

Education On Handling Acute Phase Sports Injuries In Students At High School N 13 Jambi City

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Abstract

This community service program aims to increase students' knowledge and awareness about handling acute sports injuries. The targets of this program are students of SMA N 13 Jambi City who are actively involved in physical activities and school sports. The scope of activities includes identifying the types of acute sports injuries that commonly occur, understanding the symptoms, and introducing fast and proper first aid techniques using the RICE (Rest, Ice, Compression, Elevation) method. The methods applied in this program consist of educational seminars, interactive discussions, demonstrations, and hands-on practice sessions. The activities were conducted directly in schools and involved both theoretical and practical components to ensure better understanding and engagement. The results showed a significant increase in the students' knowledge level, as indicated by the comparison between the pre-test and post-test scores, the pre-test score was 36.02%, while the average post-test score increased significantly to 93.35%. The paired t-test analysis showed a t-value = -38.355 with a p-value = 0.000 ($p < 0.05$), meaning the difference was statistically significant. This proves that providing hands-on education through lectures, discussions, and simulations is effective in improving students' knowledge of acute-phase sports injury management. Participants demonstrated increased confidence and accuracy in identifying and responding to acute injury scenarios. In conclusion, this educational intervention successfully increased students' awareness and preparedness in managing acute sports injuries, highlighting the importance of early and appropriate treatment to prevent further complications. The program is expected to make a positive contribution to injury prevention and health promotion among secondary school students involved in sports.

A. Introduction

Sport has an important role in improving physical fitness and shaping the character of the younger generation (Hasibuan, 2019). It is now an integral part of student life, whether through physical education, extracurricular activities or daily activities (Oliveira et al., 2017). However, increased sports participation also carries a high risk of injury, especially if performed without sufficient understanding of technique, warm-up and injury management (Bompa, T.O & Buzzichelli, 2019).

Sports injuries generally result from incorrect movement, overload, or physical contact, and can be classified as acute or chronic (Bompa & Carrera, 2015). Acute injuries-such as bruises, sprains and ligament tears-require immediate treatment to prevent further tissue damage. According to (Tak et al., 2020), adolescents, especially students, are a high-risk group because they are still growing up and often lack awareness of the importance of injury prevention and first aid (Tse et al., 2023). Riskesdas data

(Ahyar et al., 2022) shows that 9.2% of Indonesians have experienced injuries, with 6.4% of these occurring in the school environment. Most injuries occurred in the lower (64.5%) and upper (33.69%) extremities. This suggests that schools are a significant location for physical injuries, particularly in sporting activities. Unfortunately, the study by (Bendahou et al., 2020) showed that most students do not understand the principles of early injury management such as avoiding HARM (Heat, Alcohol, Running, Massage) in the first 36 hours (Hadi & Sari, 2023).

The lack of education makes students potentially do the wrong treatment, such as immediately massaging or applying heat to the swollen area, which can actually worsen the condition (Dubois & Esculier, 2020). In fact, with proper education, students can recognize signs of acute injury, provide first aid independently or to friends, and understand when to seek medical assistance. This community service activity is important because it can improve student health literacy, strengthen understanding of injury management principles, and support the creation of a safe and responsive school environment for sports incidents (Tse et al., 2023). This education is also in line with the preventive approach in physiotherapy and public health, which has been proven effective in reducing injury complications and accelerating recovery.

Physiotherapy plays an important role in sports injury prevention through a proactive approach that includes biomechanical assessment, development of individual exercise programs, and education on injury prevention techniques (Sire et al., 2021). This approach has been shown to be effective in reducing injury complications and speeding up recovery (Gutierrez et al., 2023).

In addition, physiotherapists also educate athletes on the importance of proper warm-up and cool-down, as well as the use of appropriate equipment, all of which contribute to injury prevention (Hernandez et al., 2023).

With this educational intervention, it is expected that students of SMA N 13 Jambi City can be better prepared to deal with injury incidents, both as individuals who experience and witnesses who provide first aid. This also contributes to promotive and preventive efforts in maintaining the health of school-age adolescents.

B. Methods

The method of implementing this community service activity is carried out through a participatory educational approach consisting of three main stages, namely preparation, implementation, and evaluation. The preparation stage begins with coordination and licensing to SMA N 13 Jambi City, followed by the preparation of educational materials regarding acute phase sports injuries and making evaluation instruments in the form of pre-test and post-test. In the implementation stage, the activity was carried out directly on August 12, 2024 at the school in the form of providing educational material to students which began with a pre-test to measure the initial knowledge of the participants. Furthermore, material delivery was carried out which included an introduction to the types of acute phase sports injuries, the principles of handling RICE (Rest, Ice, Compression, Elevation), and the prohibition of HARM (Heat, Alcohol, Running, Massage), which was delivered interactively through lectures, questions and answers, and demonstrations. After the delivery of the material, participants were given a post-test to measure the increase in understanding. The final stage of evaluation was carried out by analyzing the results of the pre-test and post-test and collecting feedback from participants to assess the effectiveness of the activity and as material for improvement for similar activities in the future.



Figure 1. Implementation of Community Service for Handling Acute Phase Sports Injuries

C. Results and Discussion

Community service activities in the form of education on handling acute phase sports injuries have been carried out involving 40 students of SMA Negeri 13 Jambi City. To evaluate the effectiveness of the education provided, students' knowledge level was measured through pre-test before education and post-test after education with the results as in table 1.

Table 1. Descriptive Statistics of Pre-Test and Post-Test

<i>Statistics</i>	<i>Pre-test (%)</i>	<i>Post-test (%)</i>
<i>Mean</i>	36,02	93,35
<i>Standard Deviation (SD)</i>	9,45	5,28
<i>Number of Respondents</i>	40	40

The results of the evaluation of the level of knowledge of students before and after being given education about handling acute phase sports injuries were carried out through the administration of pre-test and post-test. Based on descriptive analysis, it was found that the average pre-test score was 36.02%, while the average post-test score increased significantly to 93.35%. Furthermore, these results were analyzed statistically to determine whether there was a significant difference between the two values. The statistical test used was the paired t-test, considering that the data came from the same group before and after the education, with the results as in Table 2.

Table 2. Results of t-test on Pre-Post test of students

Mean	-57.32500
Standar Deviasi	9.45268
Standar Error Mean	1.49460
T	-38.355
Df	39
P(2-Tailed)	.000

The paired t-test analysis showed a value of $t = -38.355$ with a $p\text{-value} = 0.000$ ($p < 0.05$), which means the difference is statistically significant. This proves that providing direct education through lectures, discussions, and simulations is effective in improving students' knowledge about handling acute phase sports injuries. This increase in knowledge is in line with the main objective of the activity, which is to equip students with basic skills in dealing with injury situations during sports, especially in performing fast and appropriate first aid. The results also show that the educational approach delivered through lecture, discussion and practical demonstration methods was able to increase students' attention and overall understanding (Hadi & Faridah, 2024).

This finding is consistent with previous literature that suggests that providing school-based health education can improve health literacy and emergency response skills in students. For example, a study by

(Wang & Yeung, 2017) showed that health education using e-booklet media significantly improved students' knowledge of first aid for sports injuries, with a p value = 0.000. Similarly, reported that an extension program that included lectures, discussions, and simulations successfully increased the average student knowledge score from 53 to 84.75, demonstrating the effectiveness of health education in improving students' understanding of injury prevention and first aid.

Research by (Chaabene et al., 2019) highlights that many schools, especially in developing countries, do not have adequate first aid facilities or trained staff. Teachers are often the first responders when injuries occur, but many lack formal training in first aid, which can lead to inappropriate treatment. Another study by (Tse et al., 2023) emphasized the importance of first aid training for teachers, which can improve their competence in handling emergency situations and providing proper assistance to injured students.

Based on these results, it can be concluded that the education provided in this activity is effective in improving students' knowledge of acute phase sports injury management. Therefore, this kind of education program can be recommended to be routinely implemented in the school curriculum to improve students' readiness in dealing with sports injuries that may occur during activities.

D. Conclusion

Community Service implemented at SMAN 13 Kota Jambi was implemented 100% of 40 students have understood the handling or how to overcome early phase sports injuries. The positive responses given by students are very diverse and on average they give a very satisfied response to the implementation of this work program. Although this Community Service activity has been completed, it is hoped that students of SMAN 13 Kota Jambi can do how to handle acute phase sports injuries. and apply the knowledge that has been obtained during the implementation of this Community Service.

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