Athletes’ awareness of dental injuries among different sports in Kermanshah, 2014

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Abstract: dental injuries and associated side effects are one of the most important concerns in oral health. Traumatic dental injuries may occur due to several factors, the most important of which is sport. Thus, the current study was conducted to analyze the athletes’ awareness of dental injuries among different sports in Kermanshah in 2014. In this descriptive-cross sectional study, 120 athletes (60 men and 60 women) from different sports in Kermanshah were selected through convenience random sampling. Their awareness of dental injuries was assessed by a questionnaire and the obtained data were analyzed by SPSS-20 software using ANOVA and t-test. The findings showed significant relationship between athletes’ awareness of dental injuries and age, education and sport history; however, no significant correlation was reported between awareness of dental injuries and history of trauma, job status and different sports. Moreover, no significant relationship was shown between men (37.61) and women (37.97) regarding awareness of dental injuries. Athletes’ awareness of dental injuries among different sports was at a moderate level. Training workshops are suggested to enhance the athletes’ awareness of dental injuries.

Key words: dental trauma, awareness, athletes

INTRODUCTION

Dental injuries and their side effects are considered a significant concern in oral health (1). Traumatic dental injuries may happen owing to different factors, among which sport is the most important one (2). In Iran a high percentage of population is young, so most of them are increasingly attending sporting events. It is evident that the youth rush to stadiums to spend their leisure time and participate in sport activities and events (5), which is followed by increasing incidence of sport injuries such as dental injuries and injuries to dental soft tissue (3).

In fact participation in sport activities is the most important cause of dental traumas (6). Studies have shown that development of dental trauma in the athletic population is higher compared with other walks of life (7) such that sport is known as the most common etiological factor (28%) of dental trauma (8). Dental trauma is accompanied by many side effects, the most important of which is the reduced concentration of athletes during training and games. This trauma can also prevent athletes to take apart in training and sporting events (9).

Dental trauma during exercises causes harmful and permanent injury to the teeth (10, 11) so that if we classify this injury from zero to 6 (low to high), according to Tschan’s study, 4 is the most common dental injury during exercise (11). Studies have shown that a low percentage of athletes (4.13%) opt for treatment following dental trauma (12) because traumatized dental treatment needs much time and is costly for the athletes. The study by Ferranti (2004), conducted in London, showed that a traumatized tooth requires 8 treatment sessions, 21 months and 856 euros (13).

Also, Newsome (2001) stated that 13% of treatment costs for all kinds of football injuries was related to dental traumas (14), and an important problem is that in some situations like crown fracture with pulp involvement the result is not satisfactory. Therefore, prevention of dental trauma is very important so that in developed countries dentists are provided with dental facilities in games and recreational sports. The first global congress about sports dentistry and dental trauma was held in Boston, USA in 2001 (15). Thus, athletes’ awareness of how to properly deal with dental injuries is one of the most important treatment priorities. Given the importance of oral health, this study was carried out to evaluate the athletes’ awareness of dental injuries among different sports in Kermanshah in 2014.
MATERIALS AND METHODS

In this descriptive cross-sectional study, the study population consisted of all athletes of Kermanshah. 120 athletes (60 males and 60 females), over 8 years old, that were willing to participate in the study were randomly selected from Azadi stadium through simple random sampling. They were given the awareness questionnaire to complete (16). The visually impaired athletes were excluded from the study. Data were analyzed by SPSS-18 software using mean, standard deviation, frequency, t-test and ANOVA.

RESULTS

A total of 120 athletes (60 men and 60 women) participated in this study. Most of the participants were in the age range of 16-25 (60%) and 5 of them were in the age range of 36-45 (4.2%). Regarding education level, most of them (41.7%) were under diploma. As for the employment, 84 samples (70%) were unemployed. With regard to sport history, 40 people (33.3%) did taekwondo, 40 (33.3%) played volleyball, 20 (16.7%) did boxing and 20 people (16.7%) were active in other fields. Among all the athletes, 6 of them (5%) had dental injury and the rest (95%) had no injury.

In this study Pearson correlation coefficient was used to analyze the correlation between awareness of dental injuries and age, history of trauma and type of sport. The results showed a significant relationship between age and awareness of dental injuries (r=0.29, p<0.01). No significant correlation was reported between history of trauma and awareness of dental injury. Further, there was a significant relationship between sport history and awareness of dental injuries (r=0.22, p<0.01).

Table 1. Correlation coefficient between awareness of dental injuries and age, trauma history and sport history

<table>
<thead>
<tr>
<th>Variable</th>
<th>Awareness of dental injury Correlation coefficient</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.29</td>
<td>0.001</td>
</tr>
<tr>
<td>Trauma history</td>
<td>0.0006</td>
<td>0.94</td>
</tr>
<tr>
<td>Sport history</td>
<td>0.22</td>
<td>0.01</td>
</tr>
</tbody>
</table>

To compare the athletes’ awareness of dental injuries in groups with regard to education level, one-way ANOVA was used. The findings showed a significant relationship between education level (under diploma, diploma, associate degree, bachelor degree and above) and awareness of dental injuries. The results of one-way ANOVA, comparing the athletes’ awareness of dental injuries in groups with regard to their education, are presented in Table 2.

Table 2. Results of one-way ANOVA, comparing the athletes’ awareness of dental injuries in groups with regard to education

<table>
<thead>
<tr>
<th>Resources</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>193/50</td>
<td>3</td>
<td>64/50</td>
<td>3/24</td>
<td>0/02</td>
</tr>
<tr>
<td>Within group</td>
<td>2304/86</td>
<td>116</td>
<td>19/87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2498/36</td>
<td>119</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of Scheffe’s post-hoc test showed a lower level for awareness of dental injuries among the athletes with under diploma than those with diploma. No significant difference was observed in other educational groups.

The results of data analysis showed a significant difference between job status and awareness of dental injuries. Table 3 shows the results of one-way ANOVA, comparing the athletes’ awareness of dental injuries with job status in groups.

Table 3. The results of one-way ANOVA, comparing the athletes’ awareness of dental injuries with job status in groups.

<table>
<thead>
<tr>
<th>Resources</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>114.70</td>
<td>2</td>
<td>57.38</td>
<td>2.81</td>
<td>0/06</td>
</tr>
<tr>
<td>Within group</td>
<td>2383.66</td>
<td>117</td>
<td>20.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2498/36</td>
<td>119</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To compare the athletes’ awareness of dental injuries in groups with regard to type of sport, one-way ANOVA was applied. The results showed no significant correlation between type of sport (basketball, boxing, taekwondo and volleyball) and awareness of dental injuries. The results of one-way ANOVA, comparing the athletes’ awareness of dental injuries and type of sport, are shown in Table 4.
To compare the athletes’ awareness of dental injuries in male and female groups, t-test was used. The findings indicated no significant relationship between men and women in their awareness of dental injuries. The results of independent t-test, comparing the athletes’ awareness of dental injuries in male and female groups, are shown in Table 5.

Table 5. Results of t-test for comparison of awareness of dental injuries between males and females

<table>
<thead>
<tr>
<th>Sex</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>37.97</td>
<td>4.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>37.61</td>
<td>4.26</td>
<td>-0.31</td>
<td>0.75</td>
</tr>
<tr>
<td>Total</td>
<td>37.78</td>
<td>4.58</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 6, 35 people had good knowledge about dental injuries (29.2%) and 85 people had average knowledge of dental injuries (70.8).

Table 6. Athletes’ awareness of dental injuries in the study sample

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>35</td>
<td>29.2</td>
</tr>
<tr>
<td>Average</td>
<td>85</td>
<td>70.8</td>
</tr>
<tr>
<td>Poor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unaware</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

**DISCUSSION**

Dental injuries along with their complications are one of the major concerns in oral health. Traumatic injuries happen by several causes, the most important of which is sport. Therefore, this study was aimed to analyze the athletes’ awareness of dental injuries among different sports in Kermanshahin 2014. The results presented in Table 1 show a significant correlation ($r=0.29$) between the athletes’ awareness of dental injuries and age ($p<0.01$), which is in line with the findings of Zovashkian et al (17). That is, the athletes’ experience in different sporting events increases with age increase, which plays an important role in improving the athletes’ awareness of dental injuries.

Further, there was a significant difference between education level (under diploma, diploma, associate degree, bachelor degree and above) and awareness of dental injuries. On the other hand, awareness of dental injuries increased with an increase in education. These results are compatible with the findings of Azari et al and Moeini et al, where they reported a direct relationship between education and awareness of dental injuries (18). The results of this study can be explained by the fact that education increases the knowledge and awareness of people. The findings also showed no significant difference between job status and athletes’ awareness of dental injuries.

According to the obtained results, there was no significant correlation between trauma history and awareness of dental injuries, which is in agreement with the results of Moini et al (19). However, the results of Fux-noyindicated a significant relationship between trauma history and awareness of dental injuries (20), which is not compatible with the findings of this study. To explain the contradictions, it may be argued that the majority of the study sample (64.2%) were 10–20 years old that are more emotional and act less logical in this regard, which may consequently not be accompanied by higher levels of awareness.

Moreover, the findings revealed no significant difference between the type of sport (boxing, taekwondo, volleyball) and athletes’ awareness of dental injuries. That is, the athletes of different sports had the same level of awareness. Since there is a higher possibility of dental injuries in sports like boxing, the athletes are expected to have higher level of awareness. As there is no information about this phenomenon in Iranian national database to compare and contrast this subject, the attitude of athletes is more concentrated on the selection of sports, well-being, interest and ability, and less attention is paid to possible injuries in these sports. There was a significant correlation ($r=0.22$) between sport history and awareness of dental injuries ($p<0.01$).

According to the results of this study, the more time the people had spent on sport activities, the more they were aware of dental injuries. Naturally with increase in experience athletes face different sports injuries, which consequently increases their awareness of dental injuries. In addition, the results showed no significant relationship between men and women in terms of awareness of dental injuries, which confirms the findings of the study carried out by Nilchian et al (2013) (21). It can be argued that such important factors as education,
attending training programs and experience play a role in awareness of dental injuries, and gender is not an important factor in improving the awareness.

In general, the results of the athletes’ awareness of dental injuries in the studied sample showed that 35 athletes had good level of awareness (29.2%) and 85 athletes had average level of awareness (70.8%), which are similar similar to the results of the study by Moeini (22) in which from among the 112 samples, 30.3 had good awareness, 51.6% had average awareness and 17.1% had poor level of awareness. The findings presented in Table 6 show that89.2% of athletes asked for more information and training about dental injuries.

CONCLUSION

The results of this study showed that the athletes’ awareness of dental injuries was art a low level and some athletes in sports like taekwondo and boxing should train properly and use protective equipment and gum protection. The following recommendations are presented in this regard:

Running training programs in sports clubs to increase the athletes’ awareness of dental injuries in different sports and training the athletes how to properly deal with dental trauma.

Encouraging the athletes to use dental protection equipment.

Providing preventive instruments like oral protection with good quality and price and good facilities for correct and timely treatment.

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REFERENCES


