



Original Article

Orthopedic injuries in a formation of a soccer club

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Introduction: Football is one of the most popular sports in the world with approximately 400 million practitioners. All physical activity generates an overload somewhere in the locomotor system, above all, in young athletes. **Objective:** To conduct the epidemiological survey of orthopedic injuries in a medical department of the categories of junior soccer a football club in Curitiba. **Methods:** Epidemiological survey of injuries in 310 different athletes during the 2009 and 2010 seasons. **Results:** The number of recorded visits was 3.64 per athlete orthopedic complaints in two years. Furthermore, we find 2.88 injuries / 1,000 hours of play, and the junior (under 20 and under 18) with the highest rate (3.05). The most frequent injury was contusion (32.15%), lower limbs, especially the thigh (3.94%). The higher incidence of injuries occurred in the Middle - campers (30.65%), being the training responsible for 88.31% of the complaints. **Conclusion:** The epidemiological survey of medical care in a medical department is an important tool for analysis of the main complaints, as well as the primary means of prevention and maintaining the health of athletes.

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Introduction

Football (soccer) is the most widely practiced and most popular sport in the world, with more than 400 practitioners in approximately 186 countries, according to FIFA (Fédération Internationale de Football Association).^{1,2}

Practicing this sport depends on adequate development of tactical, technical, nutritional, psychological and physical factors,³ and the team is divided into: goalkeepers, full-backs, wingers, midfielders and strikers, who cover different distances with differentiated intensities and movements.⁴

All physical activity generates an overload at some point of the locomotor system⁵ and increased levels of sports practice also cause considerable increases in the incidence of injuries.² Moreover, in striving to make a mark and achieve success, players inevitably need to subject themselves to physical and mental efforts that are very close to their physiological limits, which exposes them to a potentially pathological level of activity and results in a high number of sports injuries.⁶

Football is a major cause of injuries among sports players worldwide and is responsible for 50% to 60% of all sports injuries in Europe.^{7,8} Among all the cases of physical trauma treated in European hospitals, between 3.5% and 10% are caused by football. Furthermore, age has been found to be an important factor in studies on exposure to injury risk factors, given that greater numbers of injuries are seen in adults than in young players.^{7,9-11}

It is rare for player training teams to have healthcare professions acting directly in relation to assessment of risk factors and injury rehabilitation. Likewise, few studies have investigated the incidence of injuries among these players.

Objective

To conduct an epidemiological survey on orthopedic injuries among the training categories of a football (soccer) club in Curitiba, seen at its medical department.

Materials and methods

An epidemiological survey was conducted on the injuries that occurred and clinical care that was provided over the course of two seasons (24 months), from January 2009 to December 2010, at a football player training club (Paraná Club), in the city of Curitiba, state of Paraná. The study participants comprised 310 players who were enrolled during the seasons analyzed. Those who continued at the club for the 2010 season were excluded from the total calculation, given that they had already been included in the total for the 2009 season.

According to their ages, they were divided into three categories: child (under 15 years; 116 players), juvenile (under 16 and 17 years; 105 players) and junior (under 18 and 20 years; 89 players).

These categories had different training periods and games, which were divided into preparatory and competitive periods. The total duration was 79 weeks for the child category (1016 hours), 77 weeks for the juvenile category (1254 hours) and 87 weeks for the junior category (1520 hours).

The players' complaints reached a total of 1548 records (clinical = 419; traumatic = 1129), and the following points were highlighted: location and type of injury per body segment; distribution according to the players' tactical positions; and time of occurrence of the injury (training or game). The data were tabulated using the Excel® software (Microsoft Office 2007).

The definition of injury that was used was any event that occurred during games or training at the club that caused reduction or complete withdrawal of the player's participation in the sports activities.¹²

The prevalence of injuries was expressed as the number of injuries per 1000 hours of games/training per player. In addition, the player's position and the time at which the injury occurred (training or official game) were analyzed.

Results

There were 1548 reported complaints, of which 419 (27.07%) were clinical and 1129 (72.93%) were orthopedic. In relation to the total number of orthopedic complaints, there were 3.64 complaints per player, among which the junior category accounted for 36.49% of the injuries, followed by the child category (34.63%) and the juvenile category (28.88%) (Table 1).

In relation to the type of injury, we found the following results, in decreasing order: contusion (32.15%), muscle pain (28.70%), sprains (19.22%), bursitis/tenosynovitis and tendinopathy (8.41%), joint pain (3.37%), wounds (2.48%), contractions (1.15%) and fractures (0.71%) (Table 2).

There were 2.8 complaints per 1000 hours of games/training per player, and the highest incidence was for the junior category (3.05) (Table 3).

In correlating injury incidence with the players' positions on the pitch, we found that midfielders accounted for 30.65% of the complaints (Fig. 1). Moreover, the most frequent time for injuries was during training sessions, which accounted for 88.31% (Fig. 2). There was no significant difference in this percentage between the different categories.

Discussion

In the present study, we observed that the number of records of orthopedic injuries was 3.64 per players over the two-year period, with a mean of 2.88 injuries/1000 hours of games/training, and that the junior category (under 18 and under 20) had the highest rate (3.05). These data are similar to those of studies on young individuals found in the literature.¹¹⁻¹⁵

Concordant with the findings of Nilsson & Roaas¹⁶ and Pedrinelli,¹⁷ the injury most often encountered was contusion (32.15%), with greatest frequency on the lower limbs, especially on the thighs (3.94%).

Muscle pain without anatomical injury was the second most frequent complaint (28.70%), particularly in the lower limbs

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