

Survey of Running Speed and Limb Muscle Explosive Power in Students SMP Negeri 2 Madang Suku III

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Abstract: This research is motivated by the high potential of long jump athletics to be a positive activity and opportunity for students to achieve achievements at SMP Negeri 2 Madang Suku III. The problem in this study was that there had never been tests and evaluations before regarding the physical condition of students which affected the results of long jumps such as running speed and leg muscle explosive power. Therefore, researchers need to conduct a survey regarding the ability to run speed and explosive power of the leg muscles so that the coach or teacher understands the lack of physical condition and can improve the training program that will be given to students. The purpose of this study was to examine and survey the ability of running speed and muscle explosive power of students of *SMP Negeri 2 Madang TRIPS III*. The research design is in the form of descriptive statistics with a total of 25 students as subjects. The ice instrument uses a 30-meter run test and a vertical jump test. Furthermore, the data were analyzed using descriptive statistical techniques in the form of mean, mode, standard deviation, and coefficient of variance. From the data analysis, two conclusions were obtained, namely (1) the results of the 30-meter running speed test obtained 20% (5 people) in the very good category, and 48% (12 people) in the good category. 32% (8 people) category is poor. (2) the results of the leg muscle explosive power test obtained 4% (1 person) in the very good category, 40% (10 people) in the good category, and 56% (14 people) in the poor category. Based on the results of the study, it can be concluded that the average running speed of students at SMP Negeri 2 Madang Suku III is in a good category. While the explosive power ability of the leg muscles of students of SMP Negeri 2 Madang Suku III on average is in the poor category.

Keywords: Survey, Running Speed, Limb Muscle Explosiveness

A. Introduction

Sport is all systematic activities to encourage, foster and develop physical, spiritual, and social potential. Sports are currently developing in various forms, in Perpres no 86 (2021) concerning the Grand Design of National Sports (DBON, *Desain Besar*

Olahraga Nasional) dividing sports into several types, namely educational sports, recreational sports, and achievement sports.

Sports Education, which we know as physical education, is given to formal education, both at Elementary School (SD, Middle School) and High School (SMA) and Sports, which are carried out as part of a regular and continuous educational process to acquire knowledge, personality, skills, health, and physical fitness. Recreational Sports are sports that are carried out among the community as a hobby and recreational sports ability that grows and develops according to the conditions and cultural values of the local community, usually people who carry out recreational sports aim for health, fitness and joy. Achievement Sport is a sport that fosters and develops athletes in a planned, tiered and sustainable manner through competition to achieve achievements with the support of sports science and technology.

Sports education or physical education in schools is one part of achieving national education goals (Bangun, 2012). Physical education is an integral part of overall education whose goal is to develop aspects of physical fitness, movement skills, critical thinking skills, social skills, reasoning, emotional recovery, moral action, aspects of a healthy lifestyle and recognition of a clean environment. The hope is through physical education that is systematically planned in order to achieve national education goals. Physical education is a medium for stimulating physical growth, psychosocial development, motor skills, knowledge and reasoning, appreciation of attitudinal, mental, emotional, sportsmanship, spiritual and social values, as well as habituation of a healthy lifestyle which leads to the growth and development of physical and mental qualities. balanced psychology.

In the process of learning physical education there is a lot of material that can be conveyed by a teacher including big ball games, small ball games, rhythmic activities, aquatic sports, and athletic sports. And for each of these materials there are many sports that students can practice and play. As an example of athletics, athletics is very popular in the community because athletics is the mother of all sports. Athletics consists of short distance running, relay running, middle distance running, discus throwing, javelin throwing, high jump, pole vault and long jump.

The long jump is one of the materials in physical education learning. Usually, schools provide long jump advice and infrastructure for the learning process. According to Ikadarny (2019) in the long jump is a jumping movement that begins with a horizontal movement and then changes it to a vertical movement by repulsing the strongest leg to get the greatest possible distance. The long jump is an athletic sport that demands the skill of jumping forward with one jump as far as possible. Zuhdi (2020) said that someone who makes a long jump must be able to combine speed, strength, explosive power, and motion coordination in an effort to jump as far as possible from the jumping point.

Athletics, especially the long jump, can be used as a positive activity for children to achieve achievements. Long jump training activities are still rarely carried out in the general public, but in schools long jump is material that is often given by physical education teachers. Each school on average has long jump facilities and infrastructure because the facilities and infrastructure needed are only long jump fields which do not require large areas of land and do not require expensive costs. The long jump is also a sport that is competed in every championship at the sub-district, city, provincial, national and international levels. That means students at school have a great opportunity to explore their potential to excel in long jump athletics.

The breeding of professional long jump athletes is also carried out through schools. Such as holding school level championships such as O2SN and Student Sports Week starting at the sub-district, city, provincial, to national levels. Usually, selections are often held by physical education teachers at schools. (UU SKN No. 3 of 2005 Article 1 paragraph 3) states that the source of the population and potential in sports problems and development is school age. Sports coaching for students is one of the programs of the Ministry of Youth and Sports and related agencies in the search for athletes who can support national sports achievements. To improve achievement in the field of sports, it is necessary to have an ongoing program with talent scouting, nursery, sports education and training which should be carried out from an early age, because becoming an outstanding athlete takes a long time (Nugraha, 2015). To produce potential athletes who cannot be done instantly, it needs coaching in stages, availability of coaching funds and supporting facilities. Seeding can be done by carrying out talent identification and proceed with the development stage. This is a great opportunity for students at school. But in reality, this is still underestimated.

Ogan Kemering Ulu Timur (OKU Timur) is one of the districts in South Sumatra. Sports championships at the school level are a routine agenda held by the East OKU Education and Culture Office. Each school is required to send student representatives to take part in the championship, including SMP Negeri 2 Madang Suku III. However, for the long jump number, SMP Negeri 2 Madang Suku III still has not been able to show its achievements. Even though seen from the facilities and infrastructure in schools are quite adequate and categorized as good.

In the process of learning physical education on long jump material, many students have not yet reached the KKM. In addition to the lack of long jump skills, this is also because the frequency of meetings is very limited only during class hours so the teacher does not have enough time to provide good technical learning and exercises that affect maximum long jump results for students.

The long jump consists of a series of movements which include prefix, pedestal, hovering in the air and landing (Ikadarny, 2019). Of the four components, attention is directed more towards prefix and pedestal running with an emphasis on training

material on horizontal and vertical components. According to Syarifudin (2002) Factors affecting the long jump are 1) running speed, 2) muscle strength to accept the load; 3) Explosive power, 4) Gender.

Speed is something that cannot be separated from the physical elements of sports (Andik et al, 2019). Speed will coexist with other physical components in achieving the target desired by an athlete (Kuntala, 2017). In this regard, speed must be juxtaposed with other biomotor components so that what is the athlete's target is achieved (Dewi & Santika, 2020). Running speed is the ability to jump successively, in which there is a phase where both feet do not step on/support on the ground to cover a distance of 100 meters in the shortest possible time (Cahyo, 2012).

Meanwhile, explosive power is the ability to use maximum strength and speed in the shortest possible time (Arif, 2021). The explosive power of the leg muscles, according to Syafrizar in arrahman (2017) says that the ability of the leg muscle nervous system to deal with resistance with the highest contraction speed is carried out against loads between 60% and 80% of maximum strength. Explosive power is the ability of a person to use the maximum power deployed in the shortest possible time. Yulifri (2018) suggests that leg muscle explosive power can be defined as the ability of a group of leg muscles to produce work in a very fast time. Explosive power of the limbs is the ability of the muscles to overcome loads or resistance with very high contraction rates. Thus, it can be said that the elements of speed and leg muscle strength are the physical elements that an athlete really needs when doing the long jump (Muhammad, 2020).

From the description above, SMP Negeri 2 Madang Suku III must be able to take the opportunities that exist to explore the potential of students, of course this must be supported by the school, physical education teachers, and parents. There needs to be special coaching outside of class hours related to training to train students' abilities to do long jumps. The physical education teacher whose role is to train must provide proper training. For this reason, it is necessary to carry out tests on the factors that influence the results of the long jump. Previously, the Physical Education teacher had never conducted a test in this regard. For this reason, researchers are interested in conducting research with the title Survey of Running Speed and Limb Muscle Explosive Power in Students SMP Negeri 2 Madang Suku III.

B. Methods

Population is to mention all elements/members of an area that is the target of research or is the whole object of research (Juliansyah, 2017). The population of this study were all students of SMP Negeri 2 Madang Suku III totaling 25 people. The samples taken in this study were 25 athletes obtained by population study techniques (Azwar, 2017). Research data collection was carried out with a 30-meter run test and an upright jump test. Data analysis techniques used in processing

research data are data analyzed using descriptive statistical techniques in the form of mean, mode, standard deviation and coefficient of variance.

C. Results and Discussion

Descriptive statistical analysis of 30-meter running speed data for students of SMP Negeri 2 Madang Suku III from 25 samples obtained the lowest (minimum) score of 6.45, and the highest score of 10.22. The results obtained were 20% (5 people) in the very good category, 48% (12 people) in the good category. 32% (8 people) category is not good.

Table 1. Results of the 30-meter Running Speed Ability Test for Students of SMP Negeri 2 Madang Suku III

No	Category	Frequency	Percentage
1	Very Good	5	20%
2	Good	12	48%
3	Less	8	32%

The results of the descriptive statistical analysis of leg muscle strength data at SMP Negeri 2 Madang Suku III obtained the lowest (minimum) leg muscle strength value of 24, and the highest leg muscle strength value of 46. The results obtained were 4% (1 person) in very good category, 40% (10 people) good category, and 56% (14 people) poor category.

Table 2. Leg Muscle Explosive Power Test Results for Students of SMP Negeri 2 Madang Suku III

No	Category	Frequency	Percentage
1	Very Good	1	4%
2	Good	10	40%
3	Less	14	56%

D. Conclusion

Based on the results of the study, it can be concluded that the average running speed of students at SMP Negeri 2 Madang Suku III is in a good category. While the explosive power ability of the leg muscles of students of SMP Negeri 2 Madang Suku III on average is in the unfavorable category. Thus, it is necessary to have a special training method given to students of SMP Negeri 2 Madang Suku III to increase the explosive power of the leg muscles and running speed so that the long jump ability of students of SMP Negeri 2 Madang Suku III also increases and it is hoped that students of SMP Negeri 2 Madang Suku III can be representing schools and performing well at the sub-district, district, provincial and national levels.

E. Acknowledgments

This research can be carried out properly thanks to the help of various parties: for that, the researchers would like to thank the principal and teachers at SMP Negeri 2 Madang.

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