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Contributions of Flexibility to Sabit Kick Speed Pencak Silat

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***Abstract*— This type of research is correlational. The entire study population Alang Ponggongan PPS students enrolled. The study was conducted in the field of PPS Alang Ponggongan Birugo Bukittinggi. Data measured by flexiometer waist flexibility and speed measured by a test Sabit kick in the target box for 10 seconds. Moreover, the above data is processed by using the formula Product Moment. From the results of data analysis using product-moment and hypothesis testing shows that there is contribution flexibility with a Sabit kick to the calculation speed (5.408 t> t table 1.771) and (rhitung (0, 832)> rtabel (0.514), it can be concluded H0 is rejected, and Ha accepted. It can be concluded that there is a contribution that significantly between flexibility with speed Sabit kick. Contributions flexibility to speed Sabit kick amounted to 69.2%.**

Keywords*— *speed, flexibility, Sabit kick.

I. INTRODUCTION

Bompa & Haff in [1] states that the velocity is the ability to complete a certain distance quickly. On the other hand Jonath & Krempel in [1] defines the speed of the two perspectives, namely in physiological science and science physicalists. As we encounter in everyday life people who have a waist maximum flexibility do not necessarily have the speed and vice versa people who have the speed does not necessarily have the maximum flexibility and maximum explosive power. It can be concluded that the speed is influenced by many aspects, one aspect of flexibility and weight. Flexibility is also an important role in kick sickle, hence the success of the Sabit kick should also be supported with maximum flexibility in performing the kick.

Martial arts is a sport heritage of Indonesia which evolved from the various regions of the country as a symbol of the unity of the Indonesian culture of complete reflection [2]. Besides, martial arts is also one of the sport. At the present time many efforts were made to improve the performance of the martial arts with the establishment of the goals of martial arts in the city of Bukittinggi such as: PPS haunter of natural extracts, PPS Talago blue, PPS tread the sacred, PPS sit-ju and, PPS noble young Indonesian, PPS alang ponggongan, etc. Also still in business achievement martial arts, now in Bukittinggi has a lot of schools from elementary, middle and high school and equivalent school extracurricular martial arts who founded the school.

PPS reeds ponggongan is one of the martial arts college adjacent to the boundary of Bukittinggi, exactly ± 600 m away from UNP Rear beam Bukittinggi. precisely ± 600 m away from UNP Rear beam Bukittinggi. PPS ponggongan reed stands in 1982, initially only university college that specializes in category Silek tuo or Silek tradition, this ponggongan reeds PPS managed by village Birugo puhun.

But college is still not optimally in coaching martial arts modern, one of them at the time of selection of pre-event sport athletes in college is lost, one of the causes of the defeat was caused because the kick sickle undertaken athlete this college can often be in tepis and arrested even in mamfaatkan by slamming the opponent to do so resulted in a point for the opponent. This phenomenon proves that there is still lack of coordination have the physical conditions in this college athletes, one component of a weak physical condition and must be repaired is the speed in doing kick one of them is a Sabit kick. If this continues on leave will affect less well on achievement progress PPS ponggongan reeds.

II. METHODOLOGY

This type of research is correlational who want to see the relationship between independent variables with the dependent variable, while the independent variable in this study is the flexibility and the dependent variable in this study is the speed of the Sabit kick. The population in this study is the overall pupil Alang PPS ponggongan registered and participate in training, totaling 39 people, just like you can in rincikan in the table below.

Table 1. Population

Age (Years)	Male	Female
9-13	16	8
13-25	11	4
Amount	39	

(Source: Doc. PPS Alang Ponggongan)

So the technique performed in the selection of the sample is purposive sampling. According to Ridwan in [3] which is a technique that is done by taking the subject instead is based on strata, random or region but is based on their specific purpose. Because of limited funds, time and effort, then sampled in this study is Alang ponggongan PPS students aged 13-25 years who totaled 15 people, due to the 13-25

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year-old sample of exercise they do already refers to the practice of physical condition. The data collection is done by testing the athlete PPS Alang ponggongan Birugo Bukittinggi sampled. This study requires two types of data, while the data collection in the following ways (1) Tests flexibility [4]. Flexibility of data collection is done by using a test flexiometer. (2) Test speed Sabit kick [4] Measurement speed Sabit kick right kick as fast as the speed as much as possible for 10 seconds. Likewise, the left leg. Implementation can be done 3 times and taken based on the number of kicks performed for 10 seconds at an altitude of hand box / sandsack 75 cm (daughter) 100 cm (men) Penilaiian Score Based on the number of students kick for 10 seconds [4]. To test the hypothesis using product moment formula [5]: Implementation can be done 3 times and taken based on the number of kicks performed for 10 seconds at an altitude of hand box/sandsack 75 cm (daughter) 100 cm (men) Penilaiian Score Based on the number of students kick for 10 seconds [4]. To test the hypothesis using product moment formula [5]: Implementation can be done 3 times and taken based on the number of kicks performed for 10 seconds at an altitude of hand box/sandsack 75 cm (daughter) 100 cm (men) Penilaiian Score Based on the number of students kick for 10 seconds [4]. To test the hypothesis using product moment formula [5]:

III. RESULTS

A. Data Description

In this chapter will be presented the results of measurement flexibility and speed of a Sabit kick PPS students Alang ponggongan Birugo Bukittinggi. For more details of each data dideskriptifkan as follows:

1. **flexibility**

Measurement of flexibility by using benches and flexometeryang carried out on samples of 15 people, obtained the highest score of 20, and the lowest score of 11.5, the average (mean) 15.87, the mean (median) 15.5, the most value out (mode) 15.5, standard deviation (standard deviation) 2.98. For more details, distribution of complete data can be seen in the following table:

Based on the above frequency distribution table of 15 samples, 4 (27%) have the flexibility from 11.5 to 13.5 cm, 5 (33%) have the flexibility 13,6-15.6 cm, 2 (13%) have flexibility from 15.7 to 17.7 cm, 1 (7%) have flexibility 17,8-19.8 cm 3 (20%) have the flexibility from 19.9 to 21.9 cm 3 (20%) have flexibility 20cm .. for more details flexibility of data can also be seen in the histogram below.

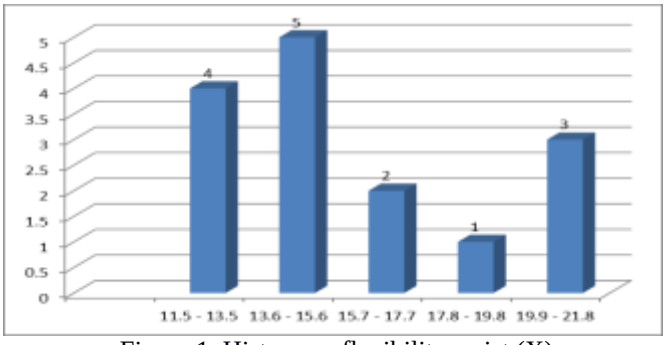

Figure 1. Histogram flexibility waist (X)

1. **Sabit kick Speed**

Measurement speed kick Sabit done by using a test shot using the right foot for 10 seconds and continued to kick with the left foot for 10 seconds with three repetitions and taken the highest score as a result of the speed tests kick sickle, the results of tests on a sample of 15 people , obtained the highest score of 28, and the lowest score 20, the average (mean) 23.87, the mean (median) 23, the highest value (mode) 23, standard deviation (standard deviation) 2:50. For more details, distribution of complete data can be seen in the following table:

Based on the above frequency distribution table of 15 samples, 3 (20%) have a Sabit kick speed of 20-21 times, 5 (33.3%) have a Sabit kick speed 22-23 times, 3 (20%) have Sabit kick speed 24-25 times, 3 (20%) have a Sabit kick speed of 26-27 times, 1 (7%) had a Sabit kick speed 28-29 times. for more details Sabit kick velocity data can also be viewed at histogram below.

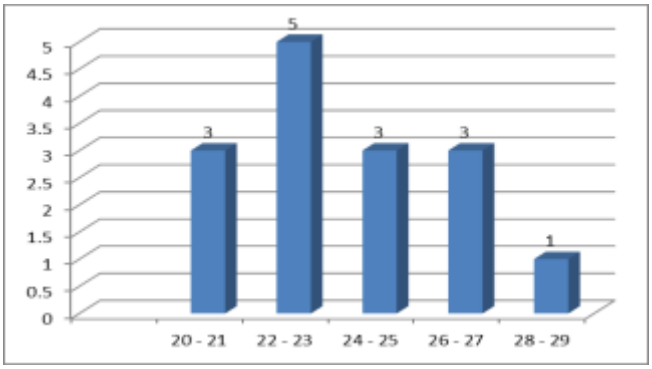

Figure 2. Histogram Sabit kick velocity (Y)

B. Data analysis

1. **Test requirements analysis**

As explained in the previous section before testing the hypothesis about the contribution of independent variables to the dependent variable first tested the analysis requirements, namely normality test Liliefors test.

2. **Hypothesis testing**

To test the hypothesis based on correlation metric tables presented below to find out that flexibility contributes to the speed of the Sabit kick.

With α = 0.05 and df = 15, the value rtabel = 0.514, table = 1.771 test criteria is: If t> t table, Ho stating there was no correlation between the variables is rejected. Conversely, if (t <t table) Ho accepted. Based on the calculation above in the can (t 5.408> t table 1.771) and (rhitung (0.832)> rtabel (.514). Since the results rhitung (0.832)> rtabel (.514) it can be considered a significant relationship between flexibility (X) with Sabit kick velocity (Y).

With α = 0.05 df = n-2 obtained value table = 1,771 ie by 1-α or 0.95 as dk numerator and n-2 (13) as the denominator df. Testing criteria is: if t> t table, H0 stating there was no correlation between the variables is rejected, otherwise if t> t table H0. Therefore t (5.408)> t table (1.771) then H0 is rejected and Ha accepted. Thus it can be concluded that there is a significant relationship between independent variables with the dependent variable. In other words, there is a significant relationship between flexibility with the speed of the Sabit kick martial arts college Alang ponggongan Birugo Bukittinggi. With counting gets contributions = r2 (0.832) 2 X 100% obtained contributions flexibility to speed Sabit kick by 69.2%.

IV. DISCUSSION

Flexibility is one component of the physical conditions that are necessary in some sports and also necessary in carrying out daily activities, one of the sport is martial arts. For parents who are not sportsmen, flexibility to support the activities of their daily activities, whereas for the sportsman, flexibility is needed as a prerequisite displays a skill that requires extensive joint motion [6]. Weak flexibility at risk for bodily injury prone. According to the results observed and studied in universities martial arts Alang ponggongan Birugo Bukittinggi, flexibility contributes to the speed of the Sabit kick.

Speed in the martial arts are also needed to anticipate the opponent's attack [7]. One type of attack is often used in martial arts game is a kick. To obtain a Sabit kick was good, not only the flexibility that must be trained and be at the maximum level, but the speed of the well should be at a maximum level also. Because the speed of the kick is a very important parameter in displaying appearance. Speed is very necessary and can affect a person's appearance both when attacking and in defense [8]. In an attack that has the speed of a fighter also had to combine these attacks with the power, because the factors that affect the speed of one of them is the strength, [7]. In train speed, there are several factors that influence it, including elements of strength that is often coupled with the speed called the explosive power. To get a good Sabit kick a fighter should train speed and strength, that both elementersebut can be at the maximum level.

V. CONCLUSION

Based on the results of research and hypothesis testing, it can be concluded that the flexibility contributes to Keepatan Sabit kick in martial arts college Alang ponggongan Birugo Bukittinggi. With the gained results of a calculation from data processing (5.408 t> t table 1.771) and (0.832 rhitung> rtabel .514) it can be concluded that the H0 is rejected and Ha accepted. And based on the calculation of the contribution = r^2 (0832) 2 x 100% is obtained flexibility to speed Sabit kick by 69.2%,

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