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The Effectiveness of Hitting Zone Exercises in Softball Sports

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ABSTRACT

This study aims to determine the effectiveness of hitting zone training on the results of hitting on softball. Subjects consisted of 10 right hitters and 5 left hitters ranging in age from 19 to 23 who were members of regional training. Subjects were given a hitting zone training model. Before being given the hitting zone training model, all subjects were subjected to a preliminary test to determine their ability to hit a softball with machine pitching, then the subjects were given the hitting zone training model after having carried out the hitting zone training model for 16 meetings. Subjects were retested as a final test of their softball hitting skills. . Test the effectiveness using the productivity of hitting a softball. Data analysis using SPSS 21. The results of the research on the effectiveness test using the t-test obtained a t-test of 12.458 with a significance level of using t-table 0.05 of 2.145. Based on the calculation results obtained t-test = 12.458> t table 0.05 = 2.145 means that the developed model provides effectiveness in hitting softball balls. Based on the research results, it can be concluded that the hitting zone training model gives effectiveness to the results of the softball strokes.

Keywords: Exercise Model, Hitting zone, Softball

INTRODUCTION

Softball is a sport played with an innings system, in one innings each team will take turns doing defense and offense. The defense is a team effort to prevent the opposing team from earning points, while the offense is a team effort to generate points against the opposing team. So to generate points, the team must do offense well. There are three skills in the offense, namely, 1) hitting, 2) base running, 3) sliding (Ruth, 2020; Veroni & Brazier, 2006). Before baserunning and sliding, the player must be successful in hitting, therefore hitting is the main key in earning points.

Hitting has been described as the most difficult task in all sports (Garman & Gromacki, 2011). In softball, the hitter hits the ball from the thrower's throw where the speed of the throw, the spin of the ball, the hitter's ability to process the correct information and respond in less than half a second (Walker, 2007). The speed and rotation of the ball that the thrower throws results in various types of throws including; 1) Rise ball, 2) Drop ball, 3)

Change-up, and 4) Curveball (Garman & Gromacki, 2011; Veroni & Brazier, 2006). From the results of the throw, the location of the throw includes 1) Inner Low, 2) Inner Middle, 3) Inner High, 4) Middle Low, 5) Middle, 6) Middle High, 7) Outer Low, 8) Outer Middle High, and 9) Beyond height (Katsumata, Himi, Ino, Ogawa, & Matsumoto, 2017a) (NFCA, 2014; Potter & Johnson, 2007).

The pitcher is the first thing the hitter has to work on in an attempt to score points, he hits the shot so the team has a chance to score points. The second opponent is the fielder, the fielder will try to turn off the batter-runner so as not to reach the base and not score points. So in hitting the hitter must place the result of the stroke by making it difficult for the field to catch the ball and in case the player. The dominance of the pitcher against the batter always occurs in softball games, which causes the hitter to not be constant in making his strokes. For that effort, the hitting training model is an effort to overcome the dominance of the pitcher in softball games and an effort to overcome difficulties in hitting a softball.

To produce a good shot, a hitter must hit the ball quickly and precisely at the point of impact of a pitcher's throw and also coordinate correctly (Katsumata, Himi, Ino, Ogawa, & Matsumoto, 2017b). the right hitting point with the right time will result in a hit at the pitcher's hit point (Kidokoro, Matsuzaki, & Akagi, 2019). To produce the right point, the model needs to be training that leads to the throwing point of the thrower, or is called the hitting zone. The hitting zone is the area of the hit point based on the perspective of the pitcher's throw (Walker, 2007) and the area of the field which is the area of the shot.

The zone hitting practice model will overcome the pitcher's throw and place the results according to the pitcher's throwing direction. The hit zone training model will not only train movement skills. this training model will also overcome the limitation of visual information which is important in hitting skills. If the visual information has limitations, there will be a delay in motor vision (Higuchi et al., 2016).

RESEARCH METHOD

This research is an experimental study that was conducted for 16 meetings. The experiment given is a hitting zone hitting training model. The training models are tee, toss ball, and front toss with the hitting zone model.

Table 1. Hitting Training Model

NO	Model	Jumlah Model
1	Tee	15 model
2	Toss Ball	15 model
3	Front Toss	12 model
Total		42 model

The subjects of this study were female softball athletes consisting of 10 left-handed athletes and 5 left-handed athletes ranging in age from 19 years to 23 years who are members of softball area training. Before experimenting, the subject conducted a preliminary test as knowledge of softball hitting skills before being given the experiment, then the subject was treated with a hitting zone training model for 16 meetings. Furthermore, the subject was given a final test to determine the increase in the results of the exercise using the hitting zone training model. In the implementation of the test the subject was allowed to hit the ball 10 times which was thrown using a throwing machine with a distance of 43 feet. Furthermore, it was assessed using the hitting productivity appraisal (Joseph, 2002, p. 135). To test the effectiveness of the test, the data obtained were calculated using inferential test statistics with t-test using the SPSS 21 computer.

RESULTS

Based on the data obtained from the pre-test and post-test results with 15 research subjects, the following data were obtained:
Table 2: Pre-test and Post-Test Data

Test	Mean	SD	SE	95% Confidence Interval of The Difference		t	df	Sig.
				Lower	Upper			
Post-Pre	7,06667	2,12020	0,54743	5,89254	8,24079	12,909	14	0,000

Test	Mean	SD	SE
Pre	35,3333	2,46885	0,63746
Post	42,4000	3,64104	0,94011

Table 1 shows the results of the pretest and posttest. To see the effectiveness of hitting the hittng zone training, it can be seen from table 2 which is calculated using SPSS 21 statistical computer data.

Tabel 2. Paired Samples Test

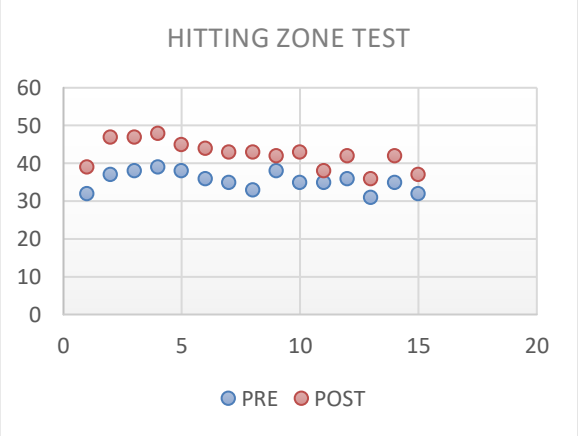

Figure 1 Graph of pre-test and post-test

From table 2 it can be seen that there has been a significant increase in the test results before being given the hitting zone training model. From the calculation results obtained t-test of 12,909. When viewed based on t table 0.05 degrees of 2.145. This means that the t-test = 12,909> t table = 2.145, it can be concluded that the hitting zone training model provides a significant effect on the stroke results.

DISCUSSION

To produce a good shot, each player must also support the bat speed and power based on the results of the test using the blast motion from the results of the hitting training model of athletes who have power and bat speed above the average resulting in optimal results after do the hitting zone training model. This means that to improve the results of a good stroke apart from a training model that will optimize the results of strokes in softball, power and speed bat provide maximum contribution to the results of strokes in softball.

CONCLUSION

Based on the data obtained from the trial results, the validity of the experts, and the effectiveness test. Then the conclusion is that the hitting zone hitting training model gives effectiveness to the results of softball ball hits.

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