The Relationship between Limb Power with Distance Kick Soar-Far Using The Inner Feet Side in Carlos FC Football Club, Aceh Besar

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Abstract

This research is entitled: "The Relationship between Leg Power and Long Distance Kicks Using the Inner Legs at CARLOS FC Aceh Besar Soccer Club 2016". This study aims to determine the relationship between leg power and long-range bounce using the inside of the foot at the CARLOS FC Aceh Besar football club. The sample in this study were 20 athletes from the CARLOS FC Aceh Besar football club. The data collection techniques used in this study were: (1) the leg power test was carried out using a vertical jump test and was measured using a measuring board, (2) long distance kicks were measured using a meter. The research results obtained were that there was a relationship between leg power and long-range bounce using the inside of the foot at the CARLOS FC Aceh Besar football club with a correlation coefficient of 0.85.

Keywords: *Power Leg, Long Distance Kick*

1. Introduction

A research that focuses on problems that arise in the present is called descriptive research, as stated by Surachmad (1982): "Descriptive research focuses on solving problems that exist in the present". While the approach used to answer the problem is a correlational approach, so this research is included in the descriptive type of correlation research. Arikunto (1991) argues that: "In correlational research, researchers select individuals who have variations in the things investigated, all group members selected as research subjects are measured regarding the types of variables investigated, then calculated to find out the correlation.

Based on the results of observations of existing subjects, then a study was conducted to find a causal factor through data collection. However, beforehand it is necessary to make a design or research design to facilitate the implementation of the measurements to be carried out, in this case in the form of field measurements. "Research design or research design is a design made by researchers, as plans for activities to be carried out." (Arikunto, 2006).

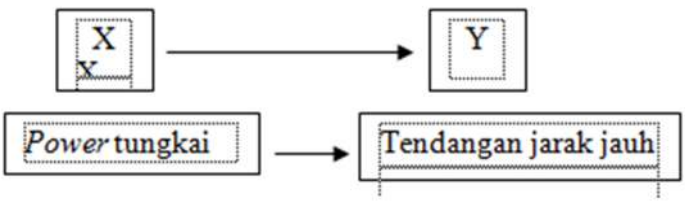

Figure 1. Research Variables

2. Method

Regarding population, Sudjana (2009: 6) explains as follows: "population is the totality of all possible values, both the results of counting and quantitative or qualitative measurements of certain characteristics regarding a complete and clear set of objects" while the population according to Arikunto (2006: 130) says that Population is the subject of research". In accordance with the above opinion, the population that the authors used in this study was the CARLOS FC football club, which consisted of 20 people.

In a study, the population can be a collection of individuals or objects with general characteristics. Some taken from the population are called research samples. Arikunto (2006: 131) explains that "if we are only going to examine a portion of the population, the research is sample research." Meanwhile, regarding the number of research samples, the authors are guided by the opinion of Arikunto (2006: 134) as follows: "For just an ancer - ancer then if the subjects are less than 100. It is better to take all of them so that the research is a population study. Furthermore, if the number of subjects is large, between 10-15% or 20-25% or more can be taken.

Based on this explanation, the number of samples in this study was 20 people. So this research is a population research. This is done because the total population is less than 100 people. Sampling was done through *total sampling*.

Table 1. List of sample CARLOS FC Football Club Names

No.	Name	Position
1	Chandra Saputra	Attacker / *Centreforward*
2	Faizin	Fullback / *Wingback*
3	Budi Saputra	Wings / *Wingers*
4	Imam Mahli	Wings / *Wingers*
5	Zuran	Attacker / *Centreforward*
6	decky	Goalkeeper / *Keeper*
7	Hendra	Fullback / *Wingback*
8	Munir	Central defender / *Centreback*
9	Atep	Midfielders / *Midfielders*
10	risk	Midfielders / *Midfielders*
11	M. Fadli	Central defender / *Centreback*
12	Henry	Wings / *Wingers*
13	Ryan	Fullback / *Wingback*
14	M. Jafar	Goalkeeper / *Keeper*
15	Harry	Midfielders / *Midfielders*
16	Nanda Grace	Midfielders / *Midfielders*
17	Rudi	Central defender / *Centreback*
18	Farid	Attacker / *Centreforward*
19	Maulana	Fullback / *Wingback*
20	Rijal	Wings / *Wingers*

Data collection techniques are procedures used to obtain data in a study. The procedure consists of instructions for carrying out measurements used to obtain data in research. The data in this study the researchers collected by means of tests and measurements of leg *power using vertical jumps* at the CARLOS FC football club. The implementation is as follows:

Limb *Power* Test

The purpose of the test is to measure the leg muscle *power* of the CARLOS FC football club in carrying out explosive movements when kicking. The tool used is a *vertical jump* . The implementation is:

1. Hanger board size jump upright on the wall .
2. Athletes stand sideways and feet right / left close to the wall .
3. The chalky right/left hand is straightened up as high as possible and touched on the *vertical jump* board . The highest touch mark is the height of the athlete's achievement.
4. Athletes jump as high as possible with the help of swinging both arms .
5. As you jump, touch your chalky fingers to the measuring board.
6. Differentiate the height achieved with the results achieved when jumping.

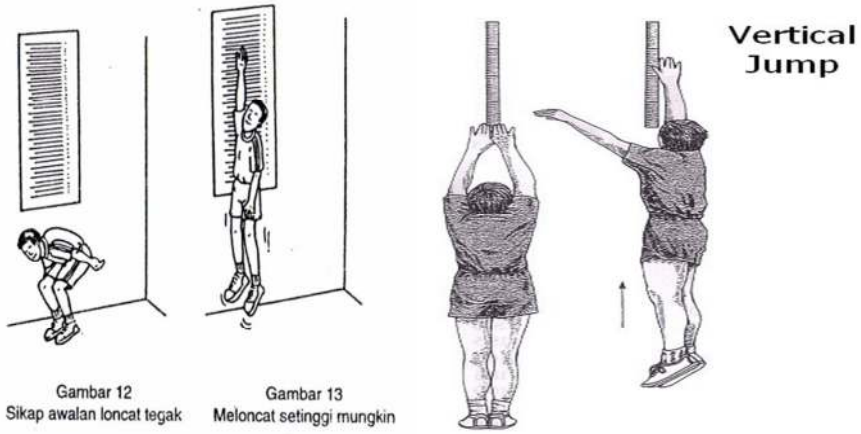

Figure 2. *Vertical jump* test
Source: Rusli Lutan

Long-range kick test bounce

1. Committee
   1) 2 people as a measure of the results of the kick
   2) 1 documentation person
   3) 1 person to record results/data in the field
   4) 1 ball taker.
2. Implementation
   1) Teste was given directions by the research committee on the procedure for doing long-distance bouncing kicks using the inside of the leg.
   2) Teste stands behind the ball and takes the lead before kicking.
   3) Teste kicks 3 times, the highest value is taken as the data/measurement result.

Data analysis technique

Data analysis techniques are an important part of the research process, because from the analysis carried out, researchers can draw conclusions about what has been done. Therefore, researchers must pay attention to the steps of data analysis. The formula used is the formula proposed by Arikunto (2006: 67), namely:

Calculating the Average (Mean)

$$M = \frac{\sum X}{N}$$

Descriptions:

M = Mean or average
$\sum X$ = Sum of the total value
N = Number of research samples

Calculation of Standard Deviation

According to Johnson (1990:18), to calculate the standard deviation, the formula is as follows:

$$SDx = \sqrt{\frac{N(\sum X^2) - (\sum X)^2}{N(N-1)}}$$

Description:

SD = Standard Deviation
X2 = Total score x times
X = Total score x
N = Number of research samples

Calculating Correlation

The formula used to determine the magnitude of the relationship between variable X and one variable Y is the *product moment* correlation formula from Pearson proposed by Arikunto (2006: 218) as follows:

$$r_{XY} = \frac{NXY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

Description:

rxy = Calculated correlation coefficient
N = Number of research samples
XY = Total product X and Y
X = Value of variable X
Y = Y variable value

3. Results and Discussion

Hypothesis Testing

To test the significance or hypothesis, the formula from Irianto (1988:54) is used as follows:

$$t = r\sqrt{\frac{N-2}{1-r^2}}$$

Description:

T = t arithmetic sought
R = Correlation value
N = Number of samples

This research was carried out at the CARLOS FC stadium located in Aceh Besar. The reason for the researcher to conduct research in that place is because there have facilities and infrastructure that can assist in expediting the researcher's research process.

Based on the calculation, it is obtained that the value of t_{count} = 3 with a real significant level α = 0.05 and dk = n – 2 = 20 – 2 = 1 8. Then Ha is accepted if $t_{count} > t_{table}$. Based on the list t_{table} = 1.7 3 it can be seen that $t_{count} > t_{table}$, namely 3>1.7 3. So it can be concluded that Ha is accepted and Ho is rejected.

To calculate the index of determination as the basis for calculating the percentage of contribution according to Pradjitno (1981:33) the formula is used:

$$\% \text{ contribution} = r^2 \times 100\%$$

With a price of $r^2 = 0.85$ then

$$\% \text{ contribution} = (0.85)^2 \times 100\%$$

$$= 0.72 \times 100\% = 72.25\%$$

Based on the calculation of the determination index, it can be concluded that long distance kicks using the inner leg are affected by leg muscle *power* of 72.25% while the remaining 27.75% is influenced by other factors.

Simultaneously or jointly based on research skills shows that Leg *power and long* distance kicks show a significant contribution to long distance kicks bouncing using the inside of the foot in soccer games . Relationship degree leg *power with long* distance kicks can be seen from the magnitude of the correlation coefficient obtained which is equal to 0.85 with $t_{count} = 3 > t_{table} = 1.7\ 3$, with very high category, then Ha is accepted and Ho is rejected.

Based on the results of research that has been carried out by researchers regarding the relationship between leg *power and* long-range kicks using the inside of the foot at the CARLOS FC Aceh Besar football club , it can be concluded that there is a significant relationship between leg *power* and long-distance kicks using the inside of the foot. CARLOS FC Aceh Besar football club with a correlation coefficient of 0.85.

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