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Epidemiological and occupational profile of ocular trauma in adult population attending a tertiary care centre: a cross-sectional study

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Abstract: *Background:* World-wide ocular trauma in work places is one of the major cause of blindness. It has a significant socio-economic impact as it affects mostly the younger individuals of society who are only incumbent in most of the families. *Objectives:* To provide epidemiological data and occupational profile on ocular injuries in adult population that may help in future planning and implementation of preventive and safety strategies. *Methodology:* A descriptive, observational, cross-sectional study was conducted from January 2019 to December 2019. By a non-probability based sampling technique 151 patients were selected who complied with the inclusion criteria. After taking a detailed history, patients were subjected to proper clinical examination and required investigations were done. *Result:* The mean age of the study population was 34.28±2.49 years. 57.62% of the population suffered an injury in work place. 63.63% people were aware of using protective measure in work place but only 11% knew that employer was bound to provide the same, for which despite of the knowledge only 17.27% were actually using it. People with higher education were significantly more knowledgeable ($p< 0.00001$) and more keener ($p=0.01$) to use the protective devices. *Conclusion:* Employees are to be made well aware about their rights, risks in job and usage of protective devices by health education and awareness campaign.

Keywords: Ocular Trauma, Occupational Injury, Personal Protective Equipments (PPE).

Introduction

Once described as a neglected disorder, ocular trauma is now considered as a major cause of visual morbidity. Although eyes occupy only 0.1% of the total , 0.27% of the anterior body surface area and 4% of the facial area, it is the third most common organ affected by trauma following upper & lower limb [1-2].

Ocular trauma is one of the major causes of monocular and non-congenital visual impairment and blindness worldwide and also a leading cause of avoidable blindness and visual impairment worldwide with significant socioeconomic impact [3-4]. Ocular injury is responsible for more than 500,000 blindness worldwide yearly [5]. Globally, 2.3 million individuals have bilaterally low visual acuity and 19 million have unilateral low vision or blindness [6].

According to estimates by WHO, about 55 million eye injuries restrict daily activities for more than one day in every year, 750,000 injured eye required hospitalisation including 200,000 open globe injuries [7]. Ocular trauma ranges from minor sub-conjunctival haemorrhage to badly lacerated globe & fracture of orbit. Ocular trauma has bimodal distribution with peak incidence in young adults and a later increase in elderly age group. Approximately, male to female ratio is about 4:1 globally [8].

As maximum victims of eye trauma are of younger age group and/or economically active age group, the economic and occupational impact of ocular trauma are significant. Ocular trauma has significant socioeconomic impact as there is a need for medical care, loss of income and cost of rehabilitation services.

It also causes psychological trauma especially in younger individual in case of severe eye trauma. A significant number of cases of ocular trauma occur from occupational injuries. Even minor injuries from work-related eye trauma may be associated with costly treatment and absence from work [9]. Nature and cause of trauma is influenced by the environment and geographical diversity, population, lifestyle and socioeconomic conditions. Most of the ocular injuries are preventable, particularly those occurring during work or sports and in road traffic accidents (RTA) [10]. RTA are common in daily life due to the increase in number of transport vehicles and the increasing number of new drivers [11].

Individuals living in deprived areas disproportionately experience the burden of trauma due to lack of access to eye care &healthcare service. In India some epidemiological community based studies on ocular trauma have been conducted in various populations. In the rural population of Andhra Pradesh, 824 out of 7771 (10.6%) subjects reported to having sustained ocular trauma [12].

In urban slums of Delhi, prevalence of ocular trauma was 2.4% [13]. Likewise, nearly 5% of people above 40 years of age were affected with ocular trauma in a study conducted on the rural population of Tamil Nadu. Blunt trauma in an agricultural setting was the most frequent cause of trauma in this population [14]. In the urban population of South India, the prevalence of ocular trauma was 3.97%, with majority of trauma resulting in blindness occurring during childhood and young adulthood [15]. Despite of advancement in treatment, visual prognosis of large proportion after ocular injuries continues to be very poor.

As majority of our study population are dependent on stone/sand mine work, agriculture work, they are more susceptible to ocular trauma. Awareness regarding potential risk factors and preventive measures can prevent a large number of occupational eye injuries and thus can reduce the economic burden of their family and hence of the society. No study regarding ocular trauma in economically active age groups have been conducted in this region of West Bengal. This study aims at providing epidemiological data and occupational profile on eye injuries in adult population attending Ophthalmology Department of a tertiary Hospital that may help in future planning and implementation of preventive and safety strategies.

Material and Methods

Study design, area and participants: This descriptive observational study with a cross-sectional design was conducted in out-patient department and casualty ward of Ophthalmology department of a tertiary hospital from January 2019 to December 2019 among adult patients attending with ocular injuries. Inclusion criteria included patients with ocular injury aged 18yrs and above who gave consent to participate in this study. Patients not willing to participate and below 18years were excluded.

Sample size and sampling technique: The prevalence of ocular trauma was 10.6% as found in a large population based study in South India. Thus considering 10.6% population prevalence, 95% confidence level and absolute precision of 5%, the minimum required sample size for this study will be as follows:

$n = [(Z_{1-\alpha/2})^2 \times P(1-P)]/d^2$

[Z1-α/2 = 1.96, P = 10.6%, d =5%]

$n = [(1.96)^2 \times 0.106 \times 0.894] / (0.05)^2 = 146$

Non-probability based sampling technique was followed and 151 patients (who fulfilled the selection criteria and consented for the study) were selected out of 201 ocular trauma patients who attended eye OPD and emergency of BMCH during the study period.

Study tools: The study tool included a Pre Designed case record form, Birmingham Eye Trauma Terminology System (BETTS), Snellen's distant vision chart, Slit lamp, Direct and indirect ophthalmoscope, Torch light, Gonioscope.

Procedure of data collection: A detailed history was taken from patients with ocular trauma (who gave formal consent and met the inclusion criteria) or from their legally accepted relative specifically focussing on demographic data, occupational data, nature

and circumstance of injury. Any initial findings observed elsewhere before attending B.M.C.H. were also recorded. Participants were than subjected to a detailed ophthalmological examination which included visual acuity testing by a snellen's chart, slit lamp examination, IOP measurement, gonioscopy and direct and indirect ophthalmoscopy. Investigations such as USG-B scan, X-ray, CT scan and MRI were done when required. All findings were recorded in a pre-designed case record form.

Ethical issues: This study was approved by the institutional ethics committee and formal consent was taken before the study and privacy of the participants were ensured.

Study variables: Ocular trauma was the dependent variable. The independent variables were socio-demographic variables (age, sex, religion, residence (urban/rural), monthly income, education and occupation), affected eye (right or left), visual acuity at presentation, cause of injury, mode of injury, type of injury, place where trauma occurred, mechanism of injury, ocular structures affected.

Statistical analysis plan: Data collected was entered in MS-EXCEL 2010 and the analysis was performed using SPSS software version 25.0. Analysed result expressed as percentage and proportion for the description of the distribution of cases according to age, sex, residence, cause of injury, mode of injury, ocular tissue affected etc.

Results

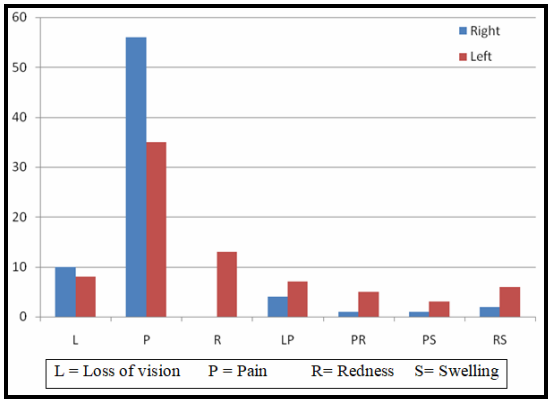
In this study mean age of study population were 34.28 ± 2.49 years, ranging from 18years to 76 years (males – 34.38 ± 12.46 years and females – 33.93 ± 12.77 years). Majority of the patients (42.38%) belonged to the age group of 18years to 29years. 78.81% of the subjects were males with a male: female ratio of 3.72:1. It was seen that most of the patients were unskilled workers (41.72%) and had a highest educational qualification of middle school (36.43%). 110 workers (skilled, semiskilled and unskilled) constituted working members of this population, the rest being unemployed and students. More than half of them were coming from urban area (64.24%) and hindu by religion (67.55%). The demographic profile of the patients has been depicted in table-1.

Table-1: Distribution of study population according to their socio-demographic profile (n=151)

Socio-demographic profile		Number (%)
Age (in completed years)	18-29	64 (42.38)
	30-45	62 (41.06)
	46-60	19 (12.58)
	>60	6 (3.98)
Sex	Male	119 (78.81)
	Female	32 (21.19)
Highest educational qualification	Illiterate	26 (17.21)
	Middle School	55 (36.43)
	Primary education	27 (17.88)
	Higher Secondary and above	43 (28.48)
Occupation	Student	9 (5.97)
	Skilled worker	11 (7.28)
	Semi-skilled worker	36 (23.84)
	Un-skilled worker	63 (41.72)
	Unemployed	32 (21.19)
Residence	Rural	50 (33.11)
	Semi-urban	4(2.65)
	Urban	97 (64.24)
Religion	Hindu	102 (67.55)
	Muslim	49 (32.45)

Right eye was affected in 49% patients and rest (51%) had a trauma in left eye. Majority patients (60.26%) presented with pain in affected eye followed by loss of vision (11.92%). 19.20% patients presented with a combination of more than one symptom. Fig-1 shows the distribution of symptoms in affected eye.

Fig-1: Distribution of study population according to presenting complaint in affected eyes



In this study it was found that more than half of the population (57.62%) suffered injury in their work place, was mostly accidental in nature (41.06%), foreign body being the principal cause in majority (46.36%) of cases. Closed globe injury was much more common (86.10%) than open type in current study.

Most frequent type of ocular finding encountered was corneal (abrasion-47, rupture-10, laceration-6, oedema, penetration and perforation-8) followed by conjunctival (sub conjunctival haemorrhage-40, burn, cut injury, laceration and sulphur granules - 12). Multiple findings were also noticed in many eyes.

Among study population 32 individuals were unemployed and 9 were students which lead to a total of 110 subjects constituting the working member group in this study. Majority (63.36%) of this group had knowledge about the use of protective measure during occupational work while a very small proportion (17.27%) was actually using them. Moreover majority of them (90%) were completely ignorant about the fact that it was a duty of their employer to provide them with the same. It was also found that only 14.55% were enrolled under ESI act (Table-2).

Table-2: Distribution of working members of study population according to their knowledge and practice of using protective measures during occupational work (n=110)

			Number (%)
Knowledge n=110	Protective measure use during work	Knows	70 (63.63)
		Don't know	40(36.37)
	Entailed for personal protective measure from employer	Knows	11(10.00)
		Don't know	99(90.00)
Practice n=110	Use protective measure during work	Yes	19(17.27)
		No	91(82.73)
	Employee under ESI act	Yes	16(14.55)
		No	94(85.45)

Educational qualification of working members of study population was compared with their knowledge of using protective measures during work and it was found that majority of those with an education of higher than primary level knew about it compared to their less educated counterpart and which was found to be highly significant ($p<0.00001$) (table - 3). It was also seen that the former group i.e. with an education of higher than primary level were significantly keener in using protective measures ($p=0.01$) (table-4).

Table-3: Distribution of working members of study population based on their educational qualification and knowledge of protective measure use during work (n=110)

Educational qualification	Knows	Don't Know
Above Primary	57	10
Primary and below	13	30
Total	70	40
$X^2 = 34.04$ $p< 0.00001$ highly significant		

Table-4: Distribution of working members of study population based on their educational qualification and practice of using personal protective measure (PPE) use during work (n=110)

Educational qualification	Uses PPE	Don't use PPE
Above Primary	17	50
Primary and below	2	41
Total	19	91
X^2 (yate's corrected)=6.48 p=0.01 significant		

The time of presentation i.e. interval between injury and presentation in study centre ranged from 2 hours to 264 hours with a mean of 49.07±57.05 hours. When socio-demographic pattern (gender, highest educational qualification and residence), clinical parameter (type of injury) and health seeking behaviour (whether received first aid after injury or not) were compared with the mean time of presentation (table- 5) it was seen that males presented earlier (47.61±56.51hours) than females (54.5±59.59 hours) but the difference was not statistically significant ($p=0.5459$) while those who were educated above primary level presented significantly earlier (25.11±23.22 hours) than their less educated counterpart ($p<0.0001$). Urban and semiurban patients also presented significantly earlier than those coming from

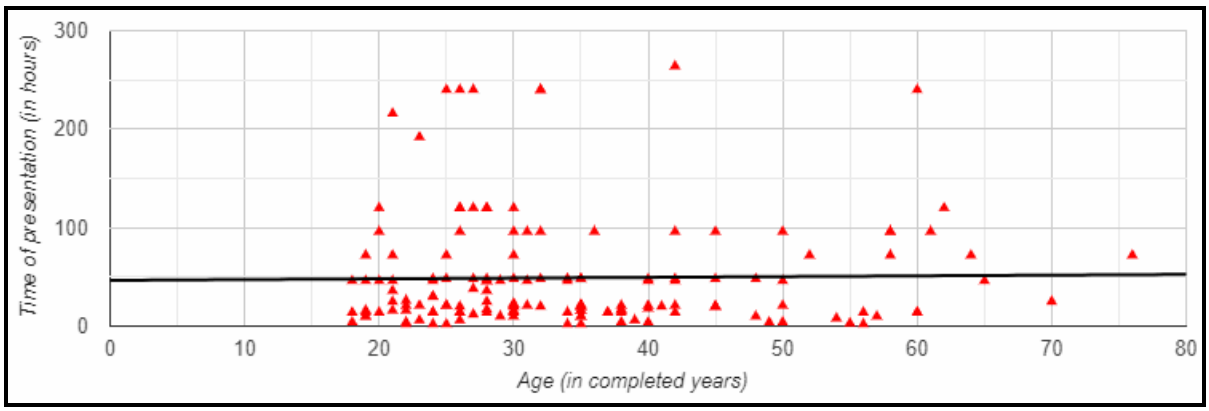
rural region (p<0.0001). Patients with open injury and those who didn't received first aid after injury presented significantly earlier than those who suffered a closed injury and who received any first aid (p=0.012 and p<0.0001 respectively).

Table-5: Association of socio-demographic pattern, clinical parameter and health seeking behaviour with mean time of presentation after ocular trauma (n=151)

Socio-demographic pattern	Time of presentation (in hours)		
Gender	**Mean**	**Standard deviation**	**N**
Male	47.61	56.51	119
Female	54.5	59.59	32
95% CI = -15.6035 to 29.3835,	t-statistics = 0.605, DF-149		p=0.5459 (Non- significant)
Educational Qualification			
Above Primary (HS+M)	25.11	23.22	98
Primary and below (P+I)	93.38	72.80	53
95% CI = 52.4648 to 84.0752,	t-statistics = 8.535, DF-149		p<0.0001 (significant)
Residence			
Urban+Semiurban	19.66	12.95	101
Rural	108.48	65.09	50
95% CI = 75.5607 to 102.0793,	t-statistics = 13.237, DF-149		p<0.0001 (significant)
Clinical Parameter			
Open injury	20.19	28.59	21
Closed injury	53.74	59.16	130
95% CI = 7.509 to 59.59,	t-statistics = 2.546, DF-149		p=0.012 (significant)
Health seeking behaviour			
Didn't received first aid	34.05	36.98	109
Received first aid	88.04	78.43	42
95% CI = 35.3983 to 72.5817,	t-statistics = 5.738, DF-149		p<0.0001 (significant)

Pearson correlation coefficient test was done in this study (Fig-2) to find out if there is any relationship between age and time of presentation (i.e. time interval between injury and presenting in study centre). Result indicated that there is a non-significant very small positive relationship between age (in completed years) and time of presentationl (in hours) (r(149)=.0165, p=.841).

Fig-2: Line Fit Plot



Discussion

Worldwide ocular trauma is one of the major cause of preventable blindness. Present study mainly focuses on the epidemiological and occupational profile of ocular trauma patients. Mean age of the these patients i.e. study population was 34.28±2.49 years which is close to the finding of Shtewi M.E. et al [11] from Tripoli eye hospital who reported an overall mean age of 32.5 years. As patients with age 18 years or above were included in this study, mean age became slightly higher. This study also revealed that majority of the patients was male (male: female = 3.72:1) in the younger age group (18-29 years). Several authors such as Laishram U. et al, Vats S. et al, Addisu Z. et al and Sing K et al had similar finding in their respective study [16-18]. This is probably due to the fact that mostly males in the younger age group are involved in outdoor works and become more prone to trauma.

In the current study most of the patients were unskilled (41.72%) and semiskilled (23.84%) workers. Similar finding was observed by S Vats et al in a study in urban slums of Delh and Syal E et al in Faridkoti [13, 19]. The reason may be that unskilled and semiskilled workers neither receive enough training and nor have enough experience of the work they are doing, so they remains completely unaware of the safety part, for which become more vulnerable to trauma.

Highest educational qualification of the study population of present study was up to middle school (36.43%). It does not corroborate with the reported decreased risk of ocular trauma in literates as was seen in the study of S Vats et al [13]. In contrast to several studies where study population mostly consisted of rural patients [20-21], the current study has an urban population of 64.24% which may be due to the increased awareness among urban population and a good transport facility to the study centre.

In addition the district, where this study has been conducted is one of the most urbanised part of West Bengal for which the study centre serves a large urban population. It is better to mention here that the present study centre, which is also a tertiary hospital by level, caters a large industrial belt and happens to be the only government medical college of that area from which patients are receiving free treatment regularly. It is similar to a study conducted by Padmanaban S. et al in Coimbatore medical College where 57% of study population was urban [22].

There was a preponderance of left eye injury in this study (51%) with pain being the most common symptom followed by loss of vision. Previous studied by Okoye OI et al and Chinwe Cynthia Jac-Okereke et al reported similar finding [23-24].

Work place injury was most common injury in current study which was mostly accidental in nature, superficial foreign body being the principal cause of ocular injury resulting mostly in corneal abrasion. Similar findings can be seen in different other studies [25-27]. S Vats et al found a significant association (x^2=43.80 p<0.001) between ocular trauma and work place [13]. It was also observed in those studies that ignorance of using protective gears during work was one of the major factor responsible however this was not the case with our study, as majority (63.36%) were aware of using protective devices but were ignorant about the fact that it was duty of the employer to provide them protective devices, which refrained majority (82.73%) from taking any protection during work.

A study by Sharma S et al revealed that literacy status was significantly (p=0.016) associated with use of protective measures. Similarly present study revealed a significant relationship between educational qualification and knowledge and practice of safety gear use (p< 0.00001) (p=0.01). Most patients suffered closed globe injury which is corroborated by several studies [28-29].

Time taken to reach the tertiary hospital after injury (time of presentation) is a very important prognostic factor. In current study the mean time interval from injury to reporting in study center was 49.07±57.05 hours, which is almost similar to a study done by Sharma S et al and Ozkurt ZG et al [30-31]. It was also seen that more literate patients living in urban area who received no first aid and suffering from an open globe injury attended the tertiary hospital earlier, which was statistically significant. This may be due

to the increased awareness among these patients owing to their higher education and an urban background. Patients who received some sort of first aid may be much reluctant to attend higher centre as their symptoms got alleviated due to that treatment. However age had a non-significant small positive relationship with the time of presentation in this study.

Conclusion

Work place injury being (one of the major concern now a days) frequently leading to ocular injuries has to be prevented by all means, for which some strict measures such as usage of protective devices by all workers, improvement of understandings regarding the risks associated with their job, introduction of first aid centre in work place etc. are to be enforced. Workers should be made well aware about their rights to receive safety devices from their employer. A constant follow up regarding this issue is to be maintained.

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Conflicts of interest: There are no conflicts of interest.

References

1. Mishra A, Verma AK, Baranwal VK et al. The pattern and visual outcomes of ocular trauma in a large zonal hospital in a non-operational role: A 36 months retrospective analysis. *J Clin Ophthalmol Res.* 2014; 2(3):141-144.
2. Alem KD, Arega DD, Weldegiorgis ST, Agaje BG, Tigneh EG. Profile of ocular trauma in patients presenting to the department of ophthalmology at Hawassa University: Retrospective study. *PLoS One.* 2019; 14(3):e0213893.
3. Maurya RP, Srivastav T, Singh VP, Mishra CP, Al-Mujaini A. The epidemiology of ocular trauma in Northern India: A teaching hospital study. *Oman J Ophthalmol.* 2019; 12(2):78-83.
4. Congdon NG, Friedman DS, Lietman T. Important Causes of Visual Impairment in the World Today. *JAMA.* 2003; 290(15):2057-2060.
5. Chang YS, Teng YT, Huang YH et al. Major ocular trauma in Taiwan: 2002–2004 versus 2012–2014. *Sci Rep.* 2018; 8:7081.
6. Negrel AD, Thylefors B. The global impact of eye injuries. *Ophthalmic Epidemiol.* 1998; 5:143-169.
7. Nagrale P, Kesuraju V, Madhavi MR et al. Pattern of ocular trauma in tertiary care hospital in Khammam. *Int J Res Med Sci.* 2015; 3(6):1426-1430.
8. Qayum S, Anjum R, Garg P. Epidemiological pattern of ocular trauma in a tertiary hospital of northern India. *IJBR.* 2016; 7(7):420-422.
9. Ferrerira FDQT, Nascimento DFM, Meneguim RLFDS et al. Ocular trauma at the Botucatu medical school. *Rev Bras Oftalmol.* 2016; 75(3):185-189.
10. Lavaju P, Badhu BP, Shah S. Clinical Profile and Factors Determining the Final Visual Outcome of Patients Presenting with Ocular Trauma. *Delhi Journal of Ophthalmology*. 2018; 29(1):14-19.
11. Shtewi ME, Shishko MN, Purohit GK. Road Traffic Accidents and Ocular Trauma: Experience at Tripoli Eye Hospital. *Libya Community Eye Health.* 1999; 12(29):11-12.
12. Krishnaiah S, Nirmalan PK, Shamanna BR, Srinivas M, Rao GN, Thomas R. Ocular trauma in a rural population of southern India: The Andhra Pradesh eye diseasestudy. *Ophthalmology.* 2006; 113:1159-1164.
13. Vats S, Murthy GV, Chandra M, Gupta SK, Vashist P, Gogoi M. Epidemiological study of ocular trauma in an urban slum population in Delhi, India. *Indian J Ophthalmol.* 2008; 56(4):313-316.
14. Nirmalan PK, Katz J, Tielsch JM, Robin AL, Thulasiraj RD, Krishnadas R et al. Ocular trauma in a rural South Indian population: The Aravind comprehensive eye survey. *Ophthalmology.* 2004; 111:1778-1781.
15. Dandona L, Dandona R, Srinivas M, John RK, McCarty CA, Rao GN. Ocular trauma in an urban population in Southern India: The Andhra Pradesh eye disease study. *Clin Experiment Ophthalmol.* 2000; 28:350-356.
16. Laishram U, Yumnam CM, Gahlot A, Thoudam RS, Keisha SD. Epidemiological profile of ocular trauma in a tertiary care facility in Imphal. *J Med Soc.* 2016; 30:162-65.
17. Addisu Z. Pattern of ocular trauma seen in Grarbet Hospital, Butajira, Central Ethiopia. *Ethiop. J. Health Dev.* 2011; 25(2):150-155.
18. Sing K, Mutreja A, Bhattarcharyya et al. Epidemiology And Implications of Ocular Trauma Admitted To A Tertiary Care Hospital In North India. *US Ophthalmic Review.* 2017; 10(1):64-68.
19. Syal E, Dhawan M, Singh SP. To study the epidemiological and clinical profile of ocular trauma at a tertiary health-care facility. *Delta Journal of Ophthalmology.* 2018; 19(4):259-267.
20. Sao P, Vallabha K. A profile of ocular trauma in patients attending tertiary care center, North Karnataka. *Indian J Clin Exp Ophthalmol* 2022; 8(3):325-329.
21. Wagh V, Tidake P. Clinical Study and Profile of Ocular Trauma: Findings from a Rural Hospital in Central India. *Cureus.* 2022; 14(7): e26915
22. Padmanaban S, Sumathi P, Vinetha and Suguna C. Article a clinical study of Visual Outcome in Ocular Blunt Trauma. *IOSR Journal of Dental and Medical Sciences.* 2018; 17(5):11-18.
23. Okoye OI, Maduka-Okafor FC, Eze BI. Open globe injuries. *Nig J Surg Sci.* 2007; 17(1):37-42.

24. Jac-Okereke CC, Jac-Okereke CA, Ezegwui IR et al. Current pattern of ocular trauma as seen in tertiary institutions in south-eastern Nigeria. *BMC Ophthalmol.* 2021; 21:420.
25. Camodeca AJ, Anderson EP. Corneal Foreign Body. [Updated 2023 Apr 17]. In: StatPearls [Internet]. Treasure Island (FL): *StatPearls Publishing*. 2023 Jan. Available from: *https://www.ncbi.nlm.nih.gov/books/NBK536977/*
26. Woo JH, Sundar G. Eye injuries in Singapore--don't risk it. Do more. A prospective study. *Ann Acad Med Singap.* 2006; 35(10):706-718.
27. Onkar A. Commentary: Tackling the corneal foreign body. *Indian J Ophthalmol.* 2020; 68(1):57-58.
28. Ajayi IA, Ajite KO, Omotoye OJ, Adeseye AI. Epidemiological survey of traumatic eye injury in a Southwestern Nigeria tertiary hospital. *Pakistan J Ophthalmol Pak J Ophthalmol.* 2014; 30(3):137-141.
29. Ezegwui IR. Eye injuries at Abakaliki Nigeria. *Int J Ophthalmol.* 2004; 4(6):985-988.
30. Sharma S, Khadka D, Shrestha A et al. Epidemiological pattern of corneal foreign bodies and utilization of protective eye devices: a hospital-based cross-sectional study. *Int J of Occupational Safety & Health.* 2023; 13(1):87-96.
31. Ozkurt ZG, Yuksel H, Saka G, Guclu H, Evsen S, Balsak S. Metallic corneal foreign bodies: an occupational health hazard. *Arquivosbrasileiros de oftalmologia.* 2014; 77(2):81-83.

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