Kinestetik : Jurnal Ilmiah Pendidikan Jasmani 6 (1) (2022)
Kinestetik : Jurnal Ilmiah Pendidikan Jasmani
https://ejournal.unib.ac.id/index.php/kinestetik/index
DOI : 10.33369/jk.v6i1.20125

LEVEL OF KNOWLEDGE OF SPORTS INJURY USING PRICES METHOD ON PHYSICAL EDUCATION STUDENTS

Rizki Kurniati[1]*, Epi Supriyani Siregar[2], Bogy Restu Ilahi[3]

[12]Sport and Health Education, Universitas Pembinaan Masyarakat Indonesia, Medan, Indonesia
[3]Sport and Health Education, Universitas Bengkulu, Bengkulu, Indonesia

Article Info

Article History :

Received : January 2022

Revised : March 2022

Accepted :March 2022

Keywords:

Knowledge, Sports Injury, Prices

Abstract

The purpose of this study was to determine the knowledge of physical education students about sports injuries using the PRICES method at UPMI Medan. This research is a descriptive study, with data collection techniques using survey methods. The research instrument uses a knowledge test in the form of true-false. The population in this study was 40 students of the Physical Education Program. The data analysis technique used descriptive with percentage. The results showed that: very high category of 22.50% (9 people), high category of 35% (14 people), moderate category of 25% (10 people), low category of 13% (5 people), and very low by 5% (2 people). These results can be concluded that the knowledge of physical education program students about early handling of sports injuries using the PRICES (Protect Rest Ice Compression Elevation Support) method at UPMI Medan is in the high category.

Corresponding address : Jl. Teladan No.15, Teladan Bar., Kec. Medan Kota, Kota Medan, Sumatera Utara
*Corresponding email : rizkikurniati.upmi@gmail.com

ISSN 2685-6514 (Online)
ISSN 2477-331X (Print)

INTRODUCTION

Sports injuries can occur anywhere and anytime and can be experienced by everyone. When doing activities, sports, practicing and competing. Injuries that occur can have an impact on a person's physical, psychological, and social conditions. Injury is a response to a force acting on the body or part of the body which exceeds the body's ability to overcome it. The cause of injury in the world of sports is not only caused by contact physical activity but some forces that occur in the muscles when doing activities as well may risk causing injury (Candra et al., 2021). Sports injuries are pain caused by exercise (Oktavian & Roepajadi, 2021).

Injury is a disorder that occurs in the body that results in pain, heat, redness, swelling, and inability to function properly in muscles, tendons, ligaments, joints, and bones due to excessive movement activities or accidents (Triyani & Ramdani, 2020).

Based on Health Research data the percentage of injuries in Indonesia is 9.2% with the proportion of body parts affected by lower limb injuries 67.9% (Kusuma & Surakarta, 2020). Physical injury generally can be defined as any stress on the body that prevents the organism from functioning properly and results in the body employing a process of repair (Walker, 2018). Sports injuries are all forms of injuries that arise both during exercise and exercise or after exercise that is affected are bones, muscles, tendons, and ligaments (Candra et al., 2021).

(Graha & Priyonoadi, 2012) explain the causes of injury in sports activities caused by internal factors such as improper training methods, lack of stretching of certain muscles as prime mover, such strength low, improper heating and cooling tend to result in complaints of pain that will be felt 24 to 28 hours after exercise. While the external can be caused by improper installation of tools, inappropriate equipment, inappropriate training equipment, training environment that are not safe for the activity or the characteristics of the sport itself.

In terms of sports injuries experienced by physical education, students tend to occur more often. Injuries can result from the forces acting on the body which exceed the body's ability to cope, take place quickly, or in the long term (Trentacosta, 2020).

Kinds of sports injuries can be experienced in the form of sprains, strains, knee injuries, dislocations, concussions, bruises, and fractures (broken bones) (Villafuerte-Gutierrez et al., 2019). Injuries to sports are caused by one of 4 main causes, namely: 1) physical weakness that is innate from birth, such as legs that are not the same length, 2) practicing when you are sick, 3) environmental influences, and 4) training errors (Triyani & Ramdani, 2020). The body responds to this injury with inflammatory signs such as redness, swelling, heat, pain, and decreased function. Therefore, by knowing early injury management, it is hoped that physical education students can minimize the occurrence of sports injuries.

Knowing how to handle injuries at an early age has a very significant function as a determining factor for the length of the injury healing process. For this reason, if the first aid action is wrong, it will result in a long-lasting injury healing process. Due to the large risk factors for injury caused by various factors, a sports injury management course is needed which aims to increase knowledge and skills about first aid for victims of injury so as not to cause a more severe risk.

To improve knowledge and skills about first aid for sports injuries, using the prices (protect, rest, ice, compression, elevation, and support) handling method. The prices method is usually used in cases of sprains and strains. Prices should not be used on muscle cramps, open fractures, open wounds to the skin, and victims who are allergic to cold. Things that need to be considered in handling injuries according to (Versloot et al., 2020) in the first 24-48 hours after the injury, you should not massage or heat the injured part because it can aggravate the injury. Handling using the principle of the prices can provide fast, precise, and safe early treatment of inflammatory reactions in injuries.

In 2015 BEM IKM Medical Assistance Team FKUI developed methods through learning modules on handling injuries with methods Protect, Rice, Ice, Compression, Elevation, Support (PRICES). Handling with PRICES is a More complete method of handling injuries with the addition of protective measures to prevent and continue support in sports injuries so as not to occur events again (Okta & Hartono, 2020)

The methods used are protection, resting, applying ice, applying light pressure bandages, elevating the position of the injury, and providing support. Further information regarding the protect rest ice compression elevation support is explained as follows; 1) Protect Cessation of activity immediately after injury should be done to prevent further injury, slow healing, increase pain and stimulate bleeding. 2) Rest is an effort to rest the sick body part which aims to reduce the risk of further injury/damage. 3) Ice is used to reduce bleeding, swelling and minimize pain. 4) Compression is an action taken to reduce tissue swelling, as well as bleeding. 5) Elevation is an act of elevating the injured area to prevent static, reduce edema (swelling) and pain. If the elevation of the injured part is raised so that it is 15 cm to 25 cm above the height of the heart, the elevation is recommended to be carried out continuously until the swelling disappears (Zein, 2015). 6) Support to prevent excessive muscle movement and prevent repetitive injury to provide support, Kinesio tape and straps can be used.

Based on initial observations in the field, the PRICES method was not specifically taught in the first semester for the respondents I studied. This is known when interviews were conducted randomly with the respondents being studied. So that it can be said that the participants only knew from information that they had dug up themselves/self-taught either through social media or information from friends, of course, not all students had the same understanding. This made the respondents confused and did not have a definite grip on the principles of how to first treat acute injuries.

Some sports students already know the benefits of studying the management of sports injuries, but the responses of physical education students, especially at the Indonesian community development university in Medan, have not been known. By knowing injury handling as early as possible, it is hoped that physical education students can prevent and treat injuries.

METHODS

The method used in this research is descriptive research (Morissan, 2017). Descriptive research is intended to gather information regarding the status of a symptom according to what it was at the time the research was conducted. Data collection in research uses the survey method, so it is also called survey

research. Survey research was conducted to obtain facts in the field related to the knowledge of UPMI Medan Physical Education students on sports injuries.

Participants

The research was conducted at UPMI Medan. The population is an area generalization consisting of objects that have the quantity and characteristics determined by the researcher to be studied and then drawn conclusions (Sugiyono, 2017). The population in this study were students in the fifth semester (80 people) of Physical Education and Health at UPMI Medan. The research sample is part or representative of the population studied (Sugiyono, 2017). The sample in this study used a random sampling technique, collected (40 people) students from the fifth semesters UPMI Medan.

The instruments in this study used questionnaires adopted from Susanti's thesis (Susanti, 2017). In this variable research conducted a field study to obtain data. All variables in this study were measured using the instrument in the questionnaire which was distributed to physical education students.

The research used in this study is using a questionnaire with statement items whose answers use the Guttman Scale or the Docotomy Scale by providing alternative 2 (two) answers that have been provided, namely true and false. Answers from respondents are given by marking (√) in the column provided. For the data obtained in this study in the form of quantitative data, then each alternative answer is given a score.

Data Analysis

In this study, the technique used to collect data was using a questionnaire (questionnaire). How to collect data by 1). The researcher gave a questionnaire to the respondents and explained the procedure for filling out the questionnaire 2). The method used in collecting data was by giving a knowledge test. This knowledge test is presented in the form of a true-false test with each question item consisting of two alternative answers, namely: T (True) and F (False). Answers from respondents are given by placing a checklist (√) in the column provided. 3). Respondents filled out the questionnaires given 4). Questionnaires were collected by researchers after being filled out by respondents.

To analyze the data that has been collected, the researchers used descriptive analysis techniques with percentages aimed at knowing the understanding of injury management using the PRICES method.

RESULT

The description of the results of research on the knowledge of physical education students about early handling of sports injuries using the prices method can be seen in the table below:

Table 1. Knowledge PRICES

No	Interval	Frequency	%	Category
1	81-100	9	22,50%	Very high
2	61-80	14	35%	high
3	41-60	10	25%	Medium
4	21-40	5	13%	Low
5	0-20	2	5%	Very low
		40	100%	

The overall PRICES knowledge level of students' sports injuries was in the high category (35%). When displayed in the form of a diagram in the image below;

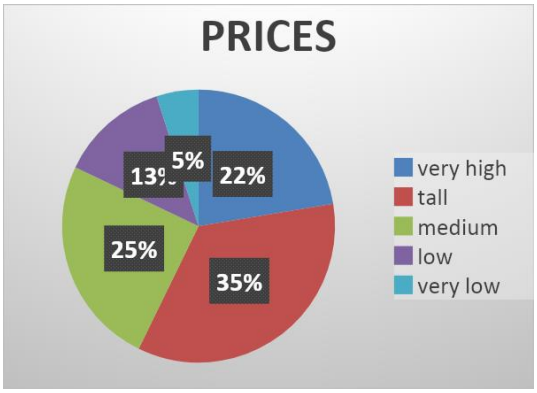

Fig 1. Diagram

Based on the tables and figures above, it is known that the knowledge of physical education students about handling sports injuries using the PRICES method is as follows; (1) very high category by 22.5% (9 people), (2) high category by 35% (14 people), (3) moderate category by 25% (10 people), (4) low category by 13% (5 people), and (5) very low category by 5% (2 people).

The results of each stage that have been obtained through the research process regarding the level of understanding of injury handling with the price method are divided into six parts including protecting, rest, ice, compression, elevation, and support will be presented from the results of each research section as follows:

Protect

Table 2. Knowledge Protect

No	Frequency	%	Category
1	7	17,5%	Very high
2	15	37,5%	high
3	8	20%	Medium
4	7	17,5%	Low
5	2	5%	Very low
	40	100%	

Looking at the results from the distribution table above, it can explain student knowledge on the protect variable as many as 17 people (17.5%) in the very high category, 15 people (37.5%) in the high category, 8 people (20%) in the medium category, 7 people (17.5%) in the low category, and 2 people (5%) in the very low category. The knowledge that students have on the protected variable is in the "high" category.

Rest

Table 3. Knowledge Rest

No	Frequency	%	Category
1	8	20%	Very high
2	18	45%	high
3	8	20%	Medium
4	6	15%	Low
5	0	0%	Very low
	40	100%	

Looking at the results from the distribution table above, it can explain student knowledge on the rest variable as many as 8 people (20%) in the very high category, 18 people (45%) in the high category, 8 people (20%) in the medium category, 6 people (15%) in the low category, and 0 people (0%) in the very low category. The knowledge that students have on the rest variable is in the "high" category.

Ice

Table 4. Knowledge Ice

No	Frequency	%	Category
1	5	13%	Very high
2	15	37,5%	high
3	12	30%	Medium
4	5	13%	Low
5	3	7,5%	Very low
	40	100%	

Looking at the results from the distribution table above, it can explain student knowledge on the Ice variable as many as 5 people (13%) in the very high category, 15 people (37.5%) in the high category, 12 people (30%) in the medium category, 5 people (13%) in the low category, and 3 people (7,5%) in the very low category. The knowledge that students have on the ice variable is in the "high" category.

Compress

Table 5. Knowledge Compress

No	Frequency	%	Category
1	7	17,5%	Very high
2	19	47,5%	high
3	14	35%	Medium
4	0	0%	Low
5	0	0%	Very low
	40	100%	

Looking at the results from the distribution table above, it can explain student knowledge on the compress variable as many as 7 people (17.5%) in the very high category, 19 people (47.5%) in the high category, 14 people (35%) in the medium category, 0 people (0%) in the low category, and 0 people (0%) in the very low category. The knowledge that students have on the compress variable is in the "high" category.

Elevation

Table 6. Knowledge Elevation

No	Frequency	%	Category
1	12	30%	Very high
2	18	45%	high
3	8	20%	Medium
4	2	5%	Low
5	0	0%	Very low
	40	100%	

Looking at the results from the distribution table above, it can explain student knowledge on the compress variable as many as 12 people (30%) in the very high category, 18 people (45%) in the high category, 8 people (20%) in the medium category, 2 people (5%) in the low category, and 0 people (0%) in the very low category. The knowledge that students have on the elevation variable is in the "high" category.

Support

Table 7. Knowledge Support

No	Frequency	%	Category
1	10	25%	Very high
2	19	47,5%	high
3	11	27,5%	Medium
4	0	0%	Low
5	0	0%	Very low
	40	100%	

Looking at the results from the distribution table above, it can explain student knowledge on the support variable as many as 10 people (25%) in the very high category, 19 people (47.5%) in the high category, 11 people (27,5%) in the medium category, 0 people (0%) in the low category, and 0 people (0%) in the very low category. The knowledge that students have on the support variable is in the "high" category.

DISCUSSION

This study aims to determine the level of knowledge of physical education students about handling sports injuries. The level of understanding is divided into

6 factors, namely; protect, rest, ice, compress, elevation, and support :

1) Protect is an act of stopping activities immediately after an injury so that the injury can be healed immediately. In the research process, this Protect is done by providing a tool that is useful for protecting the injured body part. Therefore, the protective action is to stop all learning activities that take place, and then someone who is injured is installed with a tool in the form of a splint or tensocrepe to reduce the movement of the injured muscle part.

2) Rest is an action in the form of rest so that the injury does not get worse. The purpose of rest treatment on the injured part is to prevent further damage to the injured part. Based on the results of the study, injury management through the rest method has been carried out by stopping activities and resting until the injury begins to recover.

3) Ice is an act of giving ice that aims to reduce pain, stop bleeding that occurs and reduce swelling. Based on the results of research, students when an injury occurs, usually immediately apply an ice pack to the sprained or swollen part.

4) Compress is an action that is done by giving a pressure bandage to limit swelling and bleeding. The application of pressure bandages must be carried out appropriately and should not be too tight because it can cause tissue death, which will cause the injury to not heal immediately. Based on the results of the study, it was known that after being given an ice pack, the next thing to do was to put emphasis (bandage) on the injury.

5) Elevation is an action taken to treat an injury by elevating the injured part better than the heart to reduce swelling and pain. Seeing the research results, in practice in the field students can apply the principle of elevation.

6) Support is an act of recovering the injured part, carried out by giving tools in the form of Kinesio tape or straps. This tool aims to prevent excessive muscle movement and prevent repeated injury because the injured party is not allowed to do strenuous activities. Most of the students understand the use of the function of the Kinesio tape.

The results of this study indicate that the level of knowledge of physical education students is in the high category. In this case, students play an active role in lectures and practices that take place during lectures.

The results of this study are in line with research conducted by (Nugroho, 2017, p. 56) that handling injuries using the dominant RICE method has good results. The same research was carried out by (Susanti, 2017, p. 88) showing the knowledge of physical education teachers about early management of sports injuries using the PRICES method in State Senior High Schools in Kulon Progo Regency mostly in the medium category.

Physical education students who are more likely to practice in the field are very susceptible to injury to their limbs. Therefore, injuries that occur during exercise must get more attention, by providing appropriate and appropriate treatment for the injury experienced. The important thing in the management of injuries is to evaluate the general condition of the injury, to determine whether there are conditions that threaten its survival. Seeing this, it takes good knowledge of physical education students to know and understand the methods of handling injuries.

Handling using the PRICES principle is an early treatment that is fast, precise, and safe for inflammatory reactions in injuries. The way to do this is by providing protection, resting, applying ice, applying pressure bandages, elevating the position of the injury, and providing support.

These results can be interpreted that the knowledge of physical education students about handling sports injuries using the PRICES method is mostly in the high category. The results of physical education students' knowledge about early handling of sports injuries using the PRICES method in this study were based on remembering, understanding, applying, analyzing, and evaluating factors.

Therefore, with these limitations, it is hoped that students will be more active in seeking information and carry out simulation activities for handling injuries more often together with colleagues. So that if there is an injury in the field, you can quickly overcome and treat sports injuries as early as possible. Therefore, research on handling injuries through the rice method or the prices method can be used as a guide when conducting further research.

CONCLUSION

Results Based on the analysis and discussion of the data, it can be concluded that the knowledge of physical education about handling sports injuries is in the high category. Handling using the principle of the price is an early treatment that is fast, precise, and safe for inflammatory reactions in injuries. The way to do this is by providing protection, resting, applying ice, applying pressure bandages, elevating the position of the injury, and providing support. Thus, it can be concluded that the results of the knowledge of injury management using the PRICES method are well understood by UPMI physical education students.

However, there are still some people who cannot handle injuries properly, this can be caused by several factors. This factor can be in the form of a lack of practice in the field, resulting in a lack of experience in the field.

REFERENCES

Candra, O., Durpri, Gazali, N., Muspita, & Prasetyo, T. (2021). Penerapan Teknik Price Terhadap Penanganan Cedera Olahraga Pada Atlet Klub Bola Basket Mahameru Pekanbaru. Community Education Engagement Journal, 2(2), 44–51.

Graha, A. S., & Priyonoadi, B. (2012). Terapi Masase Frirage Penatalaksanaan Cedera Pada Anggota Tubuh Bagian Atas. Fakultas Ilmu Keolahragaan Universitas Negeri Yogyakarta.

Kusuma, U., & Surakarta, H. (2020). Cedera Sprain Pada Atlet Pencak Silat Di the Effect of Giving Price Training With Simulation Methods Toward Sprain Injury Treatment Skills. 59, 1–11.

Morissan. (2017). Metode Penelitian Survei. Jakarta : Kencana.

Nugroho, I. purwanto. (2017). Tingkat Pengetahuan Pemain Di UKM Futsal UNY Tentang Penanganan Dini Cedera Dengan Metode Rice [Universitas Negeri Yogyakarta]. https://eprints.uny.ac.id/54293/1/2.

Okta, R. P., & Hartono, S. (2020). Tingkat Pengetahuan Penanganan Cedera Olahraga Pada Mahasiswa. Jurnal Kesehatan Olahraga, 8(2), 101–108. https://doi.org/10.13140/RG.2.2.34266.06081

Oktavian, M., & Roepajadi, J. (2021). Tingkat Pemahaman Penanganan Cedera Akut Dengan Metode R.I.C.E Pada Pemain Futsal Yanitra FC Sidoarjo Usia 16-23 Tahun. Indonesian Journal of Kin Anthropology, 1(1), 55–65.

Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung : CV. Alfabeta.

Susanti, T. Y. (2017). 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. Universitas Negeri Yogyakarta.

Trentacosta, N. (2020). Pediatric Sports Injuries. Pediatric Clinics of North America, 67(1), 205–225.

https://doi.org/10.1016/j.pcl.2019.09.013

Triyani, E., & Ramdani, M. L. (2020). Jurnal Keperawatan Muhammadiyah Pengaruh Pendidikan Kesehatan Terhadap Pengetahuan Dan Keterampilan Pertolongan Pertama Cedera Olahraga Dengan Metode Prices Pada Anggota Futsal. September, 377–384.

Versloot, O., Timmer, M. A., de Kleijn, P., Schuuring, M., van Koppenhagen, C. F., van der Net, J., & Fischer, K. (2020). Sports participation and sports injuries in Dutch boys with haemophilia. Scandinavian Journal of Medicine and Science in Sports, 30(7). https://doi.org/10.1111/sms.13666

Villafuerte-Gutierrez, P., Villalon, L., Losa, J. E., & Henriquez-Camacho, C. (2019). Corrigendum to: Treatment of febrile neutropenia and prophylaxis in hematologic malignancies: A critical review and update (Advances in Hematology (2014) 2014 (986938) DOI: 10.1155/2014/986938). In Advances in Hematology (Vol. 2019). https://doi.org/10.1155/2019/4120631

Walker, B. (2018). The Anatomy of Sports Injuries, Second Edition: Your Illustrated Guide to Prevention, Diagnosis, and Treatment (Second). Lotus Publishing.

Zein, M. I. (2015). Cedera Olahraga. http://staff.uny.ac.id/sites/default/files/pendidikan/dr-muhammad-ikhwan-zein-spko/bahan-ajar-ppc-fix.pdf