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PATTERN OF OCULAR EMERGENCIES PRESENTING AT BRHAN EYE HOSPITAL, ASMARA, ERITREA, IN 2022

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ABSTRACT

Background: During ocular emergency early action is necessary to prevent severe and permanent damage to the eye. These emergencies put much weight to human suffering, long lasting disability and dependability. However, there is no published report on the patterns of these emergencies in Eritrea. **Objective:** To describe the pattern of ocular diseases presenting to the emergency department of Brhan Eye National Referral Hospital. **Methods:** A descriptive cross-sectional study was conducted on all the ocular emergent patients presenting to the emergency department in Brhan Eye National Referral Hospital during a period of February to April 2022. A well-structured questionnaire was used to collect the data. A total of 380 patients participated in this study. Data analysis was done using SPSS version 26. Descriptive results were summarized using frequencies and percentages in tables and graphs. **Results:** Three hundred eight patients (380) with minimum age of 6 years to maximum of 86 years old were included in the study. In this study the highest number of patients who attend to the emergency department were Male 240(63.2%) and Female 140(36.8%) with a ratio of 1.7:1. From the total of all the subjects who attend to the emergency department males were most presented with trauma 136(77.7%) and females are less likely to be affected with trauma. The most common complaint was red eye 112(29.5%), followed by pain 73(19.3%), foreign body sensation 52(13.4%), in combination of red eye and pain 36(9.5%), decreased vision 28(6.8%), vision loss 18(4.7%), adnexal swelling 16(4.2%), discharge 12(3.2%), bleeding 11(2.9%), lacrimation 11(2.9%), headache 5(1.3%), flashes and floaters 4(1.1%) and also photophobia 4(1.1%). **Conclusion:** Ocular emergency consists of lots of cases which any of health personal can't recognize easily that could predispose to blindness, not only ocular trauma (injury) but also endophthalmitis, Optic neuritis, retinal detachment, CRAO or CRVO, corneal ulcer, orbital cellulitis, Microbial keratitis, iritis, Uveitis, Angle closure glaucoma and vitreous hemorrhage. In most of the study done the non-emergent visits accounted for a significant proportion of eye-related emergencies visits. This finding provides us that the non-emergent cases were create a problem of time consuming, overcrowding and use of unnecessary resources.

KEYWORDS

Pattern, Ocular emergency and Eye hospital.

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INTRODUCTION

An Ocular Emergency includes conditions that involve sudden threats to the visual system that if left untreated can lead to permanent visual loss and/or severe threats to the visual function of the patients¹.

Despite the fact that the eyes represent only 0.27% of the total body surface area and 4% of the facial area, they are the third most common organs affected by injuries after the hands and feet². Ocular emergencies have a greater hand on causing visual loss and disability. They have a major share in various ocular diseases and are associated with high risk of complications. Emergencies in ophthalmology can be of various kinds ranging from traumatic injuries, infections, and inflammation to neurovascular conditions. Our eyes play a crucial role in our daily living and functioning. Many people however take their vision for granted, and sometimes could have their vision threatened. Certain eye conditions like ocular injuries or trauma, corneal ulcer, acute angle closure glaucoma, Central Retinal Artery Occlusion (CRAO), microbial keratitis, posterior uveitis, Endophthalmitis, Optic neuritis, Orbital cellulitis and Retinal detachment are commonly documented ocular emergencies round the globe.

The pattern of ocular emergencies is different from region to region. Globally, Ocular emergencies are a common feature in the practice of ophthalmology all over the world, which represents approximately 1-6% of presentations to the general emergency room worldwide and this number is expected to increase. Injuries to the eye and adnexa constitute a large proportion of ophthalmic emergencies and are responsible for between 49% and 65% in previous studies³. Causes of non-traumatic ophthalmic emergencies vary in different parts of the world, Infections/inflammations are the most common, while in some regions, contact lens-related disorders are important. Most of the patients that come to the Accident and emergency department are dominated by ocular injuries, but there are some demographical differences in different countries. In Ohudu medina Saudi Arabia, 35% of patients present with inflammation [Conjunctivitis (32.5%), Keratitis (1.8%)] followed by trauma 19.1% and infections 10.5%. Further, the study showed that conjunctivitis was the most frequent eye infection (32.5%) followed by lid infection (12%), and other ocular problems¹.

A similar study conducted in Lumbini eye hospital, Nepal showed that the most common ocular emergencies were foreign body (13.1%), blunt trauma (11.9%), conjunctivitis 10.4%, Open globe injury (10.3%) and corneal epithelial defect (9.3%), Ocular infection was also common cause for emergency visits⁴. However, in Nigeria, 70% of the cases were due to Ocular trauma/injury, and the rest 29% were non-traumatic ocular emergency cases, like Males are more predominantly affected by ocular trauma than females in most of the studies because of their risk taking nature⁵.

World Health organization (WHO) statistics showed that ocular emergencies have high number worldwide in emergency departments. The WHO Program for the Prevention of Blindness, indicates 55 million eye injuries restricting activities more than one day occur each year and 750,000 cases will require hospitalization each year, including some 200,000 open-globe injuries. Besides there are approximately 1.6 million blind from injuries, an additional 2.3 million people with bilateral low vision from this cause and almost 19 million with unilateral blindness or low vision⁶. As a result ocular trauma is bigger in number which made other ocular emergencies to be neglected. From these cases acute emergency ocular conditions are common which constitutes a significant proportion of eye hospitals in the emergency departments⁷.

Careful examination and appropriate treatment to Ocular emergency are the best solution to minimize further complications, because ocular emergencies have a role on poor visual prognosis, resulting in loss of an eye or blindness⁸. So, Ocular emergencies need to be addressed as soon as possible, as they can lead to permanent visual loss.

Eritrea is one of those developing countries with most of its population exposed to agricultural activities and other laborious work which leads to most of the ocular emergencies. In addition, Ocular Emergencies has been neglected, misdiagnosed and treated as non-emergent diseases. This study is therefore aimed to find out how the pattern of the ocular emergencies is and to address the most common ocular emergencies in Brhan Eye National

Referral Hospital (BENRH) for a better diagnosis and management.

METHODS

Study design

The study was a descriptive cross-sectional hospital based study of ocular emergency patients presenting to Brhan Eye National Referral Hospital Asmara, Eritrea from February-April, 2022.

Study Setting

The research was conducted in Brhan Eye Referral Hospital (BENRH) from February to April of 2022. This hospital was established in 1957 in the currently present National Referral Hospital Orotta. BENRH is the only national referral eye hospital located in north east of Maitemenay, Asmara. It is a tertiary hospital and a teaching hospital where medical, nursing and optometry students learn and practice their clinical sessions. BENRH provides service for 4000-5000 patients and performs around 300 cataract surgeries beside the other ophthalmic surgeries per month. This hospital runs by 5 ophthalmologists (local and international), 5 ophthalmic nurses, 5 ophthalmic officers and other staffs (nurses, pharmacy and laboratory technicians). Brhan Eye National Referral Hospital was selected for the study because it is tertiary level hospital where most ocular Emergencies cases in Asmara (and even the whole country) are referred to. This will give a better overview of eye Emergencies in the city and a proxy for the country.

Study population and sampling method

All the patients visited to the Ocular Emergency Department at a given period of 3 months. The patients with ocular emergencies were checked in the Outpatient department (OPD), Emergency Unit, major operation room (MOR), minor operation room (MOR) and also wards to prevent subjects from missing. All patients presenting to BENRH due to ocular emergencies, who has been hospitalized but who requires emergent care or treatment were included. A total of 380 patients participated in this study.

Sample size

Census was taken to all subjects presented to the ocular emergency unit and other sites in (BENRH) within the study period of 3 months.

Data collection tools and methods

A primary data was collected from the patients presenting at BENRH due to ocular emergency. The data collection tool is a well-structured questionnaire which was developed from the results of the study done in Ohudu, Medina Hospital, Saudi Arabia. The questionnaire included sections on socio-demographic characteristics, history of the ocular emergency and basic ophthalmic examination. The questionnaire was administered to the participants by using the Interview method.

For basic eye exam, the Snellen chart for Visual acuity (VA), instruments like pen torch, slit lamp, direct and indirect ophthalmoscope's, non-contact tonometer (Air puff) and B-scan where performed. The information sheet which contains the personal information of the patients who attends at this study were confidential.

Variables

Dependent variable: Pattern of ocular emergencies was the outcome variable.

The independent variables include: Patients socio demographic characteristics (age, gender, demographic location etc).

Data analysis procedure

Data was double checked for its completeness and cleaned before entered into SPSS version 26 for analysis. All variables of study were described using descriptive statistics. Results was displayed using tables and graphs.

Pilot study

The study was piloted on 20 patients at BENRH. Based on the pilot study the questionnaire was rearranged to suit the objectives of the study.

Ethical Considerations

The study was conducted after approval is obtained from OCMHS, the health research ethics committee and protocol review committee of the Ministry of Health (MOH) and from the medical director of the BENRH. The aim and objective of the study were explained to the patients during data collection and the questionnaire was administered in an interview

method. Written informed consent was taken from every patient after explaining the objectives, risks and benefits on participating in the study and data's confidentiality.

RESULTS AND DISCUSSION

The study was conducted in Brhan Eye National Referral Hospital and Teaching Hospital, 380 subjects were present for ocular emergency department in the OPD (emergency section), in wards, in minor OR, major OR from February to April, 2022. Ocular emergency accounted for 1.3% of all patients (15,560) seen in BENRH during the study period. Patient's receptiveness was satisfactory through all the process of data collection. Based on the objectives, the collected data was analyzed, and displayed in tabular form, graphs.

Patients Socio-Demographic Characteristics

Age, Gender and Level of Education

Three hundred eight patients (380) with minimum age of 6 years to maximum of 86 years old were included in the study. The most numerous group were patients with 6-20 years of a number of 150(39.5%), followed by the age group of patients with 21-40 of 116(30.5%), 41-60 of 61(16.0%) and patients who are >60 were 53(13.9%). Trauma and inflammation were mostly seen in age group of 6-20 among other categories with 77(44%) and 50 (43.1%) respectively, and the age group of patients with >60 was mostly affected with other conditions 24(52.1%) rather than other categories like cataract, retinal detachment and diabetic retinopathy it's because, all are age related cases.

In this study the highest number of patients who attend to the emergency department were Male 240 (63.2%) and Female 140(36.8%) with a ratio of 1.7:1. From the total of all the subjects who attend to the emergency department males were most presented with trauma 136(77.7%) and females are less likely to be affected with trauma, but they are more affected with inflammation relatively higher than males with 59(50.9%) and 57(49.1%) respectively. Both genders found to be proportionally affected with infection ((male 23(53.5%), female 20(46.5%) and other (male 24(52.2%), female 22(47.8%)) group of categories.

From the total of subjects 198(52.1%) were attended junior and secondary school, 110(28.9%) had primary school, 66(17.4%) were college graduates and 6(1.6%) had no formal education. Trauma was predominantly seen in a group of patients among junior and secondary school 100(57.1%) and primary school 44(25.1%).

Geographical location and Level of Education

Most of the subjects who presented to BENRH come from Urban 329(86.6%) and the rest were from rural 51(13.4%). From all those patients 317 (83.4%) came from a distance of 1-15km far from BENRH, 16-30km (17(4.5%)), 31-50km ((11(2.9%)) and >50km ((35(9.2%)).

Patients presenting complaints

Overall 380 patients were presented with different complaints to the emergency department of OPD, Wards, Minor and Major OR. The most common complaint was red eye 112(29.5%), followed by pain 73(19.3%), foreign body sensation 52(13.4%), in combination of red eye and pain 36(9.5%), decreased vision 28(6.8%), vision loss 18(4.7%), adnexal swelling 16(4.2%), discharge 12(3.2%), bleeding 11(2.9%), lacrimation 11(2.9%), headache 5(1.3%), flashes and floaters 4(1.1%) and also photophobia 4(1.1%), (Table No.2).

Laterality and Category

From all subjects presented to the emergency department, trauma possessed the highest proportion with a total of 175(46.1%) with a dominant case being corneal involvement due to (foreign body 37(21.1%), abrasion 21(12%), corneal tear 8(4.5%), then adnexal lacerations (upper and lower lid laceration) 29(16.6), sub-conjunctival hemorrhage 24(13.7%) respectively. The second most common group was inflammation with 116(30.5%) and Allergic conjunctivitis was greater among other cases 62(53.4%), followed by VKC 31(26.7%) and pingueclitis (7.7%). Others 46(12.6%) with retinal detachment 8(17.4%), refractive error 8(17.4%) and cataract 8(17.4%) were among the highest from this category followed by Angle closure glaucoma 6(13.0%) and infection 43(11.3%) with bacterial conjunctivitis 7(16.2%), hordeouulum 7(16.2%), corneal ulcer 7(16.2%) and Endophthalmitis 7(16.2%) was the highest number among other cases

of infection, followed by blepharitis 6(13.9%) and orbital cellulitis 3(6.9%).

Regarding the involvement of the eyes, 468 eyes were affected from a total of 760. Generally left eye 165(43%) was involved more than the right eye 127(34%). The left eye was greatly affected with trauma 97(55.4%) than inflammation 35(30.2%) and infection 18(41.8%). The right eye 70(40%) was affected relatively lower than the left eye, followed by inflammation 30(25.8%) and others 15(32.6%). Trauma was confined only to one side of the eye in comparison to inflammation 51(43.9%) in both eyes as displayed in the figures below (Figure No.2 and Figure No.3).

Veracity of Cases (Emergent and Non-Emergent)

From 380 subject's attendants, emergent cases were 201(52.9%) and non-emergent were 179(47.1%). The most common cases seen in emergent were trauma with 161(80%), corneal foreign body 37(21.1%), adnexal laceration 27(15.4%) and corneal abrasion 24(12%), followed by infection 21(48.8%). In non-emergent the dominant category was inflammation 115(64.2%) as allergic conjunctivitis 62(53.4%) was majorly seen in inflammation, followed by VKC 31(26.7%). Others were the second most common category after inflammation with 29(16.2%) while infection 22(12.2%) accounts to the lowest among other categories.

Time and Action Taken in BENRH

One hundred and eighty-nine (49.7%) patients were treated within 24 hours followed by 179(47.1%) patients with immediate action and 12(3.2%) patients after 24 hours. The management depends on which portion of the eye is the diseases occurred, so most of the patients get a chance to be treated and discharged immediately with a number of 303(79.7%), followed by patients who got admitted 52(13.7%), and 25(6.6%) send or referred to other departments for further management.

Time of Stay at the Hospital

Related to the time of stay 329 patients stayed at the hospital for more than 24 hours, 41 patients stayed > 3 days and 10 patients stayed for 24 hours to 3 days.

Discussion

Considering the ocular emergency, both in trauma and inflammation males were 63% more in number than females. Congruent to this finding, a study conducted in central Saudi-Arabia found out males 61% have higher attendance than females⁷. A similar study from medina, Saudi-Arabia reported high number of males 54.2%, compared to females. This finding give rise to a conclusion of that males are naturally high risk takers and their activities is mostly out door¹.

In this study 6-20 years of age group were at higher risk and were more prone in both ocular trauma and inflammation. Similarly a study conducted in Pakistan found out age group 0-9 years followed by 20-29 years were with highest visit⁹. In contrast study done Saudi-Arabia stated greater than 45 years were attended in ocular emergency department. This could be due to the nature of activities at different ages, especially children under 5 years understand very little about hygiene and may be more prone to touch the lids and ocular adnexa with soiled fingers¹.

Present complaints

In this study, patients came with different complaints and the most common complaint was red eye with the least complaint being photophobia. Similarly, in a Study done by medina, revealed that the main complaints were a combination eye pain, redness and swelling. Other presenting complaints included pain in 25.1% of patients and redness in 18.8% of patients¹. Congruently, a study done in Saudi-Arabia reported the major presenting complaints were combination of redness, pain, swelling and lacrimation. Also in a study conducted in Kerachi, Pakistan the most common reported symptom was eye injury 368(39.7%), followed by red eye, painful eye, swollen eyes, reduced vision, itching, watery eyes, eye discharge and burning eyes⁹. Similar to these findings, studies conducted in Poland and New Zealand reported that the main presenting complaints to ocular emergency department were red eye, pain, foreign body sensation and decreased vision¹⁰.

Veracity

Emergent cases were 201(52.9%) and non-emergent cases were 179(47.1%). Similarly, study done in Israel 29.3% cases were categorized as "non-

Urgent¹¹. In contrast a study conducted in Saudi-Arabia found out non-emergent ophthalmic cases were the most common reason for the ophthalmology emergency room visits¹. Similarly a study done in Central Saudi-Arabia from a total subjects 1412, the 712(50.4%) of cases were considered as non-emergency, which are visiting the A/E for dry eye, chalazion, blepharitis, and allergy⁷. A study conducted in Al-Ahsa, Saudi-Arabia reported most of the conditions categorized as non-serious cases followed by infections which could be managed in OPD or by general physicians at PHC¹². Incongruent a study done in Kerachi, Pakistan reported non-urgent eye problems accounted for a sizable share of all eye-related ED visits. Many of these visits were unnecessary and could have been handled by primary healthcare physicians/workers. The results of the studies revealed that other causes which is not serious was the most common cause for attending followed by infection⁹.

Category and laterality

In this study trauma was most frequently observed in which corneal foreign body 21.1% is the leading cause among followed by inflammation, others and infection. Similarly, a study done in Romania stated conjunctivitis and corneal foreign bodies accounted for almost half of the cases¹³.

Congruently, study done in Nepal found out that majority patients 75.7% with ocular injuries was foreign bodies 40%, followed by inflammation were acute conjunctivitis was the highest 64.6%¹⁴. A study done in Nepal the common ocular emergencies were trauma which foreign bodies account to 13.1%, followed by inflammation⁴. Similarly, a study done in Israel from 1290 patients trauma was the most frequent diagnosis 47%, followed by inflammation 29.3% and infection 16%¹². Similarly a study done in Central Saudi-Arabia, reported from total number of 1412 patients trauma was the most frequent category 27%, followed by inflammation where conjunctivitis 14.9% is the highest among inflammation⁷.

On the consideration which eye was more involved, the left eye 97% was mainly affected by trauma, followed by both eyes affected by inflammation. Similarly in a study done by Addisu, the left eye was involved in 51.3% (n=386), the right eye was involved in 47.2% (n=356) and bilateral involvement was seen in 1.5% (n=11) of the patients. The reason could be because most of the population in the world is right handed, so, they can protect the right eye sub-consciously by instinct, whereas inflammation and infection affects both eye mostly due to its easily transmissible nature and also they are related with systemic.

Table No.1: Age, Gender and Level of Education

S.No	Characterstics	Categories			
		Traumatic 175	Inflammation 116	Infection 43	Others 46
Gender					
1	Male (240) 63.1%	136(77.7%)	57(49.1%)	23(53.5%)	24(52.2%)
2	Female(140) 36.9%	39(22.3%)	59(50.9%)	20(46.5%)	22(47.8%)
Age					
3	6-20 (150) 39.4%	77(44%)	50(43.1%)	18(41.8%)	5(10.5%)
4	21-40 (116) 30.5%	62(35.4%)	37(31.8%)	11(25.5%)	6(13.0%)
5	41-60 (61) 16.0%	25(14.2%)	17(14.6%)	8(18.6%)	11(23.9%)
6	>60 (53) 13.9%	11(6.2%)	12(10.5%)	6(13.9%)	24(52.1%)
Level of education					
7	No-formal (5) 1.3%	1(0.5%)	1(0.8%)	1(2.3%)	3(6.5%)
8	Primary (108) 28.4%	44(25.1%)	36(31.0%)	16(37.2%)	12(26.1%)
9	Junior and secondary (203) 53.4%	100(57.1%)	59(50.8%)	20(46.1%)	24(52.2%)
10	College/university (63) 16.5%	30(17.1%)	20(1.7%)	6(13.9%)	7(15.2%)

Table No.2: Distribution presenting complaints

S.No	Present Complaints	Frequencies (N)	Percentage (%)
1	Adnexal swelling	16	4.2
2	Bleeding	11	2.9
3	Decreased vision	28	6.8
4	Discharge	12	3.2
5	Flashes and Floaters	4	1.1
6	Foreign body sensation	52	13.4
7	Head ache	5	1.3
8	Lacrimation	11	2.9
9	Pain	73	19.3
10	Photophobia	4	1.1
11	Red eye	112	29.5
12	Red eye and Pain	36	9.5
13	Vision loss	18	4.7
14	Total	380	100%

Table No.3: Emergent cases

S.No	Veracity	Categories	Clinical diagnosis	Frequency	
1	Emergent	Trauma	Open globe injury	Corneal tear	8(4.5%)
				Intraocular foreign body	1(0.5%)
			Closed globe injury	Adnxxal laceration (upper and lower lid lacerations)	27(15.4%)
				Chemical/thermal burn	6(3.4%)
				Conjunctival foreign body	7(4%)
				Conjunctival tear	4(2.2%)
				Corneal abrasion	21(12%)
				Corneal foreign body	37(21.1%)
				Hyphema	10(5.7%)
				Conjunctivitis due to trauma	12(6.8%)
				Traumatic mydriasis	1(0.5%)
				Sub-conjunctival hemmorrhage	24(13.7%)
		Vitreous hemmorrhage	3(1.7%)		
		Infection	Corneal ulcer	7(16.2%)	
			Keratitis	4(9.3%)	
			Endophthalmitis	7(16.2%)	
			Orbital cellulitis	3(6.9%)	
		Inflammation	Iritis	1(0.8%)	
		Others	Angle closure glaucoma	6(13.0%)	
Crao	3(6.5%)				
Retinal detachment(rd)	8(17.4%)				
2		Total		201	

Table No.4: Non-emergent cases

S.No	Veracity	Categories	Clinical diagnosis		Frequency (%)
1	Non-emergent	Trauma	Closed-globe	Corneal opacity	3(1.7%)
				Traumatic cataract	9(5.1%)
				Adnexal laceration	2(1.1%)
		Infection	Acute dacryocystitis	2(4.6%)	
			Bacterial conjunctivitis	7(16.2%)	
			Blepharitis	6(13.9%)	
			Hordeolum	7(16.2%)	
		Inflammation	Allergic conjunctivitis	62(53.4%)	
			Inflamed ptergium	6(5.2%)	
			Pingueculitis	9(7.7%)	
			Pre-septal cellulitis	3(2.6%)	
			Sub-conjunctival hemmorrhage	4(3.4%)	
			Vkc	31(26.7%)	
		Others	Bullous keratopathy	2(4.3%)	
			Cataract	8(17.4%)	
			Concretion	1(2.2%)	
			Diabetic retinopathy(dr)	4(8.7%)	
Dry eye	4(8.7%)				
Naso-lacrimal duct obstruction	2(4.3%)				
Refractive error	8(17.4%)				
2		Total		179	



Figure No.1: Geographical location

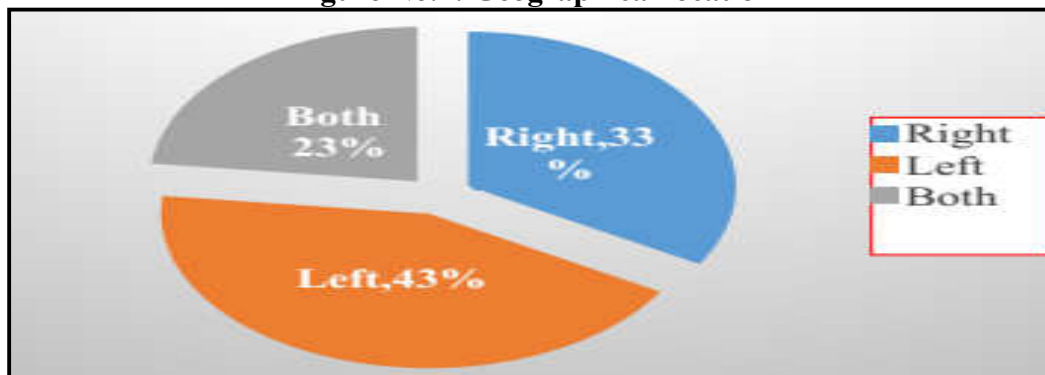


Figure No.2: Involvement of ocular emergency

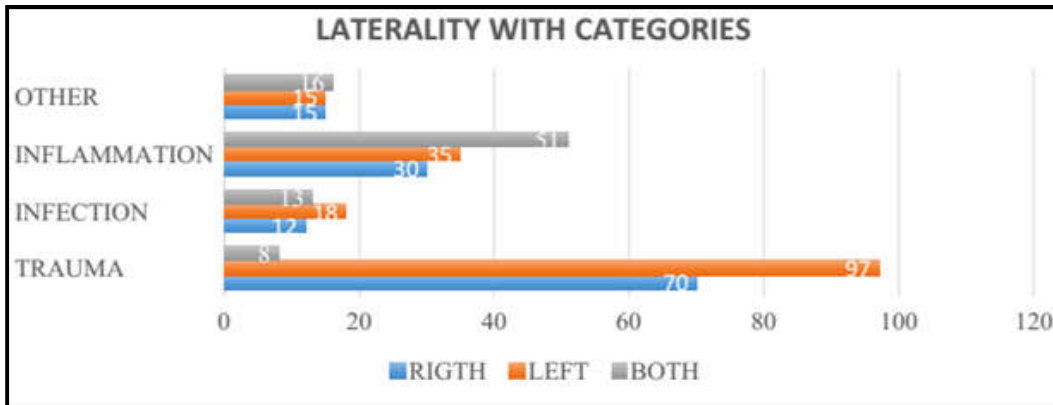


Figure No.3: Laterality distribution of ocular emergency

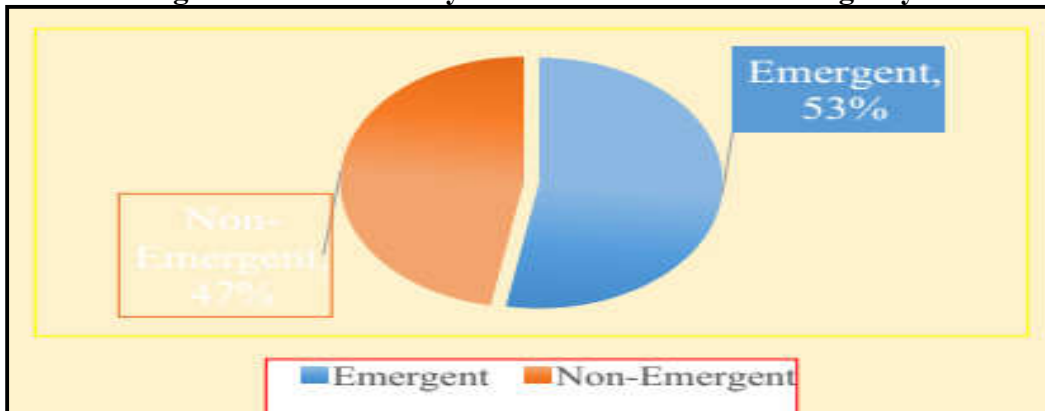


Figure No.4: Veracity of cases

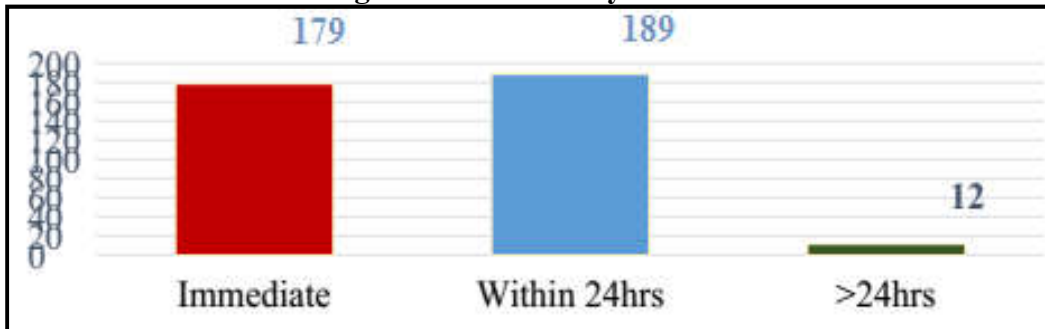


Figure No.5: Time of action taken

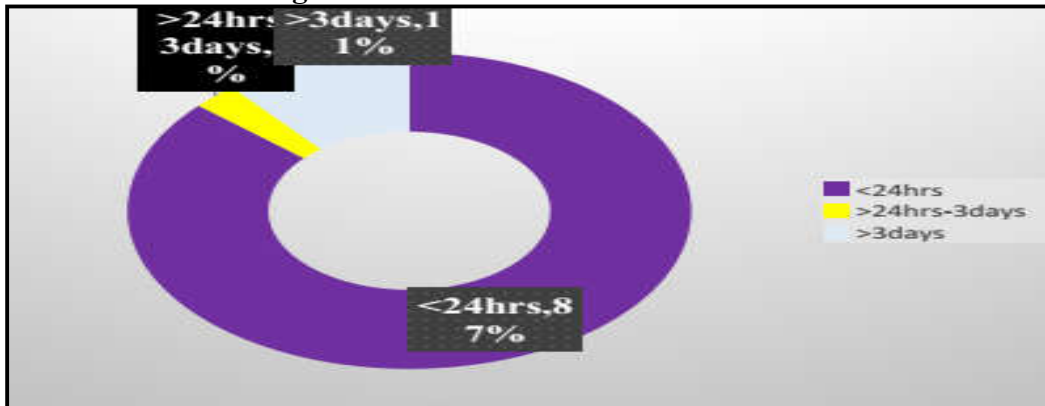


Figure No.6: Time of stay at the hospital

CONCLUSION

An Ocular Emergency includes conditions that involve sudden threats to the visual system that if left untreated can lead to permanent visual loss and/or severe threats to the visual function of the patients. ocular emergency consists of lots of cases which any of health personal can't recognize easily that could predispose to blindness, not only ocular trauma (injury) but also endophthalmitis, Optic neuritis, retinal detachment, CRAO or CRVO, corneal ulcer, orbital cellulitis, Microbial keratitis, iritis, Uveitis, Angle closure glaucoma and vitreous hemorrhage. In most of the study done the non-emergent visits accounted for a significant proportion of eye-related emergencies visits. This finding provides us that the non-emergent cases were create a problem of time consuming, overcrowding and use of unnecessary resources.

RECOMMENDATION

We recommend that other ocular emergency must be checked thoroughly and all the health professional must give attention as the same weight as the ocular trauma.

Triage system must be instilled in the hospital to minimize the overcrowding of the OPD and the emergency departments.

All health professionals must be trained concerning clinical features of the ocular emergency.

Health education must be provided throughout the community on prevention like hygiene, use of protective materials (goggles).

Further studies must be conducted in other places of the country to determine and identify characteristics of ocular emergency.

IMPLICATION OF THE STUDY

This study will help to provide knowledge on proportion of common ocular emergencies and help to plan and prepare nursing practice on management of ocular emergencies.

LIMITATION/ANTICIPATED PROBLEMS OF THE STUDY

Patients who had eye emergencies along with other life-threatening injuries might be missed just by

going to other hospitals, e.g. Orotta National Referral and Teaching Hospital.

ABBREVIATION

A/E: Accident and Emergency; BENRH: Brhan Eye National Referral Hospital; CA: Corneal Abrasion; CB: Chemical Burn; CL: Corneal Laceration; CRAO: Central retinal artery occlusion; FB: Foreign Body; IOP: Intra Ocular Pressure; MOR: Major operation room; Mor: Minor operation room; OCMHS: Orotta College of Medicine and Health Science; O/E: Ocular Emergency; O/T: Ocular trauma; OPD: Out Patient Department; OR: Operation Room; SD: Standard deviation; SPSS: Statistical Package for Social Science; VA: Visual Acuity; WHO: World Health Organization.

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CONFLICT OF INTEREST

None declared.

AUTHORS' CONTRIBUTIONS

All authors participated in all phases of the study including topic selection, design, data collection, data analysis and interpretation. Samuel and Dr. Linto contributes to write this manuscript.

AVAILABILITY OF DATA AND MATERIALS

The complete data set supporting the conclusions of this article is available from the corresponding author and can be accessed up on reasonable request.

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