



The Effect of Giving First Aid Material for Sports Injuries Using The Rice Method on The Level of Knowledge of Students of Man 2 Kota Madiun

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ABSTRACT

First aid for sports injuries is the provision of first aid with the right procedure for someone who has an injury. One of the effective and efficient first aid methods to do is the RICE method. This study aims to determine the effectiveness of providing first aid material for sports injuries with the RICE method as an effort to improve students' knowledge about handling sports injuries. This type of research is experimental research with a quantitative approach. While this research method uses *one group pre-test post-test*. The population in this study were students of class XI MAN 2, Madiun City with a research sample using *purposive sampling*. The instruments in this study were questionnaires and the data processing techniques used were descriptive tests, normality tests, difference tests and gain tests. Based on the results of the study, it was found that there was a significant difference between *the pre-test* and *post-test* before and after being given treatment from providing material on first aid for sports injuries with the RICE method on the level of knowledge of students at MAN 2 Madiun City ($p>0.05$). There is a difference in the *pre-test* and *post-test values* before and after being given treatment by 3%

Keywords: *First Aid for Sports Injuries, RICE Method, Student Knowledge*

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INTRODUCTION

Physical Education, Sports and Health (PJOK) is a subject that involves all body parts moving and to maintain health. Providing opportunities for students to be directly involved in learning experiences through physical activity is one of the important roles of PJOK learning (Mustafa, 2022). PJOK subjects are different from other subjects because PJOK requires students to do more physical activity and requires a large space during the learning process (Maudi et al, 2020). Badminton, martial arts, basketball, volleyball, table tennis, swimming, athletics, football, and other materials are materials in PJOK learning. Where almost all the materials are practical, which requires students to always be active, so that in PJOK learning students are more susceptible to injury.

Injuries are often experienced both in daily activities and while on the field when training or competing. Damage to normal anatomical structures and functions caused by pathological

conditions is the definition of injury (Simatupang, 2016). Furthermore, it is explained that sports injuries are damage that occurs to the structure and function of the body due to physical or chemical pressure during exercise, injuries can happen to anyone, anytime, and anywhere (Ayu & Setyaningrum, 2019). Physiologically, sports injuries occur due to an imbalance between the workload and the ability of body tissues that perform sports activities (Hadiana et al., 2019). In addition, students spend a lot of their time at school, so they have a greater risk of injury, especially during PJOK class hours (Wayan Ernawati, 2018). Injuries can occur anywhere and anytime, including during PJOK learning at school. Sports injuries are usually caused by lack of warm-up, doing the wrong movements, and forcing the body beyond the body's threshold before exercising, especially during matches that require a lot of explosive movement. Injuries are difficult to avoid, especially for students whose motor skills are still lacking. Therefore, injuries are very vulnerable to a student. A PJOK teacher is required to master the skills and knowledge of first aid for injuries with the right procedures. So that if an injury occurs, a student and teacher know what they should do for first aid for the injury (Kinanti, 2020).

The RICE method (*Rest, Ice, Compression, Elevation*) is one of the first-line injury management methods using ice, which aims to prevent further injury and reduce pain (Fredianto & Noor, 2021). RICE is a generally accepted method for treating inflammation after trauma, such as acute ankle sprains. Pain caused by inflammation can limit an injured student's ability to perform the rehabilitation needed for proper healing (Scialoia, 2020). First-line treatment of sports injuries using the RICE method obtained a result of 78% on a very good scale (Utama Pembimbing Pendamping Isti Dwi Puspita Wati et al., 2019). The RICE method is the right method for treating first-line sports injuries (Fredianto & Noor, 2021).

Based on the researcher's observation during the PLP (School Environment Introduction) activity at MAN 2 Madiun City, it showed that students' knowledge regarding first aid for sports injuries was still minimal. The phenomenon found in schools, knowledge about first aid for sports injuries is still very low. This is a concern for researchers to improve students' knowledge about first aid for sports injuries in the form of providing material by PJOK teachers. The material presented is in the form of theory and practice of first aid for sports injuries using the RICE method. Because knowledge about first aid for sports injuries is very important as a preventive measure so that the consequences of injuries do not get worse.

Based on this, it is related to the importance of knowledge about first aid for sports injuries, and students of MAN 2 Madiun City have never been given material related to first aid for sports injuries. So the researcher wants to know the effectiveness of providing first aid for sports injuries with the RICE method as an effort to improve students' knowledge about handling sports injuries.

METHOD

The type of research used in this study is experimental research with a *pre-experimental category* using a quantitative approach. Experimental research is most appropriate for determining the effect of treatment *on* research (Mustofa Wage, 2023). One of the main characteristics of experimental research is the treatment *given* to the subject or object of research. This research design uses a one group pretest-posttest pre-experimental design. *The selection* of this research design is based on the fact that the sample in this study was only one class and was selected according to predetermined standards. In addition, the success of this research is also influenced by the values obtained by respondents during *the pretest and posttest*.

Population is the entire individual or object to be studied, which can then be generalized (Maksum, 2018). The population of this study was 421 students in class XI MAN 2, Madiun City, with 14 classes, namely 6 classes of Science, 4 classes of Social Studies, 2 classes of Model, 2 classes of Religious Education (PK). The sample in this study was conducted using *non-probability sampling, purposive sampling* type as a sampling technique with certain considerations. *Purposive sampling* is also known as a purposive sample, is a sampling technique whose characteristics are previously known based on the characteristics or properties of the population (Maksum, 2018).

The research instrument in the form of a questionnaire is a series of questions used to reveal information, either about facts or opinions (Maksum, 2018). The measuring instrument used in this study is a test instrument compiled by the researcher to measure students' knowledge in the form of multiple-choice questions. The test instrument was used to determine the understanding of MAN 2 Madiun City class XI Model 2 students regarding the first aid for sports injuries. The test instrument consists of 19 questions that will be validated by sports health experts.

RESULTS AND DISCUSSION

Results

The results of this research data are adjusted to the needs of the data analysis processed using SPSS version 26 with descriptive analysis tests, normality tests, difference tests, and N gain tests.

Table 1. Descriptive Statistical Analysis of Data Distribution Results of Providing First Aid for Sports Injuries

Test	N	Mean	Std.deviation	Minimum	Maximum
Pretest	25	92.64	3,353	84	95
Posttest	25	98.20	2,449	95	100

Based on the data above can be seen the results of the knowledge data obtained *mean pre-test* value 92.64, *mean post-test* 98.20, *max* 100, *min* 84, *std. deviation pre-test* 3.358, *std. deviation post-test* 2.449.

Table 2. Statistical Normality Test Analysis of Data Distribution Results of Providing First Aid for Sports Injuries

Variables	N	Sig	Conclusion
Pre-Test Result of Material Delivery	25	0,000	Abnormal
Post-Test Result of Material Delivery	25	0,000	Abnormal

From the results of the *Shapiro-Wilk* test *Pre-test and post-test* knowledge data are known to be distributed abnormally because the data does not meet the *Shapiro-Wilk* test value ratio.

Table 3. Statistical Difference Test Analysis of Data Distribution Results of Providing First Aid for Sports Injuries

Result	Z score	Sig
Pre-test and Post-test	4,532	0,000

Based on the *Wilcoxon* test data, it can be seen that the *Z* score is 4.532, so there is an increase in the *pre-test* and *post-test results* before and after being given the material. and *sig* is 0.000 ($p > 0.05$) so it can be concluded that the *Wilcoxon difference test* in this study shows differences.

Tabel 4. N Gain Score Analysis Statistics of Data Distribution Results of Providing First Aid for Sports Injuries

Result	Mark
N Gain Percent	3%

The normalized gain test is a test that aims to see the difference in *pre-test* and *post-test results* (Makbul, 2018) . Purpose from the normalized gain test to determine the increase in physical fitness activity learning outcomes after being given treatment. Regarding the table above, it can be seen that the gain value is 3%.

Discussion

Based on the research results there is an influence from providing material on first aid for sports injuries with the RICE method on the level of knowledge of students at MAN 2 Madiun City. There is a difference in the results of providing material after being given treatment to class XI Model 2 consisting of 25 students, with data measured through *pre-test* and *post-test* before and after being given treatment. Therefore, it can be concluded that the use of providing material on first aid for sports injuries has a positive impact on the level of student knowledge related to handling sports injuries. In line with research conducted by (Sucipto et al., 2022). stating that providing education or material on first aid for sports injuries is very important for efforts to prevent further injury complications.

Based on the analysis of research data, one factor was found which influences the increase in students' knowledge about first aid for sports injuries is *The treatment* given was in the form of providing material on first aid for sports injuries using the RICE method. Providing this *treatment* had a significant impact on helping students understand the correct procedures for first aid for sports injuries. There was an increase in knowledge in the subjects by 3% which was included in the low category according to the range in the gain test value range table. The cause of the low increase in knowledge in the subjects was likely that students had known about the questionnaire given by the researcher. However, there was still an increase in student knowledge related to the provision of material on first aid for sports injuries.

Therefore, providing material on first aid for sports injuries using the RICE method is effective in increasing students' knowledge about first aid for sports injuries. In accordance with the results of previous research (Nur Syamsuddin et al., 2021). related to the effect of providing RICE training on the skills of handling *strain injuries* in pencak silat athletes in Sragen. The study concluded that providing training had a significant impact on the skills of first aid for *strain injuries* in pencak silat athletes. In the study that differentiates it from previous research, the subjects of this study were aimed at students by providing *treatment* in the form of providing material on first

aid for sports injuries with the aim of increasing students' knowledge about first aid for sports injuries with the right procedures.

The purpose of this study is also in line with the 2024 Merdeka Curriculum material for the E phase of the PJOK subject (SMA/MA/SMK/MAK) on the element of choosing a healthy life. The learning outcomes that must be achieved are that students practice first aid according to the principles and standard operating procedures (SOP) to manage situations that threaten the health and safety of themselves or others so that this study can provide knowledge or an overview related to first aid for sports injuries to students to support the competencies and materials in the Merdeka Curriculum.

CONCLUSION

Based on the results and discussion of the research, it can be concluded that the level of knowledge of MAN 2 Madiun City students before giving the material was 92.64 ± 3.35 and after giving the material it was 98.20 ± 2.4 and there was a significant increase in knowledge of the first treatment of sports injuries. to students through providing first-hand treatment material for sports injuries using the RICE method ($p < 0.05$). The research results show an increase of 3%, which is in the low category.

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