

# SPORTS INJURIES IN PROFESSIONAL SOCCER PLAYERS

LESÕES ESPORTIVAS EM JOGADORES PROFISSIONAIS DE FUTEBOL

LESIONES DEPORTIVAS EN FUTBOLISTAS PROFESIONALES



ORIGINAL ARTICLE  
ARTIGO ORIGINAL  
ARTÍCULO ORIGINAL

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## ABSTRACT

**Introduction:** Sports injuries in soccer are hardly avoided due to the characteristics of battles, such as intense conflict and high-level competitiveness related to soccer. **Objective:** Investigate the most common sports injuries in professional soccer players. **Methods:** A questionnaire survey was carried out with 365 valid returns, including 198 male and 177 female professional soccer players. Data were collected and distributed using Excel software. **Results:** Among sports injuries in professional soccer athletes, minor injuries are more frequent, and the lower limbs are the most affected. The subjective cause of these injuries is mainly overwork. Among the objective causes, many injuries caused by the sports characteristics of soccer are inevitable, having a strong connection with the intrinsic factors of the sport. Treating injuries combines traditional Chinese medicine with the advantages of Western medicine. **Conclusion:** It is recommended that athletes focus constantly on their injuries while playing the sport. Coaches should verify the safety of the athletes, taking precautions to reduce injuries as much as possible and improve the athlete's competitive level, prolonging his professional activity. **Level of evidence II; Therapeutic studies - investigation of treatment outcomes.**

**Keywords:** Soccer; Injuries, Sports; Research.

## RESUMO

**Introdução:** As lesões esportivas do futebol dificilmente são evitadas devido as características de batalhas como o intenso conflito e a competitividade de alto nível relacionadas ao futebol. **Objetivo:** Investigar as lesões esportivas mais acometidas nos jogadores profissionais de futebol. **Métodos:** Efetuou-se uma pesquisa por questionário com 365 retornos válidos, incluindo 198 homens e 177 mulheres profissionais do esporte. Os dados foram coletados e distribuídos através do software Excel. **Resultados:** Entre as lesões esportivas de atletas profissionais de futebol, as lesões de menor grau são mais frequentes, sendo os membros inferiores os mais afetados. A causa subjetiva dessas lesões é principalmente o excesso de trabalho. Entre as causas objetivas, muitas lesões causadas pelas características esportivas do futebol são inevitáveis, possuindo uma forte conexão com os fatores intrínsecos do esporte. Atualmente, o tratamento das lesões tende a combinar a medicina tradicional chinesa com as vantagens da medicina ocidental. **Conclusão:** Recomenda-se aos atletas um foco constante durante a prática o esporte. Os treinadores devem verificar a segurança dos atletas, tomando precauções para reduzir ao máximo as lesões e melhorar o nível competitivo do atleta, prolongando sua atividade profissional. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

**Descritores:** Futebol; Lesões Esportivas; Pesquisa.

## RESUMEN

**Introducción:** Las lesiones deportivas en el fútbol son difícilmente evitables debido a las características de las batallas como el intenso conflicto y la alta competitividad relacionada con el fútbol. **Objetivo:** Investigar las lesiones deportivas más comunes en los futbolistas profesionales. **Métodos:** Se llevó a cabo una encuesta con 365 respuestas válidas, incluyendo 198 jugadores y 177 jugadoras de fútbol profesional. Los datos se recogieron y distribuyeron mediante el programa informático Excel. **Resultados:** Entre las lesiones deportivas en los atletas de fútbol profesional, las lesiones menores son más frecuentes, y los miembros inferiores son los más afectados. La causa subjetiva de estas lesiones es principalmente el exceso de trabajo. Entre las causas objetivas, son inevitables muchas lesiones provocadas por las características deportivas del fútbol, que tienen una fuerte relación con los factores intrínsecos del deporte. Actualmente, el tratamiento de las lesiones tiende a combinar la medicina tradicional china con las ventajas de la medicina occidental. **Conclusión:** Se recomienda a los atletas una concentración constante durante la práctica del deporte. Los entrenadores deben verificar la seguridad de los deportistas, tomando precauciones para reducir al máximo las lesiones, y mejorar el nivel competitivo del deportista, prolongando su actividad profesional. **Nivel de evidencia II; Estudios terapéuticos - investigación de los resultados del tratamiento.**

**Descriptorios:** Fútbol; Lesiones en Deportes; Investigación.



## INTRODUCTION

Because of the high training and competition intensity of professional athletes in all sports, injuries are usually unavoidable, especially in football. Due to its fierce antagonism and high-level competitiveness, the injury rate of professional football players is often higher than that of other sports.<sup>1</sup> The common sports injuries in professional football matches include sports skin injury, ankle sprain, ligament strain and fracture caused by fierce confrontation.<sup>2</sup> Due to the high defensive intensity of professional athletes, the confrontation between offensive players and defensive players in the game is more intense and there is more physical contact.<sup>3</sup> In the case of more physical contact and fierce confrontation, it will inevitably lead to the deformation of technical movements, resulting in athletes' injuries. The injuries of professional football players are unpredictable and usually sudden, which requires the emergency medical team and coaching team on the sidelines to make adequate preparations for the injuries of professional players.<sup>4</sup> At the same time, during training, coaches should also adjust the players' technical actions and improve the players' awareness of self-protection on the field, so as to prevent injuries and ensure the athletes' health, So as to have a longer professional sports life. Due to the tight schedule of football matches nowadays, coaches are also required to scientifically plan the training time and pay attention to the competitive state of athletes in daily training and competition, reasonably arrange the training and competition plans and the use of personnel, and avoid fatigue injuries in competition and training.<sup>5</sup> Fatigue injuries are a kind of fatigue injuries caused by the fatigue of the body under long-term exercise, it also deserves attention.

## METHOD

This paper investigates the football players included in professional football clubs and municipal and provincial football teams in the study area by means of questionnaire. Due to the relatively small number of professional football players and the randomness of the data, in order to expand the research scale, this paper selects the active and retired professional football players in recent 10 years as the research object, issues a questionnaire to the athletes with sports injury history, and collects it. A total of 375 valid questionnaires are obtained, including 198 male athletes and 177 female athletes. The study and all the participants were reviewed and approved by Ethics Committee of Hunan Normal University (NO.2021HNNUPT).

In order to ensure the preciseness and pertinence of the questionnaire, this paper consulted a large number of sports injury data of professional athletes at the beginning of the questionnaire design, and studied and analyzed the situation and prevention measures of sports injury, so as to lay the research foundation of this paper. Then, according to the injury situation of professional athletes in the study area, the author visited relevant hospitals, communicated with professional doctors, obtained the main situation of current football players' sports injury, and carried out the preliminary design of the questionnaire. Then invite experts to review the questionnaire and revise it again to get the final questionnaire.

By sorting and analyzing the basic situation of athletes, as shown in Table 1. The data will be collected and distributed offline through Excel software. In order to obtain more intuitive research results, the way of picture drawing is also used to facilitate subsequent research and analysis.

**Table 1.** Basic information of research objects.

Option	Male	Female
Number of people	198	177
Age	20.257±3.481	20.057±3.223
Training period	6.616±1.936	6.523±0.859
Height	166.315±4.824	156.725±6.438
Weight	54.303±5.488	53.825±3.803

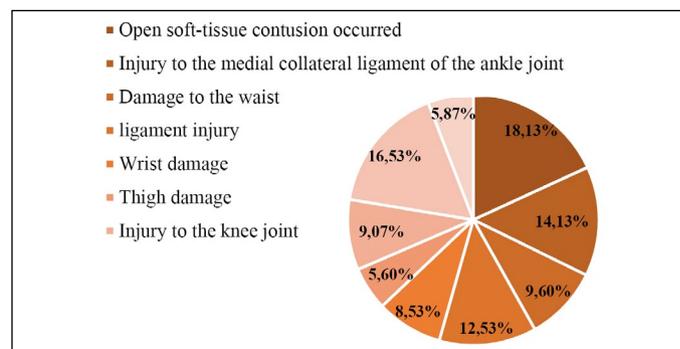
## RESULTS

The research results of sports injury parts of professional football players are shown in Figure 1. It can be seen from Figure 1 that the most sports injury parts of professional football players are contusion of open soft tissue, accounting for 18.133%; The second was muscle strain, accounting for 16.533%; The third is the injury of medial collateral ligament of ankle, accounting for 14.133%; The fourth is ligament strain, accounting for 12.533%; The second is the waist injury, accounting for 9.600%; The second is the injury of knee joint, accounting for 9.067%; The second is the injury of wrist, accounting for 8.533%; The second is the injury of Achilles tendon, accounting for 5.867%; The last is the injury of thigh, accounting for 5.600%.

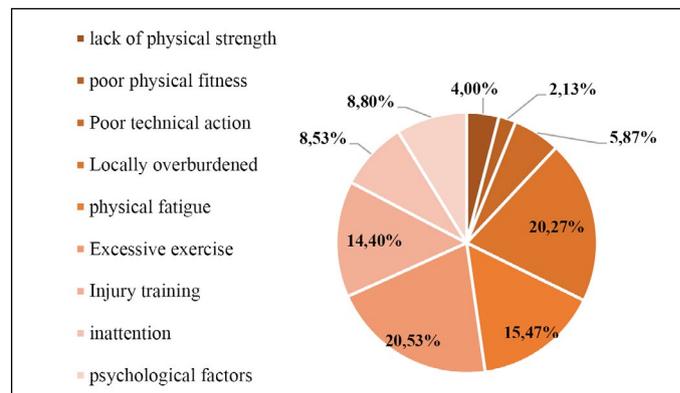
The research results of the subjective causes of sports injury of professional football players are shown in Figure 2. As can be seen from Figure 2, the first subjective cause of sports injury of professional football players is excessive amount of exercise, accounting for 20.533%; The second is local overburden, accounting for 20.267%; The third is physical fatigue, accounting for 15.467%; The fourth place is training with injuries, accounting for 14.400%; The second is psychological factors, accounting for 8.800%; Followed by inattention, accounting for 8.533%; The second is poor technical action, accounting for 5.867%; The second is lack of physical strength, accounting for 4.000%; The last one is poor physical quality, accounting for 2.133%. (Figure 3)

The investigation results of the objective causes of sports injury of professional football players are shown in Figure 2. As can be seen from Figure 2, the first objective cause of sports injury of professional football players is reasonable collision, accounting for 33.067%; The second was the recurrence of old injury, accounting for 19.200%; The third is inevitable injury, accounting for 14.667%; The fourth is weather, accounting for 11.467%; The second is the rough movement and the field problem, accounting for 8.533%; The last one is violation of rules, accounting for 4.533%. (Figure 4)

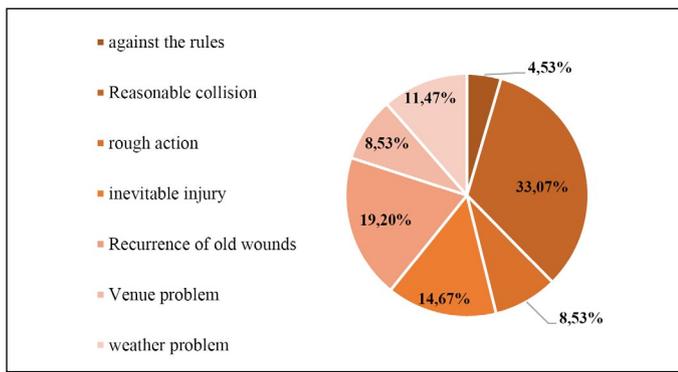
The research results of sports injury treatment methods of professional football players are shown in Figure 2. As can be seen from Figure



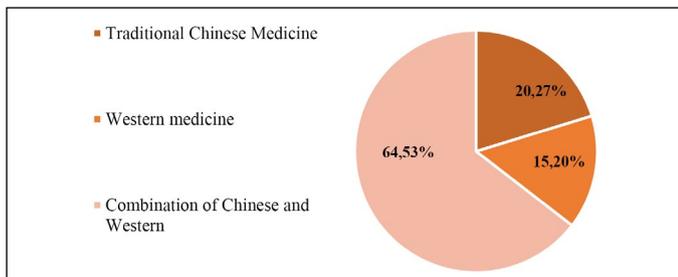
**Figure 1.** Analysis of sports injury parts of professional football players.



**Figure 2.** Subjective causes of sports injury of professional football players.



**Figure 3.** Objective causes of sports injury of professional football players.



**Figure 4.** Treatment of sports injury of professional football players.

2, the first treatment method for sports injury of professional football players is the combination of Chinese and Western medicine, accounting for 64.533%; The second is traditional Chinese medicine, accounting for 20.267%; The third is western medicine, accounting for 15.200%.

Through sorting and analyzing the injury treatment, it can be found that the main methods of traditional Chinese medicine are massage, massage, acupuncture, cold compress, hot compress, certain traditional Chinese medicine treatment, etc. it is emphasized that it is step-by-step. Athletes cannot recover immediately, but they will gradually complete all aspects of recovery in a long time. Therefore, it is generally used in the treatment of little sports injury or chronic sequelae. The methods of Western medicine, including taking drugs and surgical treatment, are relatively fast, aiming at more serious diseases, such as fracture or joint injury. At present, the treatment of sports injury of professional football players shows the trend of combining Chinese and Western medicine, that is, when the injury is sent to the hospital in an emergency, the sports injury can be quickly controlled in a range that has little impact on the body. In the subsequent recovery process, traditional Chinese Medicine therapy can be used for massage and other operations to gradually eliminate the impact of sports injury on the body, so as to combine the advantages of Chinese and Western medicine. In addition, traditional Chinese medicine treatment is often used in the regular conditioning of professional football players, so as to relieve and relax purposefully and prevent sports injury caused by the accumulation of overwork.

## DISCUSSION

### Common injury types of professional football players

As professional footballers, the intensity of training and competition is generally large, so the injury rate in training and competition is also high. As professional footballers, there are often the following common injuries in the training process: the first is ankle injuries. In football training and competition, there are more technical actions for footsteps, and the resistance of lower limbs is large, and the ankle is also a fragile joint of lower limbs. Therefore, Ankle injury is also a common injury in football. Ankle injury includes ankle confrontation injury caused by defensive actions such as tackle of defensive players

in confrontation, as well as ankle sprain in sports. Most ankle injuries are ankle ligament damage. Due to the difference of injury severity, the recovery time may be from one week to six weeks. The second kind of injury is fatigue injury. There are a wide range of types of fatigue injury. Common fatigue injuries include muscle soreness and strain. The emergence of fatigue injury is often due to the unscientific time arrangement of coaches for training and competition, or the athletes do not improve their muscle endurance in training. Therefore, the muscle fatigue injury and fatigue injury caused by exercise recover quickly, After fatigue sports injuries, players often use massage or acupuncture to alleviate muscle soreness. After the body has been fully rested and adjusted, the fatigue injuries will recover. The third kind of injury is the cruciate ligament injury. The cruciate ligament is an important structure in the athlete's knee to help fix his knee joint. In training and competition, the cruciate ligament injury will also be caused due to the athlete's emergency braking in the process of moving or inadequate landing preparation from running and jumping, and the defender's tackle. The recovery period of cruciate ligament injury is often long. At the same time, surgery is also the main treatment. After receiving cruciate ligament surgery, the competitive level and competitive state of athletes are often affected.

### Prevention of sports injury of professional football players

When professional football players have a high probability of injuries in competition and training, they should prevent foreseeable injuries through adequate preparation and effective means before daily training and competition. There are the following methods to prevent injuries: the first is to stretch and warm up fully before training and competition. Stretching before training can effectively alleviate the tension of the body, so as to improve the coordination of body muscles during exercise. At the same time, muscle relaxation can effectively prevent muscle strain. Through training and warm-up before competition, athletes can effectively achieve exercise heart rate and improve the excitement of body muscles, so as to improve their competitive state. The second is to improve athletes' muscle endurance through aerobic and anaerobic training in training, and effectively improve athletes' physical quality through reasonable planning during training, so as to prevent fatigue injuries. The third is the rational use of sports protective equipment. The next confrontation of football is very fierce, which requires us to pay attention to the use of leg guards when selecting sports protective equipment. Leg guards can cushion the impact of lower limbs during sports, so as to achieve the function of protecting athletes' sports body.

## CONCLUSION

The research results of this paper show that because the characteristics of football are fierce confrontation and high-intensity sports, the sports injury of football is inevitable. On the whole, the sports injury has little impact on the career of football players, and most sports injuries are controllable and treatable, but there will still be accidents. Therefore, athletes should consciously adjust their own state in the process of sports and maintain good psychological level and sports ability. Coaches should observe the state of athletes, put forward appropriate guidance, and fully study the site and weather factors before sports, so as to check the sports safety of athletes. In addition, athletes and coaches should take precautions, provide athletes with good endurance and preparation activities, and timely recover from fatigue and maintain their body in daily sports, so as to reduce the occurrence of sports injuries as much as possible, improve the competitive level of athletes and prolong their professional life.

## ACKNOWLEDGEMENT

The research is supported by (1): Hunan Philosophy and Social Science Fund Project "Research on the development of football events and online video integration based on symbiosis theory", Project number: 20YBA178; (2) Hunan Provincial Department of Education Project "Research on the

comprehensive governance of social football events based on the law of minimum quantity", Project number: 18C0044.

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All authors declare no potential conflict of interest related to this article

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**AUTHORS' CONTRIBUTIONS:** The author has completed the writing of the article or the critical review of its knowledge content. This paper can be used as the final draft of the manuscript. Every author has made an important contribution to this manuscript. Yu Zhang: writing and execution. Bo Wang: data analysis and article reviews.

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