

Sports Injury and Preventive Measures in Physical Education and Training

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Keywords: Physical education; Physical training; Sports injury; Preventive measures

Abstract: The purpose of physical education and training is to promote students' healthy growth, strengthen their physique, and improve their sports performance. However, in special sports, many students not only enjoy the fun of sports, but also suffer sports injury in the process of sports. Therefore, the prevention of sports injury is of paramount importance. Accordingly, this study first analyzes the causes of sports injury in physical education and training, then discusses the preventive countermeasures of sports injury, and finally puts forward the emergency treatment countermeasures after the occurrence of sports injury. This study has a certain contribution to the prevention and emergency treatment of sports injury in physical education and training.

1. Introduction

Sports injury is a great antagonist in the process of physical education and training, which not only affects the smooth progress of physical education and training, but also directly jeopardize the physical and mental health of students. This paper mainly discusses the main causes of sports injuries in the process of physical education and training to avoid the occurrence of sports injury accidents as far as possible and complete the task of physical education and training better. In physical education and training activities, sports injuries are very common. Different sports have different requirements for the burden of different parts of the body and technical movements, so the sports injuries caused by them have their own characteristics [1]. However, no matter what kinds of sports injuries, they will cause physical and psychological pain to the injuries, and even cause lifelong disability. Nowadays, people pay extensive attention to the economic loss and social impact caused by sports injury.

2. The Main Causes of Sports Injury in Physical Education and Training

2.1. Preparatory activity factors

In order to make students safer in sports, they are usually asked to warm up before the formal class, mainly to improve the excitement of the students' nervous system and to make the joints and parts of the body move first, which makes us transition from the original static state to the next state of movement. However, many teachers simply ignore the pre-class preparation activities or carry out activities casually, so that students' body joints are not fully active, which may cause sports injury. Therefore, the lack of adequate pre-class preparation is also a major cause of sports injury.

2.2. Poor physical condition

During poor sleep or rest, injury or early recovery of injury, physical health care and fatigue, muscle strength, accuracy of movement and coordination of the body decrease significantly, alertness and attention also decrease, and response is slower. At this time to participate in strenuous exercise or practice more difficult movements, injury may occur. There are generally two reasons why athletes still participate in sports in poor physical condition. One is that they are forced to take part in sports out of a special interest in a certain project in order to get temporary psychological satisfaction. Second, in order to leave a good impression on teachers and achieve better results, they are forced to participate in sports.

2.3. Poor physical basic mobility

The study of exercise physiology shows that the nerve excitability of teenagers is higher than that of other age groups, and their inhibition ability is relatively poor. However, they have a strong interest in sports activities, which often leads to the contradiction and conflict between excitatory nerve activity and relatively weak physical activity ability. As a result, it is difficult for many people's bodies to resist the impact or twist caused by high-intensity activities during exercise, which is easy to cause injury [2].

2.4. Injury caused by technical problems

In physical education, students' incorrect sports technology violates the characteristics of human structure and function and the principle of mechanics during exercise, and lacks the ability of protection and self-protection, which is the first factor leading to sports injury. The injuries caused by technical problems are mainly related to the physiological characteristics of the students. The excitation inhibition of the students' cerebral cortex is unbalanced, due to the dominant excitation process of the nervous system, which is characterized by liveliness and activity, high enthusiasm for participating in sports, strong risk propensity, difficult to be restrained and managed, and lack of concentration. They do not pay attention to the teacher's explanation and demonstration in class but rush to practice. They are not clear about the main points of their movements and make too many wrong actions, which lead to injury. Secondly, there is a temporary decline in the stability of the students' nervous system, resulting in poor coordination of movements, and prone to erroneous movements and weak adaptability.

2.5. Unhygienic requirements for sites, equipment and clothing

1) The poor quality and size of clothes, whether too loose or too tight, can cause injury to primary and secondary school athletes; 2) if the shock-absorbing force of sports shoes is poor, it can not effectively absorb the impact force, which is easy to cause chronic injury to the legs; 3) for some sports that allow physical contact or impact, if we do not use or wear protective equipment such as helmet, mask, tooth protection glue, shin protection, etc., it will increase the probability of injury during exercise; 4) if the site is uneven or covered with debris, it is easy to sprain or fall when walking.

3. Preventive Countermeasures of Sport Injury in Physical Education Teaching and Training

3.1. Strengthening the awareness of prevention is the premise of preventing sport injury

As the organizer and manager of teaching activities, PE teachers should have a high sense of responsibility and dedication, take the teaching task seriously, attach importance to the safety of students, be responsible to students and arrange the teaching content. As students are in puberty, they are highly competitive and curious, and easy to be careless. Many students don't even care about and consider the problem of sport injury at all, but only focus on how to fight with classmates and how to make themselves play more. In some classes, there are particularly naughty and playful students who are very rebellious and pay no attention to the teacher's warning and regret when there is a real sport injury [3]. In order to avoid such a situation, schools should do a good job in safety education on sports injury, assist PE teachers to do a good job in this respect, coordinate students' parents, and carry out safety education for students in their families to make students understand the importance and necessity of safety education. Through the above measures, the occurrence of sport injury accidents can be avoided as much as possible, and safe, healthy and green sports teaching environment can be created.

3.2. Paying attention to psychological preparation is the basic guarantee for the prevention of sport injury

In physical education class, we should not only do physical preparation, but also psychological preparation. It is necessary to make good preparations for both hands, improve the excitement of the

cerebral cortex, make the brain reach the most suitable state for exercise, strengthen the systematic ability of various organs, overcome physiological inertia, and prepare for formal practice. To fully mobilize the psychological factors of students is the premise for good preparation. Under general conditions, after the physical education class is transferred to the preparation part, the body and mind reach an active state at the same time so that students can usually concentrate their energy and facilitate their self-study. Teachers' online question-and-answer columns, teacher-student discussion areas and students' writings can be set up to encourage students to write and publish learning experiences, reading reports, case studies, and daily psychological phenomenon analysis so as to improve students' ability to analyze and solve problems independently.

3.3. The basic upgrade of out-of-school practice in the prevention of sports injury

Increase the probation time and teach in the clinical environment to enhance the students' personal experience and experience. The "three-step method" should be implemented in teaching rounds: 1) preparation process: the teacher prepares the case, informs the patient in advance and gets cooperation, and explains the requirements, purpose and matters needing attention to the teaching rounds to the students; 2) bedside teaching: guide students to collect and report medical history, correct operation errors, confirm the physical signs, express clinical significance and give instructions; 3) analysis and discussion: the integrity of the characteristics of medical history, the necessity of auxiliary examination, the basis of diagnosis, the pertinence of differential diagnosis and the rationality of treatment plan are fully discussed. Through the standardized teaching rounds, students can really understand the actual psychological problems of patients, directly master the skills of doctor-patient communication and psychological interview, and deepen the understanding of the content of theoretical teaching.

4. The Emergency Treatment Countermeasures after the Occurrence of Sports Injury

4.1. After the occurrence of sports injury, we should not panic, but should deal with it decisively and timely

Once sports injury occurs in physical education and training classes, don't be panic, helpless, rash, or handle at will, and it must be dealt with timely and properly. Because no matter what kind of acute injury, correct and timely on-site first aid treatment is very important, which is not only a good beginning of all treatment measures, but also an important measure and method to improve the treatment effect [4].

4.2. On-site first aid treatment of common sports injury

In the event of a sports injury accident, PE teachers and coaches should first understand the situation of the injury, analyze it quickly, and basically determine the location, nature and scope of the injury. If it is a general injury (i.e., epidermis abrasion), it is expected to be washed with physiological saline and applied with red mercury. In the case of serious injury, the general measures are: 1) quickly make the injuries lie flat, rest quietly, and give cordial comfort and encouragement to relieve the mental tension and fear of them; 2) when conscious and without digestive tract injury, an appropriate amount of salt water, ginger soup or hot tea can be given to relieve the thirst of the injuries; 3) pay attention to warmth or defense department; 4) maintain the respiratory function, keep the respiratory tract unobstructed, and carry out artificial respiration if they have respiratory disorders; 5) when the injuries is fractured, it should be temporarily fixed; 6) the injuries should stop bleeding immediately when there is bleeding; 7) When the wounded are in shock, they can stimulate acupoints (i.e. Renzhong, Neiguan, Zusanli, Yongquan etc.). 8)After simple first aid treatment, the injuries must be safely sent to the hospital as soon as possible, and the doctor should be informed of the situation of the injuries and the course of rescue for further treatment.

4.3. Matters needing attention in on-site first aid treatment

When dealing with first aid at the scene, PE teachers and coaches should be kind and amiable,

speak kindly and politely, avoid rudeness, and have a high sense of responsibility; do not be afraid to take responsibility, panic, and take care of one or the other. Even in case of emergency, keep calm and do a quick and orderly rescue. At this point, the best way is to send it to the hospital for treatment as soon as possible.

5. Conclusion

In order to ensure the healthy development of sports in China, we must first control the number of sports injuries in physical exercise and ensure the safety of students in sports. This study analyzes the causes of possible sports injuries in daily physical education and training, and puts forward targeted preventive suggestions and measures to carry out sports injury nursing to reduce the injury rate of students in physical exercise and improve the quality of physical education. The research results of this study are helpful to reveal the basic problems of sports injury in physical education and training, and contribute to the reduction of sports injury to a certain extent.

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