles, crossing roads or traveling on or alongside them. In so doing, they are exposed to the possibility of injuries. Roads have been designed primarily to accommodate motor vehicle travel, and in some cases have design features that endanger pedestrians. Collisions with motor vehicles can have serious consequences. (23)

Regarding the vulnerable road users, their most hazardous activity is to cross the street. According to Transport Research Center (AVV) in

Netherlands, the percentage of pedestrian deaths happened during the crossing. It is also noted that the biggest share belonged to individual cars and heavy good carriers. Among these death cases, rate of those using a zebra crossing was 25%. Considering death rates for older pedestrians, %75 fall in the group who were crossing the street. Obviously one of the highest threatened groups is children. Children are non-adult humans often neglected. Especially in poor countries, child education and infrastructure based measures are missing. Road safety is one big important issue intransportation engineering concept and most of the active traffic flow takes place in urban areaswhere more people are under risk. So, traffic safety should also care more about vulnerable road users such as cyclists or pedestrians. Among these road users, children and school pedestrians are the proportion of road users who are in need for more care and attention while using the traffic environment. (24)

It is clearly stated that child pedestrian trips between school and home is indeed a critical and complicated activity. Every means of transport is cited to come with its own causes of risk. This risk depends on local municipalities, schools and also being stated, transferring from one means to another means of travel has also effect on the context of safety in various residential Settlements. (25)

In the United States, pedestrian injuries are the third-leading cause of injury-related death for both boys and girls ages 5 to 14. In 2010, 288 children ages 0 to 14 were killed as pedestrians. (26)

The child pedestrian safety title is of great concern for many aspects. The main concern with the children is that they are far different than adults in behavior, thinking and many other sights. A child’s perception of a heading car on his way is much poorer compared to an adult. Similarly, their sensing disability causes lack of understanding of the way of the sound of a vehicle. A child thinks that if he/she looks at the driver, the driver will

certainly see him/her at that moment. Also they think that a vehicle can suddenly stop if there is the need, without knowing the complex situation of braking or trying to think as a driver. All those statements show children's insufficient cognition mechanism to their environment which is natural outcome of growth. According to another aspect, childhood is stated as a period when people tend to behave in freedom as an outcome of growth. This "freedom" is also supported by parents but leaving the child always alone is stated as wrong. It is noted that a little number of children are able to cop with traffic under age 10, in a safe way. [27]

Child pedestrian safety is also a serious concern at road and urban planning. Physical and infrastructural modifications like spacious pavements, building zebra-cross ways, and other similar calming methods are best benefited as they are established comprehensively for entire road users. Child behavior acts greatly here that their travel is more open to interruption. A child is unable to retain concentration for long durations compared to an adult who can preserve attention during the time active traffic Enforcement and legal regulations are also complementary on ensuring child safety as pedestrians. Speed limitations and traffic regulations at local scale are examples to this subtitle. [28]

Children and school pedestrian's safety calls great attention in many aspects of public life. For that children require special care in traffic all members of road users should have a well adopted sense of traffic behavior towards children. While vulnerable road users need care in traffic, it is pointed that special care should be given to children as pedestrians in many ways. It is clear that both physical and mental traumas could bring more damage to the child than an adult. National authorities and universities have regularly assisted studies concerning child safety and we can say that the overall study of child pedestrians cannot be concluded by fixed standard

instructions for the regulations and statistics often differ from country to country and degree of urbanization.

The main trouble with children in traffic can be listed roughly as follows:

- Disability to be seen easily by motorists
- Ability to dash out into the street abruptly and have less control over their movements.
- Being continuously in action while in street.
- Experiencing trouble at sensing the direction of the sound
- Not being good at perceiving vehicle speed.
- Having limited period of concentration and not focusing on more than one thing at the same time.
- Paying attention especially on what lies ahead of them, causing "head turns" problem
- Having also poor concentration when with other pupils.[29]

It is reported that roadside crashes make up one of the most important health related problems. Also reported that as a consequence of road crashes, 1.2 million population lose lives and at least 20 million get wounded as annual data. World Health Organization (WHO) notes that a round a 85 percentile of roadside collisions take place in countries of lower financial gain. Also in those countries there is lack of medical treatment facilities for those injured. WHO alsa cites that assessment of economy, health and socially related expenses for the roadside crashes let us realise the severity of the danger and the need for bringing and adapting counterneasures. in countries of lower financial gain.[30]

The annual global economic burden of motor vehicle collisions and pedestrian injuries is enormous, totaling 500 billion dollars, In the year 2000, the total cost of all motor vehicle collisions in the United States was 230.6 billion dollars. Lost productivity, medical costs, legal and court costs,

emergency services, insurance administration, travel delay, property damage and workplace losses are all included in these costs.Travel delay costs and property damage costs from pedestrian collisions are a smaller fraction of the total attributable burden in pedestrian- related collisions. Losses in workplace and household productivity accounted for over one-third of the total costs in the U.S. [31, 32, 33]

2-4 Risk factors for pedestrian collisions:-

It is important to analyze the risk factors of pedestrian injuries so that successful targeting and interventional programs can be implemented. [34]

2-4-1 Social Status:

Pedestrian injuries affect all people, but they have a greater negative impact on those of lower socioeconomic standing (SES). While it is notably difficult to comprehensively define SES, several studies commonly utilize proxies for SES, such as economically disadvantaged, limited education and social support. Several studies have shown that people from these backgrounds are affected a greater percentage of times, have fewer social supports in place, and use emergency services less frequently.[35,36]

They are also most likely to be the main income providers in their families, and their death or disability creates a greater financial burden on an already economically strained situation. Race and ethnicity also play a large role in pedestrian injuries and fatalities. Recent national data indicate that all minorities of all age groups are more likely to be involved in a fatal non-occupant collision than the non-Hispanic Caucasian population. This comparison holds true for all minorities, except for Native American children less than 15 years old. African-American children in the 4–7 age group accounted for 47% of pedestrian traffic fatalities and 37% in the 8–15 age group. Regardless of an urban or rural location, African-American children were killed in disproportionate numbers in these two age groups. [37]

The over-representation in pedestrian injuries among those from lower SES is not completely understood. Many experts suggest that individuals from a lower SES may engage in more risky behavior and be less likely to be aware of public safety issues. Lower-income families are also likely to have less supervision for their children as they may not have the resources to provide adequate daycare while at work. Cultural-related attitudes and perceptions concerning safety and public health, access to health care, and limitations in their exposure to health promotion also may also prove to be important reasons for the increased incidence of pedestrian injuries in the United States. While

pedestrians of low SES from developing countries experience the same limitations as their U.S. counterparts, they encounter the added danger of sharing the roadway with large vehicles whose drivers have few or no motor-vehicle regulations imposed on them.[38,39]

2-4-2 Risk group:

2.4.2.1age5to9years

The risk to kids increases in this age group — especially among boys. "The five- to nine-year-olds are starting to get out of the house more; they are a little more independent," says Pam Fuselli, acting executive director of Safe Kids Canada. "They are shorter in stature and harder to see, and their capabilities to understand the road and cars are still developing."

Then there's their attitude. Fuselli says kids often assume they can beat the car or that the driver will stop. "One of the things we teach is to ensure the driver has seen you, to make that eye-to-eye contact, and there's some message sent from the driver to you that you can cross."With kids in the early school years, you should still be holding their hands to cross. By age nine or so, most children will be able to cross familiar streets on their own as long as they've been coached in the safety rules. Kids aged five to nine are most likely to be hit trying to cross a road with no traffic lights, and one in seven

crashes in this age group happens when a child emerges from between parked cars.

2.2.2.2age10to14years

Those tweens and teens: They really believe that nothing can happen to them as they saunter along, talking on cellphones and listening to iPods. But this is the highest-risk group for pedestrian injuries. So vigilance is still key. It's only at age 12, experts say, that most children have fully developed the cognitive skills to assess traffic risk and cross unfamiliar.[40]

Distraction has captured the public's attention, but the magnitude of the role distraction plays in pedestrian crashes has not been firmly established. However,

distracted driving and distracted walking are clearly risk factors. As noted in the initial GHSA report on pedestrian fatalities "the price of pedestrian safety is eternal vigilance."[41]

2-4-1 Gender:

Developmental risks are also affected by gender. Young boys are more likely than young girls to play on busy roads and to run or ride bicycles onto roads without first stopping to check for traffic.Young men who drive are also more likely to be involved in a crash than young women. Men are more likely than women to own and drive motor vehicles, and to engage in risky driving behaviour and overestimate their driving abilities. For example, a study in New Zealand found that males were more likely both to speed and drive after drinking, while research from Spain has found young males to be less likely to use seat-belts or helmets than their female counterparts. [42, 43]

2-3 Causes of pedestrain death and injuries:-

2.3.1 Pedestrian Behavior:

2.3.1.1Pedestrian Jaywalking

Specifically, jaywalking is often cited as a poor pedestrian behavior that leads to pedestrian injuries and fatalities. Jaywalking is a general term for any form of illegal street- crossing by a pedestrian there are several types of pedestrian behavior that qualify as jaywalking:

- walking against a pedestrian walk signal
- crossing a street where there is no crosswalk (midblock crossing)
- crossing a street outside of a marked crosswalk where one is present
- Walking on a street along with the traffic flow (ignoring designated pedestrian pathways). (44)

2.3.1.2 Consumption of alcohol

Drunken driving is the cause of many traffic crashes throughout the world.

Similarly, drinking contributes to unsafe pedestrian behavior that results in crashes with vehicles. Pedestrians who have been drinking run an even higher risk of getting killed in traffic, constituting between 39 percent and 60 percent of all pedestrian fatalities. (45)

2.3.1.3 Pedestrian speed and pace of life

Pedestrian non-compliance with signs and signals is a significant factor in pedestrian-vehicle crashes nationwide. (46)

2.3.1.4 Pedestrian speed versus crossing-device speed

Crossing devices that do not accommodate the rate at which urban pedestrians would like to travel may also encourage poor pedestrian behavior. For instance, if pedestrians have to wait a relatively long time for a walk signal, they are more likely to cross midblock to avoid delays. (47)

2.3.1.5 pedestrian perceptions of enforcement risk:

The lack of enforcement or penalties could result in a larger disregard for pedestrian safety rules, resulting in higher crash rates. (48)

2.3.1.6 Unawareness of laws:

Another problem related to pedestrian laws is the possibility that pedestrians might be unaware of or misunderstand pedestrian laws that designate where and when they have the right of way. It is also possible that some drivers are unaware of their rights and duties or pedestrians' rights and duties (49)

2.3.2Vehicle & Driver:

Vehicles and their drivers' behavior are the second major group of factors that you should consider. (49)

2.3.2.1Driver perceptions of risk:

Some of the factors that affect pedestrian perceptions of risk can also influence driver perceptions of risk. For instance, alcohol, familiarity with travel routes, and cell phone use might reduce a driver's ability to recognize the risk of hitting a pedestrian. (49)

2.3.2.2Speed of vehicle:

Speeding is a major contributor to vehicle-vehicle crashes. It is not surprising, then, that speeding is also an important consideration when examining pedestrian-vehicle crashes. Speed influences these crashes in two distinct ways. First, speed increases the chances of a collision. Simply, faster vehicle speeds make it more difficult for drivers to see pedestrians, and at the same time, high speeds reduce the amount of time the driver and pedestrian have to avoid a crash. (50)

Seventy-thousand pedestrians are injured — and more than 4,000 die — in automobile collisions every year. While this is only a slither of the vehicle-accident total, it's a disproportionate amount: Eleven percent of transport (disregarding miles traveled) happens by foot, but pedestrians are

involved in 13 percent of vehicle-related fatalities. Although drivers are legally responsible for controlling their vehicle at all times, the majority of pedestrian accidents are caused by pedestrian actions. Sunny days — where more people are outside– rack in 90 percent of incidents. Age is also a factor – seniors over 65 and children under 15 account for a combined 27 percent of fatalities and 34 percent of injuries. Here are some culprits:

1. Improper Lane Use:

The vast majority of pedestrian accidents happen in the road with two-thirds occurring on city streets. A bike riding on the sidewalk can hit pedestrians or force them onto the road.

2. Unmarked Crosswalks:

Intersections are a hotspot for pedestrian accidents. Using signaled crosswalks dramatically reduces the risk. Clearly marked pedestrian pathways are vital at or near parking lots because drivers are less likely to see people when they're focused on parking.

3. Left-Hand Turns:

While safer, signaled crosswalks aren't immune to vehicle-pedestrian collisions. Three times as many people get hit by cars turning left than by cars turning right because both parties are looking elsewhere: The drivers are busy negotiating the intersection and street-crossers are looking straight ahead.

4. Electronics:

The no-texting rule isn't only for drivers. A recent study by NYU Langone Medical Center on New York City pedestrian accidents found eight percent accidents occurred while the victim was using electronics including cellphones, and music devices. The study also found a substantial number of accidents occurred from passengers exiting vehicles on the roadway side.

5. Quiet Cars:

While ideal for neighborhood peace, battery-operated automobiles and hybrids are 40 percent more likely to strike pedestrians – who detect oncoming traffic with their ears as well as their eyes – than their gas-guzzling counterparts. The risk jumps to 50 percent in residential areas, where the speed limit is at or below 35mph and stops and turns are more frequent.

6. Dark Clothes:

Nearly 50 percent of all pedestrian accidents happen on the weekends and 70 percent happen at night. After the sun goes down, bright and lightly colored clothes are easier to spot– critical in less populated stretches with poor street lighting. Pocket flashlights are also a good idea for night-prowling.

7. Alcohol:

Substance use, no doubt, contributes to the nights-and-weekends accident spike and drivers aren't the only responsible party. Thirty-seven percent of fatally injured pedestrian have blood alcohol concentrations of at least 0.08 percent. Intoxicated drivers, by comparison, are involved in 13 percent of pedestrian collisions

8. Arterial Roads:

As cities draw more and more people, multilane, high-speed roadways are increasingly necessary to move traffic to and from the freeway. Unfortunately, these sites are also hazardous to the densely populated areas they serve, where walking is commonplace and bus stops are plentiful. According to a 2010 report by University of North Carolina's Highway Safety Research Center, the majority of urban pedestrian accidents happen in these roadways.(51)

We have seen a recent increase in the United States in the rate of pedestrian injuries among older children, particularly teenagers. One theory is that distraction by mobile technologies plays a role in these injuries. (52)

Pedestrian accidents often involve unsuspecting pedestrians who become struck by a vehicle in spite of making reasonable attempts to protect themselves from injury. Many reported pedestrian accidents are linked to the negligent actions of drivers who fail to take proper safety precautions in ensuring they do not harm pedestrians in crosswalks and other areas where they are supposed to share the road with or respect the right of way of those traveling on foot. The most common causes of pedestrian accidents include:

- A failure by drivers to check for pedestrians in crosswalks prior to driving through them
- Drivers failing to stop at stop signs or lights
- Texting and other dangerous driver distractions
- Drivers choosing to make turns without paying attention to theisurroundings
- Speeding
- Driving under the influence

The range of injuries typically sustained from pedestrian accidents are moderate to severe, often leaving victims in need of substantial medical assistance to recover.

Pedestrian accident lawyers can help those injured as a result of the negligent or wrongful actions of drivers. Los Angeles pedestrian accident victims in these cases can receive help from experienced Los Angeles pedestrian accident attorneys who will advocate on their behalf to get them just compensation for damages incurred as a result of their accident. (53)

2-4 Prevevntion of pedestrain death and injury:

Currently 150 countries have a national strategy for road traffic safety, most of which (131) are partially or fully funded. This is progress relative to the 139 countries that reported the existence of such a strategy in2010, of which 119 were partially or fully funded. While a national strategy is essential to defining the vision behind a road safety programme, its

implementation requires tangible objectives and, in particular, intermediate targets. [54]

While children need to be encouraged to walk as a healthy and enjoyable activity, and as analternate form of transportation (saving energy and the environment), walking also needs to be made as safe as possible Education has always been a component of efforts to reduce pedestrian/motor vehicle collisions. Pedestrians and motorists need to know about the risk factors associated with sharing the road, but studies have indicated that many have limited understanding of right-of-way rules they are legally obliged to follow at crosswalks and other locations. [55, 56]

In such situations, advocacy efforts are critical to keep road safety high

On the government and public agenda. Public awareness campaigns can be an effective way to do this, increasing understanding and support for enforcement measures and helping sustain a high perception of enforcement, which can it self work as an effective incentive for compliance. [57,58]

Public information and education efforts can increase knowledge and awareness of risky situations and the appropriate actions all roadway users can take to reduce risks. When used alone, they are likely to have limited impact in influencing drivers and pedestrians to actually adopt vigilant, protective and law-abiding behaviors.

However, when combined with engineering and enforcement as part of a broad-based community program, education can be an important contributor in successfully reducing pedestrian injuries. [59, 60]

In the case of the road system, this is clearly a complex task, as the needs of various groups of road users may conflict. The safety of all road users should be consciously included in the decision- making of urban and road planners. This in turn may require that new infrastructure be built, or that there is segregated road space between non-motorized and motorized traffic,

so that each group has enough space on the transport network. Even in high-income countries, there should be a reassessment of the priority that has been given to cars. More resources should go specifically towards improving pedestrian and cyclist safety.[61]

2.4.1Parental guidance and support:

Parents play an important role in the behaviour of young children. First, they make important decisions about the level of exposure of their children to risk. For example, they influence how often or how long children may be in traffic or on the road, and whether or not their children use child restraints or helmets. Second, they serve as important role models: children learn by imitation and careful observation of adults actions, and will begin developing road safety skills well before they reach school age [62]

2.4.2 prevention at the individual Level:

- Include pedestrian safety in all health promotion and disease prevention activities with patients.
- Set goals for patients to reduce the risk of pedestrian injuries by changing one behavior, such as children under10 crossing the street with an adult, and teens abstaining from walking while texting.
- Expand record keeping to collect and monitor patient risk factors that may contribute to a pedestrian injury (eg, chart reminders and notes about young children or teens in the family, neighborhood road environment risks).
- Talk to parents about their local walking environments, such as separating vehicle traffic from pedestrians, sidewalks, and crosswalks. Encourage walking on sidewalks or paths and cross at street corners, particularly controlled(signalized) street corners.
- Counsel on the importance of purchasing vehicles with 5- star pedestrian safety ratings.
- Support the improvement of trauma care for pedestrian injury, including rapid ambulance response time and EMS services for children.

2.4.3prevention at the Community Level:

support efforts to strengthen road safety policy and enforcement in your state, county, or local jurisdiction.

- Encourage changes in local roads that will improve pedestrian safety, such as increased lighting, signalized crosswalks, safe routes to school, and reducing roadside obstructions that may obscure a driver's view of children in the road.
- Ensure comprehensive evidence-based health education program is provided in elementary (primary) schools.
- Strengthen collaborative partnerships with local coalitions, such as Safe Kids, the National Safety Council, or the State Office of Highway Safety.
- Support pedestrian safety as an efficient means to reduce health care costs.
- Support research on risk factors and interventions to reduce child pedestrian injuries, including factors that can affect driver behavior.
- Be a strong voice for enhancements to the local road environment including traffic calming and changes that reduce neighborhood streets. vehicle speeds on neighborhood streets. [63]

Pedestrians can increase their visibility at night by carrying a flashlight when walking and by wearing retro-reflective clothing Whenever possible, cross the street at a designated crosswalk or intersection It is much safer to walk on a sidewalk or path , but if a sidewalk or path is not available, walk on the shoulder and facing traffic.[64]

The American College of Emergency Physicians (ACEP) believes that providers of acute care to adults and children injured in pedestrian accidents have a responsibility to promote programs that prevent and control pedestrian injuries. Pedestrian injuries are a worldwide problem, and there are many established best practices for prevention. ACEP

supports the following educational, engineering, and policy strategies to Improve the walking environment and decrease pedestrian injuries:

- Public engagement, education, and outreach to promote a unified, coordinated approach to pedestrian safety.
- Working with government engineers to identify and redesign hazardous intersections as well as to reengineer pedestrian and traffic flow to enhance safety.
- Specific safety measures such as reduced speed limits, physical barriers to prevent contact between pedestrians and vehicles, and improved road lighting.
- Increased police enforcement of moving violations such as speeding, failure to yield to pedestrians, and texting while driving or walking. Public safety officials should provide redirection of traffic flow and barricades to keep vehicles away from large crowds during parades or other mass gatherings along roadways.Fully-integrated emergency medical services and trauma care systems to enhance survival and rehabilitation of injured pedestrians.[65]

Mortality of pedestrian injured patients in the UAE is high. Severe head injury was the main cause of death. Measures to improve pedestrian safety should be adopted so as to reduce morbidity and mortality. These include educating drivers and pedestrians on road safety and enforcement of traffic safety laws.[66]

While pedestrian-vehicle injuries are the fifth leading cause of death for children ages 19, according to SafeKids.org, no age group is immune, Here are a few tips from NHTS and NSC for children and adults of all ages:

- Look left, right and left again before crossing the street; looking left a second time is necessary because a car can cover a lot of distance in a short amount of time.
- Make eye contact with drivers of oncoming vehicles to make sure they see you.

- Be aware of drivers even when you're in a crosswalk; vehicles have blind spots.
- Don't wear headphones while walking.
- Never use a cell phone or other electronic device while walking.
- If your view is blocked, move to a place where you can see oncoming traffic
- Never rely on a car to stop.
- Children younger than 10 should cross the street with an adult.
- Only cross at designated crosswalks.
- Wear bright and/or reflective clothing.
- Walk in groups. [11]

Another possible intervention is to provide safer, more direct routes for pedestrian traffic. Pedestrians are twice as likely to be struck by a motor vehicle when the pedestrian route is not separated from the vehicular route. Providing safe routes for pedestrians can limit their exposure to motor-vehicle traffic. [67]

As this is a preventable risk factor, it lends further support to the strict enforcement of laws designed to regulate a driver's alcohol and drug consumption,. Two-thirds of pedestrian fatalities occur in urban areas and three-fourths occur in non-intersections.urban areas have a higher rate of pedestrian and motor vehicle traffic. Drivers non-compliant with speed limitations, pedestrian lack of safety awareness, poor city planning and other variables all lead to a higher incidence ofpedestrian collisions in urban centers. Rural areas pose their own unique, significant risks. Although the overall number of collisions is fewer than in urbacenters, pedestrian injuries are more severe and are fatal a greater percentage of times in rural settings.[68]

Pedestrians can increase their visibility at night by carrying a flashlight when walking and by wearing retro-reflective clothing Whenever possible, cross the street at a designated crosswalk or intersection It is much

safer to walk on a sidewalk or path, but if a sidewalk or path is not available, walk on the shoulder and facing traffic.[69]

Built environment strategies for preventing pedestrian injury include separating pedestrians from motor vehicles, installation of traffic signals, in-pavement flashing lights, 4-way stops, pedestrian overpasses, fences to inhibit street access, and sidewalks. [70]

Additionally, Pedestrian Safety Zones are increasingly being used as an effective strategy for separating vehicles from pedestrians. [71]

A safety zone is usually an area or space officially set apart within a roadway for the exclusive use of pedestrians. In countries like Germany and the Netherlands, where reduced vehicle speeds and the design of safety zones that separate motor vehicles from pedestrians are more prevalent, rates of pedestrian injury and death are much lower than in the United States.[72]

Engineering measures designed to increase the visibility of pedestrians, such as increased roadway illumination and relocating bus stops to the far side of intersections, also decrease injury risk. Of the engineering measures to manage vehicle speed, small roundabouts on residential roads and 4-way stops at intersections are effective [73]

Chapter Three

Methodology

3. Methodology

3.1 Study design:

This descriptive cross -sectional facility based study conducted in period extended from September2016 to march 2017.

3.2 Study area:

this study carried out in khartoum state, kapital of sudan in the jabal Awlia localty, was established local jabal Awlia of the geographical components of the former shops al kalakla, jabl Awlia, Al nasr, Al Azhari ,under an order of incorporation issued by the state government.

Represented local southern gate of khartoum state and it is inhabitants represent the small sudan with different tribes and races .

İt has population currently 1,703,950 peoples, the local area is about 327 km, it bordered to the west by the white Nile, to the north are khartoum, the south is the white nile state and the south-east the island state .

Al salma area is located in jabal Awlia localty, bodered to the east Al-Azhari area, the weast Soba area, the north Mayo area and South Al-ingas area, in Al salma university Al-Razy, there is 6primary government schools 3schools for girls and 3 schools for boys and 6 private schools and there is one health center, 2 clinic center

3.3 study setting:

Primary government schools in al-salma area, there was 6 Primary government schools 3 schools for boys (Al .bra- ibn malk, Aiz- aldin Mohammad, Al. abas- ibn- abd almontlab) and 3schools for girls (Nor -al islam, Jweria- bet -al harth, Fatima -gamer -al dewla) the total number of student in this schools is 2738 student

3.4 Study population:

Students of primary government school in al-salma area their age between 9to 12 years old, the total number of students was 1121 from 3 class levels (5, 6, and 7)

3.5 Inclusion criteria:

Students their age between 10 - 12 years

Student from class levels (5, 6, and 7)

3.6 Sampling technique:

Stratified simple random sampling technique was used

3.7 Sample size:

Total population was 1121 student from 6 primary government schools

Age 10 - 12 years -from 3 class levels of student (5, 6, 7)

Sample size was 287 student by: $n = N/1+N (d)^2$

n = sample size

N= population size

d= degree of accuracy

Schools	Student number	percentage	Sample size
Al .bra- ibn malk	152	%14	40
Aiz- aldin mohammad	201	%18	52
Fatima -gamer -al dewlap	179	%16	46
Jweria- bet -al harth	176	%16	46
Nor -al islam	199	17%	49
Al. abas- ibn- abd almontlab	214	19%	54
Total	1121	100%	287

3.8 Data collection tool:

Developed interview closed-ended questionnaire designed by researcher based on available literature and was tested for content validity by experts.

Composed of (23) questions.

Questions about sociodemographic data from 1 to 7. questions about knowledge of pedestrian safety from 8 to 13, questions about behaviors of cross the street from 14 to 19, questions and about the risk factors of pedestrian injuries from 20 to 23

Picture of street signals used to assist student to answer questions which the red signal means stop , yellow signal means be ready and green signal means go.

Picture of pedestrain signals used to assist students to answer questions which red signal means stop and green means go

3.9 Data collection techniques:

The data was collected by direct interview with student, with in one week every day at mornig from 10 am to 1 pm, the fulfill of questionnaire by researcher every questionnaire takes 5-10 minutes.

3.10 Data analysis:

The collected data was analyzied by by statistical package for social science (SPSS version 21) and presented in form of tables and figures.

3 . 11 Ethical concideration:

The study was approved by ethical committee of research in faculty of post graduate and scientific research, before conduction the study, aproval from general directorate of traffic, permition from general adminsitration of education,

permition from schools administration and verbal concent from participations

Participations has right to withdraw at any time, right benefits know her/his privacy and confidential

Chapter Five

Discussion Conclusion

Recommendations & References

Results

TableNo(1): Sociodemographic Data Of Study Groups And Level Of Education For There Fathers And Mothers

Gender	Frequency	Percent
Male	**122**	**43%**
Female	**165**	**57%**
Total	**287**	**100%**
Age		
9 -10 years	**71**	**25%**
More than 11 years	**216**	**75%**
Total	**287**	**100%**
Level education of fathers		
Illiterate	**8**	**3%**
Khalwa	**79**	**27%**
Primary School	**51**	**18%**
Secondary School	**38**	**13%**
University	**89**	**31%**
Post graduate	**22**	**8%**
Total	**287**	**100%**
Level education of mothers		
Illiterate	**16**	**6%**
Khalwa	**71**	**25%**
Primary School	**75**	**26%**
Secondary School	**49**	**17%**
University	**55**	**19%**
Post graduate	**21**	**7%**
Total	**287**	**100%**

Table above showed that more than half of students (57%) was female, less than half of students (44%) their age was 12 years old, less than half (31%) of students fathers was graduate from university, more than quarter (26%) of students mothers was graduate from Primary School

Table NO(2) : The Family Member And Student Arrange

Family nember	Frequency	Percent
1-3	3	1%
4-6	107	37%
More than 7	177	62%
Total	287	100%
The child order in family		
The first	55	19%
The second	71	25%
The third	50	17%
After the third	111	39%
Total	287	100%

Table above showed that more than half (62%)the family member was more than 7, (1%)of student family nember 1-3, less than half (39%) of student was birth after the third.

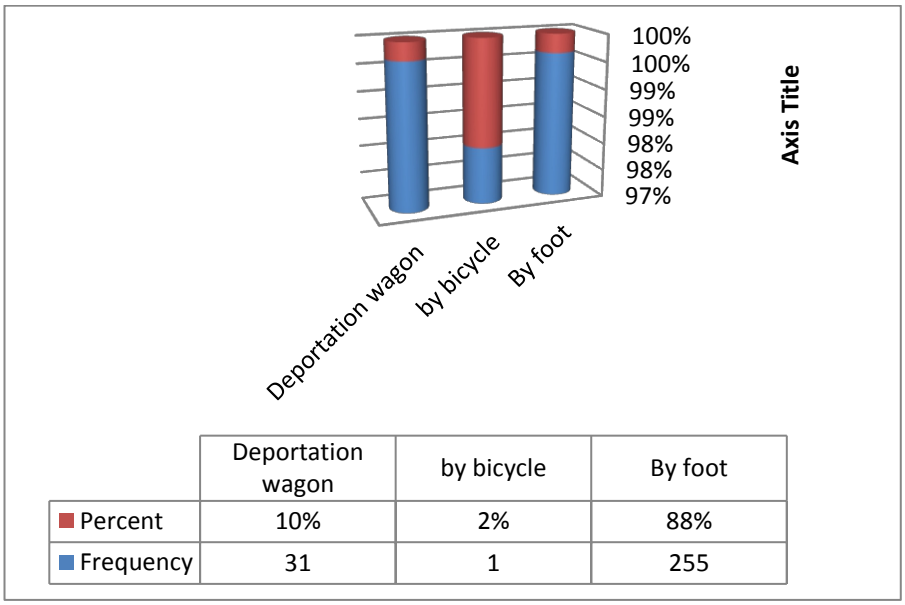


Figure NO (1)the travels to school

Figure above showed that the majority of student (88%) travels to school by foot.

Table No(3): Knowledge And Behavior Of Student Regard Traffic Signal And Street Crossing

The signal ligts to cross street	Frequency	Percent
Red	152	53%
Green	134	47%
Total	287	100%

Table above showed that half (47%) of student crossing the street when the traffic signal was green

TableNo (4): Knowledge And Behavior Of Student Regard Pedestrian Zone

The dotted line meaning	Frequency	Percent
Cross the pedestrian zone	205	71%
To stop cars	62	22%
For the passage of bicycles	20	7%
Total	287	100%
The signal to cross dotted line		
Green	170	59%
Yellow	10	4%
Red	107	37%
Total	287	100%

Table above showed that mosty (71%) of student said the dotted line in the street width is Cross the pedestrian zone, and more than one third (37%) of student crossing in pedestrian zone when the pedestrian signal was red

Table NO(5): Necessity Of Crossing The Street İn Groups And Necessity Of Children Under 10 Years To Cross The Street With Adult

Crossing the street in groups	Frequency	Percent
Yes	108	38%
No	179	62%
Children cross the street with adult		
Yes	264	92%
No	23	8%
Total	287	100%

Table above showed that more than half of student (62%) said there is no necessary to cross the street with groups, and majority of student (92%) said the children under 10 years is necessary to cross the street with adult

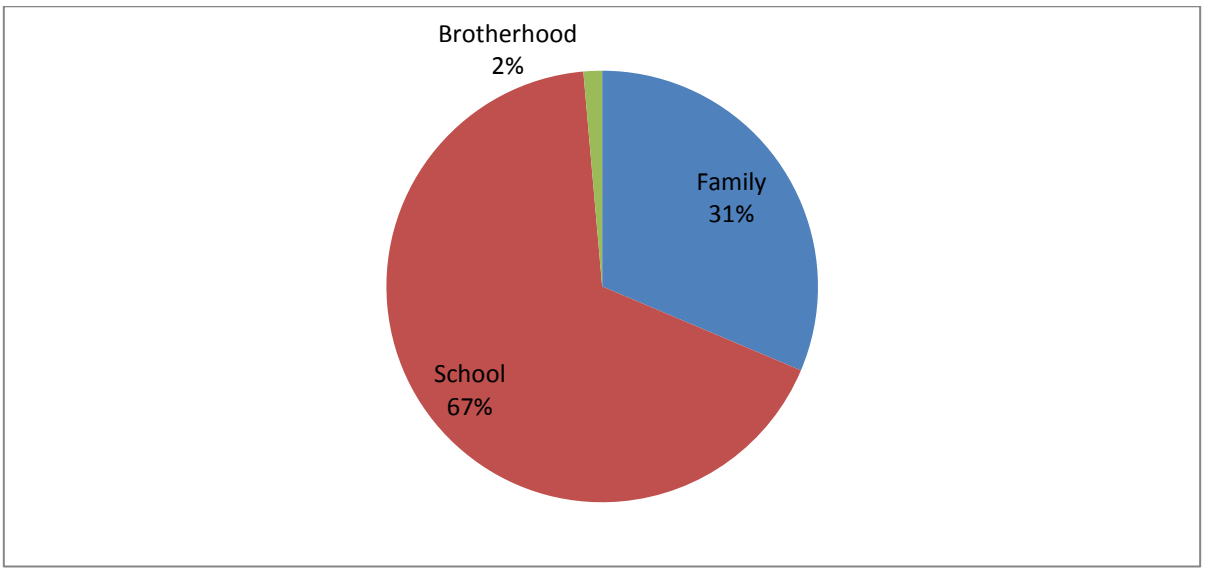


Figure NO (2) learn of traffic lights and road roles

Figure above showed that more two therid of student (67%) learned the traffic lights and road roles from school, and (2%) of student learned the traffic lights from Brotherhood

Table NO (6): knowledge and behavior of student regard road crossing

Behavior of crossing the street	Frequency	Percent
Run	4	2%
Walking faster	176	61%
Walking slowly	107	37%
Total	287	100%
Behavior crossing the street in abscent of traffic signal		
Wait until the street is devoid of cars	202	70%
The cross the street directly	26	9%
Elevate the hand to stopping the car	59	20%
Total	287	100%
Visualization in crossing the street		
On the driver	118	41%
On the car	38	13%
On the traffic signal	131	46%
Total	287	100%
Behavior crossing street and with car		
Back from the street	127	44%
Continue crossing the street	104	36%
stand in place	56	20%
Total	287	100%

Table above showed that more than half of student (61%) was walking faster when they cross the street, mostily of student (70%) wait until the street is devoid of cars when they cross the street and there is no traffic signal, more than one third of student (46%) there eyes are on the traffic signal, and less than half of student (44%) back from the street when they start crossing street and a car came

Table NO(7): behavior of pedestrian direction

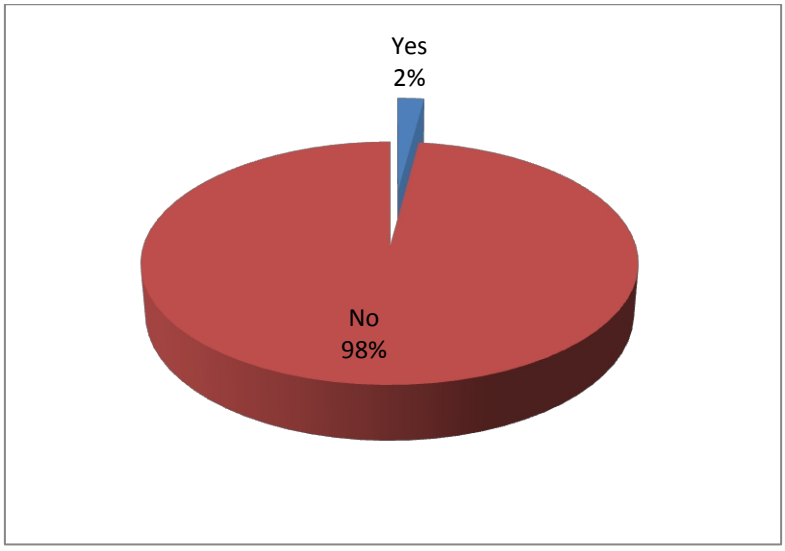
Walking beside the traffic road	Frequency	Percent
Same direction of cars	27	10%
Facing of cars	162	56%
No differences	98	34%
Total	287	100%
Cross the streat when there is with parken car		
Front of the car	79	27%
Behind the car	125	44%
No differences	83	29%
Total	287	100%

Table above showed that more than half of student (56%) they facing cars when walk on the side of the street, and less than half of student (44%) crossing the street behind parking car

TableNO(8):The Dengerousness Of Use Headphones During Cross The Street

Use of headphone while cross the street	Frequency	Percent
Yes	7	3%
No	280	97%
Total	287	100%
Dengerousness of use the headphone		
Lack of vision	18	6%
Lack of hearing	227	79%
Lack of movement	14	5%
Not dangrous	28	10%
Total	287	100%

Table above showed that the majority of student (97%) not use headphones when they cross the street, and mosty of student(79%) said the dengerous of headphone due to decrease in hearing



Figure(3) the play near to main street

Figure above showed that the majority of student (98%) not played near the main street

Table No(9): Cross Tablation Between Gender And Where Student Learned The Traffic Light

Type	İnformation About Traffic Lights				**Asymp. Sig. (2-sided)**
	Family	School	Brotherhood	Total	
Male	44 15.3%	75 26.1%	3 1.0%	122 42.5%	.011**
Female	46 16.0%	118 41.1%	1 0.3%	165 57.5%	
Total	90 31.4%	193 67.2%	4 1.4%	287 100.0%	

*Significance at P. value ≤ 0, 05

** Highly significance at P. value ≤ 0, 01

Table above showed that there was significant relation between student gender and where student learn the traffic lights

Table No (10): Cross Tablation Between Number Of Family And Where Student Learned The Traffic Lights

number of family	Where I learned the traffic lights			Total	**Asymp. Sig. (2-sided)**
	Family	School	Brotherhood		
1-3	2 0.7%	0 0.0%	1 0.3%	3 1.0%	.000**
4-6	29 10.1%	78 27.2%	0 0.0%	107 37.3%	
more than 7	59 20.6%	115 40.1%	3 1.0%	177 61.7%	
Total	90 31.4%	193 67.2%	4 1.4%	287 100.0%	

*Significance at P. value ≤ 0, 05

** Highly significance at P. value ≤ 0, 01

Table above showed that there was higly significant between the family number and where the children learned the traffic lights

Chapter Four

Result

5-1 DISCSSUION

This descriptive, cross-sectional study was attempt to assess the knowledge of student regard pedestrian saftey in primary government schools in al-salma area in the period extended from September 2016 to march 2017. The present study showed that more than half of students (57%) was female, less than half of students (44%) their age was 12 years old and one third (31%) of students fathers was graduate from university, while more than quarter (26%) of students mothers was graduate from Primary School.

The present study clarified that the girls (33,1%) not aware regard traffic lights they cross the street when traffic lights was green , that mean the girls have high risk of pedestrian injury,this result was similar to result of Veysel Dogan Akgul[74] the female have high risk to become victom (55%) more than the boys (45%), and not similar to H.M. Swami[75] result they found girls were more aware of traffic rules to be followed at traffic lights (63%) and while crossing zebra lines (41, 2%). present study revealed that there was statistical highly significant association (p=0,000) between gender and knoweledge regard pedestrian safety.

The study showed that the student who have more than 7 family members learned the traffic signal from school (40%) while the student who have 1-3 family member was (0.0%) that is mean when the family was large the care of childern will decrease because increase the family roles regard alot of childern which lead to shortage in one of care aspects, the present study revealed that there was highly signifiacnt association (p=0,000) between the family mumber and where the student learned the traffic signal.

The study showed that the (47%) of students cross the street when the street signal was green that mean they not aware regarding street signals and that increase the student risk of pedestrian injuries

The study clarified that more than one third (37%) of student crossing in pedestrian zone when the pedestrian signal was red that means the student not aware regarding street cross roles.

The study showed that more than half of student (62%) said there is no necessary to cross the street in groups, on anther hand the majority of student (92%) said the children under 10 years old it necessary to cut off the street with adult, it is similer of result Mark Stevenson [(76)] he advocate that children are assisted by an adult when crossing a road until the age of 10 years.

The study showed that mostily of student (70%) wait until the street is devoid of cars when they cross the street and there is no traffic signal, less than half of student (46%) there eyes are on the traffic signal when cross the street, less than half of student (44%) back from the street when they start cross street and a car came,

That mean the student not aware regarding street cross behaviors and they need for educational programs to change their behaviors to decrease the risk factors of pedestrian injuries or death.

Also the study clarified the student aware about true directions when they beside or in street more than half of student (56%) they reversing car when walk on the side of the street, and less than half of student (44%) they crossing street from behind the car when there is a parking car in the side of street.

The study showed the majority of student (90%) mention there was dangerousness of using mobile phone or headphones and the majority of student (97%) not use headphones when that the majority of student (98%) not played near the main road,that mean they aware about risk factors of pedestrain injuries or death this result was similer to H.M. Swami[(74)] result they found around 60% of school children aware about the risk factors.

5.2 Conclusion

The current study clarified that the girls not aware regard traffic lights, also showed that more than half of students not aware about traffic signals and mostly of students aware about pedestrian zone while more than one third of student not aware regard pedestrian signals, on other hand mostly of students not aware about the directions when they beside the street and when there was parking cars in the streets.

The study showed that majority of student they aware about the risk factors and the prevention of pedestrain injuries or death.

5.3 Recommendations

The study was recommended in the following points:-

1-Educational programes about pedestrian safety have to be including in the curriculum as a priority of school health programs.

2- khartoum localty have to design special play areas for children away from the street .

3-General directorate of traffic have to reengineering roads and separation of pedestrian routes for the motorway and the work of traffic lights in all streets, specially near schools and define a special area for pedestrians to cross the road.

4- Further same studies of pedestrian safety in all khartoum state schools.

Annexes

Questionnaire

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بسم الله الرحمن الرحيم

Shendi University

Faculty of Graduate Students and Scientific Research

Questionner to assess Knowledge Regard Pedestrian Safety among Students of Primary Government Schools in Al-Salma Area in 2016-2017

Socio-demographic data:-

1. Gender:

Male ☐ Female ☐

2. Age:

9 ☐ 10 ☐ 11 ☐ 12 ☐

3. Education level of father:

Illiterate ☐ Khalwa ☐

Primary ☐ secondary school ☐

University ☐ post graduate ☐

4. Education level of mother:

Illiterate ☐ Khalwa ☐

Primary ☐ Secondary school ☐

University ☐ Post graduate ☐

5. Family number:

3-1 ☐ 4-6 ☐ More than 7 ☐

6. Arrange the child in the family:

The first ☐ The second ☐ The third ☐

After the third ☐

7. By any mean travel to school:-

A/By food

B/By bicycle

C/By Deportation wagon

knowledge regarding pedestrian safety:-

8. Cross the street when the traffic signal was:-

A/ Red

B/ Green

C/ Yellow

9. The dotted line on the width of street it:-

A/Pedestrian zone

B/Cars zone

C/Bicycles zone

10. Cross the street in this line when pedestrian signal was:-

A/Green

B/Yellow

C/Red

11. If there necessary to cross the street with group:-

YES ☐ NO ☐

12. Children under 10 years necessary to cross the street with adult:-

YES ☐ NO ☐

13. From where learned the traffic signals and road rules:-

A/Family

B/School

C/Peer

Behaviors during cross the street:-

14. When cross the street:-

A/Run

B/Walk faster

C/Walk slowly

15. When cross the street and there no traffic signals:-

A/ Wait until the street is devoid of cars

B/ The cross the street directly

C/ Elevate the hand to stopping the car

16. When cross the street your vision most be on:-

A/On the driver

B/On the car

C/On the traffic signal

17. If you start to cross the street and come a car :-

A/ Back from the street

B/ Continue crossing the street

C/ stand in place

18. When you walk beside the street you:-

A/ Same direction of cars

B/ Facing of cars

C/ No differences

19. When a car is parked beside the street you cross from:-

A/ Front of the car

B/ Behind the car

C/ No differences

Knowledege regard risk factors of pedestrian injuries:-

20. did you use the cell phone or headphones during cross the street

YES ☐ NO ☐

21. If there dengerousness of use headphones during cross the street:

YES ☐ NO ☐

22. Dengerousness Of use headphones due to:

A/ Lack of vision

B/ Lack hearing

C/ Lack of movement

23/ Did you play near to main street:

YES ☐ NO ☐