The Strength of Leg Muscle Against 100m Sprint Result on the Male Students at Class VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency

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Abstract - The problems found on the male students at class VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency is that the result of sprint achieved by students are still less than optimal. It occurs because the students do not have good running techniques, such as swinging hands with less harmonious leg movements. In addition, the coordination of students' running movements are also not optimal. It can be seen when they run. The coordination between hands and legs swing still look stiff and make the result of students' running speed decrease. The students' running speed is also not optimal. It can be seen from the students' leg muscle powers. Thus, to create maximum running speed result, students should practice techniques, speed and strength of the leg muscles. This study aim to determine the contribution of leg muscle strength on the result of the 100m sprint on the students at class VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency. The type of this study was correlational. The population in this study was all male students at class VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency, with a total population of 14 male students. The sampling technique is a total sampling or taking the entire population of male students at class VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency, consisting 14 students. The instrument used in this study was to measure the strength of leg muscle by using a leg dynamometer test and 100m running test to measure students' running. From the result of data processing, it was obtained rxy 0.512> 0.497 r table. With the contribution of KD equal to 25.36%, it can be concluded that there is a contribution of leg muscle strength on the 100m sprint result on the male students at class VIII-2, SMPN 1 Rambah, Rokan Hulu Regency.

Keywords: Leg Muscle Strength and 100m Sprint Result

1. Introduction

By doing an exercise, a body will be healthy. It is really beneficial for body. Exercise is a medium to create healthy and disciplined behavior for each person, because sport activities undertaken will make body healthy and fit. By doing those sport activities, each person will get used to living with a healthy pattern, because in sport activities there are certain rules that must be obeyed in each implementation. In this case, it was students at class VIII-2, SMPN 1 Rambah, Rokan Hulu Regency.

Based on the explanation above, we can conclude that sports education can be carried out both formally and informally and carried out systematically as well as graded and guided by each teacher or lecturer or assisted by sports personnel prepared by each educational unit in carrying out these sports activities. The sports activity belongs to athletic field. It is 100m sprint.

Sprint is a quick running in short distances with maximum speed starting from the start to the finish line. In sprint, there are some basic techniques that must be mastered by a sprinter. It includes the start technique, technique when running and technique entering the finish line. In the 100m running, the aspect that is really needed is the aspect of leg muscle strength.

This certainly cannot be separated from the factors affecting the speed of the 100m sprint. One of the several factors in it, is biomechanics aspect. Biomechanics is an aspect of running speed determined by the length of the step, the frequency of step when running. Motor properties affecting speed consist of muscle power, coordination, muscle condition, reaction speed, contraction speed, anthropometric features and stamina.

Muscle energy plays an important role in speed, for novice runners who are doing exercises. A directional energy will greatly help improve performance. Muscle power is an internal force that will overcome the existence of external forces (gravity, and obstacles), so it results in changes in motion when running. The muscle strength is needed until the sprinter enters the finish line.

Leg muscle strength is the ability of a person to move all the strength of his body parts. In this case, it refers to leg muscles from the start to the finish line. So, by having good leg muscle strength, it will create a good 100-meter sprint.

Based on the writer's observation in the field, especially at class VIII-2, SMPN 1 Rambah, Rokan Hulu Regency, related to 100m sprint, there are still obstacles. The result of sprints achieved by students are still less than optimal. It occurs because the stduents do not have good running techniques such as hand swings with less harmonious leg movements. In addition, the coordination of students' running movements is not maximal, so it can be seen when running. The coordination between hand and leg swing is also less harmonious so it makes the result of students' running speed decrease.

Additionally, the students' running speed is also not optimal. It can be seen from the leg muscle power possessed by students, so to create maximum running speed result, the students must always practice the techniques, speed, and strength of leg muscles. From the description above entitled ″ The contribution of leg muscle strength on the result of the 100m sprint on the students at of VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency ″

2. Methodology

The method used in this study was correlation with correlational analysis technique. This study aims to find whether there is a relationship. If there is a relationship. It will also try to reveal how close the relationship is and whether it is beneficial or not (Arikunto, 2010: 313).
The correlation coefficient is a statistical tool that can be used to compare the result of measurements of two different variables in order to determine the level of relationship between these variables. The design containing more clearly description is as follows :

Variable X (Free Variable) Strength of Leg Muscle	Variable Y (Bounded Variable) 100m Sprint Running
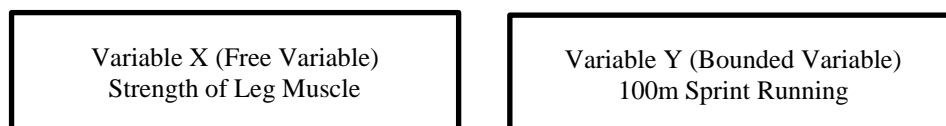
3. Result and Discussion

The result of this study is about the contribution of leg muscle strength on the 100m sprint result on the students at VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency. The results of data description from the test between the strength of the students' leg muscle as independent variable (variable x) on the

100m sprint result on the male students at class VIII-2 as the dependent variable (variable y) are as follows:

a) Data on Muscle Strength Test of Male Students at Class VIII-2 SMPN 1 Rambah, Rokan Hulu Regency

To know the strength of students' leg muscles, a leg dynamometer test was used. Based on the test conducted on 14 male students, the highest and lowest value can be drawn. The highest value of conversion of dynamometer leg test for students is 63,21. While the lowest value of the conversion of students' dynamometer leg tests is 31,38 with an average conversion of leg dynamometer test around 51,00.
From the result of conversion of the value of leg muscle strength on the students, the value is 30,39 - 37,23 consisting 2 people with a percentage of 14%. Students who get a value between 37,34 - 43,88 consisting of 1 person with a percentage of 7 %. Students who get value between 43,99 - 50,73 are 2 people with a percentage of 14%. ,Students who get value between 50,74 - 57.48 are 8 people with a percentage of 57%. Students who get value between 57,49 - 64,23 are 1 person with a percentage of 7%.

b) Data on the 100m Sprint Test on the Male Students at Class VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency

To know the result of sprint for male students at class VIII-2 of SMPN 1 Rambah in Rokan Hulu Regency, a 100 meter sprint test was used. Based on the test conducted on the 14 male students, the highest and the lowest value can be drawn. The highest value of 100m sprint test conversion is 51,22, while the lowest value of 100m sprint test conversion is 47.76 with an average of 50,00.

c) Result

Based on the result of data collection above, there is a contribution of leg muscle strength (variable x) on the 100m sprint results (variable y) on the male students at class VIII-2 of SMPN1 Rambah, Rokan Hulu Regency. The results of data processing obtained were as follows. The results of the rxy or rcount value is 0.512 with the value of KD equal to 25.36% and the remaining KD is 72.47%. According to the correlation calculation results, the relationship level is categorized as "Strong Enough". Thus, it can be concluded that there is a contribution of leg muscle strength on the 100m sprint results on the male students at class VIII-2, SMPN 1 Rambah, Rokan Hulu Regency.

4. Conclusion

Based on the results of data analysis, it can be concluded that there is a contribution of leg muscle strength on 100m sprint result on the students at class VIII-2 of SMPN 1 Rambah, Rokan Hulu Regency with r count of 0.512> 0.497 and KD equal to 25.36%.

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