

HEXAGON CONTRIBUTION DRILL TRAINING AND HORIZONTAL SWING TRAINING ON TABLE TENNIS SKILLS

^{1*} Alan Alfiansyah Putra Karo Karo, ² Liliana Puspa Sari, ³ Dicky Hendrawan

Correspondence: Sekolah Tinggi Olahraga dan Kesehatan Bina Guna
E-mail: alanalfiansyahputra03@gmail.com

Abstract

The purpose of this research is to study Horizontal Swing and Hexagon Drill Training on the ability to play table tennis. Experimental research methods. Participants were 12 male students of the SMK Negeri 1 Stabat class who took part in table tennis extracurricular activities. Sampling was done by purposive sampling of 6 students. Purposive Sampling technique was taken because of several considerations namely limited time, energy, and funds so that it cannot take large samples. Considerations in taking samples are old students who take extracurricular table tennis. The study was conducted for 6 weeks with a frequency of exercise 3 times each week. After the data is obtained, then the data is processed using regression analysis techniques. The results of the study that were approved by the Horizontal Swing Exercise on the ability to play tennis students obtained $F_{count} = 0.14$ and $F_{table} = 7.71$, then $F_0 < F_{table}$, the regression conclusion is not significant and there is no Horizontal Swing Exercise exercise on the ability to play table tennis of male students. While Hexagon Drill Training on the ability to play table tennis students obtained $F_{count} 0.01$ and $F_{table} 7.71$ then $F_0 < F_{table}$, the regression conclusion is not meaningful and there is no contribution of Hexagon Drill Training on the ability to play table tennis of male students. The results of the multiple regression assessment of Horizontal Swing and Hexagon Drill Training on the ability to play table tennis for male students of grade 1 at SMK Negeri 1 Stabat obtained F_{count} of 0.02 and F_{table} of 9.55, thus $F_{count} < F_{table}$, no one is expected. table tennis male student class of SMK Negeri 1 Stabat.

Keywords: Table Tennis, Training

Introduction

Education is a basic need of every human being to ensure the survival of his life to be more dignified (Sabaruddin, 2016), Sinulingga, A., Suprayitno, S., & Pertiwi, D. (2019). Education is used as a means or vehicle that serves to improve human quality, both aspects of ability, personality, and obligation as good citizens (Karo-Karo, A. A. P., et al, 2020). Table tennis game is also one of the branches taught at school. In the physical education curriculum at senior high school (SLTA) there are listed a number of selected sport branches aimed at the introduction and mastery of the basic techniques of game sports, one of which is a table tennis game. Teachers as educators must try to develop their competencies to

achieve educational goals (Sinulingga, 2019), schools are one place in forming character (Karo-karo, A. A. P., Sinulingga, A., & Dewi, R., 2018).

The game of table tennis begins with service, where the ball is placed right above the palm of the hand in a state of motionlessness, open and flat with all four fingers tight, free thumbs apart, Hodges (2002: 118). Hands must be free and bet on the surface of the game, then the ball is raised at least 16 cm from the palm of the hand, the ball touches the surface of the field first then passes through the net and falls into the field of the opponent's game.

Programmed Horizontal Swing Training can increase power ability. Thus it can be assumed that arm muscle power can contribute to table tennis playing skills, to increase arm muscle power. Horizontal Swing is a form of plyometrics exercise to increase arm muscle explosive power, where this exercise allows muscles to achieve maximum strength with good muscle elasticity in the shortest possible time.

In the case of the above function of the rapid stretching of the arm muscles as a result of loading exercises is very necessary, such as hitting the movement with a slight bend in the arm then the muscle fibers will elongate. On the other hand that training activities are a fundamental factor if you want to get the peak performance. This condition forces anyone who wants to do sports training achievement to understand the training procedures themselves in order to achieve the expected goals (Akhmad, 2015)

To get good agility must do routine exercises. One form of agility training with Hexagon Drill, which is an exercise that emphasizes leg movements such as jumping from a specified point (distance of one point to another point is 60 cm) quickly and precisely in a short time. Where after making a jump from the midpoint of the first point then before making the jump the second point must return to the center point, and so on until it passes through the six points. So with this Horizontal Swing Training the movement will get used to moving forward, backward, sideways to the right and to the left. So that when playing table tennis you will see lively foot movements.

The two components are interrelated because to be able to play table tennis properly a table tennis player must have both of these components, because if only has hand movements, and vice versa when only having leg movements without mutual support between the two will not work, because in tennis the table requires fast movements so that they are always ready to accept attacks coming from the opponent, both from the forehand and backhand and are able to overcome the service and smashes that come from the opponent, as well as the power that is also needed to make strong and fast movements or punches both the punch that leads to the forehand position or backhand or service and smash, which is very necessary so that the opponent does not return the ball, so that the game can be ended with victory. For this reason, there is a need for training, in which both components can be trained with Horizontal Swing Training and Hexagon Drill.

By applying the Horizontal Swing exercise, it is hoped that you will have arm muscle power that is useful for producing both forehand and backhand hits as

well as strong and fast smashes. While through the implementation of Hexagon Drill Training is expected to increase agility for table tennis players so that in playing time the athlete can play well as desired.

This is very crucial to the expected achievements in accordance with the goals set, because in the type of table tennis that plays in a very high tempo and agility, the fulfillment of the two physical components above greatly affects the ability to play table tennis.

Thus it can be stated that the programmed Horizontal Swing Training and Hexagon Drill Training will improve arm muscle power and agility. Thus it can be assumed that arm muscle power and agility affect the ability to play table tennis.

Method

As the population are all male students of SMK Negeri 1 Stabat class, who take part in table tennis extracurricular activities, amounting to 12 students. The research sample was taken by purposive sampling, namely 6 students. Conduct research for 6 weeks with a frequency of exercise 4 times each week. This technique was taken because of several considerations, namely limited time, energy, and funds so that researchers are not able to take large samples. Considerations in sampling are students who are years old following a table tennis extracurricular.

This research method is an experimental method. As for the variables in this study are the independent variables and the dependent variable. This research was conducted to determine whether there is a contribution between the independent variable and the dependent variable.

Tabel 1. Research Design

	<i>Pre – Test</i>	<i>Treatment</i>	<i>Post – Test</i>
The Sample	<i>Two Hand Medicine</i>	HST	<i>Two hand Medicine</i>
	<i>Ball Chest Trow</i>		<i>Ball Chest Trow</i>
	<i>Shuttle Run</i>		<i>Shuttle Run</i>
	<i>Skill Test Source</i>	HDT	<i>Skill Test Source</i>

Discussion

Test results and measurements that have been carried out in the field are research findings to reveal the truth of the proposed hypothesis. Test and measurement results that have been processed through statistical formulas show the following data descriptions:

Table 1. Description of the Arm Muscle Explosion Test

Arm muscle explosive power test	Post – Test
Amount (Σ)	30.12
Average Value (x)	5.02
Standard Deviasi (s)	0.33

Table 2. Description of Agility Tests

	Post – Test
Amount (Σ)	78.26
Average Value (x)	13.04
Standard Deviasi (s)	0.0.64

Table 3. Description of Ability to Play Table Tennis Tests

Table Tennis Playing Ability Test	Post – Test
Amount (Σ)	97
Average Value (x)	16.17
Standard Deviasi (s)	0.98

From the results of testing the research hypothesis using regression analysis statistics, the results of testing the hypothesis obtained that the results of a single regression calculation of the contribution of the Horizontal Swing exercise to the ability to play table tennis in male students of SMK Negeri 1 Stabat obtained F_{count} 0.14 and F_{table} 7.71 then $F_0 < F_{table}$, thus there is no contribution of Horizontal Swing Training to the ability to play table tennis for male students of SMK Negeri 1 Stabat class. The results of the single regression calculation of the contribution of Hexagon Drill Training to the ability to play table tennis in male students of SMK Negeri 1 Stabat obtained F_{count} 0.01 and F_{table} 7.71 then $F_0 < F_{table}$, thus there is no contribution of Horizontal Drill Training to the ability to play table tennis students the son of the Stabat 1 State Vocational School. The results of the double regression calculation of the contribution of Horizontal Swing Training and Hexagon Drill to the ability to play table tennis in male students of SMK Negeri 1 Stabat obtained F_{count} 0.02 and F_{table} 9.55, then $F_0 < F_{table}$, the conclusion there is no joint contribution between Horizontal Swing Training and Hexagon Drill on the ability to play table tennis for male students of SMK Negeri 1 Stabat class.

From the results of the first hypothesis testing shows that there is no contribution of Horizontal Swing training to the ability to play table tennis male students in the SMK Negeri 1 Stabat class, so that students 'motivation in doing training is lacking, then the influence of parents' economic abilities is very concerning which results in these students having to help people resulting in a programmed training schedule that is absent a lot.

From the results of the second hypothesis testing showed that there was no contribution of Hexagon Drill Training to the ability to play table tennis for male

students of the SMK Negeri 1 Stabat class, so that students' motivation in doing training was lacking, then the influence of parents' economic abilities was very concerning which resulted in these students having to help people resulting in a programmed training schedule that is absent a lot.

From the results of the third hypothesis testing shows that there is no contribution of the Horizontal Swing Training and Hexagon Drill to the ability to play table tennis male students in the SMK Negeri 1 Stabat class. Among them, this was not achieved because of several factors, so students' motivation in doing exercises was lacking, lack of motivation in students / athletes, lack of coach motivation for students / athletes, the influence of economic factors that resulted in students having to help parents a lot so the frequency of exercise attendance is interrupted.

Based on the research results of Atmaja, N., & Tomoliyus, T. (2015) there is an effect of the interaction between the drill practice method and the reaction time on the accuracy of the punch stroke of the Yogyakarta beginner athletes, other studies Faizal Agung Darajat, Imam Hariadi, Sri Purnami (2019) based on hypothesis testing and discussion in the research conducted, it can be concluded that there is a significant influence of the results of analytical research for the accuracy agility test showing that the speed ladder training program has a significant influence on the increase in agility in students participating in table tennis extracurricular activities in Mi Khadijah, Malang .

Hexagon Drill is a form of training that causes changes in the nervous system that causes individuals to be better in controlling the coordination of their muscle groups, thereby increasing their agility and explosive muscle power. This training enhances physical fitness elements such as muscle strength, dynamic balance and flexibility. At the time of this Hexagon Drill exercise muscle hypertrophy will occur. This occurs due to an increase in the number of myofibrils in each muscle fibers, which will result in an increase in muscle fibers, with the presence of muscle hypertrophy, muscle strength, especially leg muscles will increase. This exercise also increases flexibility, where the joints become more flexible and the scope of joint motion will get better and muscles become more elastic. Dynamic balance is obtained from the presence of proper synergistic muscle contractions (Burgomaster, K.A, at all, 2007)

In the squat down position there will be contraction of leg muscles which causes increased muscle mass so that muscle strength will increase. The position of the plank towards the squat down position dynamic balance will be trained due to the coordination between the brain and muscles. The muscles that contract in the same direction will contract faster, and will increase the inhibition of the muscles that contract but produce opposite motion. In the squat down position it can also increase joint flexibility, so that the joints become more flexible and the scope of joint motion becomes better (Govind, B. T. J., Tapadia, V. M., Bhutkar. 2014).

Other research results (Faizal Agung Darajat, Imam Hariadi, Sri Purnami, 2019) Based on the results of the analysis and discussion above, it can be concluded as follows:

(1) There is a difference in the effect of the multiball massed practice training method and the multiball distributed practice exercise method on Improving the skills of forehand drive table tennis at the GRIS Semarang Table Tennis athletes. (2) There is a difference in influence between athletes who have high hand eye coordination and athletes who have low hand eye coordination to improve table tennis forehand drive skills in the GRIS Table Tennis Association of Semarang athletes. There is an interaction between the practice method and hand-eye coordination to improve table tennis forehand drive skills in the Semarang GRIS Table Tennis athletes.

Conclusion

From the research data, the contribution of Horizontal Swing Training and Hexagon Drill to the ability to play table tennis for male students of SMK Negeri 1 Stabat based on analytical techniques shows that there is no significant contribution to Horizontal Swing training and to the ability to play table tennis for male students of SMK Negeri 1 Stabat, at Hexagon Drill Training on the ability to play table tennis students there was no significant contribution, and there was no significant contribution between Horizontal Swing Training and Hexagon Drill on the ability to play table tennis male students in the SMK Negeri 1 Stabat class. It is expected that researchers, teachers, and trainers, especially in the table tennis branch of SMK Negeri 1 Stabat, will be more serious and improve their training programs better. For athletes / students who take part in table tennis extracurricular activities to be more active in training, so that the ability to play table tennis is even better.

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