

# TRADITIONAL NATIONAL SPORTS' INJURIES IN COLLEGE STUDENTS



ORIGINAL ARTICLE  
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LESÕES ESPORTIVAS DE ESPORTES NACIONAIS TRADICIONAIS EM ESTUDANTES UNIVERSITÁRIOS

LESIONES DEPORTIVAS EN DEPORTES NACIONALES TRADICIONALES EN ESTUDIANTES UNIVERSITARIOS

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## ABSTRACT

**Introduction:** There are 56 ethnic groups in China. Many ethnic groups have their sports, which can cause sports injuries to the human body. **Objective:** This paper analyzes the impact of national sports on college students' physical health, investigates the most common sports injuries in college students, and specifies scientifically-based prevention and intervention measures. **Methods:** 312 college students who regularly participate in various national sporting events at 10 colleges and universities volunteered to investigate common injuries sustained by participating in national sporting activities. The main injury factors were analyzed using statistical methods. **Results:** The investigation shows that college students' errors of judgment regarding accidents, risky behaviors, and poor sports facilities are the main causes of sports injuries. Injuries are mainly concentrated in the lower limbs and pelvic girdle. **Conclusion:** College students' participation in national sports activities is conducive to improving their physical and mental health. However, attention to preventing injury factors in the sports process is needed to ensure safe and healthy participation in national sports. **Level of evidence II; Therapeutic studies - investigation of treatment outcomes.**

**Keywords:** Sports; Athletic Injuries; Health Impact Assessment.

## RESUMO

**Introdução:** Existem 56 grupos étnicos na China. Muitos grupos étnicos têm os seus próprios esportes, que podem causar lesões esportivas no corpo humano. **Objetivo:** Este artigo analisa o impacto dos esportes nacionais na saúde física dos estudantes universitários, investiga as lesões esportivas mais comuns nos estudantes universitários praticantes, além de especificar medidas de prevenção e intervenção com embasamento científico. **Métodos:** 312 estudantes universitários que participam regularmente em vários eventos esportivos nacionais em 10 faculdades e universidades foram voluntários de uma investigação sobre as lesões esportivas comuns sofridas no processo de participação em atividades esportivas nacionais. **Analisou-se** os principais fatores de lesão utilizando métodos estatísticos. **Resultados:** A investigação mostra que os erros de julgamento dos estudantes universitários quanto a acidentes, comportamentos de risco e instalações esportivas deficitárias são as principais causas de lesões esportivas. As lesões concentram-se principalmente nos membros inferiores e na cintura pélvica. **Conclusão:** A participação dos estudantes universitários em atividades esportivas nacionais é propícia à melhoria da sua saúde física e mental, porém é necessária uma atenção quanto à prevenção de fatores de lesão no processo esportivo para garantir uma participação segura e saudável nos esportes nacionais. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

**Descritores:** Esportes; Traumatismos em Atletas; Avaliação do Impacto na Saúde.

## RESUMEN

**Introducción:** En China hay 56 grupos étnicos. Muchos grupos étnicos tienen sus propios deportes, que pueden causar lesiones deportivas en el cuerpo humano. **Objetivo:** Este artículo analiza el impacto del deporte nacional en la salud física de los estudiantes universitarios, investiga las lesiones deportivas más comunes en los estudiantes universitarios y especifica las medidas de prevención e intervención con base científica. **Métodos:** 312 estudiantes universitarios que participan regularmente en diversos eventos deportivos nacionales en 10 colegios y universidades se ofrecieron como voluntarios para una investigación de las lesiones deportivas comunes sufridas en el proceso de participación en actividades deportivas nacionales. **Los principales factores de lesión se analizaron** mediante métodos estadísticos. **Resultados:** La investigación demuestra que los errores de apreciación de los estudiantes universitarios en relación con los accidentes, los comportamientos de riesgo y las malas instalaciones deportivas son las principales causas de las lesiones deportivas. Las lesiones se concentran principalmente en los miembros inferiores y la cintura pélvica. **Conclusión:** La participación de los estudiantes universitarios en actividades deportivas nacionales favorece la mejora de su salud física y mental, pero es necesario prestar atención a la prevención de los factores de lesión en el proceso deportivo para garantizar una participación segura y saludable en los deportes nacionales. **Nivel de evidencia II; Estudios terapéuticos - investigación de los resultados del tratamiento.**

**Descriptor:** Deportes; Traumatismos en Atletas; Evaluación del Impacto en la Salud.



## INTRODUCTION

With the continuous deepening of the reform process of school physical education teaching and sports training, the comprehensive promotion of quality education, the implementation of the new goals of physical education curriculum standards and training syllabus, the concept of "health education" has penetrated into physical education teaching, and the national traditional sports have been popularized to a certain extent in school physical education teaching.<sup>1</sup> National traditional sports is a special group in sports. In its unique sports mode, it pays attention to national feelings, national spirit and national theory, as well as the natural integration of aesthetic objects and aesthetic subjects with national style, which makes national traditional sports full of charm and vitality.<sup>2</sup> However, due to the special technical requirements of various sports, the key points of special sports movements are not well mastered, which violates the characteristics of body structure and function and the biomechanical principle during sports, thus constituting the inducing factors that can cause sports injury.<sup>3</sup> The National Traditional Sports entered the school physical education system relatively late, and a scientific and systematic training system has not been established. Moreover, the training of traditional sports is restricted by many factors, and the probability of sports injury accidents is high.<sup>4</sup> By studying the causes, preventive measures, treatment effects and rehabilitation time of sports injuries, it is beneficial to improve the sports conditions, improve teaching and training methods, and promote the physical and mental health of physical exercisers.<sup>5</sup> Sports is one of the important contents of school education and plays an irreplaceable role in cultivating students' comprehensive quality. Through physical education and extracurricular sports activities, the purpose of strengthening students' physique and improving students' quality is realized.<sup>6</sup> However, sports is a teaching activity that is prone to injury. Even minor injuries that occur in the process of sports may have a serious impact on their studies and even their life, and even affect their physical health, which is not conducive to the normal progress of students' learning and life.<sup>7</sup>

## Overview

### Definition and classification of sports injuries

Sports injuries are injuries that occur to the body under the influence of a variety of factors during physical exercise and participation in sports.<sup>8</sup> Among all sports injuries, joint sprains accounted for 38.15%, abrasions accounted for 25%, and contusions accounted for 18%. But no matter what kind of sports trauma, it will cause physical and psychological pain to the trauma victim, and even cause lifelong disability. The economic loss and social impact caused by sports trauma have been paid more and more attention. After sports injury occurs, timely treatment is very important.<sup>9</sup> If the treatment of acute sports injury is not timely and the treatment effect is not good, it will evolve into an old injury, which will prolong the course of the injury and affect the physical and mental health of athletes.<sup>10</sup>

According to the degree of injury, it is divided into minor injury, moderate injury and serious injury. According to the nature of sports injury: (1) Open injury: there is a wound communicating with the outside world and accompanied by bleeding, the skin is abraded, and its integrity is destroyed. Such as abrasions, wounds and fractures. (2) Closed injury: no rupture wound, skin intact, no bleeding. Such as contusion, joint muscle ligament strain, sprain, closed fracture and joint dislocation. According to the relationship between sports technology and training, it can be divided into: (1) Sports technical injury: this injury is closely related to the characteristics of sports technology. A few are acute injuries, such as humerus fracture and Achilles tendon fracture during throwing, ligament tension and muscle fiber tear during jumping, and most are strain injuries, such as tennis elbow, patellar tendinitis and tendinitis.

(2) Non sports technical injury: injury caused by indirect or direct violence. In conclusion, classification of sports injuries is conducive to understanding the sports injuries and timely observation and treatment.

### Analysis of the causes of national sports injuries

Due to its particularity, ethnic sports are prone to sports injuries. The main causes of injuries are analyzed as follows:

1. Lack of awareness of prevention. On the one hand, people who participate in sports fail to pay attention to the importance of preventing sports injuries due to their weak awareness of prevention. Therefore, they do not participate in sports events in accordance with the sports requirements, norms and standards, which increases the risk of sports injuries. On the other hand, the weak awareness of sports injury prevention will also make participants ignore the preparations before sports. The technical action is not standard.
2. Compared with mass sports, traditional national sports have many specific training skills and action essentials. Blind training is extremely easy to cause damage if it is not standardized and guided. Excessive exercise will lead to physical and mental intolerance.
3. The daily physical training can not bear a large amount of exercise, its muscle elasticity and basic strength are poor, the reaction is slow during the exercise, and the flexibility of the body joints is insufficient. Therefore, during the exercise, there will be sports injuries due to the body itself.

### Influence of sports injuries on physical fitness

There are many factors that affect the physique, such as heredity, living habits, interests and hobbies, will quality, education system, facilities construction, campus culture, social atmosphere, utilization of sports resources, monitoring and evaluation of sports, and national policies and systems, all of which are factors that affect the physique of students. Among them, physical exercise in schools can most effectively enhance students' physique.

The participation of young students in sports can not only improve their physical fitness, but also make the various functions of the body more active. It is also conducive to the development of the height, weight, vital capacity, flexibility and nervous system of young people. Therefore, schools should urge students to take more sports, and schools should also hold some activities to encourage students to actively participate. However, according to the classification of sports injuries mentioned in Section 2.1, sports injuries are closely related to the physical quality of college students. If the treatment is not timely and the treatment effect is not good, it will have different negative effects on the body and mind of college students.

## Research objects and methods

In this paper, a total of 312 college students from 10 colleges and universities in a city who regularly participate in various national sports events are taken as the research objects to investigate the common sports injuries they encounter in the process of participating in national sports activities, and analyze the main injury factors using statistical methods. According to the survey on whether sports injuries have occurred during training or competition, 284 students have suffered from injuries of varying degrees in the course of sports, and 28 students have never suffered injuries, with an injury rate of 91.02%. This indicates that most of the surveyed college students have suffered sports injuries during training or competition. (Table 1)

**Table 1.** Survey of students participating in national sports.

	Age (years)	Height (CM)	Body weight (kg)	BMI	Years of exercise
Male	18-23	170.2-189.3	55-73	19.2-24.6	More than one year
Female	18-23	150.3-178.1	39-68	17.5-22.8	More than half a year

## Findings

In order to test the reliability of the questionnaire, this paper uses the "retest reliability method" to retest a small part of the respondents. The correlation coefficient of the two tests is calculated as  $R = 0.85$ , which indicates that the survey results have high reliability.

It can be seen from Table 2 that the proportion of sports injuries caused by poor self-protection ability and inadequate preparation activities of students is also relatively large. Incorrect technical movements and poor physical quality of students are also problems that cannot be ignored in sports training in Colleges and universities. On the one hand, the muscle strength is poor, and the flexibility and stability of joints are weak, so it is easy to be injured. On the other hand, the special technology is not comprehensive and the action is not standardized, which violates the physical structure, functional characteristics and physiological principles during sports, thus causing sports injury. In addition, the injury caused by insufficient preventive measures and lack of active treatment and medical supervision should also be noticed.

It can be seen from Table 3 that among the sports injury sites during training or competition, the investigated 312 athletes mainly suffered from the lower limbs, accounting for 71% of the total number, followed by the fingers and shoulders, accounting for 25% and 4% respectively. The head sports injury is less. (Table 3, Figure 1)

In conclusion, it is suggested that college students and physical education teachers should constantly summarize and study more scientific and reasonable training methods in national sports competitions or training, and strengthen the arrangement and revision of training plans for the main injury parts. At the same time, we should further study the competition rules and methods, and use the relevant knowledge of sports human science to guide the training, so as to reduce the incidence of

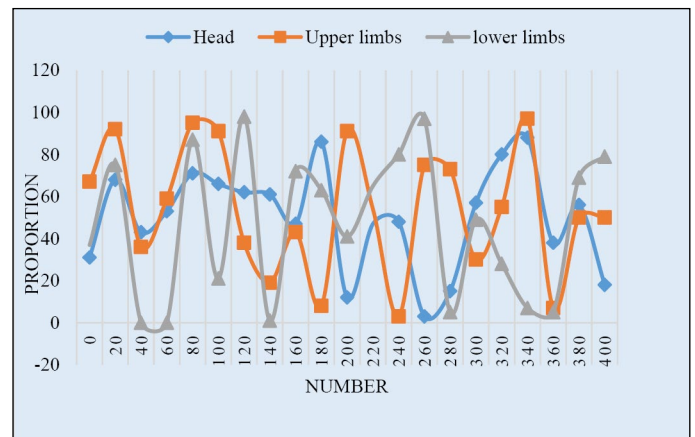


Figure 1. The proportion of injured sites among students.

injury. Secondly, we should strengthen students' self-protection consciousness, pay attention to the preparatory activities, strengthen medical supervision, eliminate sports fatigue and reduce sports injury in time.

## CONCLUSIONS

College sports curriculum has a direct impact on students' physique and health, and is the core factor to enhance college students' physical quality and comprehensive development of physical and mental health. Based on the research on the influence of physical exercise on students' physique and health, colleges and universities should strengthen the practice of physical education courses and improve the education level of physical education. The combination of national sports and physical education courses should strictly follow the guiding ideology of taking students as the center. Teachers should pay attention to students' physical health, take students' physical health test results as the basis, and combine the diversity of physical education courses to achieve the high efficiency of course teaching. Colleges and universities should create an atmosphere of "relaxed, harmonious and positive" sports activities, increase investment in sports, improve sports teaching conditions, carry out sunshine sports from multiple directions and channels, establish and improve a long-term supervision mechanism, implement sunshine sports and actively prevent sports injuries, so as to promote the improvement of College Students' physical health through various effective ways.

The study is Purely observational studies which no need to registry ID of ICMJE, and all the participants were reviewed and approved by Ethics Committee of Qingdao Agricultural University, China (NO. 2021073).

The author declare no potential conflict of interest related to this article

Table 2. Investigation on the causes of sports injuries.

Cause of damage	Number of injured	Percentage (%)	Injury level
Insufficient preparation	56	20.00%	Mild
Weather and place	36	12.60%	Mild
Foul	64	22.50%	Mild
Technical nonstandard	70	24.65%	Moderate
Physical decline	36	12.61%	Moderate
Psychological factor	22	7.74%	Mild

Table 3. Survey of damage types.

Damage type	Body parts	Percentage (%)
Cutaneous trauma	Head, leg, knee, elbow and other parts	29%
Joint ligament injury	Knee and elbow	48%
Muscle strain	Shoulder, waist and leg	23%

**AUTHORS' CONTRIBUTIONS:** The author made significant contributions to this manuscript. Xiuyun Wu: writing and performing surgeries; data analysis and performing surgeries; article review and intellectual concept of the article.

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