

THE EFFECT OF THE OPTIMUM PERFORMANCE TRAINING MODEL ON INCREASING AGILITY IN FEMALE FUTSAL

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Abstract

This study aims to evaluate the effect of the Optimum Performance Training (OPT) training model on improving anaerobic ability, especially in the aspect of agility in female futsal athletes of UKM UPI. The method used is ex post facto, where researchers cannot manipulate data. The research sample consisted of 9 female futsal athletes, and agility measurements were made using the shuttle run test. The pretest results showed an average value of 7.07 with a standard deviation of 0.32924, while the posttest showed an average value of 6.87 with a standard deviation of 0.43162. The minimum pretest value was 6.70 and the maximum was 7.60, while the posttest showed a minimum value of 6.20 and a maximum of 7.59. Hypothesis testing using the paired sample test resulted in a t value of 3.682 and a Sig. (2-tailed) value of 0.006, which indicates that H_0 is rejected. Thus, it can be concluded that the application of the OPT training model has a significant effect on increasing agility in UPI female futsal players. This research provides an important contribution to the development of a more effective futsal training program to improve athlete performance.

Keywords: Optimum Performance Training; Agility; Futsal

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INTRODUCTION

Futsal is a dynamic sport, where players are required always to move and good technical skills and high determination are needed. (Syafaruddin n.d.). Futsal according to (Moore et al. 2014) Is a sport that strongly emphasizes the development of technical skills, creativity, and understanding of tactics. Futsal involves many elements that form a comprehensive player, both in terms of technique, physicality, and game strategy. In futsal, players are required to have excellent ball control, because the game takes place in a relatively small space with a limited number of players. This encourages players to have more precise

ball control skills, as well as speed in making decisions in the midst of rapidly changing situations.

In addition, futsal also plays a role in improving physical aspects, especially agility and endurance. Speed in movement and the ability to adapt to the high tempo of the game are important elements in futsal. The intensive and dynamic nature of the game also trains tactical and strategic skills, where players must be able to think quickly and make the right decisions in a short time. (Moore et al. 2014)

Physical condition is an important element and becomes the basis/foundation in the development of techniques, tactics, strategies, and mental development. Physical condition status can reach an optimal point if training starts at an early age, is carried out continuously throughout the year, tiered and guided by the principles of training correctly. In addition, physical development must be planned periodically based on the stages of training, the athlete's physical condition status, sports, nutrition, facilities, tools, environment, and the athlete's health status. Developing physical conditions requires a Professional Coach Qualification so that it can foster the physical development of athletes as a whole without causing negative effects in the future. (Bafirman n.d.).

Physical condition is one of the most basic aspects of training to be trained and improved, to get a good physical condition requires training preparation that can improve and develop physical conditions, endurance is one of the physical components that are very important to train and improve stamina to achieve optimal performance. (Purnomo et al, 2019) And every effort to improve physical condition, one must develop all components. The components of physical condition include strength, endurance, muscular power, speed, and flexibility. (Barasakti et al. n.d.).

The activity pattern of futsal may be different from other sports because each player must perform constant attacking and defending tasks at a high tempo. Barbero-Alvarez et al (Naser et al, 2017) Reported that futsal is a fast-paced sport that has more high-intensity phases than other intermittent sports. Although

comparisons with other sports have limitations, some useful comparisons can be made with similar intermittent team sports such as football, basketball, and handball. For example, it has been shown that the total distance traveled at high intensity and maximum speed is greater in futsal than in football, basketball, or handball, thus reflecting the high-intensity nature of futsal. (Naser et al. 2017). (Asmara et al. 2023) Say "Basically futsal players consist of endurance, strength, speed, agility, local muscle endurance, and muscle potential". According to (Moore et al. 2014) "Futsal is a very physically draining sport, and as a result, the physical demands of futsal are an important consideration for coaches when implementing training programs for competition". There are several elements presented in futsal sports such as elements of endurance, speed, strength, flexibility, agility, and explosive power. (Irawan and Fitranto 2020).

According to (Sekulic et al. 2019) In the game of futsal, agility is a very important ability for players. This is because futsal is a fast, dynamic sport, and requires agile movement and quick adaptation to rapidly changing situations. And according to (Benvenuti et al. 2010) Overall, the nature of *agility* in futsal games is about the ability to move quickly, nimbly, and efficiently, and to respond quickly to changing situations on the field. Players who have good *agility* skills tend to be more effective in maintaining control of the ball, tackling opponents, and creating goal opportunities. Therefore, training to improve *agility* is essential for futsal players who want to improve their performance in the game.

The OPT model is one of the models developed by NASM (National Academy of Sports Medicine), which takes a systematic and progressive approach to addressing the goals of improving strength, ability, and experience levels. The model has 5 phases, divided into 3 levels, each designed to achieve specific goals aligned with specific adaptations. The phases of the OPT Model include the: First phase of Stabilization Endurance, the Second phase of Strength Endurance, the Third phase is Muscular Development/hypertrophy, the Fourth phase is Maximum Strength and the Fifth phase is Power. Each stage in each phase requires the application of training methods to the needs and demands of the character. Issue

centric in the development and improvement of anaerobic physical abilities includes the ability of the speed component in the form of SAQ (speed, agility, quickness), strength endurance (strength endurance), maximum strength (maximum strength), fast strength (power), and fast strength endurance (power endurance) (Clark . n.d.).

The application of training methods, training models, and also the form of training in developing and improving physical abilities must consider and take into account the time or period of its stages and the ability of its athletes. Athlete achievement in sports that require speed of movement certainly requires a component of physical ability and strength. To get the best increase in strength ability in achieving achievements, a strong strength stage is needed. The stages of strength training to get the highest peak of strength ability require a training model that suits the demands. Many methods and training models can develop and improve the highest strength abilities, one of which is Optimum Performance Training (OPT). NASM also recommends using a structured and scientifically-based program design model. Training programs should be a methodical approach to improving physical, physiological, psychological, and performance adaptations. (Clark. n.d.).

UPI women's futsal players have qualified techniques so that with the provision of varied tactics and patterns the players can show the game by the coach's instructions, therefore UPI's futsal achievements are quite brilliant in several championship events, to support good performance in playing futsal requires good physical condition, especially in terms of agility (agility), so that there is a need for training to support the players to have good agility, therefore this agility is a source of problems that must be resolved with agility training so that the stiff and less agile movements of the players will not interfere with the course of the match because the futsal game is fast.

Having good speed and agility will support players to be able to catch up and avoid opponents when controlling the ball. Therefore, to support the highest performance of female futsal athletes, especially in terms of agility (agility), there

must be training, one form of training that can be used is the OPT (optimum performance training) model, this OPT model is one of the models developed by Nasm, which this model takes a systematic and progressive approach to addressing the goals of increasing strength, ability, and level of experience. The model has five phases, divided into three levels, each of which is designed to achieve specific goals aligned with specific adaptations. The phases of the OPT Model include the: First phase of Stabilization Endurance, the Second phase of Strength Endurance, the Third phase of Muscular Development/hypertrophy, the Fourth phase is Maximum Strength and the Fifth phase is Power. Each stage in each phase requires the application of training methods according to the needs and demands of the character. Centric issues in the development and improvement of anaerobic physical abilities include the ability of the speed component in the form of SAQ (speed, agility, quickness), strength endurance (strength endurance), maximum strength (maximum strength), fast strength (power), and fast strength endurance (power endurance) (Clark., n.d.)

By using the OPT (Optimum Performance Training) training model, is expected to make a positive contribution to improving the agility of futsal players. Previously, to improve anaerobic physical quality, especially in the aspect of agility, many coaches in Indonesia tend to rely on training methods or models that have often been applied in recent times, such as HIIT (High-Intensity Interval Training), Tabata, interval training, circuit training, and various other training methods. However, along with the development of sports science, there are more varied training methods and models that can be used to improve agility. Therefore, this study aims to explore whether the application of the OPT training model has a significant effect on improving anaerobic ability, especially in the aspect of agility, in female futsal athletes at UKM Futsal UPI. Thus, the author wants to explore the extent to which OPT can provide better results compared to traditional training methods that have been used so far.

METHOD

The method used in this research is the Expost Facto Method. Ex post facto is after the fact, which is research conducted after an event has occurred. Research that aims to find possible causes of changes in behavior, symptoms, or phenomena caused by an event, behavior, or things that cause changes in the independent variable that have already occurred (sukardi 2022)

The research design used was the One Group Pretest Posttest design. According to (Arikunto, 2010) One Group Pretest Posttest design is a research activity that provides an initial test, namely before treatment, and after treatment is given, then conducts a final test. The research design of this one-group pretest-post-test design is measured using a pre-test conducted before being given treatment and a post-test after being given treatment for each exercise series. Thus the treatment results can be known more accurately (Arikunto, 2010).

This study was given an instrument in the form of a 4 x 5 m shuttle run test and given treatment in the form of an optimum performance training (OPT) program. The sample was given 5 phases of exercise, namely: First phase stabilization endurance, second phase strength endurance, third phase muscular development/hypertrophy, fourth phase maximum strength, and fifth phase power.

In the study, the population selected was 18 female futsal players from the Indonesian Education University. And the age range is 18-22 years. The reason the researchers chose this population was because it follows the chosen title, namely the female futsal members of the Indonesian Education University, which means that all of them are female (female). In this study, the sampling technique used was purposive sampling, which is the selection of samples based on certain considerations, which are usually related to certain properties or characteristics of the population that are already known in advance. Sample criteria include: 1) have the physique and technique needed by the team, 2) have participated in championships at least 5 times in the last 2 years, therefore the sample involved in this study amounted to 9 people.

Based on the criteria of the futsal sport game which must make movements quickly and must change direction, the researcher uses the Shuttle Run as an instrument used to find out the agility abilities of female futsal players. According to (harsono 2018a) "one form of agility test is running back and forth (shuttle run)"

The treatment in this study was conducted for 12 weeks with a frequency of 3 meetings/week which was divided into 5 stages or phases of training. This program has been compiled designed and approved by experts in the field of exercise program preparation and physical condition. Meetings 1-6 (stabilisation 1): Stabilisation endurance. The method and form of the Stabilisation exercise is 8 Stage Chinness Plank x 6 sets, Meetings 7-12 (strength 2): Strength endurance and Aerobic endurance. The method and form of strength endurance training is circuit training x 30" per post x 5 sets, Meetings 13-18 (strength 3): Hypertrophy, Maximum strength and Aerobic Endurance. The method and form of hypertrophy training is a pyramid without peak x 3 sets. The method and form of maximum strength training is a set system (2 rep x 5 sets), Meetings 19-24 (strength 4): Maximum strength. The method and form of maximum strength training is the set system (2 reps x 8 sets), Meeting 25-30 (power 5): Power. The method and form of power training is complex training.

Based on the research objectives, this study uses data analysis methods with a quantitative approach. The data that has been obtained from the sample is then analyzed using statistical analysis which is used to answer all problem formulations. This statistical analysis was carried out with the help of SPSS software, namely using the paired sample t-test. This test is to test whether there is a difference or influence. The subjects are the same but experience two different measurements or treatments. There is a pretest and posttest or there are stage 1 and stage 2 measurements.

In this study, the description analysis technique applied includes some basic statistics to describe the data characteristics of each variable studied. The statistics used include the minimum and maximum values, which show the

smallest and largest limits of the data. In addition, the mean value is also calculated, which provides an overview of the center of the data, as well as the standard deviation, which illustrates how much the data spreads or varies from the mean.

The data normality test is carried out to determine whether the data is at the normal distribution level or not. The data normality test used in this study is the Shapiro-Wilk test. The normality test aims to determine whether the residual value is normally distributed or not. According to the Shapiro-Wilk method, the basis for decision-making is as follows: if the significant value is > 0.05 then the data is normally distributed. If the data is normally distributed, it can use a parametric approach, while if the data is not normally distributed, it can use a non-parametric approach.

Hypothesis testing in research is carried out to find out the answer to the proposed problem formulation. In this study, the data obtained is paired data, so the parametric approach uses the paired sample t-test, while the non-parametric approach uses the Wilcoxon signed ranks test. The basis for decision-making in this hypothesis test is: the sig value. (2-tailed) < 0.05 , then there is a significant impact if the sig value. (2-tailed) > 0.05 , then there is no significant impact. In this study, the authors took a parametric and non-parametric approach, so the authors used a paired sample t-test.

In this section, the author analyses the data by calculating the percentage for each group based on the results of the initial and final tests. This process was carried out by comparing the data obtained from each group in both tests. Furthermore, the author presents the average percentage of each group, as well as the difference between the initial and final test scores to see the changes that occurred. The results of this analysis are then presented in the form of diagrams that make it easier for the reader to visually see the differences and trends that emerge from the analyzed data, as well as to provide a clearer picture of the effectiveness or changes that occurred during the exercise.

RESULT AND DISCUSSION

The data obtained has been processed and analyzed using SPSS version 27. The data that has been processed and analyzed has been presented in the form of tables and figures. The statistical description data can be seen in Table 1.

Table 1. Statistical Description

shuttle run result data	<i>Pretest</i>	<i>Posttest</i>
		7.04
	6.83	6.48
	6.7	6.2
	6.73	6.57
	6.8	6.73
	7.13	7.11
	7.6	7.59
	7.37	7.17
	7.4	7.2
Mean	7,07	6,87
Std.Deviation	0,32924	0,43162
Minimum	6,70	6,20
Maximum	7,60	7,59

In Table 1 it can be seen that the *pretest* obtained an average value of 7.07 and the *post-test* obtained an average value of 6.87, the standard deviation value on the *pretest* was 0.32924, and the standard deviation on the *post-test* was 0.43162. And in the *pretest* obtained a minimum value of 6.70 and a maximum value of 7.60, while the *post-test* obtained a minimum value of 6.20 and a maximum value of 7.59. Then the author conducts a normality test with Table 2 as follows

Table 2. Normality Test

Normality Test			
Shapiro-Wilk			
	Statistic	df	Sig.
Pretest	0,910	9	0,319
post-test	0,977	9	0,948

Table 2 shows the results of normality calculations using the Shapiro-Wilk test. Based on the table above, the pretest data obtained a statistical value of 0.910 and a Sig value of 0.319. For the post-test, the statistical value is 0.977 and the Sig

value is 0.948. So in the pretest and post-test test the Sig value > 0.05, so the data is declared normally distributed. Based on the data from this normality test, the authors used a parametric approach. Furthermore, the authors conducted a hypothesis test which can be seen in Table 3 below.

Table 3. Hypothesis Test
 Test Hypothesis

Tes	t	Sig. (2-tailed)
<i>Pretest-Post test</i>	3,682	0,006

Table 3 shows the results of hypothesis testing using the paired sample test. Based on the table above, the data obtained a t value of 3.682 and a Sig value. (2 tailed) of 0.006 < 0.05 then H_0 is rejected. So it can be stated that there is a significant effect of optimum performance training (OPT) on increasing agility in UPI female futsal players. Furthermore, the author conducted a percentage which can be seen in Figure 1 below.

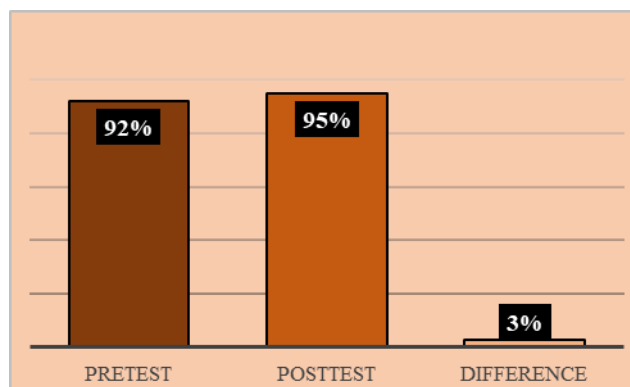


Figure 1 Percentage of Results

So it can be concluded that the pretest obtained a percentage of 92%, while the post-test obtained a percentage of 95% and got a difference of 3%. Therefore, UPI futsal players who are given optimum performance training (OPT) treatment experience an increase in agility ability by 3%.

DISCUSSION

Thus the results of this study show significant results where optimum performance training can improve significant agility ability of female futsal players. The author sees that the optimum performance training method is a new training method conducted in Indonesia, which involves physical components in each exercise. This training program can help athletes to get their best performance when competing.

The factor of poor physical condition will make the basic techniques often uncontrollable such as controlling, dribbling, passing, kicking, and inaccurate baiting, due to lack of energy. To be able to play futsal, physical condition factors, and basic technical abilities are a must that must be owned by futsal players. For the physical condition and basic technical skills to be well mastered, it is necessary to practice seriously and be well-planned (Setiawan et al. 2014). One of them with optimum performance training exercises can help improve agility abilities in futsal players, where agility is needed in futsal games to get past opponents. (Benvenuti et al. 2010). The game of futsal is fast and requires efficient movement so that it can produce maximum results. (Sekulic et al. 2019). In the game of futsal agility is the ability to move quickly and efficiently, and make changes in direction with precision in a limited space. This concept is very important in futsal because the game takes place in a narrow space with high intensity, which requires players to react quickly to constantly changing situations, such as the movement of the ball and opponents. Many experts emphasize that agility is a basic skill that determines the excellence of futsal players. (Kartal 2016).

This optimum performance training program is a structured and scientifically based exercise program, so by being carried out programmatically it can improve flexibility, balance, plyometrics, agility/speed, resistance, and cardiorespiratory training can reduce injuries and improve performance. (Clark. n.d.). Therefore a program has been divided into 3 stages and 5 phases, wherein the first stage of stabilization where which stage has a stabilization endurance

phase where the exercise focuses on improving proprioception (controlled instability) this exercise increases stability, muscle endurance, Improves neuromuscular efficiency of core muscles, Improve intermuscular coordination. And the second stage of strength is divided into 3 phases where this strength phase focuses on increasing the ability of the core muscles to stabilize the pelvis and spine under heavier loads, through a more complete range of motion, increasing the load-bearing ability of muscles, tendons, ligaments, and joints, increasing training volume, increasing metabolic needs by overloading the ATP-PC energy system and glycolysis to induce cellular changes in muscles (weight loss or hypertrophy) and increasing motor unit recruitment. The third or final phase is the power phase which focuses on increasing the rate of power production (or speed of muscle contraction). (Clark. n.d.).

With structured training, it can improve the ability of physical conditions, one of which is agility, therefore agility is needed in several sports, one of which is futsal, Agility is one of the key elements in mastering effective futsal techniques. It serves to accelerate changes in direction when dribbling and supports more efficient defensive movements. In futsal, players need to move quickly while maintaining body balance, as well as being able to avoid pressure from opponents. In addition, agility also plays a big role in creating space for teammates and facilitating the creation of better-attacking opportunities.(Cevallos n.d.)

And according to (harsono 2018) Weight training exercises when implemented correctly in addition to improving physical health can also develop speed, agility, power, strength, and endurance. Therefore, to improve physical condition, structured training is needed because according to (Subarjah n.d.) Structured training will improve significant physical condition abilities, and one example is using the optimum performance training model. Therefore, optimum performance training is an effective training method to improve agility skills in female futsal players, and besides that, athletes must be aware of the importance of a training process to support athlete performance when competing. Because

tactical training alone will not be enough to support success in a match, therefore physical training is also needed to help improve performance when competing.

CONCLUSION

Based on the results of the research that has been conducted, the authors conclude that the application of the Optimum Performance Training (OPT) training model has a significant effect on improving agility abilities in female futsal players. This training model has proven effective in increasing agility, speed, and strength, in the physical condition of female futsal players. Through structured training that is tailored to the physical and technical needs of the players, OPT can help players move faster and more agile on the field, thus improving the overall performance of the team. These results suggest that an optimized training approach can contribute greatly to improving the quality of women's futsal play.

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