

A Study of the Influence of First Aid Education and RICE Protocol on Athletes

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ABSTRACT

Background: Injuries during training, sports activities, or after competitions are called sports injuries. Among the Injuries experienced by Merpati Putih athletes, there were 19 cases of bruising, five cases of dislocation, 23 cases of muscle cramps, two cases of bone fractures, and six students who did not experience any injuries. Method: The research design used in this study was pre-experimental with the One-group Pretest-Posttest Design approach. The total sample size was 37 respondents. The research instruments utilized questionnaires and Standard Operating Procedures (SOP). The data analysis employed the Wilcoxon statistical test. Results: There was an increase in the average level of knowledge and skills before and after. The results revealed a P-value of 0.001 for the knowledge level and a P-value of 0.001 for the skill level. Both sets of statistical data indicated that $P < 0.05$. Conclusion: There is an effect of First Aid Education on Sports Injury with RICE on the risk of sports injury towards the knowledge and skills level of Merpati Putih athletes.

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4. INTRODUCTION

Injuries that occur during training exercising or after a game are called sports injuries. If sports injuries are not treated quickly and appropriately, it can lead to various complications, including physical limitations. Therefore, injuries suffered by athletes must be treated immediately to prevent fatal consequences [1]. Handling injuries in the early days is very significant in its function as a determining factor for the length of the healing process of patients who experience these injuries. Efforts are made to deal with early injuries, using the principle of first aid measures in accidents (P3K) with the Rice Ice Compression Elevation method. Method (RICE)[2].

Based on the results of interviews conducted by researchers to the Principal of Wangon High School, data were obtained on students who participated in the *Merpati Putih* extracurricular amounted to 55 students with 17 male students and 38 female students related to first aid problems in sports injuries. The results of preliminary studies showed many cases that occurred in *merpati putih* athletes, even though they had used personal protective equipment but still suffered severe injuries, injuries that occurred in Merpati Putih cases were bruises as much as 34% 19 students, dislocations as many as 18% 5 students, muscle cramps 46% 23 students, fractures, 4% 2 students and those who were not injured as many as 12% 6 students. Knowing whether there is an influence of RICE (Rest, Ice, Compression, Elevation) First Aid Education (P3K) on the risk of injury on the level of knowledge and skills in *Merpati Putih* athletes at SMAN Wangon.

2. RESEARCH METHOD

The research instrument uses a questionnaire and some of the questions are adopted from existing research [3]. The research instrument uses a questionnaire and several questions adopted from research. The research design used in this study was pre-experimental with the One-group Pretest-Posttest Design approach. The total sample size was 37 respondents. The research instruments utilized questionnaires and Standard Operating Procedures (SOP). The questionnaire consists of 3, namely the first Questionnaire I contains data from respondents which includes name, gender and belt level. Questionnaire II measures first aid knowledge using the RICE method, the question form consists of 10 questions. This research instrument uses the Guttman Scale. Score assessment using true and false measurements, with the lowest score being 20 and the highest score being 40. The Practical Observation Sheet measures skill level, the question form consists of 10 questions. Score assessment by measurements carried out and not carried out, with the lowest score being 10 and the highest score being 20. The data analysis employed the Wilcoxon statistical test.

3. RESULT AND DISCUSSIONS

This research was conducted at SMAN Wangon in June 2023. The number of respondents who took part in this research was 37 respondents, namely all Merpati Putih members at SMAN Wangon.

Table 1. Characteristics of Respondents

	Frequency N=37	%
Gender		
Male n	15	40,5%
Women	22	59,5%
Age		
15-16 years	9	24,3%
17-18 years	28	75,7%
Belt level		
Basic 1	11	29,8%
Basic 2	13	35,1%
Flip 1	13	35,1%

Based on table 1 shows the characteristics of respondents, the most sex results were obtained namely women with a total of 22 (59.5%). for the most belt level characteristics, namely basic II with the number of 13 (35.1%) and reverse I with the number of 13 (35.1%). In adolescence there is a very rapid growth process and body changes in addition to high physical activity greatly affect and the duration of a teenager doing physical activity. In addition to the psychosexual changes that occur in adolescence, the changes that occur in parents and their beliefs also occur in adolescence. The formation of ideals is a process that shapes future orientation [4].

Table 2. Knowledge Before and After Education

Result	Frequency	Precent
Pretest Knowledge less		
Moderate	15	40,5%
	22	59,5%
Posttest Knowledge		
Moderate	8	21,6%
Good	29	78,4%

Based on table 2 The frequency of knowledge categories before education was carried out, the results of the category were less than 15 people (40.5%) and the sufficient category as many as 22 people (59.5%). The frequency of knowledge categories after knowledge education was carried out was 8 people (21.6%) and 29 people (78.4%) in the good category.

There is an increase in the value of respondents' knowledge as a result of receiving new and useful information for respondents. Well-informed students obtain good knowledge data because they often get information from their siblings and parents.

Table 3. Skill Before and After

Result	Frequency	Percent
Pretest skills		
Unskilled	22	59,5%
Moderate Skill	14	37,8%
Skilled	1	2,7%
Posttest Skills		
Moderate Skill	22	59,5%
Skilled	15	40,5%

Based on table 3 The frequency of the skill category before the intervention was obtained was 22 people (59.5%), the skilled category was 14 people (37.8%) and the skilled category was 1 person (2.7%). The frequency of skill categories after intervention was found to be quite skilled category 22 people (59.5%) and skilled category 15 people (40.5%).

The results of other studies are in line with the research conducted (Triyani & Ramdani, 2020), showing that before the simulation of sports injury first aid with the PRICES method, a maximum value of 68 was obtained, after a simulation the maximum value became 93. This shows that futsal members' skills in sports injury first aid improved after health education. The results of this study have similarities related to simulations about sports injury first aid.

Table 4. Research Results The Effect of Education on the Level of Knowledge and Skills

Variabel	N	Median	Mean±SD	Z	P
Pretest Knowledge	37	27,00	26,62±3,507	-5,312	0,001
Posttest Knowledge	37	35,00	34,70±1,664		
Pretest Skills	37	13,00	13,24±2,278	-5,325	0,001
Posttest Skills	37	17,00	16,76±1,480		

Based on table 4.4, the data from the study showed that the average pretest value of knowledge was good. The average posttest score of knowledge was good with a result of 26.62. Bivariate analysis using the Wilcoxon test obtained a Z value of -5.312 and a significance value of P 0.001 had an effect. The average value of the skill pretest was 13.24 unskilled, after the intervention obtained the average value of the skill posttest was skilled with a result of 16.76 with the results of bivariate analysis using the Wilcoxon test obtained a Z value of -5.325 and a signification value of P 0.001.

This study was also conducted (Damayanti et al., 2021), with a one-group pretest-posttest design without control and using the Wilcoxon test with p value results of 0.000 with sufficient categories before the action of providing simulation material, the majority of respondents had less knowledge value and after respondents (40.0%). After being given the act of providing material, the majority of respondents had a very good knowledge score of 22 respondents (73.3%). And before being given action skills, providing simulation training, the majority of respondents had a skill value of less than 19 respondents (63.3%). In line with these studies, there are similarities, namely the same research design and the same information provided through training simulations.

4. CONCLUSION AND RECOMMENDATION

Based on the results and discussion of the research on A Study of the Influence of First Aid Education and RICE Protocol on Athletes, it can be concluded that there is an influence on P3K RICE education on the

level of knowledge and skills in *Merpati Putih* athletes, The results of this research can be used as a reference for those who want to re-examine the importance of the influence of RICE (Rest, Ice, Compression, Elevation) First Aid Education (P3K) on the risk of injury on the level of knowledge and skills that can be further developed.

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REFERENCES

- Y. T. Susanti, "Pengetahuan Guru Pendidikan Jasmani Tentang Penanganan Dini Cedera Olahraga Dengan Metode Protect Rest Ice Compression Elevation Support (PRICES) Di SMA / MA Negeri Se-Kabupaten Kulon Progo Tahun 2017 Knowledge Of Physical Education Teacher On First Aid," *J. Pengetah. guru Pendidik.*, pp. 1–10, 2017.
- A. Sucipto, D. E. Puspaningtyas, Y. Afriani, and S. P. Sari, "Pengetahuan dan Penanganan Cidera Olahraga Atlet PS Sleman Development Center Melalui Edukasi Online," *J. Pengabd. "Dharma Bakti,"* vol. 5, no. 2, pp. 85–94, 2022.
- N. A. Islamia, *Pengaruh Pendidikan Kesehatan Metode Latihan Siap (DRILL) Terhadap Perilaku Penanganan Cedera Olahraga Pada Atlet Beladiri UKM Universitas Airlangga.* 2018.
- T. S. Najah and F. Nurhayati, "Analisis Tingkat Kecukupan Energi Siswa yang Mengikuti Ekstrakurikuler Pencak Silat PSHT di SMA Negeri 2 Blitar," *J. Pendidik. Olahraga dan Kesehat.*, vol. 06, pp. 315–319, 2018, [Online]. Available: <https://jurnalmahasiswa.unesa.ac.id/index.php/9/article/view/23516%0Ahttps://jurnalmahasiswa.unesa.ac.id/index.php/9/article/download/23516/21500>