KNOWLEDGE AND OCCURRENCE OF DENTAL TRAUMA IN MOUNTAINEER SPORT COMPETITORS

CONOCIMIENTO Y OCURRENCIA DE TRAUMATISMO DENTAL EN COMPETIDORES DEL DEPORTE DE MONTARÍA

CONHECIMENTO E OCORRÊNCIA DE TRAUMATISMO DENTAL EM COMPETIDORES DO ESPORTE DE MONTARIA

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Abstract

Objective: The objective was to evaluate the knowledge and the occurrence of dental trauma in competitors of the sport of riding. 

Material and Methods: The study was carried out with 137 professional riders from the State of São Paulo (SP, Brazil), who answered a questionnaire with 18 questions regarding sports activity, knowledge and experiences in dental traumatic situations, as well as use of the mouth guard.

Results: The majority were male (84.7%) aged 20-40 years (70.8%). 18.2% had dental trauma and 35.8% did not know the mouth guard. 77.4% did not receive guidance regarding the use of mouthguards and 46% would not use it even knowing the benefits. 

Conclusion: The lack of knowledge and preparation of the competitors of the sport of riding on dental trauma is frequent and, therefore, there is a need to promote information to this specific group.

Keywords: Tooth Injuries. Athletic Injuries. Dentistry.

Resumé

Objetivo: El objetivo fue evaluar el conocimiento y la ocurrencia del traumatismo dental en competidores del deporte de montar. 

Material y Métodos: El estudio fue realizado con 137 competidores profesionales de montería del Estado de São Paulo (SP, Brasil), que respondieron a un cuestionario con 18 preguntas referentes a la actividad deportiva, conocimiento y experiencias en situaciones de traumatismo dental, así como uso del protector bucal. 

Resultados: La mayoría era del género masculino (84,7%) con edad de 20 a 40 años (70,8%). El 18,2% sufrió un trauma dental y el 35,8% no conoce el protector bucal. El 77,4% no recibió orientación en cuanto al uso del protector bucal y el 46% no lo utilizaba aun sabiendo de los beneficios. 

Conclusión: La falta de conocimiento y preparación de los competidores del deporte de montar sobre traumatismo dental es frecuente y, por lo tanto, hay la necesidad de promover información a este grupo específico.


Introduction

Sports practice promotes benefits ranging from physical fitness to psychological well-being, making individuals healthy. However, if care is neglected, sports activities can cause damage and sequelae in various parts of the body, including the oral cavity.
In this context, riding sport stands out as being considered more dangerous than other sports, such as skiing and soccer, since it depends on unpredictable animals. Rodeo in Brazil was regulated by law 10.220 / 2001, which established general rules regarding the activity of competitors of riding, equating him to a professional athlete. This activity consists of dexterity tests on the back of equine or bovine animals.

Among the methods of prevention of accidents, the use of the mouth guard is a very effective protective barrier, avoiding dental and facial fractures, reducing the impact force on the teeth and brain and preventing more serious injuries.

The objective of this work was to evaluate the knowledge of professionals of the sport of riding regarding the dental traumatism and the necessary care for its prevention. The relevance of this study is the lack of data on dental traumas in mountaineering competitors in Brazil.

Material and Methods

This study was approved by the Ethics and Research Committee of the University of Ribeirão Preto (CAAE 38989414.0.0000.5498) and all participants signed the Free and Informed Consent Term.

The athletes invited to participate in the study were enrolled in some of the competition modalities regulated by Law 10.220 / 2001, which established general rules regarding the activity of mountaineering competitors, namely: three drums; horse-riding and double-calf-lacing. All three activities require specific maneuvers on horses and horses for a short period of time.

The study population consisted of 137 mountaineers with an age equal to or greater than 18 years who competed in the state of São Paulo (SP, Brazil) from April to June 2015. Participants with less than 1 year of practice in the sport were not included in the study.

The research was carried out in the state of São Paulo, in competitions in the cities of Avaré, Barretos and Presidente Prudente. The collections were carried out outdoors in free circulation environments, and the questionnaires were submitted by the researchers to be completed by the research participants (self-applicable).

The data collection instrument was composed of 18 closed questions of multiple choice, developed based on the works of Levin et al and Mori et al and divided into two stages. The first one contained questions about characterization of the participant, such as gender, age and time of activity in the sport. The second part addressed specific questions about dental trauma, the importance of emergency treatment, knowledge about procedures to be performed in the event of an accident and prior experience in this condition.

The questionnaire was pre-tested, before its definitive application, in a population similar to that of the study for correction and adjustment of the instrument of data collection.

The questionnaire was calculated and analyzed using SPSS version 17. The results were expressed in tables with the frequency distribution in absolute and percentage numbers.

Results

Of the interviewees, 84.7% were male, and the most prevalent age group was between 20 and 40 years (70.8%). 18.2% of the interviewees reported having...
suffered some type of dental trauma during the practice of the sport, while 36.5% reported not knowing how to proceed in the case of dental avulsion resulting from trauma and not being prepared for the first procedures after the occurrence of trauma.

Although 77.4% of the respondents reported being aware of the risk of trauma with tooth loss during the practice of this sport, 35.8% were unaware of preventive attitudes, such as the use of a mouth guard. The majority of respondents (77.4%) stated that they had not received advice from the dental surgeon regarding the use of mouthguards and 46.0% would not use them even knowing their benefits.

Discussion

Our findings support the hypothesis that mountaineering competitors do not have adequate knowledge of dental injuries and prevention attitudes.

The sample is predominantly male in this risk sport (only 15.3% of the female gender), with a heterogeneous age group (70.8% between 20 and 40 years). In the competitions visited, documentation of the participants was required, but no competition instituted requirements for the use of safety equipment during the presentations.

Upper extremity fractures are associated with young athletes, who are more inexperienced. However, the sport of riding is considered risky, and accidents can occur in all age groups. This sport requires riding skills, intuition and courage against animals up to 15 times the weight of a human. The value found for head fractures in horse competitors was 24.5% in the study by Sandiford et al. There are safety procedures for some types of sports and to protect the region of the head the most used and accessible is the helmet.

However, Yim et al. emphasizes that helmets do not protect riders from facial trauma, and that other measures should be implemented to avoid injury in this area. Orofacial injuries can cause short-term or long-term damage and may be permanent, for the sportsman.

In a study conducted in Brazil, frequency of orofacial traumas as a result of sports was 28.4%. In our study, the occurrence of orofacial trauma reached 18.2%, and crown fracture was the most prevalent, representing 5.8% of the sample. Dental crowns, especially of upper incisor teeth, are more prone to fracture in cases of falls.

In a recent study in Istanbul, it was observed that 10.9% of the athletes had suffered some type of dental trauma, and crown fracture was also the most relevant condition. A study in Switzerland with horsemen found that of the 365 patients who entered a trauma center, 9% of the occurrences involved the face.

Thus, it is noticed that the occurrence of oral traumas has a higher prevalence among the competitors of the riding sport of our study, which is a risky sport because it depends on non-domesticated animals.

In our study 4.4% of the interviewees suffered dental avulsion. It is characterized as the most serious of dental traumas and its prognosis depends on the first procedures performed soon after the occurrence of this injury. When the participants were questioned about dental avulsion, 36.5% stated that they did not know the first emergency procedures. Our study proved the lack of knowledge of the participants of this sport in cases of dental loss.

Correct and immediate attitudes such as cleanliness and reimplantation are directly related to the success of the case. There is a low awareness of keeping the
tooth avulsed. People generally understand that there are emergency procedures that must be followed, but they reveal doubts about the correct choice when imagining themselves in this situation. Thus, athletes are unprepared to act in the face of trauma, even when resolutions are simple. According to the International Association of Dental Traumatology, there are important behaviors for cases of adult avulsion (closed apex): immediate reimplantation of the tooth in the dental socket or at least adequate storage within the first 2 hours of the avulsion, in milk, saline, Hank's Balanced Saline or in the patient's own saliva. If the tooth is dirty, rinsing in water can be performed for a maximum of 10 seconds prior to replantation, so there is no damage to the cells of the periodontal ligament in the root.

Our study found that 77.2% of sportspeople would wash the tooth with water before taking it to the dentist and would take it in saline solution (36.7%) or paper wrap (28.5%). Washing the tooth with water for a long time and without proper care can remove structures important to the success of the reimplantation and the tooth enveloped in paper could reach the doctor's office. Immersing the tooth in solutions is important to avoid tooth dryness by maintaining the viability of the fibers of the periodontal ligament. A dry tooth outside the socket should only be kept without hydration for a maximum of 60 minutes.

Although 77.4% of the respondents reported having a knowledge of the risk of trauma with tooth loss during the practice of this sport, 35.8% were unaware of preventive attitudes such as the use of the mouthguard. The most commonly used mouthguard is a Thermoplastic polymer that molds around the teeth and gums when heated. Thus, in contrast to an external force, the mouthguard promotes dissipation in a homogeneous way, avoiding lacerations, fractures and functioning as a buffer, protecting the teeth of each other.

The majority of respondents (77.4%) said they had not received information from their dental surgeon regarding the use of the mouth guard. In the current literature we also observe the lack of professional guidance in conducting these activities in a safe way.

Almost half of the sample (46.0%) would not use the mouthguard even knowing its benefits. This result places the cultural issue as a strong decision factor for changing habits. The mouth guard is considered uncomfortable by almost half of the sample (43.6%). It would be interesting to implement an awareness campaign about the importance and benefits of using the mouth guard in this sport through lectures, a more effective way of assimilating among sportsmen.

In addition, coaches should be the greatest supporters of the use of personal protective equipment as well as the use of mouth guards in order to ensure the integrity of their team.

Our study has as limitation the generalization of all three modalities evaluated in the sport of riding (oxen, double loop and drum). However, when training and competing in the same environment these differences can be mitigated and seen as complementary. These are public health concerns that are also demonstrated in previous studies.

**Conclusion**

This study is of the utmost importance since there is no documented study in Brazil on dental trauma in mountaineering competitors, a sport that is very present all over the country, including in the state of São Paulo, Brazil. The knowledge regarding
the behavior and oral habits of riding competitors allows as a benefit an assessment of the reality and the consequent performance of the dental surgeon with a focus on education for the prevention of accidents.

Assessing the knowledge of this group in cases of dental trauma also becomes important for the dentists' subsequent action focused on health education and prevention, in order to reduce the prevalence of oral injuries and their sequelae in mountaineering competitors.

According to the results of this study, the competitors of the sport of riding do not have enough knowledge about dental injuries and prevention attitudes.

References


