

Sports injuries in 15-17 year-old male athlete students participating on school teams*

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*This paper was presented (oral presentation) at the II. International Academic Research Congress held in Alanya/Antalya on 18-21 October 2017.

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Abstract

The purpose of this study is to determine the frequency of the sports injuries in 15-17-year-old male athlete students participating on school teams (volleyball, basketball, football and handball) and their level of knowledge about these injuries. The sample of the research consists of 233 athlete students (n=89 footballers, n=37 volleyball players, n=46 basketball players and n=61 handball players) in 15-17 age group participating on school teams of thirteen different high schools in Kütahya. The questionnaire form developed was used to determine the injuries in athlete students that participated in the study. The data was analysed using SPSS version 22.0. According to the statistical analysis, it was found that the athlete students who got injured most were of footballers with %45.2 (n=47) and those who got injured least were volleyball players with %10.6 (n=11). It was seen that injuries occurred mostly during competitions (n=82). The majority of the athlete students reported that they had very little (n=117) and average (n=107) information on sports injuries. The results showed that injuries occurred more in football and handball players and mostly during competitions. Protective measures need to be taken in the sports, especially in football, handball and basketball, where tackles are frequently experienced during competitions. Also, it was seen that athlete students had very limited knowledge about sports injuries.

Key Words: School sports, knowledge of injury, athlete injuries

INTRODUCTION

Sports injuries are the undesirable consequences that affect the performance and skill levels of athletes negatively (1). Sports injuries are minor or serious problems that those who do recreational, amateur or professional sports activities are likely to encounter during training, competitions and rest periods (19).

Unpredictable effects during sporting events and unpredictable actions of individuals cause accidents in sports, resulting in injuries. These are exogenous injuries resulting from acute causes. Unlike acute injuries that are caused by a sudden traumatic effect, some injuries, however, occur due to long-lasting repetitive and forceful exertions. Injuries due to these types of repeated traumas are called endogenous injuries and they are known as overuse syndromes (11).

Sports injuries occur as a result of direct trauma, repetitive stress and micro traumas. Direct traumatic injuries are acute and sudden, whereas microtraumatic injuries occur over time. Fractures

in the bones, ruptures in the muscles and sprains in the joints can occur as a result of a single major and direct trauma. Pains and aches are felt after physical activity, and sometimes these aches may last for days. Symptoms progress slowly during overuse injuries resulting from micro traumas. Microscopic injuries occur because of repetitive micro traumas, which over time lead to overuse injuries, stress fractures and achilles tendinitis. The injuries can be treated so long as they are not permanent (2).

Protection from sports injuries refers to the avoidance of injury, early treatment and early rehabilitation to prevent it from going into a chronic and permanent stage (15). For this reason, it is necessary for the athletes to be informed by the trainer or physical education teacher to choose the sports to suit their physiological and psychological age. If the age, gender or psychological state is not suitable, the athlete should not be allowed to do the sport just because he/she wants to do so. Those in charge should especially lead the children in the developmental stage to the appropriate sports that

will affect their life positively, help them socialize, and build self-confidence (22).

It is important to identify the injuries that might occur in sports and take protective measures (6). For this reason, the current study was aimed at determining the frequency of the injuries in 15-17 year-old athletes participating in school team sports. Thus, it is thought that it will be possible to take preventive measures and establish an early diagnosis prior to the injuries that can be seen in athlete-students. Getting a proper diagnosis accelerates the process of returning to the sport or activity by facilitating treatment (9). In sports

MATERIALS & METHOD

Participants

Sample of the study included 233 (n=89 football players, n=37 volleyball players, n=46 basketball

players and n=61 handball players) 15 to 17-year-old athlete students playing on the school teams of 13 high schools in Kütahya.

Data Collection

With support from experts, questionnaire forms were prepared to detect the injuries of the athlete students participating in the study. The questionnaire form consisted of 30 questions to find out the demographics of the participants, frequency of the injuries and when these injuries occurred.

Statistical Analysis

Data were collected using an interviewer-administered questionnaire and analyzed in SPSS version 22.0. Students' levels of knowledge about sports injuries and the frequency distributions of the sports injuries based on sport type were calculated.

FINDINGS

Table 1. Distribution of the injuries based on type of sport

Sports branch	Did you have a injure?			
	Yes		No	
	n	%	n	%
Football	47	45.2	42	32.5
Basketball	14	13.5	32	24.8
Volleyball	11	10.6	26	20.2
Handball	32	30.7	29	22.5
Total	104	100	129	100

As can be seen in Table 1, the athletes injured most frequently were football players (n=47; 45.2%) handball players (n = 32; 30.7%), while the least injured ones were volleyball players (n=11; 10.6%).

injuries, first a detailed anamnesis should be performed, and it is then essential to analyze the biomechanical structure and determine the possible trauma mechanism. This approach is significant in the treatment of the sports injuries and prevention of new ones (4). The primary goal of rehabilitation is to improve the health condition of an athlete and ensure that functional deficits are repaired quickly. This way, it could be possible to prevent complications that are likely to arise from injuries and from the lack of movement and physical activity in the following period (14).

Table 2. Distribution of the injuries based on injury time

Sports	Time of injury					
	During warm-up		During competition		During Training	
	n	%	n	%	n	%
Football	1	16.7	39	47.6	7	25.9
Basketball	4	66.6	7	8.5	3	11.2
Volleyball	-	-	10	12.2	1	3.7
Handball	1	16.7	26	31.7	16	59.2
Total	6	100	82	100	27	100

As seen in Table 2, most of the injury incidences occurred during competitions (n=82). The sport in which injuries most frequently occurred was football (n=39; 47.6%), followed by handball (n=26; 31.7%) and volleyball (n= 10; 12.2%). Basketball (n=7; 8.5%) was the sport with the lowest injury rate during

competitions. The sports with the highest and lowest injury rates during training were handball (n=16; 59.2%) and volleyball (n=1; 3.7%), respectively. The number of athletes injured during warm-up was 6 only, which mostly included basketball players (n=4, 66.6%).

Table 3. Distribution of athlete students based on their level of knowledge about sports injuries

Sports	Level of knowledge regarding sports injuries							
	No knowledge		Poor		Average		Good	
	n	%	n	%	n	%	n	%
Football	2	40	45	38.4	39	36.5	3	75
Basketball	-	-	33	28.3	13	12.2	-	-
Volleyball	3	60	17	14.5	17	15.8	-	-
Handball	-	-	22	18.8	38	35.5	1	25
Total	5	100	117	100	107	100	4	100

The majority of the athletes participating in the study reported that they had poor (n=117) and average (n=107) knowledge of sports injuries. Followed by basketball players (n=33; 28.3%) and handball players (n=22; 18.8%), football players stood out among those who reported poor knowledge of sports injuries (n=45; 38.4%). The

athlete students who reported average level of knowledge about sports injuries were largely football players (n=39; 36.5%). Football players were followed by handball players (n=38; 35.5%) and volleyball players (n=17; 15.8%). There were few athlete students reporting no (n=5) or good (n=4) knowledge of sports injuries.

DISCUSSION & CONCLUSION

Recent studies have shown that injuries in all sports have increased significantly (16). Approximately 500 thousand people visit a doctor every year for sports injuries (17). 4% of these people are injured to the extent that their injuries require treatment at the hospital. Sports injuries are considered urgent public health problems in most countries (16).

The risk of injury mostly depends on the type of sports that young athletes perform (5). It is therefore important to identify the injuries in young athletes and take preventive measures. Carried out to determine the frequency of injuries in 15-17-year-old male athletes participating on school team sports (volleyball, basketball, football and handball) and how knowledgeable they are with regard to these

injuries, the current study found that football (n= 47; 45.2%) and handball players (n=32; 30.7%) were among the most frequently injured athletes, as opposed to volleyball players (n=11; 10.6%) (Table 1). Consistent with the finding of the current study, Kanbir (11) reported that the sports with the greatest risk of injury were football, basketball, wrestling and athletics. On the other hand, Kirişci (13) reported in his master's thesis that the rate of injury in football players was 96%. Ülkar et al. (19) reported that the majority of children were referred to health facilities due to injuries in team sports such as football (23.3%), basketball (17.2%) and volleyball (14.5%).

Unlike the findings reported in all these studies, Kauzlaric (12), in a study conducted with 125 children, found that basketball players (32%) were in

the first place with the highest rate of sports-related foot pain, followed by football players (26%) in the second place, athletes (15%) in the third, handball players (9%) ranked fourth, dancers (8%) ranked fifth, tennis players (5%) in the sixth place, those who do martial arts (3%) in the seventh, and volleyball players (2%) being in the eighth and the last place.

It was seen that injuries experienced by the athlete students mostly occurred during competitions (n=82) and these injuries were most frequently seen in football players (n=39; 47.6%), followed by handball players (n=26; 31.7%) and volleyball players (n=10; 12.2%), respectively (Table 2). In his master's thesis about the injuries in amateur football, Yıldız (21) found that 72.3% of the injuries occurred during competitions and 12.4% during trainings. In a similar study, Tsiganos et al. (18) reported that 41.7% of injuries occurred during competitions and 44.1% during trainings in football players in the amateur league. Bavli & Kozanoğlu (3) found that 62.1% of the injuries suffered by adolescent basketball players occurred during competitions. Diniz & Ketenci (7) reported that 40% of sports injuries occurred during trainings and 60% during competitions.

Another finding of the study is that the majority of the participating athlete students had very little (n=117) and average (n=107) knowledge of sports injuries. Football players stood out among those who had poor knowledge of sports injuries (n=45; 38.4%), followed by basketball players (n=33; 28.3%) and handball players (n=22; 18.8%). The number of the athlete students who had no (n=5) or a lot knowledge about sports injuries (n=4) was very small (Table 3). A review of literature revealed that the level of knowledge on sports injuries among a group of football, volleyball and basketball players in Bursa was very low, with handball players showing average level of knowledge about sports injuries, as evidenced in a master's thesis, completed by Kirişçi (13). In his master's thesis, Gülaçtı (10) investigated the knowledge level of amateur football players on first aid in sports injuries and found that 49.2% of footballers had first aid knowledge, whereas 50.8% did not.

Donaldson et al. (8) reported that the athletes who received training on injuries that occurred during trainings and competitions were more conscious and injured less than those who did not receive training. Also, Ward (20) found that injury

rates were low among students who received training on sport injuries when compared those untrained ones.

The results of the research showed that injuries occurred more in football and handball, with the lowest injury rate in volleyball among 15-17 year-old students participating in school sport activities. Protective measures need to be taken in sports such as football, handball and basketball where tackles are frequently experienced during competitions. The current study also revealed that the injuries occurred to athlete students were more frequent during competitions and these athletes had poor knowledge of sports injuries. For this reason, it is possible to increase the knowledge level of students by teaching subjects related to sports injuries in Physical Education classes and organizing seminars. This way, it is believed that sports injuries can be prevented before they occur.

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