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ORIGINAL ARTICLE

NOTIFICATIONS OF EYE INJURIES IN WORKERS OF A TEXTILE INDUSTRY

NOTIFICAÇÕES DE LESÕES OCULARES EM TRABALHADORES DE UMA INDÚSTRIA TÊXTIL

NOTIFICACIONES DE LESIONES OCULARES EN TRABAJADORES DE UNA INDUSTRIA TEXTIL

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ABSTRACT

Objective: to characterize the occurrences of occupational eye traumas in employees. ***Method:*** descriptive, cross-sectional cohort study with quantitative approach, with 60 workers of a textile industry that suffered eye trauma and received medical attention in the company. The data were obtained from medical records, analyzed the ones according to the gender, the function exercised, the prevalence of International Code of Diseases, the location of the lesion and the type of diagnosis, presenting them in tables, by simple frequency and percentage. The research project has been approved by the Research Ethics Committee, Protocol 20/03. **Results:** it was found that 62% of the population is male, the seamstresses are the ones with more accidents, the most commonly affected left eye, and the most common type of injury to T15.9. ***Conclusion:*** most occupational eye accidents occurred by superficial lesions with foreign bodies, being necessary more prevention actions in order to avoid them. ***Descriptors:*** Accidents at work; Ocular Trauma; Occupational Risks.

RESUMO

Objetivo: caracterizar as ocorrências dos traumas oculares ocupacionais em funcionários. ***Método***: estudo descritivo, de coorte transversal com abordagem quantitativa, com 60 trabalhadores de uma indústria têxtil que sofreram trauma ocular e receberam atendimento médico na própria empresa. Os dados foram obtidos a partir de registros médicos, analisados os referentes ao sexo, à função exercida, à prevalência de Código Internacional de Doenças, à localização da lesão e ao tipo de diagnóstico, apresentando-os em tabelas, por meio de frequência simples e percentual. O projeto de pesquisa foi aprovado pelo Comitê de Ética em Pesquisa, protocolo 20/03. *Resultados*: verificou-se que 62% da população é do sexo masculino, as costureiras são que mais sofrem acidentes, o olho esquerdo mais comumente acometido, e o tipo de lesão mais comum a T15.9. ***Conclusão***: a maioria dos acidentes oculares ocupacionais ocorreu por lesões superficiais com corpos estranhos, sendo necessárias mais ações de prevenção a fim de evitá-las. ***Descritores***: Acidentes de Trabalho; Traumatismos Oculares; Riscos Ocupacionais.

RESUMEN

Objetivo: caracterizar las ocurrencias de los traumas oculares ocupacionales en funcionarios. ***Método***: estudio descriptivo, de cohorte transversal con enfoque cuantitativo, con 60 trabajadores de una industria textil que sufrieron trauma ocular y recibieron atendimiento médico en la propia empresa. Los datos fueron obtenidos a partir de registros médicos, analizados los referentes al sexo, la función ejercida, a la prevalencia de Código Internacional de Enfermedades, a la localización de la lesión y al tipo de diagnóstico, presentándolos en tablas, por medio de frecuencia simple y porcentual. El proyecto de investigación fue aprobado por el Comité de Ética en Investigación, protocolo 20/03. *Resultados*: se verificó que 62% de la población es del sexo masculino, las costureras son las que más sufren accidentes, el ojo izquierdo más comúnmente acometido, y el tipo de lesión más común a T15.9. ***Conclusión***: la mayoría de los accidentes oculares ocupacionales se dio por lesiones superficiales con cuerpos extraños, siendo necesarias más acciones de prevención a fin de evitarlas. ***Descriptores***: Accidentes de Trabajo; Traumatismos Oculares; Riesgos Ocupacionales.

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INTRODUCTION

The accident at work is characterized as one that occurs at work in the service of the company, causing bodily or functional dysfunction that can culminate in death or loss/reduction of capacity to work, whether it is permanent or temporary.[1]

Occupational eye traumas are fairly common, bringing costs of social, economic and psychological order and reach the economically active population. In Brazil, it is estimated that 10% of occupational injuries are ocular.[2] Despite national data, in Brazil there is not a unified system for registration of eye trauma, in addition to unmake a satisfactory scientific production on the subject.[2.3]

The activities developed in the workplace are often responsible for causing physical harm to people. In part, this is due to lack of knowledge on preventive measures and the misuse of safety equipment. Specifically with regard to damage to eyes, they derive from the presence of particles in the air, the bad environmental conditions and the mishandling of products aggressive to vision.[4]

Epidemiological studies have shown a high prevalence of ocular trauma related to the work in the population of young adults, especially males. Although the eye injuries are preventable and variable gravity, since it is used appropriate equipment, it is estimated that each year 55 million eye injuries are responsible for the loss of working days.[5]

Eye injuries are the most important cause of vision loss, showing up most commonly in accidents in which there are metal objects handling, not exempting the other types of materials to cause crippling injuries. It is often indicated the urgent removal of material in order to avoid inflammation, infections.[6] On the diversity of causes that the eye trauma can submit preventive guidelines they are necessary in order to prevent or reduce the problems that an injury ophthalmic may cause.[5]

This study aims to characterize the occurrences of occupational eye traumas in employees.

METHOD

Descriptive study of transverse cohort with quantitative approach.[7.8] The data was obtained from medical records regarding the service of Ophthalmology of a textile industry located in the city of Natal, Rio Grande do Norte/RN. The records were made in their own documents specific to the surveys Reported Accidents at Work – RAW. The data collection period was between 10 January and July 21, 2009, and during that time the total population of the company was 14,480. Of this total, 1453 suffered several accidents at work, where 60 employees were eye injuries, being the population of the study.

The cases in which workers have reported ophthalmological complaints, were at work and received care by doctor of the institution were chosen. After the choice of cases, data were analyzed regarding to the gender, the function exercised, the prevalence of ICD (International Code of Diseases), the location of the lesion and the type of diagnosis, presenting them in tables, by simple frequency and percentage.

This study is part of a research project approved by the Research Ethics Committee of UFRN and received assent with Protocol No 20/03.

RESULTS

The recorded data were analyzed in the medical record of 60 employees who had eye complaints and obtained on-site attendance, expressed in percentage and absolute value in form of tables. Of these, 62% were male and 38% female.

Linking the position exercised in the company with the occurrence of eye trauma, it is observed that most accidents happen with seamstresses (33.3%), followed by the stamping Operator with 13.3%, General Services Assistant (ASG) with 8.4%, and dry cleaning operator with 6.7%. It was noticed that 38.3% of accidents occur with employees from various functions.

Table 1. Distribution of ocular traumas related to duties.

Accidents and occupational eye diseases for capacity and function		
Function	nº	%
Seamstresses	20	33,3%
Stamping Operator	8	13,3%
ASG	5	8,4%
Dry cleaning operator	4	6,7%
Packing Auxiliary	2	3%
Mesh Operator	2	3%
Masonry	2	3%
Work Safety	2	3%
Production Auxiliary	2	3%
Quality Control	2	3%
Presser	2	3%
Sewing Machine mechanic	2	3%
Cutting Helper	1	2%
Kitchen Helper	1	2%
Assembler Auxiliary	1	2%
Hydraulic Plumber	1	2%
Woodworker	1	2%
Boiler operator	1	2%
Welder	1	2%

According to the medical diagnosis recorded based on International Classification of Diseases and Related Health Problems (also known as the International Classification of Diseases- ICD 10). It was published by the World Health Organization (WHO) and aims to standardize the coding of diseases and other health related problems. It provides codes relating to classification of diseases and a wide variety of signs, symptoms, abnormal aspects, complaints, social circumstances and external causes for injury or disease. Each health state is assigned a single category to which corresponds a ICD 10code.[6]

It was Clarified that the Group H10 in the ICD 10 corresponds to conjunctivitis, while the S05 relates to trauma of the eye and the eye orbit, the T15 strange body on the outside of the eye and the X23 Group contact with bees, wasps and hornets.

It was noted that the types of eye accidents more that occurred were 29 cases diagnosed with T 15.9, which refers to the presence of a strange thing in an unspecified external region part of the eye; 12 classified under code S05.0, where the injury is characterized as a trauma of the conjunctive and cornea injury without mention of the strange thing; three cases in diagnosis H 10.8, that references to other conjunctivitis; three cases for the code S05.1, distinguishing themselves as bruising of the eyeball and orbital tissues.

Table 2. Distribution of Occupational Eye Traumas by diagnosis based on ICD.

Accidents and diseases occupational eye for diagnosis		
Function	nº	%
T15.9	29	48%
S05.5	12	20%
S05.1	3	5%
H10.8	3	5%
X23	2	3%
H10.2	2	3%
X29	2	3%
T15.0	2	3%
T15.1	2	3%
S05.5	1	2%
H10.1	1	2%
H16.8	1	2%

Of the total of 60 injured workers with eye involvement, 31 were away from their duties and 29, despite being injured, didn't need to be away from their labor activities.

It was determined the occurrence of injuries related to the affected eye, separated the types of injuries that resulted from work clearance needed. Among the injuries that have imposed a distancing of the activity of the company, it was found that 30% of them occurred in the left eye, 22% in the right eye and 2% in both eyes.

Table 3. Distribution of occupational eye trauma with removal of the employee, for an eye affected according to the ICD-10. Natal/RN. 2012.

ICD 10	Medical diagnoses identified			
	Right eye		Left eye	
	n	%	n	%
T15.9	7	12%	9	15%
S05.0	1	2%	6	10%
H10.2	2	3%	-	-
S05.1	-	-	2	3%
X23	1	2%	-	-
H10.1	1	2%	-	-
H16.8	-	-	1	2%
H10.8	1	2%	-	-

The injuries that have not involved the removal of employee occurred exclusively affecting only one eye, right eye showed 20% of ocular trauma and the left eye 28% of injuries.

Table 4. Distribution of occupational eye traumas without employee removal, for an eye affected according to the ICD-10. Natal/RN. 2012.

ICD 10	Medical diagnoses identified			
	Olho Direito		Olho Esquerdo	
	n	%	n	%
T15.9	7	12%	6	10%
S05.0	1	2%	4	7%
H10.8	-	-	2	3%
S05.1	-	-	1	2%
S05.5	-	-	1	2%
X23	1	2%	-	-
X29	1	2%	-	-
T15.0	1	2%	1	2%
T15.1	1	2%	1	2%

DISCUSSION

According to socio-demographic data, this study confirms what other studies have shown, most occupational eye trauma affects male people. This is observed worldwide, awarded to men for exercising greater activity and being less careful.[2,5.10]

Most of the injuries involved seamstresses and stamping Operators. It is important to highlight the prevalence of lesions in these professionals, because it is a textile industry, it is known that a large part of the functions is direct work with meshes, and consequently this is the population more at risk of suffering occupational accidents. To reduce risks and guide interventions most vulnerable workers should decrease the incidence of work-related eye injuries.[11]

As for the most common type of injury was observed resemblance to literature that claims that the most common type are the lesions of the external region of the eye with the presence of a strange thing.[2.10] In a specific study about strange things in the cornea, over 90% of cases occurred in the workplace.[2] It was observed in a study in Korea that occasionally eye accidents are not easily detected, the first symptoms may appear in late stage.12 Accordingly, it is confirmed that these traumas in the occupational environment are common.

In relation to the affected eye, most studies show no significant difference between the eyes affected.[2] In this study, it was divided the eye injuries in need of work clearance and no need for removal. It was observed that in both types of lesions, most commonly eye injured was the left one. A study of severe ocular trauma in a university hospital showed similar results to this survey, 51.4% of the events involve exclusively the left eye.[12] It has not been possible to check how many days of removal are necessary for improvement of the lesion, but studies show that on average it takes 4 to 8 days.[2]

Seeking to draw the traumas and their possible consequences, it was noted in the literature that, among the types of deficiencies referred to, the visuals have higher prevalence on the auditory and physical, with difficulty to see the main disability referred to, partial and total blindness occurred with low frequency. As for the cause attributed to visual impairment, the external causes, including accidents at work, were third in prevalence, behind diseases and congenital reasons.[14]

Despite not being direct object of this research in the use of safety equipment or not, it infers that, in the group of textile workers, who at the time of the injury, according to the literature, the majority of accidents occur in the absence of its use, and

the superficial traumas are easily preventable if used adequate protection.[2]

It should be noted that even provided and encouraged the use of protective equipment by the company, joining the usage is low, and thus more frequent are accidents. One study showed that 69% of workers who have suffered accidents knew the risks of not using eye protection.[10]

The ocular trauma are common accidents that affect several professionals that expose the visual system.[15] Among the reasons to seek consultation with an ophthalmologist, eye trauma is characterized as the second most common reason. In the emergency/urgency room it becomes the first most common reason, being the trauma for strange things in the most cases.[15-6]

The superficial ocular trauma is the most common type of occupational accident in the organic system. Companies must address primary care to the most exposed, but also act on health and hygiene promotion, prevention and detection of accidents and illnesses that affect the eyes, follow the visual acuity of workers, give referrals to cases with change in vision, propose qualifying the medical and nursing staff to treat the injuries in the workplace. In addition they need to collaborate and participate in the activities of health education.[4.17]

CONCLUSION

It is concluded that objectively the occupational eye traumas occurrences from the variables sex, classification, functional impairment and medical diagnoses are identified and characterized. It is the limitation of the study that could be analyzed by age group and presence of any clinical disease, future object of study, as well as the contributions and relevance to the area of workers ' health.

The findings contribute to broaden the knowledge about occupational eye traumas, as the adoption of preventive measures and proper use and continuous personal protective equipment as an effective means, effective for eliminating the problem in the context of the textile industry.

The men were the most affected by ocular trauma, though not less worrying and significantly, which gives women a concern for preventive measures adopted by the service studied.

In general, the presence of strange things in an unspecified of the external region part of the eye was diagnosed. Although the education and prevention campaigns to the eye incidents must be effective because it noted that normally the companies inform the risk of traumas and the necessity of the use of protection, in addition to providing the necessary equipment, even the providence was not enough for professionals to join the instruments of protection. This indicates the need to work with different prevention approaches, combined with measures that may raise most workers.

Associating more effective prevention strategies to supervision in the workplace, along with the provision of the protection material can avoid further occurrences of ocular trauma.

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