

Exploration of The Construction Path of Sports Injury and First Aid Course Systems for College Students

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Abstract: By the requirements of the Ministry of Education on life safety education, colleges, and universities have set up a course on Sports Injury and First Aid to organize relevant knowledge and increase the student's awareness of first aid knowledge so that they can use reasonable methods to address sport-related injuries. At the same time, they can cope with first-aid situations and assist rescuers in completing resuscitation activities. This paper is based on the study of three colleges in Chongqing. This paper selected students from 3 universities in Chongqing and evaluated the mastery of first aid knowledge of college students, pointing out the value of implementing the "Sports Injury and First Aid" course in colleges and universities. This can provide opportunities to improve the theoretical content of the discipline, actively carry out practical activities, reasonably set the assessment method, and provide basic protection to ensure that the "Sports Injury and First Aid" course can be carried out normally to improve the mastery level of students' first aid knowledge.

Keywords: College students; Sports injury and first aid course; Infrastructure; Faculty strength

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1. Introduction

Recently, the State has attached great importance to the role of physical activity in enhancing people's physical fitness and improving their health, leading to the popularization and prevalence of sports and physical education throughout the country. The number of people participating in sports and physical education has thus increased. The National Physical Fitness and Health Program of the People's Republic of China states, "Physical exercise is an effective way to improve the health of students, where the strengthening of physical exercise and enhancing physical fitness are important for improving the overall quality of students, cultivating high-quality talents, and enhancing the overall national power."

With the increasing popularity of sports, more college students become actively involved in sports activities. With this comes the inevitable occurrence of sports-related injuries. Sports injuries occur frequently, and there have even been cases of sudden death or other serious injuries^[1]. Not only do these injuries cause

physical and psychological harm to the victims but also affect their daily life, increasing their psychological and economic burden ^[2]. This trend highlights the importance of students' knowledge of sports injury prevention and first aid treatment.

Existing studies have shown that higher-educated students generally lack the necessary first-aid knowledge and skills, leading to worse injuries that may be life-threatening. This has thus caused widespread concern in society. Therefore, this study aims to explore ways to establish an effective sports injury and first aid course in colleges and universities to fill the lack of students' knowledge and skills in this area. Through a review of relevant studies, this paper proposes a set of targeted curriculum design and implementation strategies to improve students' first-aid ability to reduce the occurrence of sports injuries.

2. Knowledge acquisition of sports injury and first aid among college students and their learning pathways and training interests

In this study, college students from three comprehensive universities in Chongqing Municipality voluntarily enrolled in a survey from May 2020 to January 2023 to investigate students' knowledge of first aid and mastery of first aid skills. A total of 1600 questionnaires were distributed and 1540 valid questionnaires were recovered, discharging 80 students from medical and physical education departments, and 1460 valid questionnaires from non-medical and physical education majors. This had an effective recovery rate of 91.25% of 690 males (47.26%) and 770 females (52.74%). Among them, there were 1048 undergraduates and 412 postgraduates. The number of male and female subjects was approximately the same. There were 570 students (39.04%) who were trained in first aid for sports injuries and 890 students (60.96%) were untrained. 43.15% of all students experienced sports injuries within the past year and 80% of sports injuries occurred in the joints of the limbs. Sports injuries are caused by various factors, including insufficient warm-up preparation, non-standard technical movements, and excessive sports intensity.

The majority of college students have insufficient knowledge reserves of first aid for sports injuries and lack first aid skills. The teaching system of students regarding first-aid is unsystematic and unstandardized. For example, part of the knowledge of Hands-Only Cardiopulmonary Resuscitation (Hands-Only CPR) is acceptable. Among the content of first aid, knowledge of the need to lie flat on a rigid plane accounted for 70.55%, 48.63% accounted for knowledge of the golden 4 minutes of resuscitation, and 50% were knowledge of the compression frequency of 100–120 times/minute. The knowledge and mastery of on-site hemostatic dressing, fracture dressing, and immobilization and handling of sports injuries were poorer than 40%, which reflected the results of other studies ^[3,4].

This study found that the students of sports injury first aid knowledge acquisition mainly from the network accounted for 63.01%, classroom acquisition accounted for 23.29%, and books accounted for 10.27%. The vast majority of college students lack professional education in first aid knowledge and skills, and only a very small number of them have participated in the universal popularization training of CPR by the Red Cross or in military training. Most students also lack practical experience, which is consistent with other studies ^[5].

The university students in this study have a high awareness of the importance of first aid knowledge and skill training, and their knowledge of first aid for sports injuries is categorized as “high demand, low mastery.” The majority of college students believe that it is necessary to master first aid knowledge and skills and they are also interested in participating in relevant training. This was consistent with the research of other scholars, such as Zhu ^[6]. Therefore, schools should pay attention to the popularization of college students' sports injury and first aid knowledge, and establish effective training pathways according to their needs.

3. The value of sports injury and first aid curriculum in colleges and universities

Sports injury not only threatens the health and safety of athletes but also tests the professionalism of first aiders on the scene. If students do not know first aid and cannot quickly and correctly provide first aid treatment after sports injuries, the injuries may worsen ^[7]. School education is the most effective way to popularize first aid knowledge, skills, and first aid literacy. The student's mastery of first aid knowledge concept and level will have a profound impact on the ability to deal with critical events in many fields besides sports ^[8].

Colleges and universities bear the responsibility to implement the course of "Sports Injury and First Aid," transferring skills and acting as a defense of life dignity. The course is designed in consideration of students' safety, physical and mental health, social harmony, and the promotion of first aid knowledge. This course is important so that students can perform effective self-help and enhance their ability to deal with emergencies. It can effectively reduce the harm caused by sports injuries, improve first aid efficiency, and even save a person's life. Furthermore, it promotes the awareness of self-protection and develops a training mode that combines teaching, training, and practice. Through practical operation and case analysis, students can better understand the theoretical knowledge and apply it in practice, gaining the ability to deal with real-life problems. The mastery of first aid knowledge and skills enhances an individual's ability to cope with emergencies and also develops the ability to improve teamwork. By learning how to prevent and deal with sports injuries, one becomes more confident in enjoying the fun of sports. This course has a positive impact on improving the overall level of first aid in society, not only for personal well-being but also for social responsibility. This course also plays an irreplaceable role in developing students' quick reaction ability and psychological tolerance. The course also focuses on enhancing psychological quality, helping participants establish self-confidence and courage in the face of emergencies. It positively contributes to social civilization and the maintenance of life's dignity.

4. The path of the construction of sports injury and first aid course systems in colleges and universities

4.1. Improving the theoretical content of the discipline

Colleges and universities should implement a "Sports Injury and First Aid" course by preparing teaching materials and setting reasonable content to ensure that the theoretical knowledge coverage is comprehensive. Colleges and universities not only pay attention to the completeness of the content of the course materials but also discuss the content, and modify incorrect content promptly, to ensure that the textbook content can be utilized by students when needed ^[9].

The knowledge involved in the teaching of the course "Sports Injury and First Aid," is compiled by university lecturers after research, concerning medical professional books, and employing medical experts and consultants together to discuss and summarize all relevant knowledge. This provides students with knowledge that can be applied to specific resuscitation events and sports injuries. During the teaching process, the course content is processed to incorporate emerging knowledge promptly and establish a robust body of knowledge ^[10]. The knowledge delivery method used in the "Sports Injury and First Aid" course is flexibly set based on the course content, to guide students to increase their knowledge in depth and apply it in real-life scenarios. Teachers should also pay close attention to the prepared course content, screen emerging content, and introduce useful knowledge into the course, to increase the student's knowledge reserve ^[11].

4.2. Actively carry out practical activities

The "Sports Injury and First Aid" course is carried out by combining theory with practical teaching, providing students with knowledge on sports injury types and first aid. After being exposed to relevant theoretical content,

practical activities can be set up accordingly. For example, a simulation can be set up, allowing students to deal with injuries or simulators to exercise their ability to apply their knowledge. The practical activities need to be designed in conjunction with the theoretical content so that students can have a better experience, which is also conducive to the internalization of the first aid knowledge learned. For example, after theory class, students can be asked to run in the school field while recalling learned knowledge. At the same time, this can improve their athletic ability and avoid future injuries ^[12]. During the warm-up period, the teacher should observe the students' movements, point out the errors, and remind them of the disadvantages of not warming up properly. Teachers will also ask students to run scenarios after they have run. Teachers should explain the different types of injuries and encourage students to interpret them while adhering to first-aid measures proposed during class. Issues encountered can be highlighted and discussed, and facilitate correction. Medical professionals can also be invited to hold talks to increase the student's knowledge of real-life situations and the dangers associated if the injuries are not dealt with properly.

4.3. Reasonable setting of assessment methods

The "Sports Injuries and First Aid" course is also designed with an assessment component, which consists not only of a traditional paper-based examination but also of practical exercises and attendance. Students' daily attendance accounts for 10% of the total score, practical operation accounts for 50% of the total score, and the rest is the score of the paper examination, which is a weighted average of the student's course learning results. For students who do not pass, they have a chance to take a make-up exam. If they still fail, the student would need to retake the course. In the construction of the curriculum, the school should use a combination of multiple components to conduct assessments so they can objectively assess students' learning abilities. In addition, the assessment index of teachers' teaching work for the course of Sports Injury and First Aid should be established. This is because the students' assessment results are part of the assessment of teachers' work, including lesson preparations. For teachers who do not perform well, the school will act quickly to retrain them.

4.4. Providing a basic guarantee

The teaching of "Sports Injury and First Aid" involves various content. In the construction of the curriculum system, it is necessary to implement basic protection, establish a team of qualified teachers, and ensure that the teaching equipment meets the demand for use. Schools can conduct surveys to understand the facilities needed for teaching, which include but are not limited to computers, activity equipment, etc. Through internal surveys, the existing teaching facilities can be grasped, and the missing facilities can be provided and mobilized. The curriculum system should be constructed according to the survey feedback, where funds for the purchase of infrastructure can be allocated to improve teaching and ensure it is carried out following the set path.

5. Conclusion

The "Sports Injury and First Aid" course is important in life safety education and the development of first aid competency for students in higher education. Through this course, they can make the necessary preparations to reduce the risk of injury before exercising and effectively apply what they have learned to provide initial treatment and first aid support when necessary. The course plays a key role in improving students' awareness of self-protection and emergency response abilities. In the future, colleges and universities should further optimize the setup and implementation of this course, focusing not only on the practicality and scientific nature of the course content but also on regularly evaluating and updating the teaching methods to ensure the maximization of educational effectiveness. Additionally, colleges and universities should collect feedback, identify

deficiencies, and explore more effective teaching strategies and techniques to further enhance the impact and value of this curriculum.

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Disclosure statement

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