

Investigation of Sports Injuries and Factors Causing Injuries

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Introduction

Sport can be defined as a competition or game that is carried out individually or as a team, adheres to certain rules and consists of physical activities. Sport is an important part of our daily lives. Doing sports can be chosen as a way to have fun, spend leisure time, reduce stress, live healthy, keep the body alive, increase motivation, work and profession. In addition, sport is the sum of activities that affect large masses and include the principle of gaining superiority over each other (Özbek, 2000). The health of society is always a priority. One of the most important ways to protect health physically, emotionally and mentally is to do regular sports. Because it has been scientifically proven that sports can protect health and keep the body fit. In order to get rid of negative situations, to keep the body healthy and fit, and to work the mind at the highest level, doing sports has become an important position in our lives as a necessity and a routine. The key point of sports is not only the purpose of competition, but also the idea of balancing and protecting human health. With this idea, people become more addicted to sports and are more encouraged to do sports. Regular exercise contributes greatly to increasing work performance, being more energetic, improving self-confidence, increasing motivation, reducing stress, gaining regular eating and sleeping habits, establishing easy friendship and friendship with people, developing feelings of cooperation, working together and socializing. In short, the main purpose of sports is to make sedentary life more lively, to feel psychologically better and to be physically more vigorous, to reduce mobility limitation and to reduce psychological problems such as depression and anxiety, as well as to protect physical health (Karabulut & Altun, 2018). Sport is an activity that allows people to develop and use their talents, with specific rules and each sport branch has its own unique rules with different characteristics. Sport is an effort to improve oneself physically and psychologically (Aracı, 1999).

Aim of Study

The aim of this study was to investigate the factors that cause sports injuries.

Effects of Sport

The fact that people engage in sportive activities and the social and physical development of these activities constitute the basis of the effects of sport on social development. In the emergence of the psycho-social benefits of sports, the fact that people find a place where they can express themselves comfortably in sports environments has an important role (Küçük & Koç, 2004). In addition, sport's unique rules and values, communication symbols and processes also contribute to the emergence of the social benefits of sport (Karayılmaz, 2006).

Sport is an activity that develops people's social and individual characters. People who play sports gain values such as friendship, respect, solidarity, compliance with rules, self-confidence, struggle, order, discipline, health, body awareness, aggression control and respect for opponents (Bulgu, 2003). Therefore, developed countries attach importance to sports and instill a sports culture in children. Sport encourages people to do activities together. Sport gives people the skills of competition, work, courage and struggle. Sports increase people's sense of social responsibility and social cohesion (Duman & Kuru, 2010; Şahan, 2008).

Sport is an activity that protects and improves physical, social and psychological health. Sport learns and develops values such as respect, acceptance, tolerance and cooperation. Sport positively affects individuals' self-confidence and emotional state. Sports also increase individuals' skills such as perception, focus, concentration, problem solving, adaptability, productivity, imagination and practical intelligence (Yazarer et al. 2004; Şahan, 2007).

Sports is an important activity that enables people to live healthy lives. Doing sports not only protects people's physical health, but also positively affects their mental health. The negative energy accumulated in the body during sports is expelled through sweating. In this way, people can avoid negative emotions and behaviors such as stress, anxiety, anger, aggression and violence. The benefits of sports on psychological health are also supported by research in the literature. It has been observed that people who participate in sports have better psychological health and are happier (Şenyüzlü, 2013; Haryey et al. 2005).

Sports Injuries

Sports injuries are a condition that causes treatment or recommendation due to multiple factors during sports, such as inadequate warm-up, adverse weather conditions, inadequacy of the sports field, wrong sports technique, etc. (Kalyon, 1994). Sports injuries can leave traumatic effects, temporary or permanent damages (Kalyon, 1994). Sports injuries can leave damage in the body (Türker et al., 2011).

According to the effect of sports injuries on the athlete's body, it may be necessary for the athlete to take a break from training and competitions. In order to minimize the injury process, the correct treatment and rehabilitation program should be programmed together with the doctor and physiotherapist (Junge et al., 1998). Sports injuries are injuries that occur in our body during sports. In other words, they are situations that occur as a result of exceeding the limits of endurance as a result of our body encountering more resistance than normal (Sakallı, 2008). Exercise-related damage to the body can occur for many reasons. Several factors need to be examined in detail to determine the severity of a sports injury (Baker et al., 1985). As a result of the researches among the most injured

sports, soccer ranks first with 10% and wrestling ranks second with 6%. Handball and boxing follow with 3%, athletics with 1% and skiing with 0.5% (Kılıç et al., 2014). In wrestling matches with severe injuries, athletes use intense power to dominate their opponents. In this process, it is seen that the resistance that athletes put on each other increases the risk of injury and causes damage to various parts of the body (Kalyon, 1997). Correct diagnosis and treatment are important to minimize sports injuries and to improve the athlete's health as quickly as possible. Athletes who regain their health can be successful in sports once again (Özdemir, 2004).

Definition of Sports Injury

Sports injuries are a condition that causes treatment or recommendation due to multiple factors such as inadequate warm-up, adverse weather conditions, inadequacy of the sports field, wrong sports technique, etc. during sports. Sports injuries can leave traumatic effects, temporary or permanent damages. Injuries are divided into 3 according to their duration

1-7 days for injuries with less damage; 8-21 days for sprains, strains and injuries with moderate damage; 21 days and more can be evaluated and analyzed as injuries with serious traumatic effects (Petrie and Falkstein, 1998).

Van Mechelen et al. (1992) state that there are 6 elements that indicate the importance of the injury;

- 1- the nature of the injury (anatomical part and cause),
- 2- the nature and duration of medical treatment,
- 3- lost time before you start exercising,
- 4- loss of working time,
- 5- permanent damage,
- 6- they explain it as the price of a sports accident.

Factors Causing Injury

Sports activities require the body to work above its normal functions. Therefore, the risk of injury is quite high for individuals who do sports (Ergen et al., 2003). There are many factors that facilitate the occurrence of sports injuries. Some of these factors are as follows (Kalyon, 1997);

- Disruption of biorhythm
- Inability to tolerate training fatigue
- Overload
- Insufficient rest
- Return to sport without complete cure
- Muscle stiffness due to various environmental and internal causes
- Muscle weakness due to various causes
- Strength differences between muscles
- Lack of full physical preparation
- Inadequate and unbalanced nutrition

Due to some reasons of sports injuries, the athlete may stay away from the sports environment as a result of the deterioration of the athlete's body as external causes and internal causes. When the causes of sports injuries are examined, the factors that are effective on sports injuries are handled in two categories: personal factors and socio-environmental factors. We should give importance to these questions when taking

anamnesis as a result of injuries.

Socio-environmental reasons; sports branch, type of branch, duration of the sport, materials, weather conditions, place of the event, coach and etc. rules are some of the reasons. Personal reasons consist of the athlete's age, gender, physical characteristics, previous injuries and illnesses, etc. (Kanbir, 2017).

Internal factors

Age and gender

Anatomical and physiological differences in the level of growth and development between men and women play an important role in the frequency and pattern of injuries. Ossification is completed at the age of 17 in women and continues until the age of 20 in men. Maturation continues until 20-22 years of age in women and 25-28 years of age in men. Trainability is known to reach its highest level at the age of 18 in men and 16 in women. Sports injuries are one times more likely to occur in men than in women. It has been reported that the risk of sports injuries increases around the age of 29. Serious injuries increase with age. Under 15 years of age, the risk of injury is less. According to the Italian National Olympic Committee, the age range for sports injuries is 15-24 years. Women account for 7% of all injuries. Women have more knee injuries than men due to loose ligament structure and imbalances in strength between anterior and posterior muscle groups (Kanbir, 2017).

Physical structure and fitness for sport

Although it varies from branch to branch, the physical structure of athletes is important in terms of injury prevention and health. Athletes should choose a branch according to their physical characteristics and structure. For example, female swimmers are endomorphic and mesomorphic. Marathon runners are mesomorphic and soccer players are endomorphic. Although the body type changes over time according to the sports branch of the athlete, the somatotype effect that the athlete is born with continues. In addition to the somatotype of the athletes, they should have sports-motoric characteristics such as strength, endurance, speed, coordination and flexibility as required by the branch. Overweight, inappropriate height for sports are risk factors for injuries. For example, tall goalkeepers are less likely to suffer skull fractures than medium-sized goalkeepers. Flexibility is desirable in gymnastics and taekwondo. However, skiers and cyclists are not so flexible. Inadequacy of spormotiric characteristics in the application of branch-specific technique causes injuries (Kanbir, 2017).

Psychosocial reasons

The stress of athletes is caused by individual and socioeconomic reasons. If athletes cannot cope with this stress, their performance deteriorates and they face injury. Therefore, psychological problems of athletes are much more important than they seem. Motivation is at the root of athletes' behavior to survive in the social environment. Sometimes over-motivation or under-motivation of athletes is also a risk factor for injuries. While the unmotivated athlete exhibits loose and reluctant behaviors, the highly motivated athlete prepares the ground for injuries by taking the field like a warrior (Kanbir, 2017).

Previous injuries and inadequate rehabilitation

It is known that due to the pressure in professional sports, athletes often return to the competition environment without full recovery. Returning to the field without fully recovering in the sports environment is one of the biggest risk factors for re-injury. In particular, the most common type of recurring injury is an ankle sprain. In order for an injury to be fully healed, there should be no pain, joint movement should be able to be performed fully, and muscle strength should be at least at the level before the injury (Kanbir, 2017). In order for the athlete to return to sports again, the physiological value of the movement at a certain speed must reach 90% strength when measured with the healthy side and reach the level before the injury (Kalyon, 1997). Fear of previous injury in athletes increases the risk of re-injury (Murphy, Connolly, & Beynnon, 2003).

Lack of Sporting Technique

Unconscious sports techniques cause sports injuries. Wrong sports technique is the cause of overuse. For example, in tennis players, a backhand hit without correct technique causes lateral epicondylitis. In skiers, 40% of back and knee injuries are due to poor technique. Again, most of the shoulder injuries in throwing in athletics are related to poor throwing technique. In handball, 20-40% of elbow and shoulder injuries are related to poor throwing technique. In judo, most elbow injuries are caused by poor falling technique. Hand and thumb injuries seen in goalkeepers in soccer are caused by poor ball handling technique (Kanbir, 2017).

Inadequate Warming

Inadequate warm-up is a cause of injury in itself. As a result of inadequate warm-up, muscle fiber tensions, ruptures, tendon tears may occur. Inadequate warm-up is a risk in muscle tendon injuries, especially in movements such as serving, dunking, throwing in tennis, shooting and volleyball branches (Kanbir, 2017).

External Factors

Characteristics of the Branch

The characteristics of the type of sport are an important factor in injuries. Especially in soccer, injuries occur very often. In a study conducted in 1997, it is stated that soccer is the branch with the highest number of injuries among sports injuries. Each soccer player has a 4.2% chance of injury. Injuries in soccer can occur due to opponent, ball, ground. In football, 75% of the injuries occur in the lower extremities. The ankle is the area where most injuries occur in soccer. Among all sports branches, 40% of meniscus injuries belong to soccer. Goalkeeper is the position with the highest number of injuries in soccer players. The most common injuries in goalkeepers are fractures, dislocations and sprains, respectively. Duration of sporting activity. The longer the duration of the competition, the greater the risk of injury as the level of fatigue increases. Trainings require longer periods of work than competitions. As a result of statistical data in sports branches, most of the sports injuries occur during training and this rate is 29% while it is 7% during the competition. (Kanbir, 2017).

Floor

Floor is one of the causes of sports injuries. In sports branches such as wrestling, gymnastics and boxing, the flexible structure of the floor prepares the ground for falls.

Hard grounds in athletics, poor quality of the mat in high jumping, slippery and uneven grounds in running increase the risk of injury. In soccer, a major cause of ankle sprains is due to uneven ground. In dirt fields, the main cause of swimming is the ground (Kanbir, 2017).

Sports Fields

Sports fields should have safety gaps. There should be a space where athletes can stand safely when they go out of the field due to their movements. In addition, a safe zone should be created in throwing and jumping branches (Kanbir, 2017).

Lighting

Inadequate lighting poses a risk for injuries due to impaired coordination. In particular, inadequate lighting can cause both decreased efficiency and injuries as it affects distance determination, perception of the environment, and the ability to easily select game equipment (Kanbir, 2017).

Sportswear and Footwear

The choice of sportswear and footwear can also increase the risk factors that cause sports injuries. Especially in indoor sports, shoe selection is important (Kanbir, 2017). In soccer, goalkeepers wearing supported jerseys and shorts reduces the injury rate (Kalyon, 1997).

Climatic Conditions

Sports injuries are affected by climatic conditions. Cold weather, hot weather, wind, rain, snow, etc. climatic events and environmental conditions affect sports injuries. In an extremely cold environment, the athlete may get sick, and in an extremely hot environment, heart palpitations and premature fatigue may occur. In many indoor sports, a temperature between 20-24 is sufficient. The international volleyball federation considers it appropriate to play competitions at 16-25 degrees (Kanbir, 2017). Competitions should not be held where the temperature is high and the humidity is high. It is known that sweat cannot be removed from the body and cooling will not take place, especially at temperatures close to body temperature with high humidity. Therefore, it may lead to fatal consequences (Ergen, et al., 2003).

Conclusion

In conclusion, sports injuries are affected by many conditions. By taking these situations into consideration, training plans can be made to prevent injuries.

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