



Effect Of Shuttlecock Throwing Exercise To Increase Power Arm Lob Punch In Badminton Players Aged 7-9 Years

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ARTICLE INFO

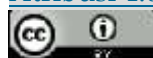
Keywords: Badminton,
Shuttlecock, Increase Power

Received : 8, July

Revised : 24, August

Accepted: 25, September

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ABSTRACT

Badminton players aged 7-9 years still have difficulty in making lob shots, which are lob shots that do not bounce and tend to be tolerant. To overcome this, can be given a shuttlecock throwing exercise. This study aims to determine the effect of shuttlecock throwing style to increase arm strength in lob badminton players aged 7-9 years in PB. Angkor Kusuma Bojonegoro. This type of research is an experiment with a "one-group pretest posttest design". The population in this study is badminton player PB. Angkling Kusuma Bojonegoro, age 7-9 years, the sample in this study amounted to 8 athletes. The instrument used is the lob Ability Test (French Test). The results showed that there was an effect of shuttlecock throwing exercises to increase arm strength for lob shots in badminton players aged 7-9 years in PB. Angkor Kusuma Bojonegoro. The results can be proven $t_{count} 13.805 > t_{table} 2.36$, and a significant value of $0.000 < 0.05$, with a percentage increase of 16.5%. Suggestion, the coach can vary the exercise program to avoid athlete boredom, and increase enthusiasm in training.

INTRODUCTION

Badminton is a game sport played on a field that is limited by lines that have been determined since ancient times until now (Cendra et al., 2019; Geli et al., 2022). This sport is very popular among the public because of the frequent discovery of the field in each region and the game can be said to be quite easy and fun, this sport certainly requires good physical and perfect technique and must have a strategy to score points (Marlan, 2016; Winarno, 2019). One of the blows that must be mastered by a player is a lob, because the lob is a basic foundation that must be prioritized and Mastered by a player. Lob punch is a punch that can not be separated from the power because this punch relies on strong power (Hidayat, 2016). Therefore, the arm muscles are needed in this blow, if the athlete does not have good power, it will certainly make it very easy for the opponent to score points. The combination of power and arm muscles is a condition where athletes will be very good at doing lob punches and right on target, eye and hand coordination must also be interrelated because it will affect the movement in an athlete when the shuttlecock is directed, the eyes see then send a signal to the hands to do the punch that must be done.

Good eye-hand coordination in playing badminton is the key to achieving maximum performance, allowing players to combine arm muscle strength with precision in stroke technique, improve agility, and ensure good control over their strokes. With good coordination, players can earn points while playing well, producing powerful blows, and effectively mastering important techniques in this sport, as well as increasing their power and agility in the exercises given by the coach (Ironi, 2022; Setiawan et al., 2022).

A lob strike is a technique used in badminton when the shuttlecock is overhead, by swinging the racket forward up and straightening the entire hand, then launching the wrist forward (Armanda et al., 2021; Bastomy & Darmawan, 2019). Lobs can be made from under the head or from the top of the head (over head lob) and are very important in defense and attack strategies in the game. Therefore, it is important to provide coaching to children early so that they can master this technique. Playing badminton at Children's age, if done correctly and according to certain guidelines, has many benefits, including affecting physical growth and mental-psychological development. The game of badminton greatly encourages physical activity, which can stimulate faster physical growth and improve children's physical awareness.

The attitude and behavior of children can be seen from the learning process, starting from them bored with monotonous lessons will also be seen when they do not follow the directions given by a teacher (Endrawan & Aliriad, 2023). With *termotivasinya* children in the process of learning to be implemented continuously or continuously will foster the Will and spirit of themselves (Satria et al., 2023). So that when channeled properly can be connected with the goal of achieving the desired performance. Based on observations made by researchers on Juamat day 07 April 2023, there are still many athletes who have not been able to perform lob punches well. Due to the lack of training methods in increasing the power of the lob so that coaches tend to only provide drilling methods. Errors that often occur when performing a lob that shuttlecock has passed over the head

so that the ball tends to blow horizontally like a ball drive. Based on the background of the problems that have been described, researchers have an interest in conducting scientific investigations on improving the ability of lob strokes in badminton. Thus, the title of this study can be formulated as follows "the effect of Shuttlecock throwing exercise to increase the power of the Lob stroke arm on badminton players aged 7-9 years PB. Angkling Kusuma Bojonegoro" Exercise is all the power and effort to improve physical condition that is owned by a process that is repetitive and well structured and the provision of loads that are increasingly increasing the amount of load, time and intensity. Exercise in sports is an important role to improve physical functional capacity and endurance which is the process of preparing to compete for athletes to achieve high achievements.

Playing shuttlecock throwing is a modification of the game to achieve maximum lob power without causing boredom for students because it is done by having fun with the motivation to compete while doing it. Because basically the practice of throwing a shuttlecock is similar to the movement of a lob shot in a badminton game. In practice, the shuttlecock is thrown from the specified place to over the net and will always be added reps/sets every week in order to obtain targeted results.

Therefore, a coach must be able to have skills in choosing and determining learning strategies so that the learning process becomes not boring and can make students excited. The researcher varied the shadow exercise that athletes usually do by simply moving the shuttlecock and this time the shadow exercise was combined with throwing the shuttlecock.

LITERATURE REVIEW

Research conducted (Sesar & Komari, 2018) this study uses pre-experimental methods because it is not possible to control all the variables that affect the results of the experiment. The research design used is "the one group Pretest Posttest Design." The study subjects consisted of 20 students participating in the badminton extracurricular of SMP Negeri 2 Playen, so this study can be referred to as a population study. The measuring instrument used in this study is the shuttle run test, with the validity of the instrument at $r=0.444$ and reliability $R=\text{Alpha}$ coefficient of more than 0.60. Data analysis technique using paired Sample T-test at significance level of 0.05 or 5%. The results of this study showed that the shuttlecock throwing game was able to increase the agility of students participating in badminton extracurricular in SMP Negeri 2 Playen, with a calculated t value (17.534) greater than T table (2.093), and a p value (0.000) less than 0.05, indicating that the difference in results before and after treatment is significant.

A lob strike is a strike using maximum and controlled arm power that is performed when the shuttlecock bounces overhead. However, due to the weak arm strength of an athlete, the resulting lob punch is less than optimal. so there is a shuttlecock throwing exercise which is an innovation to increase arm power which is done by throwing a shuttlecock from the back of the field to over the net. If an athlete performs shuttlecock throwing exercises continuously and in

variations with lob stroke exercises, the athlete's arm power will increase and the resulting lob stroke will be very optimal.

METHODOLOGY

This study uses a pre-experimental research design with the method of "one-group pretest-posttest design." According to (Sugiyono, 2015), the experimental method with non-separate samples implies that the researcher only has one group of samples measured twice. The first measurement was carried out before the subject received treatment (pretest), followed by treatment (treatment), and ended with the second measurement (posttest) after treatment. The population and subjects in this study were athletes aged 7-9 years PB. Angkling Kusuma Bojonegoro totaling 8 athletes. The test used for this study was the French test. Tools / equipment used in data retrieval include: rackets, shuttlecocks, paper stationery, badminton courts, piles with ribbon ropes

RESEARCH RESULT

All athletes sampled in this study underwent an initial test first (pretest) with the aim of measuring their initial ability to perform a lob. When undergoing a lob test, each participant was given the opportunity to try a lob shot 3 times. After completing the pretest, the athletes followed a shuttlecock throwing exercise program that was part of the study. After completing the exercise program, they then underwent a posttest to see changes in the results of the shuttlecock throwing exercise. The following is the pretest and posttest data of lob blows from badminton players aged 7-9 years from PB Angkling Kusuma Bojonegoro.

Tabel 1. Uji Normalitas

Kelompok	p	Sig.	Keterangan
<i>Pretest</i>	0,754	0,05	Normal
<i>Posttest</i>	0,152	0,05	Normal

From the results of the table above it can be seen that all data have a value of p (Sig.) > 0.05, then the variable is normally distributed. Since all data are normally distributed, the analysis process can be continued. Homogeneity test is a test conducted to test the similarity of samples that are uniform or not variants of samples taken from the population. If $p > 0.05$, the test is homogeneous, but if $p < 0.05$, the test is not homogeneous. The homogeneity test results of this study can be seen in the following table:

Tabel 2. Uji Homogenitas

Kelompok	df1	df2	Sig.	Keterangan
Pretest- posttest	1	14	0,826	Homogen

Based on the results of the table above, it can be concluded that all data have a p-value (Sig.) > 0,05. Therefore, the variables in this study can be considered to have a

uniform or homogeneous distribution. In other words, the results of the homogeneity test show that the variance of the samples taken from the population is uniform.

This makes it possible to continue the data analysis process assuming homogeneity. It is important to note that if the value of p (Sig.) < 0.05 , then the test is considered inhomogeneous, which means that the variance between the samples is not uniform, and analysis of different data may be required. However, in this case, due to the value of p (Sig.) > 0.05 , then we can proceed with the analysis of the data without the need to make corrections or additional actions regarding homogeneity.

Tabel 3. Kelompok Pretest dan Posttest

Kelompok	Rata-rata	<i>t-test for Equality of means</i>				
		t ht	t bt	Sig.	Selisih	%
<i>Pretest</i>	41,38	13,805	2,364	0,000	16,5	39,87%
<i>Posttest</i>	57,88					

From the results of the t-test that has been done, it can be seen that the calculated t value is 13.805, while the table t value for degrees of freedom (df) 7 is 2.364. In addition, the significance value (p) of 0.000, which is smaller than 0.05. Thus, it can be concluded that there are significant differences between pretest and posttest data.

An alternative hypothesis (H_a) which states "the provision of shuttlecock throwing exercise has an effect on increasing the power of the lob arm in badminton athletes aged 7-9 years in PB Angkling Kusuma Bojonegoro" is accepted. This means that the practice of throwing shuttlecock significantly increases the strength of the arm in performing a lob on badminton players aged 7-9 years in PB Angkling Kusuma Bojonegoro. Judging from the pretest data, the average result is 41.38, while the posttest data has an average of 57.88. The difference between the two averages is 16.5, which is the increase in arm power in a lob. In addition, there was a percentage increase of 39.87% in posttest results compared to pretest results. This shows that shuttlecock throwing practice is effective in improving the ability of lob strokes in badminton players aged 7-9 years in PB Angkling Kusuma Bojonegoro.

DISCUSSION

Statistical results show that badminton athletes aged 7-9 years in PB Angkling Kusuma Bojonegoro experienced a significant improvement in lob technique after participating in the shuttlecock throwing training program for 8 meetings. During this period, athletes feel happy and enthusiastic in participating in pretest, treatment, and posttest, and this lasts for some time until they successfully achieve the goal of improving their lob hitting ability (Awira et al., 2022; Sesar & Komari, 2018). The provision of shuttlecock throwing training programs with various variations has helped the development of badminton athletes aged 7-9 years. The difference between the pretest and posttest results showed a very significant difference, with an average difference of 16.5 (Awira et al., 2022; Shofiana, 2021). The initial pretest result was 41.38, while the average posttest result was 57.88. This illustrates a considerable improvement in lob hitting ability. With a percentage increase of 39.87%, this shows that the shuttlecock

throwing training program has had a positive and significant impact on increasing arm strength in lob technique for badminton players aged 7-9 years at PB Angkling Kusuma Bojonegoro.

This illustrates that this training approach is effective and encourages the development of young athletes in badminton (Haekal & Basri, 2021; Sesar & Komari, 2018). This study is in line with the findings of several previous studies that have examined the effect of exercise on increasing arm power in badminton (Campisi et al., 2022). The results of previous studies have shown that a program of arm strength training, coordination training of body movements, as well as structured and focused repetitive exercises can significantly improve the performance of athletes in the technique and strength of the body required in this sport. In addition, research in the field of sports psychology also emphasizes the role of motivation and happiness of athletes in achieving better results in training and competition. The results of this study, which showed a significant improvement in the technical skills of lob strokes in badminton players aged 7-9 years after participating in a shuttlecock throwing exercise program, underscore the importance of a holistic approach in the training and development of young athletes in the sport of badminton (Jusran, 2021; Shofiana, 2021).

CONCLUSIONS AND RECOMMENDATIONS

This study showed that the shuttlecock throwing exercise program for 8 meetings had a significant impact on increasing the power of the lob arm of badminton players aged 7-9 years in PB. Angkling Kusuma Bojonegoro, with the mean difference between pretest and posttest data reflecting a positive increase. The hypothesis regarding the effect of the shuttlecock throwing exercise on the lob hit was accepted, indicating that this exercise had a significant impact. As a suggestion, the coach can vary the exercise program to avoid athlete boredom, and add enthusiasm to practice and understand the impact of the exercise program on the overall development of badminton athletes.

ADVANCED RESEARCH

Further research can focus on basic techniques in children aged 7-9 years, so that skills in play can be improved.

ACKNOWLEDGMENT

Thank you to all the researchers involved in this study.

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