

The Effect of Drilling Training on Improving the Balance of Badminton Athletes



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ABSTRACT: This study aims to determine the effect of drilling training on improving the balance of badminton athletes. The benefits of this research, 1) theoretically this research opens a paradigm in the field of coaching in general and specifically in badminton sports to use a variety of forms of exercise, 2) this research is expected to add knowledge to the coaches so that they choose a form of exercise that is simple but can improve various physical conditions, 3) as a reference value for the quality of further research. This study used an experimental method with a one group pretest-posttest research design. The population in this study were 10 badminton athletes PB.PT. One Asahan. The sample in this study were 10 badminton athletes PB.PT. One Asahan with total sampling. Data collection techniques are carried out measuring balance with a strok stand measuring instrument. The data analysis technique used is using SPSS 23 software to test the Independent T-Test. The results showed that there was an increase in drilling training on improving the balance of badminton athletes with a sig value (2-tailed) $p < 0.00 < 0.05$.

KEYWORDS: Drilling training, balance, badminton

I. INTRODUCTION

The development of badminton in Indonesia is very good at winning championships in various world championships (Santoso et al., 2017). For the Indonesian people, badminton is one of the sports that is widely favored by all levels of society and this sport can be played by groups of children to adults, both men and women, in addition to being a recreational sport, the role of badminton is unquestionable because it has been able to bring the Indonesian people to the top of world-class achievements (Nandika et al., 2017).

Indonesia has a badminton parent called the Indonesian Badminton Association (PBSI) and in every region and province in Indonesia has a badminton parent (Listina et al., 2021). In the process of achieving a badminton sport achievement, a prime and good physical condition is needed (Hermawan et al., 2020). From the above opinion, it is in line with the opinion of Toresdah & Asif that in an effort to improve an achievement, physical condition is a requirement to be prepared optimally in achieving achievement (Toresdahl & Asif, 2020).

Physical condition is a sports movement activity in which there are factors including endurance, strength, speed, flexibility, coordination when doing sports with a certain duration of activity (Yola & Rifki, 2020). Physical conditions are several factors or indicators that must be possessed by someone when carrying out sports activities by combining each element of strength, balance, endurance, agility, flexibility, and coordination in order to achieve the expected target (Ninzar, 2018). One element of physical condition that must be possessed by badminton athletes is balance. Balance is to improve athlete performance, prevent injury, and optimize the desired results (Muladi & Kushartanti, 2018). Good balance is very important in badminton because it helps players to produce effective movements, increase endurance, and reduce the risk of injury (Ferriyani et al., 2021). Balance involves a variety of movements in each body segment supported by the musculoskeletal system and the fulcrum (Marpaung & Manihuruk, 2022). Balance is needed when moving or performing movements such as running, jumping, or swinging a racket by badminton athletes (Ahmed et al., 2022). One of the exercises in badminton that is usually done is drilling exercises in an effort to train physical conditions. Optimal training affects the physical condition that is unconsciously formed by itself (Sin, 2017).

Drilling training are training that are carried out repeatedly or continuously to gain skills and automate a movement that is carried out (Fitriadi & Barlian, 2019). Drilling training are carried out by a coach who hits shuttlecocks throughout the field to be reached by athletes (Hasibuan et al., 2020). Drilling practice is a series of exercises that focus on repetition of footsteps to reach

The Effect of Drilling Training on Improving the Balance of Badminton Athletes

the shuttlecock and tactical movements in badminton games (Primayanti & Isyani, 2021). Drilling training are usually carried out using tools such as a shuttlecock throwing machine or a coach throwing a shuttlecock (Anggriawan et al., 2018).

An training method done repeatedly can improve physical conditions such as balance (Manurizal et al., 2020). Badminton athletes when they do not do routine training, the footwork ability is not good, so routine training is needed with effective training methods to get good balance in order to master the field by returning the shuttlecock even though it is in a difficult position (Wijayanto & Williyanto, 2022). From the above opinion in line with Nugroho et al who said that when training to improve balance, it is necessary to practice based on training periodization for easy training and matches in reaching or returning the shuttlecock to the opponent (Nugroho et al., 2018).

Based on the results of field observations, it is found that badminton athletes still do not have good balance as seen from when athletes chase shuttelcocks it is still difficult to balance the body when stepping and the results of interviews conducted with coaches that coaches rarely do training to improve balance. This study applies drilling exercises based on training periodization and is carried out in a structured manner to see the effect of drilling exercises on the balance of badminton athletes. From the above problems, it is in line with research conducted by Gantois et al, who said that routine training is continuously carried out in a structured manner and in accordance with the principles of training, the physical condition of an athlete can improve such as increased balance, agility, cardiovascular and muscle strength (Gantois et al., 2023).

The purpose of this study was to determine the effect of drilling training on improving the balance of badminton athletes. The benefits of this research, 1) theoretically this research opens a paradigm in the field of coaching in general and specifically in badminton sports to use a variety of forms of exercise, 2) this research is expected to add knowledge to the coaches so that they choose a form of exercise that is simple but can improve various physical conditions, 3) as a reference value for the quality of further research.

II. METHOD

This type of research is experimental research, so it can be interpreted that experimental research has treatment or treatment given to samples in research (Li et al., 2022). The experimental method is used to be able to see the absence of the effect of treatment given to badminton athletes through drilling training to improve balance (Marouvo et al., 2023). The design in this study used a one-group pretest-posttest design. This research was held at the badminton court PB.PT One Asahan Road Marah Rusli. This research was conducted for 4 weeks or 1 month. The research began on January 10 2023 to February 09 2023. The frequency of training is 3 times a week. The number of training sessions was 12 times. Training schedule on Monday, Wednesday and Friday. Training starts at 15:00 WIB - 18:00 WIB.

Population is a subject that exists in a study (Etuk et al., 2022). The population in this study were 10 badminton athletes PB. PT. One Asahan. The sample is part of the population to be studied in a study which will later be given treatment and measured with a measuring instrument (Royon et al., 2023). The sample in this study were 10 badminton athletes PB. PT. One Asahan. The sampling technique is total sampling, total sampling is that all populations in the population are sampled to obtain research data (Miller et al., 2020). The instrument used in measuring balance is strok stand. The data analysis technique uses the help of SPSS 23 software to test normality, homogeneity and t test (effect).



Picture 1. Test and Measurement of Balance (Strok Stand)

III. RESULT AND DISCUSSION

From the results of research obtained in the field and analyzed using the SPSS 23 application, it shows that the data is normally distributed, homogeneous and there is a solid influence. The results of data analysis using SPSS 23 can be seen in the table below:

The Effect of Drilling Training on Improving the Balance of Badminton Athletes

Table 1. Normality test

Tests of Normality			
	Shapiro-Wilk		
	Statistic	df	Sig.
Pretest	.862	10	.080
Posttest	.880	10	.131

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the results of the normality analysis test, the pretest and posttest results > 0.05 so that normality distributed data can be drawn.

Table 2. Homogeneity test

Test of Homogeneity of Variances

Pretest posttest

Levene Statistic	df1	df2	Sig.
.368	1	18	.552

Based on the results of the homogeneity analysis test, pretest and posttest results > 0.05 so that homogeneity distributed data can be drawn.

Table 3. T-Test (Effect)

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest - Posttest	1166.800	434.187	97.087	963.594	1370.006	12.018	19	.000

From the results of the data analysis test using the T Test (Effect) Paired Samples, the results of the sig (2-tailed) were smaller < 0.05 so that a conclusion was drawn that there was a significant effect of drilling training on improving the balance of badminton athletes.

The success of a badminton athlete in achieving his highest achievement cannot be separated from the factor of good physical condition (Gusrinaldi et al., 2020). Improving the physical condition of an athlete cannot improve with a short duration of training (Chan, 2012). Training carried out by an athlete with discipline, routine, and cannot be separated from the training periodization applied by a coach (Uddin et al., 2020). The above opinion is in line with the opinion of Rubiana et al, who said that trainers who are experts in training have concepts based on scientific knowledge of coaching and are outlined in a training program or training periodization to improve the physical condition of athletes (Rubiana et al., 2017).

From table 3, the research results show that there is an effect of drilling training on improving the balance of badminton athletes. According to Pambudi et al (2022) In badminton games, changes in the position of athletes are carried out according to the needs of the match, adjusting conditions during training and competition and mechanisms when attacking and defending from opponents, so training for balance plays an important role in the match of a badminton athlete.

In badminton games have a high level of physical condition, especially in singles, badminton sports demand excellent physical condition and require aerobic stamina, explosive strength, speed, accuracy and balance, and a physical condition is needed by an athlete in carrying out various forms of exercise or physical movement systematically and can make or grow an athlete's achievements (Aisyah, 2021). The opinion of Phomsoupha et al states that badminton is characterized by short lathan periods and repetitive exercises (1-9 seconds) and recovery (low intensity activities such as standing and walking for 6-15 seconds) interspersed with longer breaks in the game (time out 120 seconds between games) (Phomsoupha et al., 2018). Research conducted by Fernandez et al stated that badminton athletes have good balance to be able to quickly change direction according to the direction of the shuttlecock from the opponent (Fernandez et al., 2022).

The Effect of Drilling Training on Improving the Balance of Badminton Athletes

Drilling training that involve foot movements, position shifts, and body movements in various directions help athletes improve balance. Balance allows athletes to move smoothly and responsively on the field, thus improving the athlete's ability to deal with changing game situations (Malwanage et al., 2022). By doing regular training, athletes can develop sensitivity and stability in maintaining body balance when performing movements and strokes, thus assisting athletes in maintaining a stable position on the field and increasing control over the body (Manihuruk et al., 2023).

The balance of badminton athletes focuses on the core muscles, which consist of the muscles around the abdomen, pelvis, and lower back, have an important role in maintaining body balance, and strong core muscles can support the spine and maintain body stability when badminton athletes chase the shuttlecock (Batalha et al., 2018). Adequate balance in muscles and joints helps in maintaining optimal movement and allows for quick adjustments while moving and good balance can improve the ability to maintain the physical balance of badminton athletes (Yüksel & Akın, 2017). A badminton athlete can improve physical condition balance which can support better physical performance, prevent injuries, and improve overall quality of life (Wong et al., 2019)

IV. CONCLUSIONS

Drilling training is an alternative in a varied badminton training program, so that it can be applied by badminton coaches in improving the balance of badminton athletes. Based on the results of the study, it was found that drilling training has an effect on increasing badminton athletes PB.PT. One Asahan.

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The Effect of Drilling Training on Improving the Balance of Badminton Athletes

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The Effect of Drilling Training on Improving the Balance of Badminton Athletes

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