



Original Contribution

EYE TRAUMA DURING SPORTS

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ABSTRACT

Eye trauma call any organ damage eyesight under the influence of adverse factors - mechanical, thermal, chemical. Despite the fact that the eye is well protected from orbit and eyelids, eye injuries during sports, feature prominently among eye diseases. This in turn can be a cause of irreversible vision loss.

Key words: Eye trauma, sports, protective equipment

INTRODUCTION

Eye trauma call any organ damage eyesight under the influence of adverse factors - mechanical, thermal, chemical (1). The most common injuries in sports are mechanical - open and closed, and those caused by physical factors. These are due to prolonged exposure to ultraviolet rays in outdoor sports such as skiing, snowboarding, water skiing and more.

For some parts of the human body injuries can be minor, but others may be significant anatomical lesions. One of these human organs are the eyes. They can be damaged not only functional, but occur permanently reduced vision, even blindness.

Eyes are subject to injury rather sports. Vinger and co-authors categorize the different types of sport into 4 groups according to the risk of eye injuries (2).

1. High risk: paintball, baseball, cricket, basketball, fencing, field hockey, ice hockey, lacrosse, scone, boxing, contact martial arts.
2. Moderate risk: fishing, football, volleyball, tennis, badminton, water polo.
3. Low risk: cycling, non-contact martial arts, skiing swimming, diving, water skiing, wrestling.
4. Safe for eyes: gymnastics, orienteering.

Most often sports eye injuries are contusion, which relate to the closed mechanical eye

injuries. They are caused by a blow with a blunt object. When the object is smaller than the entrance of the orbit anterior- posterior compression of the eyeball and its extension around the equator is caused. When the subject is bigger than the orbital entrance, the weight is born by the wall of the orbit. This results in a fractured bone of the orbit.

Severity of ocular trauma depends on the strength, weight and size of the causative agent. The mechanism of receipt of the trauma of the eye associated with sports, the trauma can be caused by stroke teammate, an opposing player, flying ball, puck or other sports tool (2).

In contact sports such as wrestling and martial arts, often fall finger in the eye of an opponent or a blow to the hip or knee in this area. In games where there is a struggle for the ball as basketball, water polo or rugby, falling finger in the eye is also common.

Depending on the severity of the injury and the affected tissues, the symptoms can vary in severity: swelling in the eye; redness of the eye; pain in the eye; subconjunctival hemorrhage; foreign body sensation in the eye; photophobia; visual disturbances. In more serious injuries may additionally be present: restriction of eye movements (inability to look up); numbness in the eye; seeing double image blur or lack of vision; displacement of the eyeball.

To prevent eye injuries in sports, must necessarily use approved personal protective equipment.

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PURPOSE

To investigate locally frequency of eye injuries during certain sports and athletes awareness on how to prevent, and prevention of eye injuries.

Tasks:

1. Draw up a questionnaire to collect the necessary information.
2. To differentiate contingent of study.
3. Statistical data processing.
4. Analysis of the received information and drawing conclusions.

Studied contingent: 72 athletes in the following sports: martial arts, basketball, volleyball, football, tennis.

Time and place of conducting: Kazanlak, Stara Zagora, Bulgaria. Time interval - January - March 2015.

METHODS

A questionnaire, observation, mathematical and statistical, documentary. Once the filled

tasks are formulated the following conclusions:

1. The sports eye injuries due to the omission of personal protective equipment. Although eye protectors are not widespread in certain sports, the risk of eye injury always exists.
2. All this in turn translates to necessity to carry out awareness and education campaigns among athletes and coaches about the value of placing personal protective equipment for eyes.

We studied 72 athletes from the following sports: martial arts, basketball, volleyball, football, tennis. The majority of athletes 69% are active athlete aged 18 to 40 years. Doing sport over five years. In the diagram of **Figure 1** is shown the distribution of different types of sports.

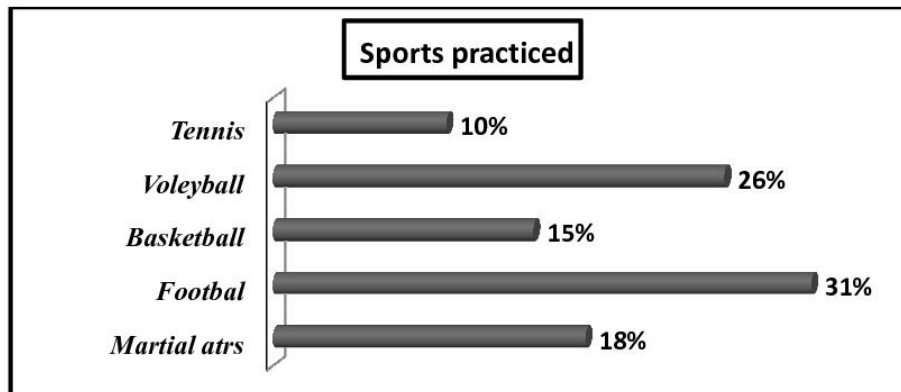


Figure 1. Practiced sports

It clearly shows that victims of football are the most- 31%. Although it belongs to sports with a medium risk of getting injuries, the explanation for the high proportion is that this sport belongs to the most practiced sports in the city. After football comes volleyball 26% - from a ball, martial arts 18% from a direct hit from a rival, basketball 15% from a ball and court tennis 10% with a hit from a racket or a ball.

In a study on whether athletes are familiar with the injuries that can occur during their training, the majority of them specifically mention injuries only in their sport-type fractures of limbs, injuries throughout the body, a broken nose, teeth, dislocation of an ankle, knee, wrist, elbows and others. At the same time questioned whether they had experienced ocular trauma it seems that 75% of them were affected. The results are shown on **Figure 2**.

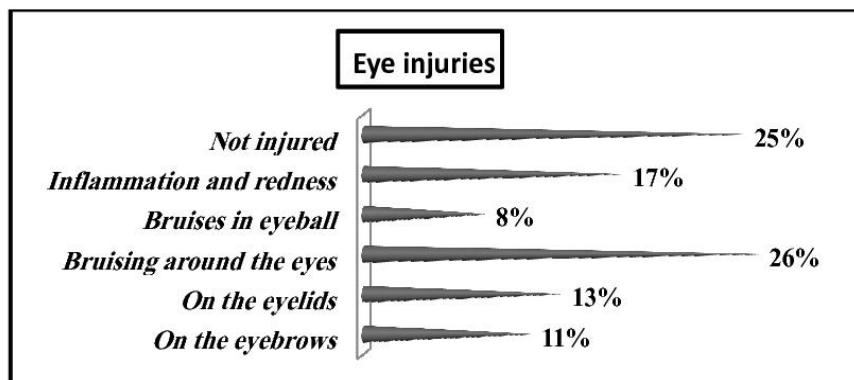


Figure 2. Location of injuries

The highest is the percentage of the athletes who had bruises around the eyes, 26%. Then comes the inflammation and redness 17%, injuries on eyelids 13%, eyebrows injuries 11%, bruising on the eyeball 8%. Only 25% of them have never received an injury.

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 On the background of the above, it is interesting to note the attitude of athletes to prevention the eye injuries. For this they were asked whether they are „For or against protective equipment during sports." On **Figure 3** their opinion is shown.

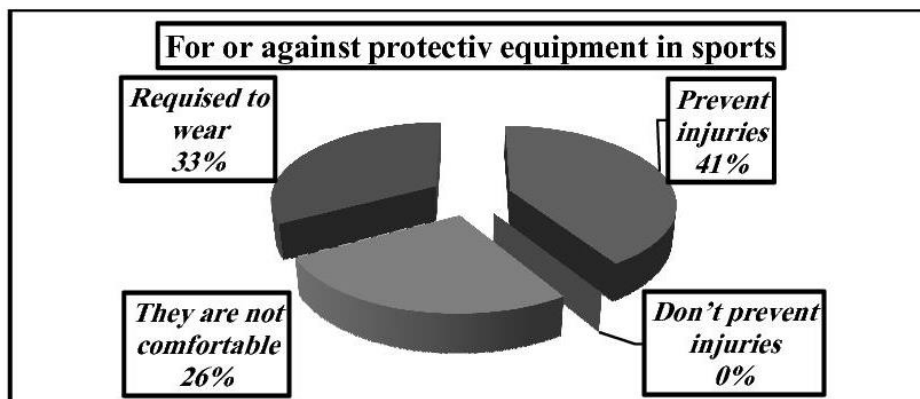


Figure 3. Use of protective equipment

The chart shows that two thirds of the respondents - 74 percent strongly approved the use of protective equipment in practicing their favorite sport. Of these, 41% are of the opinion that prophylactic insertion of protectors would prevent injuries in sports. 33% of respondents have indicated wearing of protective equipment as a mandatory measure. Only 26% of them think that the protectors in sport are not comfortable and it would bother them in practicing their sport. None of the respondents prefers not answer „It doesn't prevent injuries."

CONCLUSIONS

1. The sports eye injuries due to the lack of personal protective equipment. Although eye protectors are not widespread in certain sports, risk of injury always exists.
2. Respondents approve and properly understand the usefulness of wearing protective equipment in sports to prevent injuries in general and in particular to the eyes.
3. Through the monitoring is established that: although 74% of respondents athletes approve personal protective equipment none of them wore such during the race.

4. It is necessary to conduct training campaigns among athletes and coaches about the value of wearing personal protective equipment and strict compliance with the rules of the game.

In conclusion can be drawn:

Taking precautions during sports and training of athletes can prevent eye injuries and their consequences. Broken bones and bruises heal, but serious eye injury can put a player in the list of disabled people in the rest of his life.

The ways in which we can protect eyes are simple and clear. The most important is to teach children to use them. The eyewear must meet the vision of the athlete and to comply with the particular sport. They should be quality made of suitable material, contain pads on the eyebrows and the edge of the nose, so as not to cause further cutting or damaging of face. In outdoor sports, wear glasses containing the UV filters(3).

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