

Effect of Push Up and Pull Up on Jump Shoot Results in Hand Ball Games

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Abstract— The purpose of this study is to find out how much Push Up and Pull Up Exercise Effect on Flying Shoot Results in Handball Ball Games Student Handball Community Unisma Bekasi. This research was conducted in Unipreneur Unisma Bekasi field from September 11, 2017 to October 11, 2017, the method used in this research is the experimental method, the population in this study is the Handball Community Student Bekasi as many as 10 people, because the research uses total sampling then the sample which will take the overall researcher amounted to 10 people. The initial and final test research instruments use the flying shoot test. There is a significant influence from the push-up exercises on flying shoot with the value of $T_{hit} (11.07) > T_{tab} (2.78)$. There is significant influence of pull-up practice on flying shoot with $T_{hit} (13,84) > T_{tab} (2,78)$. In addition, based on hypothesis testing, it is known that there are simultaneous effects of both forms of exercise on flying shoot with $T_{hit} (2.40) > T_{tab} (2.31)$. The results of this study can be used to develop a broader idea, and it can be concluded that both forms of exercise have a significant effect on flying shoot results on the students of Unisma Bekasi Handball Community. Practically, the results of this study have implications as a consideration for universities, sports teachers, coaches, to other sports insane who are fostering and improving the achievements of the athlete Ball Hand, hopefully Handball Ball achievements in Indonesia growing and growing rapidly.

Keywords— *push up, pull up, flying shoot, handball*

I. INTRODUCTION

Handball also has many similarities with the sport of Basketball, such as the technique of passing or passing, dribbling, shooting, attack patterns and other techniques that teach aspects of strong discipline and good ethics for people the earnest in studying it properly.

Handball is a team sport where two teams with each 7 players (6 players and 1 goalkeeper) try to insert a ball into the opposing goal. The game is similar to football, but the way to move the ball is by the players' hands, not the feet [2]. The handball game is a modified sports game between basketball and soccer games that rely on hand-held skills to insert the ball into the opponent's goal. Played by 2 teams, each team

consists of 7 players and is played on a field measuring 20 x 40 meters. The goal of the game is to score as many goals as possible. As the game progresses, each team player is 6 people and 1 goalkeeper with 2 x 30 minutes. Sports handball is one sport that until now can be traced the historical truth and has been very old age. A convincing fact has shown that a man will always be more adept at using his hands off his feet, as has been claimed by renowned sports historians, that he plays a handball much earlier than football [12]. The handball game that was played in ancient Greece was a sign of the creation of modern handball. Where the form of the game and the rules are still very different. The game "Uraina" played by the ancient Greeks (depicted by Homer in the Odyssey) and "Harpastion" played by the Romans (described by a Roman physician named Claudius Galenus in 130 to 200 BC), as in a "Fangballspiel" or "catch ball" game introduced in a song by a German poet-writer Walther von der Vogelweide (1170-1230), all of which are definite signs that can be described as an ancient form of handball game . In France, a Rabelais (1494-1533) describes the shape of a handball game with: "they play ball with their palms". Furthermore, in 1793 the Inuit people living on the green land depicted and illustrated hand-ball games. Meanwhile, in 1848 a Danish sports administration granted permission for a "handball game" to be played in high school in the Danish Ortrup and encouraged to immediately include rules in handball.

1. Field Handball Pitcher

A more modern handball was first played in the late 19th century. For example, a handball game was played in the Danish city of Nyborg, Denmark in 1897. The revival of field-handball games actually emerged from three Danish, German and Swedish countries . But the founder of the field handball came from a German physics education specialist who separated the field ball at the turn of the century based on two forms of game, "Raffball" (catch ball) and "Konigsbergerball" (Konrad Kroch, 1846-1911). In Sweden, G. Wallstrom also introduced a handball game in his country in 1910.

In 1912 a German national, Hirschmann who is a general secretary of the International Football Association tried to spread the game of handball field. In 1917, Max Heiser developed a handball rule for the first time. In 1919 a sports teacher in Berlin, Karl Scelenz introduced a form of handball game in a large field (outdoor) in several European countries. Then he developed a handball rule and is now known as one of the founders of a handball field.

In 1926 at a meeting in the city of Hague, the Congress of the International Amateur Athletics Federation, proposed to the congress participants to draw up international rules of the field ball [12].

2. Shooting

Shooting or shooting is a form of throwing motion that is intended to enter the ball into the goal. In order to succeed, the throws must be powerful and have explosive power (ie explosive power) with the idea of exerting all the speed and strength in a very short period of time to produce fast ball motion. Shoot the ball should be done with a serious effort so as to produce different body attitudes are adjusted. [12].

3. Flying shoot

Flying shoot is a floating shot performed in a handball game. By removing the ball while in the air towards the goal, flying shoot is a powerful weapon in the game and how to shoot this is the most effective way to enter the ball into the opposing goal, when compared with how to shoot the other. An important aspect that needs to be noticed is the rhythm of steps with do:

- 1) Refuse to the top of the body facing toward the target / wicket



Fig 1. The position refuses / jumps
Source: Sujarwo and Nita Aryanti. *Theory and Practice of Handball Sports Games*. Jakarta, LPP Press (2015: 68)

- 2) Floating and Shooting Position
 - a) While hovering in the backward pull
 - b) Pull both legs up horizontally. Landing Position



Fig 2. Position drift / shoot
Source : Sujarwo dan Nita Aryanti. *Teori dan Praktek Olahraga Permainan Bola Tangan*. Jakarta, LPP Press (2015 : 68)

- 3) Landing Position
 - a. We recommend landing with both feet simultaneously
 - b. Trying to keep the balance
 - c. The view remains forward



Fig 3. Landing position
Source : Sujarwo dan Nita Aryanti. *Teori dan Praktek Olahraga Permainan Bola Tangan*. Jakarta, LPP Press (2015 : 68)

In the handball game there are some basic techniques that are needed, such as shooting. Shooting or shooting is a form of throwing moves aimed at entering the ball into the opposing goal, in accordance with the goal of handball game is to make numbers or goals by throwing firing and enter the ball into the opposing goal [10]. In the effort to shoot is done with a serious effort so as to produce a good posture. In doing the shooting there are several techniques that are done among others is flying shoot.

Flying shoot is a powerful weapon in the game and how to shoot it is the most effective way to enter the ball into the opposing goal, when compared with other shooting (and also best to look at). An important aspect to keep in mind is the rhythm of steps, before jumping. According Sujarwo and Nita Aryanti said that, flying shoot is one technique to create numbers because in scoring the numbers done by hovering so that the ball is directed should be more appropriate to the goal [12].

The observation of the Handball Community exercise in Bekasi Unisma leads to the obstacles faced by the coach, such as the unstructured training method and never training to improve Flying shoot shot.

From the characteristics of the Handball Community Student, it is necessary to do exercises that can be done from light load and gradually increased until the actual training load. So in practice there will be adaptation from light to heavy workout. So athletes do not feel the weight of the workout that is at once so heavy the athlete will feel unable and lazy to exercise.

Based on the description above, the author intends to conduct research by introducing Push Up exercise and Pull Up Exercise by focusing the ability of upper limb muscles, so it will also affect the increase in arm strength.

II. METHOD

The method used in this research is the experimental method, the population in this study is the Handball Community Student Bekasi as many as 10 people, because the research uses total sampling then the sample which will take the overall researcher amounted to 10 people. The initial and final test research instruments use the flying shoot test.

III. RESULT AND DISCUSSION

Descriptive statistics calculation results can be seen in the table below:

TABLE I. DESCRIPTIVE STATISTICS CALCULATION RESULT

No	Data Device	$\sum X$	\bar{x}	S
1	Initial group test of push up exercises	111	22,20	1,30
2	The group and test push up exercise	147	29,40	0,89
3	Increased group of push up exercise	36	7,20	1,46
4	Initial test group pull up exercise	102	20,40	1,51
5	The group pull up practice and test	129	25,80	1,30
6	Elevated pull up training groups	27	5,40	0,89

Then the results of normality test with liliefors test, in the table below:

TABLE II. RESULT SUMMARY OF NORMALITY TEST

No	Data Device	Lo court	Lo tabel	Remarks
1	Initial group test of push up exercises	0,2212	0,337	Normal
2	The group and test push up exercise	0,2514	0,337	Normal
3	Increased group of push up exercise	0,1939	0,337	Normal
4	Initial test group pull up exercise	0,2212	0,337	Normal
5	The group pull up practice and test	0,3291	0,337	Normal
6	Elevated pull up training groups	0,2514	0,337	Normal

From the table above can be concluded that Lo calculate $<Lo$ table, where Lo table on the real level $\alpha = 0.05$ and $n = 5$ is 0.337. So the distribution of data devices is normally distributed.

Carry out the homogeneity test, the data device to determine whether from each test the two groups are homogeneous or not. Here the results of data calculations on the homogeneity test:

TABEL III. HOMOGENEITY TEST RESULT CALCULATION

No	Data Device	F count	F tabel	Remarks
1	Group Push up	2,13	6,39	Homogen
2	Group Pull up	1,35	6,39	Homogen
3	Enhancement	1,34	6,39	Homogen

After the homogeneity test is obtained a result, the next step is to calculate the t test value, to test whether the two groups who practice with the two different exercises show significant improvement (there is a significant increase) or no improvement. To the authors propose t table at $\alpha = 0.05$ and $dk (n_1 + n_2 - 2) = 8$.

The calculation of t test value above then the results can be seen in the table below:

TABLE IV. CALCULATION RESULT TEST VALUE T

No	Data Device	T count	T tabel	Remarks
1	Group Push up	11,07	2,78	Significan
2	Group Pull up	13,84	2,78	Significan

IV. CONCLUSION

From the data processing group push up t obtained results greater than t table at 95% confidence level which means there is an increase in flying shoot results are significant after given the push up exercise. While the results of data processing pull-up group also obtained t count greater than t table at 95% confidence level which means there is an increase in the results of significant flying shoot after given the pull up exercise. And between the two types of exercise there are significant differences, where the push up exercise gives more significant results to the results of flying shoot on Student Handball Community Unisma Bekasi.

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