

KNOWLEDGE LEVELS OF REST, ICE, COMPRESSION, ELEVATION METHOD WITH THE IMPLEMENTATION OF INJURY HANDLING IN SPORT STUDENT ACTIVITY UNITS

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ABSTRACT

Introduction: Sport is a regular movement performed by a person consciously to improve functional ability. Every sport has a risk of injury. Most amount of the injury get handled quickly, appropriately, and by a professional team will provide a good recovery and with no complications of disability or death. The best method to handle an injury is RICE method, Rest, Ice, Compression, and Elevation.

Aim: This research purpose is to correlate between the knowledge levels with the implementation of injury handling in sport student activity units of Widya Mandala Catholic University Surabaya.

Methods: This is an analytical method with cross sectional study and purposive sampling procedure. Total sample for this research is 95 students including the member of student activity unit of sport and have experienced sports injury. Member of this student activity unit consist of kyoukhusin, volleyball, badminton, basketball, taekwondo, and futsal. The knowledge levels and the implementation of injury handling measured by the knowledge levels and the application of injury handling questionnaire made by researcher. In this research used data analysis performed by Spearman correlation test.

Result: The result of this research obtained with most less level of knowledge in sport student activity units do 2 application of injury handling is 26 person (27,4%).

Conclusion: This research show that significant relation with p value is 0,000 that mean they have correlation between level of knowledge and the implementation of injury handling in sport student activity units of Widya Mandala Catholic University Surabaya and correlation coefficient value is 0,728 that show a strong positive correlation, therefore if they have less knowledge level so the implementation of injury handling will be less too.

Key Words : Injury, Sports, Student Activity Units, Knowledge level, Application, Injury Handling

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INTRODUCTION

Sport is a series of regular and planned physical exercises done by someone consciously to improve their functional abilities. Sport consists of achievement sports, recreation, health, and education.¹ Injury is a disorder that occurs in the body that causes pain, heat, redness, swelling, and cannot function in the muscles, tendons, ligaments, joints, or bones due to activities excessive motion or accidents.² In amateur athletes, one example is a member of a student activity unit of sports, susceptible to sports injuries can be caused by lack of knowledge of ideal movements, lack of warming, stretching, maintaining muscle balance, sports techniques that are not good and do excessive exercise.³

The facts about sports injuries should raise an awareness to learn more about handling sports injuries, because knowing how to handle sports injuries will help to immediately provide first aid to the injured body part.^{4,5}

Proper handling of injuries can use the RICE method, namely Rest, Ice, Compression, and Elevation.⁵ Those are the first action from the first treatment of injuries which aim at avoiding more severe injuries, resting the injured body, reduce pain, bruises, and inflammation, and reduce blood flow.

The action taken at the beginning of the injury will greatly determine the severity and recovery of the injury.⁷ The formation of one's actions is influenced by the knowledge possessed, because knowledge is a very important domain for the formation of one's actions. Behavior that is based on knowledge will be more durable than behavior that is not based on knowledge.⁸ In members of sports unit, the level of knowledge has an important role in implementing injury handling using the RICE method.⁵

This research was conducted on members of sports unit to determine the level of knowledge of members in implementing the initial handling of injuries using the RICE method. It is important for members of sports unit to know how to apply the initial injury handling immediately to avoid complications arising from the injury.⁹

Based on the description above, the authors chose to conduct research under the title "*The Correlation Between The Knowledge Levels of Rest, Ice, Compression, Elevation Method With The Application of Injury Handling in Sport Student Activity Units*".

METHOD

This research uses analytic research design and observational type of study with cross sectional study design because this study was conducted only once. This study aims to look at the relationship between the level of knowledge and the application of RICE injury handling in student activity units at Widya Mandala Catholic University.

The sample of this study is all members of sports units at Widya Mandala Surabaya Catholic University in 2017. It is amounting to 95 people consisting of futsal, kyokushin, taekwondo, basketball and badminton units. The inclusion criteria of this study were student activity units members who had suffered sports injuries for 2 years, suffered minor injuries, were willing to take part in the study. The exclusion criteria were members of student activity units who suffered chronic injuries and fractures. The sampling technique used in this study was purposive sampling technique.

The study begins by determining the study population, calculating the size of the sample, and collecting data by filling out the questionnaire that has been provided. The data collection was conducted on August 24 to September 26, 2018. Then, the collected data was measured into the SPSS application and

tested for correlation using the Spearman correlation test.

RESULTS

The distribution of respondents based on age, it can be seen that the most age is 18 years as many as 29 people (30.5%).

Table 1. The Distribution of Respondents Based on Age

| Sex | Frequency (n) | Percentage |
|--------|---------------|------------|
| Male | 16 | 34,80% |
| Female | 30 | 65,20% |
| Total | 46 | 100% |

Based on table 2, the most sex was found in male subjects compared with women in a number of 68 people (71.6%).

Table 2. The Distribution Table Based on Sex Members of Sports Student Activity Units at Widya Mandala Catholic University, Surabaya in 2017

| Sex | Frequency (n) | Percentage (%) |
|--------------|---------------|----------------|
| Male | 68 | 71,6% |
| Female | 27 | 28,4% |
| Total | 95 | 100% |

Based on table 3, the subject's knowledge in this study is grouped into 3, namely the level of knowledge is lacking, moderate, good. In the table, it is obtained from the the data that the most members of sport student activity units is classified in the level of knowledge that is less than 44 people (46.3%).

Table 3. The Distribution Table of Sports Student Activity Units Members Based on Knowledge Level on 2017

| Knowledge Level | Frequency (n) | Percentage (%) |
|-----------------|---------------|----------------|
| Less | 44 | 46,3% |
| Plenty | 38 | 40% |
| Good | 13 | 13,7% |
| Total | 95 | 100% |

Based on table 4, the subjects applied the injury handling. In the table

obtained the most data, namely the subjects who took two steps to apply injury handling in the amount of 34 people (35.8%)

Table 4. The Distribution Table of Sports Student Activity Units Members Based on Injury Handling on 2017

| Injury Handling | Frequency (n) | Percentage (%) |
|-----------------|---------------|----------------|
| 0 | 5 | 5,3% |
| 1 | 15 | 15,8% |
| 2 | 34 | 35,8% |
| 3 | 25 | 26,3% |
| 4 | 16 | 16,8% |
| Total | 95 | 100% |

0 : unhandling, 1 : handling it at one time, 2 : handling it at two times, 3 : handling it at three times, 4 : handling it all

Table 5. The Cross Tabulation Table of Sports Student Activity Units Members Based on Knowledge Level and Implementation of Injury Handling on 2017

| Knowledge Level | Injury Handling | | | | | Total |
|-----------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | 0 | 1 | 2 | 3 | 4 | |
| Less | 4 (4,2%) | 12 (12,6%) | 26 (27,4%) | 2 (2,1%) | 0 (0%) | 44 (46,3%) |
| Plenty | 1 (1,0%) | 3 (3,2%) | 8 (8,4%) | 20 (21,1%) | 6 (6,3%) | 38 (40%) |
| Good | 0 (0%) | 0 (0%) | 0 (0%) | 3 (3,2%) | 10 (10,5%) | 13 (13,7%) |
| Total | 5 (5,2%) | 15 (15,8%) | 34 (35,8%) | 25 (26,4%) | 16 (16,8%) | 95 (100%) |

Based on table 5, sports units members obtained the results of the analysis using a cross tabulation table to determine the correlation between the level of knowledge and the application of injury handling. The results obtained that the less group of knowledge level has done the two times injury handling by 26 people (27.4%), the plenty group of knowledge level has done the three times injury handling by 20 people (21.1%) and the good group of knowledge level has done the three times injury handling by 10

people (10.5%). Moreover, it can be seen that the higher the knowledge of the members of sports student activity units, the more steps of injury handling is carried out and vice versa.

Based on Table 6, the normality test results to determine the distribution of the data can be tested using the Kolmogorov-Smirnov Test. The result obtained is 0.00 which is said to have a normal distribution if (p-value) > 0.05. It can be concluded that the data in this study are not normally distributed so that the analysis test is done using the Spearman test.

Table 6. The Normality Test of the Variable in the Implementation of Injury Handling on 2017

| Variable | Kolmogorov-Smirnov | | |
|-----------------------------------|--------------------|----|------|
| | Statistic | Df | Sig. |
| Implementation of Injury Handling | ,293 | 95 | ,000 |

Based on Table 7, the analysis test uses the Spearman Test which is carried out on the two variables studied, namely the level of knowledge and implementation of injury handling. The results obtained are the Spearman correlation statistical test with a value of p = 0,000 which indicates that the null hypothesis is rejected so that a significant relationship is found between the level of knowledge and the implementation of injury handling. The correlation coefficient obtained a value of 0.728 which shows a positive correlation with the strength of a strong correlation so that if the level of knowledge is low then

the steps to implement the injury handling are also less.

Table 7. The Table of Spearman Correlation Analysis Results in Members of Sports Student Activity Units at Widya Mandala Catholic University in Surabaya in 2017

| | Score of the Knowledge Level |
|--|--|
| Score of the Implementation of Injury Handling | $r = 0,728$ $p < 0,001$ $n = 95$ |

DISCUSSION

The results of the analysis in this study aim to see the level of knowledge of injury handling in members of sports student activity units. The assessment of the level of knowledge of injury handling was assessed using a questionnaire, where the questionnaire amounted to seven questions that already represented knowledge of rest, ice, compression, and elevation. After calculated using crosstab, the results show that the members of sports units have a less knowledgeable level of injury handling, with a percentage of 46.3%. In this study, the level of knowledge of a person can be influenced by factors of education, information, social culture, and experience.¹⁰

The education factor has a role in influencing one's learning process, so the higher one's education is, the easier it is for someone to receive information.¹¹ This research is supported by research conducted by Desfi, et al (2013) who say that one's level of education may not

necessarily affect the level of knowledge someone, because a person's level of knowledge is influenced by internal factors such as interests, intelligence, and physical conditions and is influenced by external factors such as family and community.¹² These various things can also affect this research, so it can be seen that subjects who have high education are not absorbing the possibility to have less knowledge.

Socio-cultural factors are habits and traditions that are commonly practiced both in the family and local culture that can influence a person's knowledge, perceptions, and attitudes towards something and can be obtained in relation to others.^{12,13} In Good research (2016), it was found that, a traditional massage or *sangkal putung* massage is a local wisdom that develops in the community, where the development process is not only within the scope of the family, but also to individuals who have no family relations.¹⁴ In addition, according to Imam (2012), one of the habits of handling the injury done by the subject while suffering a sports injury, is to go to *sangkal putung*. It is suspected that socio-culture can be one of the factors that influence the subject's actions in handling initial injury, in addition to doing the RICE method.¹⁵

One means of information factors that influence knowledge is through mass media, both in printed and electronic form. Along with someone who often sees, hears, and reads the mass media, a person will get more information than people who have never gotten information from the mass media.³ In this study, the information factor might be one of the factors causing the lack of knowledge of sports student activity units members.

The experience factor is a source of knowledge or a way to obtain the truth of knowledge. This is done by repeating the experience gained in solving problems faced in the past.¹⁶ In this study, the experience questioned is the experience of the injury and its treatment.

Based on the results of the analysis in this study the results were as many as 34 people (35.8%) who carried out or applied two steps of applying the treatment of injuries, namely rest and ice. The implementation of injury handling is an act of someone to find out the stimulus or health object, then conduct an assessment of what is known, then proceed with carrying out the next process, namely carrying out or practicing what is known.¹⁷ According to Imam's research (2012), students are less concerned about injuries suffered, so as to make the initial handling of injury is not optimal and not in

accordance with the application of initial injury management, namely RICE.¹⁸ Moreover, according to Bima (2016), it is said that a plenty level of knowledge, can cause athletes to do unoptimal injury therapy. Athletes also tend not to understand well the benefits and objectives of each stage of injury therapy.² The implementation of injury handling in this study, may be influenced by these things namely; attitude of ignorance and lack of level of knowledge about the benefits and objectives of each injury treatment. Thus, the most research subjects only do two applications of injury handlers, namely rest and ice.

Based on the data analysis in this study, regarding the level of knowledge of injury handling and its implementation, with a value of α set at 0.05 indicates that the value of $p = 0,000$. This shows that there is a significant relationship between the level of knowledge and application of injury management. The correlation coefficient obtained a value of 0.728 which indicates a positive correlation with the strength of a strong correlation, which means that if someone has a high level of knowledge, the implementation of injury handling is also high.

Sports injuries can cause disability, injury, and damage to muscles or joints, as well as other parts of the body.¹¹ The

provision of appropriate early and immediate treatment of injuries must be given as soon as possible to avoid complications arising from injury.

The basic principles of dealing with sports injuries are minimizing the extent of injury, overcoming pain and inflammatory processes, enhancing the healing process, maintaining physical fitness during treatment, speeding up bodily functions, finding and correcting the causes of injury.¹⁹ Based on these, the action of injury handling for sports students activity unit members is necessity.

According to Nursalam (2008), the changes in actions occur because of changes in knowledge. The increased knowledge accompanied by increased confidence can lead to positive behavior changes in the form of improvement.²⁰ Along with this study, subjects who have good knowledge skills, good understanding power, and good application skills can be the basis for someone to do an implementation of good injury handling. This can be seen in the results of crosstab, namely the members of sports units who have good knowledge will take steps to apply good injury handling, namely by taking four steps, while members of sports units who have less knowledge will take two steps to apply. It can be concluded in this study that, the lack of knowledge can

be one of the factors that causes members of sports units to have less implementation in handling injuries.

CONCLUSION

This study can be concluded as follows:

1. There is a correlation between the level of knowledge and the implementation of injury handling in sports student activity units members.
2. For the members of sports units, the highest age of the subjects is 18 years old with 29 people (30.5%).
3. Among the members of sports units, the male sex is the largest one with sport injuries of 68 people (71.6%).
4. There are 44 people (46.3%) who belongs to the sport units have lack of knowledge.
5. For the most sports units members, there were at least two injuries handling applications implemented, namely doing rest and ice as many as 34 people (35.8%).

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