ADDIS ABABA UNIVERSTY

COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF EMERGENCY MEDICENE

PATTERNES OF OCULAR TRAUMA PATIENTS SEEN AT THE DEPARTEMNT OF OPHTALMOLOGY MENELIK IIHOSPITAL

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A THESIS SUBMITTED TO THE DEPARTMENT OF EMERGENCY MEDICINE AND CRITICAL CARE, ADDIS ABABA UNIVERSITY, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS IN EMERGENCY MEDICINE AND CRITICAL CARE

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Patterns of ocular trauma patients seen at the Department of Ophthalmology, Menelik II Hospital

MSC. Thesis

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List of abbreviation

CF - Counts finger

E-chart -Snellen chart

ED-Emergency department

HM-Hand motion

IOFB -Intraocular foreign body

IOP-Intra ocular pressure

LP-Light perception

NLP -No light perception

RTA-Rod traffic accident

VA -Visual acuity

WHO- World health organization

Abstract

Background: Ocular injury is one of the major causes of monocular visual impairment and blindness worldwide with significant socioeconomic impact.

Objective: To evaluate the incidence, causes and visual acuity at presentation of ocular trauma cases presented to Menelik II Hospital over two months period.

Methods: A prospective cross sectional hospital-based study was conducted at Menelik II Hospital in Addis Ababa from April to June 2014. All consecutive emergency patients with ocular trauma who presented to the hospital were examined. A structured questionnaire was used to evaluate the causes, type of injury and visual acuity at presentation of trauma cases. The collected data were cleaned and analyzed using SPSS for Windows version 20.

Result: Out of a total of 2765 patients seen at the department during the study period, 204 were emergency ocular trauma cases making the incidence of ocular trauma to be8 per 100ocular patients over two months. There were 147(72.1%) males and 57(27.9 %) females, the male to female ratio being 2.6.Sixty seven (32.8%) cases of ocular injury were among the 21-30 year age group followed by those in the age group 11-20 year which occurred in 46(22.5%) cases. Professionally, construction workers, farmers and welders sustained trauma to the eye in 38 (18.6%), 34 (16.7%) and 32 (15.7%) cases respectively. Unilateral involvement was seen in 190 (93.1%) of the cases while bilateral ocular trauma occurred in 14 (6.9%) patients. Blunt injury constituted 116 (56.9%) patients and penetrating injury occurred among 71 (34.8%) cases. Regarding patient arrival for treatment, 180 (88.2%) came for medical care after 24 hours have elapsed. Twenty patients (9.8%) were blind in the involved eye.

Conclusion: The incidence of ocular trauma was 7.3%.Ocular trauma was more prevalent in males and productive age groups. The common cause of ocular trauma was foreign body followed by fighting. Of 204 cases half of them were accidental. This study was able to provide a better understanding of the cause and incidence of ocular trauma.

Our study showed that the patients with ocular injury need urgent medical treatment. Health education about proper use of eye goggle and prompt medical management can prevent the permanent visual loss. Education about proper use of eye goggle and prompt medical management can prevent the permanent visual loss from ocular injury.

1. Introduction

1.1 BACK GROUND

Ocular trauma is a common cause of monocular visual impairment and blindness worldwide, with significant socioeconomic impact. Each year, there are 55million eye injuries globally that result in restrictive activities for more than a day. About 19 million have at least unilateral permanent reduction in vision and 1.6million people are blinded by their injuries [1].

Eye injuries are the most common causes of monocular blindness in Ethiopia. A study on the pattern of ocular injuries at Menelik II hospital revealed that 15.8% of blindness was attributed to trauma alone [2]. Study from Ghana showed ocular injuries to constitute 6.2% of all admissions in the eye unit [3].The age distribution for serious ocular trauma is bi-modal, with the maximum incidence in young adults and second most in the elderly**.** Hospital based study indicates a large preponderance of injuries affecting males**.**

Sticks are the most common cause of ocular injury in rural Ethiopia and Ghana. Hospital based study done in Ethiopia showed that the majority of ocular injuries were minor, affecting the peri-orbital structures and other ocular surface such as superficial corneal damage by foreign bodies or corneal abrasions. In addition to the impact on the affected individual, there are profound social implications regarding the lost productivity by young men and the requirement of caring facilities and rehabilitation for the elderly [4].

Therefore, knowledge of the causes of ocular trauma is essential for proper management of patients and their future prevention. The etiology of ocular injury differs among populations. Previous studies have shown that socioeconomic status, education and cultural habits play an important role both in the occurrence and in the outcome of ocular injury [5]. The aim of this study was to provide data on causes, incidence and initial visual acuity of ocular injuries at Menelik II Hospital in order to help in the planning and provision of eye care and safety strategies in the region. It is believed that the results of the study would shade light on the causes of the ocular injuries and the preventive measures that are to be taken to reduce them.

1.2 Statement of the problem

Eye injuries are the most common causes of monocular blindness in Ethiopia. A study on the pattern of ocular injuries at Menelik II Hospital revealed that 15.8% of blindness was attributed to trauma alone [2]. Study from Ghana showed ocular injuries constituting 6.2% of all admissions in the eye unit. Sticks are the most common cause of ocular injury in rural Ethiopia and Ghana. Hospital based study done in Ethiopia showed that the majority of ocular injuries were minor, affecting the peri-orbital structures or the ocular surface such as superficial corneal damage by foreign bodies or corneal abrasions. [4]

Ocular trauma, once described as the 'neglected disorder' has recently been highlighted as a major cause of visual morbidity. Annually, over 2.5 million Americans suffer an eye injury, and globally more than half a million blinding injuries occur every year. World-wide, there are approximately 1.6 million people blind from eye injuries, 2.3 million bilateral visual impairment and 19 million with unilateral visual loss; this being the commonest cause of unilateral blindness today.[6]

According to estimates by WHO, about 55 million eye injuries restricting activities for more than one day occur each year, 750,000 cases requiring hospitalization which includes 200,000 open globe injuries. Worldwide the typical male to female ratio is 4:1 and open globe injury is said to be more common. Recognition of the public health importance of ocular trauma has sparked growing interest in studies on eye injuries. Ocular injuries can assume unusual social and economic importance involving a huge cost in human unhappiness, economic inefficiency and monetary loss. [7]

1.3 SIGNFCANCE OF THE STUDY

Ocular injuries are still a common and preventable cause of monocular blindness. Community education is an essential part in prevention of ocular injury. The visual outcome of ocular trauma depends on many factors: etiology, severity, and the duration from injury to intervention. Careful examination and appropriate treatment are necessary because ocular trauma was the leading cause of emergency visit in different study. So it is necessary to evaluate the incidence and causes of ocular trauma cases presenting to ocular emergency department. The result of this study can help as baseline data or source of information for public education.

1.4 Literature review

Eye injuries are the most common causes of monocular blindness in Ethiopia. A study on the pattern of ocular injuries at Menelik II hospital revealed that 15.8% of blindness was attributed to trauma alone .The age distribution for serious ocular trauma is bi-modal, with the maximum incidence in young adults and second most in the elderly. [2]

Both hospital and population-based studies indicate a large preponderance of injuries affecting males. Various studies show that there is significant difference from workplace to home as the likely place of eye injury. Study in Ghana showed ocular injuries constituting 6.2% of all admissions in the eye unit. [3]

Sticks are the most common cause of ocular injury in rural Ethiopia and Ghana. Hospital based study done in Ethiopia showed the majority of ocular injuries are minor, affecting the peri-orbital structures or the ocular surface such as superficial corneal damage by foreign bodies or corneal abrasions. [4]

In a study done in Jimma university, Ocular trauma accounted for 1,452(6.9%) of the 21,165 ocular patients seen at the outpatient department in the aforementioned 2 years period. Of the studied 304 cases, 194(63.8%) were below age 30 with mean age 25.5(SD±15.6). Male to female ratio was 3.2:1. One hundred twenty one (39.8%) patients presented to hospital within 2-7days of injury. Duration of presentation had significant association with presence of infection and other complications (p- value<0.05). [8]

The causes of injury were violence related, domestic accidents and occupational in 51(16.8%), 40(13.2%) and 36(11.8%) of cases, respectively. Closed globe injuries accounted for 138(45.4%), open globe injuries for 69 (22.7%) and Adnexal injuries constituted 93 (30.6%). Rupture of the globe was seen in 14 (4.6%) while 15 (4.9%) cases were diagnosed with endophthalmitis. Ocular trauma was found to be of a significant magnitude in the study area. Closed globe injuries are seen more than open globe injuries. Delay in presentation was associated with infections and other complication. [8]

Study done in Grarbeate eye Hospital involved 764 eye injuries in 753 patients, about 5% of all new patients seen during the study period at the hospital. The majority of the patients 75% (n=566) were males. The male to female ratio was 3:1. The left eye was involved in 51% (n=386) of the patients. The average age was with a range of 5 months to 82 years. The injuries were more frequent in the 15-30 year age group followed by those in the age group of less than 15 years. Over half (57.2%) of the patients had to travel over 21 kilometers to get ophthalmic assistance. [9]

When the type of injury was analyzed, the rate of Visual Acuity < 6/60; was 39.1% among those with penetrating trauma (p = 0.017), 29.5% among those with contusion (p = 0.023) and 5.4% among those with intraocular foreign body (IOFB) injury (p =0.98). The commonest source of injury were from blunt objects 40% (n=302) and sharp objects 33% (n=250). [9]

Khyber Institute of Ophthalmic study showed that ophthalmic trauma comprised 6.78% of the hospital admission. One thousand one hundred and five patients presented with eye injuries. Out of them, 21 patients suffered from trauma to both eyes. Almost 80% patients were male and 69% patients were below 30 years of age. Delayed presentation was more common and 63.61% patients presented after one week. Open globe injuries were more common [520 eyes (46.18%)] than closed globe injuries [484 eyes (42.98%)]. 23.26% of open globe injuries were associated with intraocular and intra-orbital foreign bodies. Superficial non-perforating, eyelid and Adnexal and burns were seen in 122 eyes (10.83%). [10]

Among the complications, lens damage and hyphema was seen in more than 50% of the patients, 16.60% eyes were infected at the time of admission and 4.88% of eyes needed nucleation or evisceration. The common causes of injury were violence in 37.37%, occupational in 24.43% and domestic accidents in 19.18%. Ophthalmic trauma is a major public health problem. Majority of the involved are male and under 30 years of age. Delayed presentation is more common. Open globe injuries are more frequent. Violence and occupational injuries are the major causes. [10]

Studies done in western region of Nepal Eleven hundred eyes of 1,069 patients (31 bilateral injuries) were included in this study. Males were predominantly affected (69.3 %) compared to their female counterparts. The average age of the patients presenting with trauma was 28.3 years. On reviewing the causes of trauma, blunt trauma which accounted for 56.5 % was the commonest of all, followed by sharp injury accounting for 16.7 %. The commonest type of trauma was closed globe injury (73.3 %). [11]

The visual outcome was poorer in open globe injury as compared to closed globe injury. Of the total cases, only 52.9 % presented to the hospital within 24 hours. Over 7 % of them presented as late as one week. Among these patients, 74.8 % of them regained normal vision (6/18) and 8 % of the total became blind (<3/60). Ocular trauma is becoming relatively more important, especially in developing countries. Thylefors (1992) reported that trauma of the eye is the most important cause of unilateral loss of vision in developing countries and 5 % of all bilateral blindness is directly due to trauma. In Nepal, ocular trauma is considered a major cause of unilateral blindness. It is the second leading cause of blindness after cataract. An estimated 7.9 % of all blindness in Nepal is caused by ocular trauma (Brilliant et al, 1985).Although the eye represents only 0.3 % of the total body surface area, loss of vision in one or both eyes has been classified as a 24 % or 85 % whole person impairment, or disability, respectively [12].

Metal and wood were the commonest work-related causes of ocular injuries in adults and both accounted for 60% of all ocular injuries. Children, on the other hand, sustained ocular injury while playing with others in 128 (22.3%) of the cases. [13]

Study done in Malawi showed that the home was the most common place for a serious injury to occur(30.2%) followed by the work place(19.6%) and as ports or leisure facility(15.8%).The Single most frequent place of injury for 0-15 year and 65 year and over age groups .Tools or machinery , either at home (13.9%)or at work (10.3 %) were collectively (24.2%) the most frequent cause of injury followed by assault (21.8%) and sport activities (12.5%) .The most frequent injury was blunt injury (54.4%) six percent (n=25) of all injury were only 13.2% 0f patients [14].

2. OBJECTIVE

2.1 General Objective of study

- To evaluate the incidence, causes and visual acuity of ocular trauma patients at presentation to Menelik II Hospital over the study period.

2.2 SPESIFIC OBJECIVE

- To evaluate the incidence of ocular trauma.
- To evaluates causes of ocular trauma.
- To evaluate initial visual acuity at presentation

3. Methodology

3.1 Study area and study period

The study was conducted at Menelik II Hospital in Addis Ababa from April- June 2014.Menelik II Hospital is a tertiary eye center that receives referred patients from every corner of the country. Patients are seen at general outpatient department or specialty clinics depending on the type of the case. All cases are seen by the ophthalmologist and /or residents. All patients who came to the hospital any time of the day claiming themselves as emergency cases were examined. All consecutive cases with ocular trauma during the study period were included.

3.2 Study design

A prospective cross sectional study was conducted to determine the incidence, causes and significance of ocular trauma seen in Menelik II Hospital.

3.3 Study population

All patients who presented as ocular emergency cases and were seen at the department of ophthalmology during the study period were the study population.

3.4 Study subject

The study subjects were all emergency cases with ocular trauma seen at Menelik II Hospital emergency department.

3.5 Inclusion& exclusion criteria

This study included emergency cases with ocular trauma presented to the department of ophthalmology. Other non-ocular traumatic emergency patients who came to the department were excluded from the study.

3.6 Sample size determination and sampling method

The sample size was calculated using a single proportion formula by considering the prevalence of blindness attributed to ocular trauma to be 15.8 %obtained from a previous study [2], 95% confidence interval and 5% margin of error.

$$n= (Z_{a/2})^2 p(1-p)/ w^2$$

Where n is sample size, $Z_{a/2}$ 95 % confidence interval equal to 1.96, P- estimation of population proportion which is 15.8 and W –margin of error which is 1-confidence level (1-0.95=0.05).Then the calculated sample size was found to be 204.

3.7 Measurement variables

3.7.1 Dependent variable

- Visual acuity of trauma patients at presentation.

3.7.2 Independent variables

- Socio demographic,
- Age
- Sex
- Address.
- cause

3.8 Data entry and Analysis

Data entry and analysis was done using SPSS version 20.0 for windows. The data was double entered and cleaning was done. The generated data was compiled by frequency tables, charts, and graphs

3.9 Operational definition

Blindness:-defined by world health organization as Vision lessthan3/60or counting finger at< 3m in the better eye.

Bilateral:-referring to both right and left eye.

Blunt Injuries a direct blow to the eye and surrounding tissues causes a blunt, conductional injury.

Low vision:-visual acuity less than 6/18.

Mono ocular:-referring to one eye only.

Moderate visual impairment:-visual acuity less than 6/12.

Normal vision:-visual acuity 6/6-6/12.

Ocular injury:-is trauma to eye or adnexa with mechanical, chemical or electrical.

Penetrating injuries, overall, carry a poorer prognosis than blunt injuries, although the extent of damage depends on where and how far the object enters the eye.

.Sever visual impairment:-visual acuity less than 6/60.

Unilateral:-referring to only one eye.

3.10Data collection

Data was collected from ocular trauma patients by using pre tested data collection sheet. Two nurses were involved during the data collection process who was trained on how to collect the relevant data using the data collection sheet.

The Principal Investigator was continuously supervising the data collectors and the contents of the data collection sheet are included in annex 3.

3.11Quality control

The data collecting sheet was standardized by testing it in 5% of the sample size in Menelik II Hospital before the study to make sure that the data collecting sheet is capable of yielding the required data for the study and correction was made according to the results found. The collected data was checked for completeness, consistency and clarity.

3.12 Ethical considerations.

Ethical clearance was obtained from the research ethical review committee of the department of emergency medicine and critical care, faculty of medicine, Addis Ababa University and from the department of ophthalmology at Menelik II hospital. Official letter of permission from the department was submitted to Menelik II Hospital in order to conduct the research. There was no invasive procedure involved in the study; it was a standard treatment modality which is reported. All the collected data was kept confidential and no one except the members of the research team would have access to the collected information.

3.13 Dissemination of the result

The study will be presented to Addis Ababa University, Faculty of Medicine, department of emergency medicine and critical care and documents will be disseminated to all responsible bodies in the study area. Furthermore the manuscript will be submitted to national or international peer reviewed journals for possible publication.

4. Result

A total of 2765 patients were seen during the study period. Of this total, 204 patients presented with ocular trauma. The incidence of ocular trauma was 7.37%.Among them, male constituted 147 (72%) and female 57 (27.9%) making a male to female ratio of 2.6. The majority of the cases, 67(32.8%), were between age group of 21-30 year followed by age group between 11-20 year which constituted 46(22.5%). Of the trauma cases, 148 (72.5%) were from urban community while 56 (27.5%) were from rural area. Professionally, construction workers, farmers and welders sustained trauma to the eye in38 (18.6%), 34 (16.7%) and 32(15.7%) cases respectively. Students constituted 21 (10.3%), daily laborer 18(8.8%) and the rest belong to other different profession

Table I socio demographic distribution of study participants from April to June 2014

Variable	Age group	Frequency	percent
Age	0-20	85	41.6%
	21-40	94	46.07%
	41-50	13	6.37%
	>50	12	5.88%
Sex	male	147	72.05%
	female	57	27.45%
Residence	urban	148	72.05%
	rural	57	27.45%
Occupation	Construction worker	38	18.62%
	Farmer	34	16.66%
	welder	32	15.68%
	student	21	10.29%
	Government employee	19	9.31%
	Day laborer	18	8.82%
	Factory worker	12	5.88%
	other	30	14.7

Among ocular trauma cases, 190 (93.1%) were unilateral and 14 (6.9%) were bilateral. Among them 24(11.8%) arrived at hospital in less than 6 hours after trauma, 79(38.7%) came between 6-24 hours and 101(49.5%) of patients came after 24 hour.

Cause of ocular trauma were foreign bodies98(48.0%), fighting 54(26.5%),accidental fall 36(17.6%),road traffic accident8(3.9%), thrown objects 6(2.9%) and related to other organ injury2(1.0%).Blunt trauma by objects like wood, stick, stone, metal, fist and ball was the commonest,116(56.9%) followed by penetrating injuries by sharp objects such as knife, metal wire, pen, pencil, glass and plastic in 71(34.8%) cases. Other, 17 (8.3%), were due to oxen horn, animal bite, burn and chemical injuries.

One hundred one (49.5%) trauma cases were accidental, 63(30.9%) were work- related,19(9.3%) were assault-related, 13(6.4%) during playing activity and 8(3.9%) alcohol related. The place of ocular trauma was at home 114(55.9%), industry 39(19.1%), farm 17(8.3%), school 16(7.8%), on street 9 (4.4%) and recreational area8(3.9%).

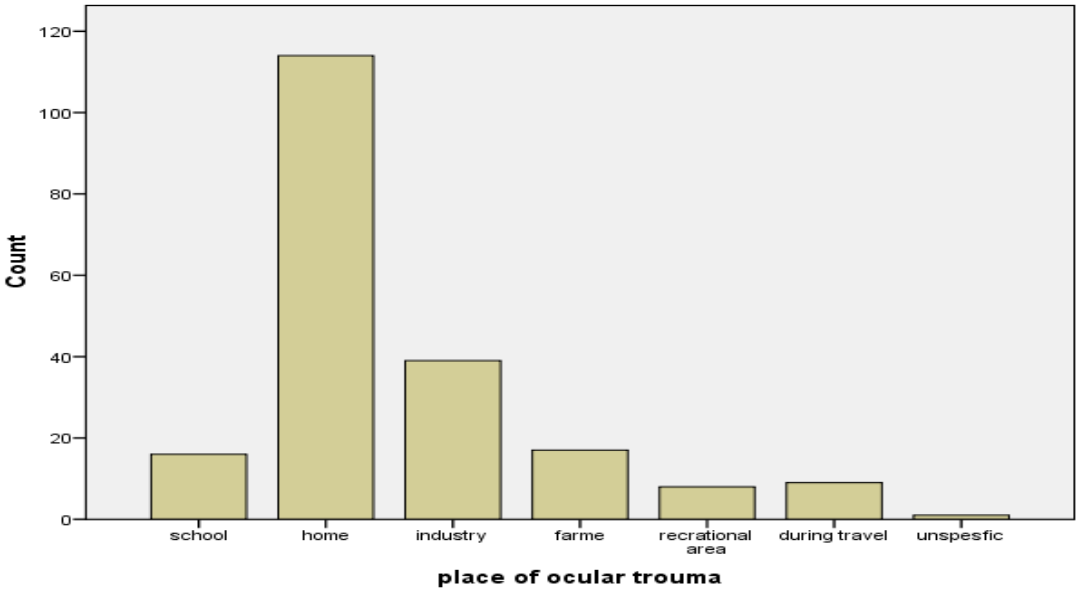

Figure 1: place where trauma has occurred from April to June 2014

Etiologically, ocular trauma was caused commonly by wood/stick and stone in61 (29.9%) and 57(27.9%) cases respectively.

Table II Etiology of ocular trauma from April to June 2014

Etiology of ocular trauma	Frequency	Percent
Wood or stick	61	29.9%
stone	57	27.9%
metal	39	19.9%
Sharpe object	24	11.8%
chemical	8	3.8%
fist	8	3.8%
ball	5	2.5%
Hot water	1	0.5%
glass	1	0.5%
total	204	100

Visual acuity of ocular trauma patients at presentation was 6/6-6/12 in 40(19.6%) cases, 6/18-6/60 in 90(44.1%), 6/60-3/60 in 46 (22.5%) and less than 3/60 to hand motion in 20 (9.8%) patients. Eight patients were children too young to check the visual acuity.

.

Table .III shows cause of ocular trauma and visual acuity at presentation from April to June 2014

Cause of ocular trauma	6/6-6/12	6/18-6/60	6/60-3/60	<3/60-HM	Uncooperative	total
Fighting	9	26	11	6	2	54
Fall dawn	6	19	5	3	3	36
RTA	1	3	3	1	0	8
Foreign body	22	39	24	10	3	98
Thrown object	1	2	3	0	0	6
Other injury	1	1	0	0	0	2
Total	40	90	46	20	8	204

Discussion

The incidence of ocular trauma was more in developing countries and it consists of largely a preventable cause of monocular visual impairment and blindness. Ocular trauma was the leading cause of emergency visit in this study. The incidence of ocular trauma in our study showed that 8 per 100 patients were presented with ocular trauma. The prevalence of ocular trauma in our cases was 7.4% was found close to 5.2% reported from Grarbet eye Hospital [3].The majority of the patients 147(72%) were males and 57(27.94 %%) were females. This might be attributed to males' increased exposure of activities that result in injuries and they are more involved in occupations which have increased risk of trauma.

The injuries were more frequent in the 21-30 year age group followed by those in the age group 11-20 year similar with previous study [3].Thus, the majority of cases in our study involved young and working age groups.

The commonest mechanism of injury was blunt in 116(56.9%) followed by penetrating in 71(34.8 %). These findings were similar with the study done in western region of Nepal where blunt trauma accounted for 56.5 % and sharp injury accounted for 16.7 % [7]. Involvements of eye trauma in our study was unilateral in 190(93.1%) and bilateral in 14(6.9%) cases. This was also similar with study done in Nepal [7]. Previous study reported that trauma of the eye was the most important cause of unilateral loss of vision in developing countries and 5 % of all bilateral blindness is directly due to trauma [7]. In Nepal too, ocular trauma was considered a major cause of unilateral blindness.

Foreign body and fighting were the two common causes of ocular trauma in 98 (48.0%) and 54(26.5%) cases respectively. Thirteen (6.4%) children sustained accidental eye trauma while playing which is consistent with study conducted on ocular emergency at Menelik II hospital. [13]. Work related and fighting was described as the commonest causes of ocular trauma among adults and accidental injury while playing was common in children. Most ocular trauma in the population took place at home in 114 (13.0%) individuals. Our study indicated that home was the most common place of ocular trauma which was similar to the study done in Malawi [14]. In this study, ocular injury at home mostly by forks, sticks or knives, still accounted for a high percentage of injuries.

In most previous studies, work-related ocular trauma was reported to be the commonest cause of eye injuries indults [10].This finding was supported by our study which showed that most of the injuries occurred related to work in 62 (7.1%) cases. The leading cause was fighting. The profession commonly associated with ocular injury in this study was construction work, farming and welding. Blunt objects such as sticks or stones were the main cause of eye trauma consistent with a study done in Jimma University [8].The causes of injury were violence related, domestic accidents and occupational in 51(16.8%), 40(13.2%) and 36(11.8%) cases respectively.

6. CONCLUSION AND RECOMMENDATION

The incidence of ocular trauma was 7.3%.Ocular trauma was more prevalent in males and productive age groups. The common cause of ocular trauma was foreign body followed by fighting. Of 204 cases half of them were accidental. This study was able to provide a better understanding of the cause and incidence of ocular trauma. Our study showed that the patients with ocular injury need urgent medical treatment. Health education about proper use of eye goggle and prompt medical management can prevent the permanent visual loss.

The recommendation is that community education is an essential part in prevention. Efforts to prevent ocular injuries should particularly be directed toward improving established domestic habits and taking care during farming and harvesting activities. The necessity of seeking professional medical help immediately after injury and the danger of delaying treatment should also be stressed. Adult supervision is an important factor in the prevention of eye injury in pediatric group. Public education and use of protective safety measures are recommended to alleviate the problem

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ANNEXES

Annex 1 information sheet

Name of the investigator Martha Habtesilassie (Bsc, Msc candidate)

Research title patterns of ocular trauma patients seen in Menelik II Hospital ophthalmology department

Research objective the aim of this study is to evaluate the incidence, cause and visual acuity of ocular trauma patients at presentation.

Study procedure to achieve the planned objective of this study, socio demographic data clinical history and course of management of patients will be taken prospectively

Confidentiality the collected information will be kept confidential and used only for research purpose. No one except the members of the research team will have access to the information collected. The name and/or other personal information of patients will not be notified in any report. All paper and computer records of the study will be kept in a secured place under lock when not in use.

Person to contact if the data collectors or other hospital administrative staffs have any question regarding the study they are free to contact me in person or by the following addresses

Martha Habtesilassie Cell phone: 09 11 89 16 33

Email: marhabta@ovi.com

Annex 2 consent form

I am 2nd year emergency medicine and critical care nursing post graduate student in Addis Ababa University School of Graduate Studies Faculty of Medicine Department of Emergency Medicine.

I am doing my thesis work on patterns of ocular trauma at Menelik II Hospital ophthalmology department to assess the incidence ,cause and initial visual acuity of ocular trauma patients seen in ocular emergency department .To achieve the above stated objectives you are kindly requested to participate in this study by giving honest and precise answer to interviewer .No risk will be imposed as a result of participation in this study ,since it does not affect the course of your treatment .Your participation in this study completely voluntary. You have the right to withdraw consent and discontinue your participation without this decision, not affecting your usual care and treatment at this hospital .The information concerning your participation in the study will be kept confidential.

I_____ the undersigned here by give my consent for participating in this study.

Signature (participant /parent /guardian); ----------

Principal investigator/ data collector----------

Date ----------/----------/----------

Annex 3

Format of data collection on ocular trauma patient seen in Menelik II Hospital.

1. Demographic data.

Age_____ sex_____

Hospital no_____

Address urban _____ rural_____

2. Time of Patient arrival at ED.

A. Immediately B. before 24 hours C. after 24 hours

3 .Cause of ocular trauma

A. Fighting accident B. fall down accident C. Rode traffic accident D. Foreign body

E. thrown object F. other injury

4. Mechanism of ocular trauma.

A. penetrating B. Blunt C. hot water splash D. other

5. Visual acuity at presentation

A. 6/6 to6/12 B. 6/18to 6/60 C. <6/60 to CF3m D. <CF 3m to NLP E. uncooperative.

6. Etiology of ocular trauma

A. metal b. wood (stick) C. Sharpe object D. chemical E. stone F. fist

G. Ball. H. glass

7. Occurrence of ocular trauma

A. Accidental B. Assault related C. Work related D. Alcohol related . E. During playing activity

8. Place of ocular trauma

A. School B. Home C. Industry D. Farm E. recreational area

F. During travel G. Unspecified.

9. Involvement of ocular trauma

A. unilateral B, Bilateral

10. Management of Ocular trauma patient

A. medication B. foreign body removal C. ocular wall repair D. reassurance

11. Profession of ocular trauma patient.

A. student B. Farmer C. government employ E. house wife D. day labor F .Foot ball player

G. sheltered H .constriction worker I. driver

Amharic version of patient consent form

የጥናቱ ማብራሪያና ስምምነት ቅጽ

እኔ ማርታ ሀብተስላሴ የተባልኩ በ ድንገተኛ ህክምና እና በጽኑ ህሙማን ክትትል ህክምና ትምርት ዘርፍ ሁለተኛ ዲግሪ ትምርቴን እየተከታተልኩ የምገኝ ስሆን የመመረቂያ ጽሁፌን በዳግማዊ ሚኒሊክ ሆስፒታል የዐይን ጉዳት የደረሰባቸውን በሽተኞች ብዛት ፤ የአደጋ ምክኒያት፤ እንዲሁም በጉዳቱ ጊዜ ያላቸው የእይታ መጠን ለመዳሰስ በሚል ርእስ ለመስራት በዝግጅት ላይ ነኝ ። በመሆኑም ከላይ የተጠቀሰውን የጥናቱ አላማ ለማሳካት ይረዳኝ ዘንድ እርሶ በጥናቱ ላይ እንዲሳተፉ በትህትና እጠይቃለሁ ። በዚህ ጥናት በመሳተፎ የሚደርስቦት ምንም አይነት ጉዳት አይኖርም። ይህ ጥናት በፈቃደኝነት ላይ የተመሰረተ

ሲሆን እርሶ በማንኛውም ወቅት ከጥቀናቱ መውጣት ይችላሉ ። ከጥናቱ ቢወጡም ተገቢውን ህክምና የማግኘት መብት አለዎት ። እርሶ የሚሰጡት መረጃ ሚስጥረዊነት የተጠበቀ ይሆናል ። በዚህ ጥናት ለመሳተፍ ፈቃደኛ ከሆኑ እባኮ በፉርማዎ ያረጋግጡ::

እኔ ----------በጥናቱ ለመሳተፍ መስማማቴን በፊርማዬ አረጋግጣለው።

የተሳታፊ ፊርመማ----------

የመረጀ ስብሳቢ ወይም የዋና ተመራመሪ ፊርማ----------

ቀን----------/----------/----------

Annex 4

ASSURANCE FORM

I, the undersigned, assert that this Msc. thesis is my original work, has not been presented for a degree in any other university and that all sources of materials used for the thesis have been accordingly acknowledged.

M. Sc candidate: Martha Habtesilassie **(**BSC)

Signature: _____ Date_____

Advisor:

Dr Abebe Bejiga, MD, Ophthalmologist

Signature: _____ Date _____

S/R Heyria Hussein MSC in EMCCN

Signature: _____ Date _____