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The influence of small-sided games training on passing and endurance ability in men's futsal team

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Abstract

Passing is one of the basic techniques of futsal that players really need. While Endurance is a state or physical condition of the body that can work for quite a long time. This study aims to determine the effect of the small side games training method on the passing and endurance abilities of Banteng Muda Indonesia Majalengka male futsal athletes. The research method used was a quasi-experimental with a pretest-posttest control group design, the population in this study were Banteng Muda Indonesia male futsal athletes. The sampling used is probability sampling with the condition that all objects are all Banteng Muda Indonesia male futsal athletes. The number of samples in this study were 20 players. The instruments used in this study were passing tests and endurance tests. Data analysis used the T test. The results of the T-test for passing abilities obtained t_{count} = -3,644 with sig 0.002 <0.05 so H_O was accepted, and for endurance T-test results obtained t_{count} = -5710 with sig 0.000 <0.05 so HO accepted. The conclusion is that there is an influence on the ability of passing and endurance between the Experiment group and the Control group after being given different exercises for 12 meetings. Then the researcher provides recommendations especially for coaches and generally for all futsal players by providing a form of training that can improve passing ability and endurance such as variations of small side game exercises.

Keywords: Small Side Games; Passing; Endurance.

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INTRODUCTION

Sport is a game that is competitive and relies on physics (S, 2021). Futsal is very popular with all people, from children to adults, both men and women really like it. Futsal is an indoor sport with a field length of 38-42 meters and a width of 15-25 meters, played by 5 players including the goalkeeper. Futsal is a game almost the same as football, where two teams play and fight over the ball with the aim of putting the ball into the opponent's goal and defending the goal from the ball conceded by these players (Pizarro et al., 2021).

Futsal in Majalengka has proliferated since 2009 until now. Now many futsal clubs have sprung up that have established academies so that futsal in

Majalengka is developing very rapidly for both early and senior ages. Banteng Muda Indonesia is one of the futsal clubs in Majalengka, with its activity center or secretariat located in the Pasiripis area, Jatitujuh District, Majalengka Regency. The Banteng Muda Indonesia futsal club itself was formed on June 10, 2018, with head coach Yandri and Arif Kurnia Rahman as assistant coaches and managed by Teguh Prihantoro. Many players from various regions, schools and universities have joined the Banteng Muda Indonesia club. With the existence of the Banteng Muda Indonesia Majalengka futsal team, it is hoped that players and coaches and their staff can advance futsal in Majalengka. Banteng Muda Indonesia itself has a vision to form individuals with character, strong mentality, professionalism, and sportsmanship in achieving high achievements.

The Banteng Muda Indonesia club is also one of the futsal coaching venues. This is evidenced by the existence of training or self-development activities on Mondays and Wednesdays using the training ground at the Jatiyujuh sports hall. In connection with coaching, to improve the ability of athletes, especially futsal players, training is needed. Good training is an exercise that is designed systematically by following the various characteristics of the sport, the availability of time, and the athletes to be coached (Indrayogi, 2020).

The basic technique of passing is very influential for athletes during training and during competition (Pranata, 2020). If the quality of passing that is owned by the athletes is not as expected, then in every match and practice it is less than optimal. When competing or practicing short passing is so important than using long passing, because short passing is more effective for controlling the game, so it doesn't easily lose ball possession (ball control) and short passing is often used by players while practicing or during matches (Agras et al., 2016).

Futsal sports are often associated with endurance or endurance because endurance affects the condition of athletes when practicing or competing (Spyrou et al., 2020). Endurance is a person's ability to endure while carrying out activities for a long time and without experiencing significant fatigue (Faisal & Indrayogi, 2021). There are two types of endurance, namely general

endurance and muscular endurance. General endurance is a person's ability to use the heart, lung, and circulatory system effectively which involves the contraction of several muscles that are working at high intensity for quite a long time. Muscular endurance is the ability of a person's muscles to work while contracting continuously for a relatively long time with a certain load (Agras et al., 2016).

Training is a process towards a better direction, namely, to improve the ability to function organs of the body, improve physical quality, and technical quality of trainees (Festiawan et al., 2020). The author tries to apply a form of small side games training which aims to develop passing and endurance technical skills for Banteng Muda Indonesia futsal athletes in playing futsal. Small side game practice which is a form of ball game that combines several ball playing technical skills using certain limitations and is played in a small-scale field area. One of the game methods is small side games which are designed in a form that is almost the same as the actual game situation, and involves all players in a form of training, it is hoped that the form of training is in accordance with the needs on the field (Halouani et al., 2014). To help coaches organize training to be effective and efficient is through adjusting the size of the training arena or by limiting the number of players and activities. For example, a game of one or two touches.

The advantage of this game method is that athletes are invited to real game situations, so that the techniques produced are also in accordance with real games. For this reason, the authors apply small side games or small games to improve the passing and endurance skills of futsal athletes in Banteng Muda Indonesia clubs. Based on the observations made when the Banteng Muda Indonesia Majalengka club conducted a test match against the GMC club from Majalengka City, the researchers conducted interviews with the main coach of the Banteng Muda Indonesia club after the test match was over. According to the main coach of Banteng Muda Indonesia, one of the main problems is the loss of concentration of the players caused by the athlete's endurance or poor endurance and the ease with which players lose the ball when they pass.

In the trial match against the GMC futsal team in Majalengka City, the performance of the Indonesian Young Bull futsal athletes decreased. During the first half of the match (20 minutes), the athlete's performance was still good, the players were under control, the opponent's game could be balanced, but entering the final 15 minutes of the second half the concentration of the Young Bulls of Indonesian players began to decrease, such as losing the ball easily, passing that was not quite right and there were several players who made a rash decision without thinking first, so that the Indonesian Banteng Muda futsal team lost with a score of 1-4 which was won by the GMC futsal team.

To be a good futsal player, a player must always focus and have high concentration. In the game of futsal, a player must quickly read the opponent's game so that we can also quickly anticipate it. Meanwhile, to achieve high concentration and good ball control in futsal game time 2 x 20 minutes requires good passing skills and excellent physical condition. Based on the trial results, it appears that the Banteng Muda Indonesian players have low physical and technical conditions, especially in passing techniques. Therefore, researchers tried to carry out treatment by providing training to improve physical condition and small side game exercises to improve the passing abilities of Banteng Muda Indonesian players.

METHOD

Research method This research is quantitative research with a quasi-experimental approach. Experimental research is research in which the researcher deliberately evokes an event or situation (DeCuir–Gunby, 2011). The experimental design in this study was the pretest-posttest control group design. The upper group as the experimental group was given treatment, namely training with the small side game method. While the lower group which is the control group, was not given any treatment (Fraenkel et al., 2012). The population in this study were all male futsal athletes from the Banteng Muda Indonesia Majalengka team, totaling 20 people. The sample of this study were all male futsal athletes from the Banteng Muda Indonesia Majalengka team, totaling 20 people.

The instrument used by researchers in this study was the Passing Ability Test (Miller, 2010). The passing test is carried out on the field with the ball stationary on the ground, with the ball kicked with the inside of the foot towards the target with a width of one meter, the distance between the kick and the target is 10 meters. Opportunity to kick the ball five times with the right foot, five times with the left foot. Assessment is the number of balls that enter the target. The test movement is declared failed if the ball leaves the target area or places the ball not within 10 meters of the target. The purpose of the short passing test towards the target is to measure the skill of short passing accuracy towards a predetermined target.

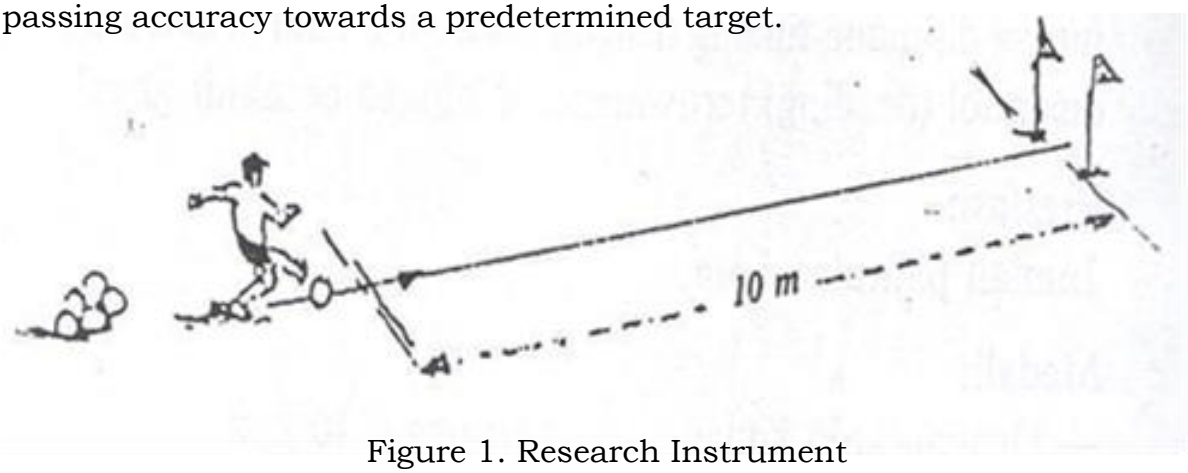

Figure 1. Research Instrument

RESULTS

The data used to analyze the research data were the passing and endurance skills of the male futsal athletes at the Banteng Muda Indonesia Majalengka club before and after being given small side games in the Experiment group and passing and endurance skills before and after being given conventional exercises in the Control group. An overview of the results of the experimental group and control group research data is presented in Table 1.

Table 1. Descriptive Statistics Results of Passing Ability of Men's Futsal Athletes of Banteng Muda Indonesia Majalengka Club

Variable		Pretest Experiment	Posttest Experiment	Pretest Control	Posttest Control
Passing Abillty	N	10	10	10	10
	Mean	5.700	7.200	6.000	6.900
	Std. Deviation	1.946	1.475	1.490	1.197
	Minimum	2.00	5.00	4.00	5.00
	Maximum	9.00	10.00	8.00	9.00

Descriptive statistics on the passing ability of futsal players are known in the experimental pretest group to get a minimum score of 2.00 and a maximum score of 9.00. The mean or average in the experimental pretest group was 5.700, the standard deviation was 1.946. The experimental posttest group got a minimum score of 5.00 and a maximum score of 10.00. The mean obtained in the posttest experimental group is 7.20 and the standard deviation is 1.47. The ability to pass in the control pretest group gets a minimum score of 4.00 and a maximum score of 8.00. The mean obtained in the pretest control group was 6,00 and the standard deviation was 1,49. The control posttest group got a minimum score of 5.00 and a maximum score of 9.00. The mean or average value in the posttest control group was 6.90 and the standard deviation value was 1.19.

Table 2. Descriptive Statistics Endurance Results for Men's Futsal Athletes from Banteng Muda Indonesia Majalengka City Club

Variabel		**Pretest Experiment**	**Posttest Experiment**	**Pretest Control**	**Posttest Control**
Endurance	Mean	36.42	41.87	37.08	42.04
	Std Deviation	5.468	8.168	3.863	5.915
	Minimum	30.00	30.60	30.20	31.80
	Maximum	44.50	54.80	43.90	50.40

Descriptive endurance statistics for futsal players are known in the experimental pretest group to get a minimum score of 30.00 and a maximum score of 44.50. The mean or average in the experimental pretest group was 36.42 and the standard deviation was 5.468. The experimental posttest group got a minimum score of 30.60 and a maximum score of 54.80. The mean obtained in the posttest experimental group was 41.87 and the standard deviation was 8.168. Endurance which was carried out in the control pretest group got a minimum score of 30.20 and a maximum score of 43.90. The mean obtained in the pretest control group was 37.08 and the standard deviation was 3.863. The control posttest group got a minimum score of 31.80 and a maximum score of 50.40. The mean or average value in the posttest control group was 42.04 and the standard deviation value was 5,915. The results of the calculation of the normality test are presented in Table 3.

Table 3. Results of Normality Test Calculation of Research Data Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Passing	0.152	20	0.200*	0.966	20	0.669
Endurance	0.187	20	0.064	0.929	20	0.146
Group	0.335	20	0.000	0.641	20	0.000

The result of the calculation is that the sig value of the passing group data is 0.200 > 0.05 so it can be concluded that the passing group data is normally distributed. The sig value for the endurance group data is 0.264 > 0.05 so it can be concluded that the endurance group data is normally distributed. The sig value for the passing and endurance group data was 0.000 > 0.05 so it can be concluded that the passing and endurance group data were not normally distributed. The results of this analysis are used as a consideration in subsequent analysis using parametric statistics, based on the results of the normality test, the data analysis used to test the hypothesis is the independent sample t test and paired sample t-test.

The results of the research data homogeneity test calculations are presented in the table below.

Table 4. Calculation Results of Research Data Homogeneity Test

Variable	Data	Group	Varians	*Levene Statistic*	Sig.	Criteria
Passing Ability	Pretest	Pretest Experiment	3.789 2.767	0.153	0.700	Homogen
	Posttest	Posttest Experiment	2.178 1.433	0.732	0.403	Homogen
Endurance	Pretest	Pretest Experiment	66.953 29.900	1.800	0.196	Homogen
	Posttest	Posttest Experiment	34.992 14.924	3.170	0.092	Homogen

The results of the homogeneity test calculation above, obtained a significant value for each variable > 0.05. It is known that in this study the ability to pass the pretest obtained a significant value of 0.700. While the passing ability in the posttest gets a significant value of 0.403. The results obtained by the homogeneity test on the endurance pretest obtained a significant value of 0.196 and the endurance posttest obtained a significant value of 0.092. So, it can be concluded that the posttest data between the experimental and control groups is homogeneous.

The t test was used to determine whether there were differences in passing abilities between the experimental group and the control group before being given different exercises. The t-test data is obtained as follows:

Table 5. T-test Calculation Results of Pretest Experiment Data and Posttest Control Research Data

Variable	Group	Average		T_{count}	t_{table}	Sig	Criteria
		Pretest	Posttest				
Passing Ability	Experiment	5.700	7.200	-2.355	2.262	0.043	There are differences
	Control	6.000	6.900	-5.014	2.262	0.001	There are differences

The calculation results for the passing ability variable in the experimental group obtained t_{count} = -2.355 with sig 0.043 <0.05 so H_o is accepted, in other words it can be concluded that there are differences in passing ability in the Experiment group before being given different training male futsal athletes at the Banteng Muda Indonesia Majalengka club.

The results of calculations in the control group obtained t_{count} = -5.014 with sig 0.001 <0.05 so Ho is accepted, in other words it can be concluded that there are differences in passing abilities in the control group before being given different training by male futsal athletes at Banteng Muda Indonesian Majalengka club.

The t test was used to determine whether there were differences in endurance between the experimental group and the control group before being given different exercises. The t-test data is obtained as follows:

Table 6. T-test Calculation Results of Pretest Experiment Data and Posttest Control Research Data

Variable	Group	Average		T_{count}	t_{table}	Sig	Criteria
		Pretest	Posttes				
Endurance	Eksperimen	36.42	41.87	-4.417	2.262	0.002	There are differences
	Control	37.08	42.04	-3.531	2.262	0.006	There are differences

The results of calculations for the endurance variable in the experimental group obtained t_{count} = -4.417 with sig 0.002 <0.05 so H_o is accepted, in other words it can be concluded that there are differences in endurance in the

Experiment group before being given different training by male futsal athletes at the Banteng Muda Indonesian I Majalengka club.

The results of calculations in the control group obtained t_{count} = -3.531 with sig 0.006 <0.05 so H_o was accepted, in other words it can be concluded that there were differences in endurance in the control group before being given different exercises for male futsal athletes at the Banteng Muda Indonesian Majalengka club.

The t test was used to determine whether there were differences in the passing and endurance skills of the male futsal athletes at the Banteng Muda Indonesian Majalengka club. The t-test data is obtained as follows:

Table 7. Calculation Results of the T Test Data Pretest-Posttest Passing Ability and Endurance Research Data

	Average		**T_{count}**	**t_{table}**	**Sig**	**Criteria**
	Pretest	**Posttest**				
Prestest-Posttest Passing	5.850	7.050	-3.644	3.579	0.002	There are differences
Prestest-Posttest Endurance	36.750	41.950	-5.710	3.579	0.000	There are differences

The calculation results for the passing ability variable in the pretest-posttest obtained t_{count} = -3.644 with sig 0.002 <0.05 and the results of the calculation of the endurance variable in the pretest-posttest obtained t_{count} = -5710 with sig 0.000 <0.05 so H_o is accepted, with In other words, it can be concluded that there are differences in small side game training methods on passing and endurance abilities in male futsal athletes at the Banteng Muda Indonesian Majalengka club.

Analysis of improving passing ability was carried out to find out how much the treatment in the Experiment group and the Control group was able to improve passing ability. The results of calculating the increase in passing and endurance abilities can be seen in the table below:

Table 8. Improved Passing and Endurance Skills

Variable	**Group**	**Average**		**Enhancement**	**% Enhancement**
		Pretest	***Posttest***	***Pretest-Posttest***	***Pretest-Posttest***
Passing Ability	Experiment	5.700	7.200	1.500	11.7%
	Control	6.000	6.900	900	7.1%
Endurance	Experiment	36.420	41.870	5.450	42.5%
	Control	37.080	42.040	4.960	38.7%

From the table above, it is obtained that the percentage increase in passing ability for the Experiment group is 26.3% and the percentage increase in passing ability for the Control group is 16.9%. The percentage increase in endurance for the Experiment group was 13.1% and the percentage increase in passing ability for the Control group was 11.8%.

DISCUSSION

Passing are short passes or the cool term passing game. Therefore, a player must master the technique of passing or passing the ball correctly (Pizarro et al., 2021). Passing is a technique that must be mastered by futsal athletes (Szwarc & Oszmaniec, 2020). Futsal is a fast and precise ball game that places more emphasis on skills and tactics through mastery of technical skills where each player must run, dribble, pass and try to put the ball into the opponent's goal, with a relatively short time, and has narrow space for movement (Pranata, 2020).

Good futsal playing skills of each player will produce good games and good achievements (Ribeiro et al., 2020). Choosing the right training method will affect the improvement of futsal playing skills (Halouani et al., 2014). Thus, the results of the study indicate that the effect of small side games training on passing ability has increased in the experimental group after being given treatment and has not experienced a significant increase in the control group.

The results of data analysis showed that there was an increase in passing ability after being given small side games for 12 meetings in the experimental group before being given treatment (pretest) with a score of 5,700 and after being given treatment (posttest) in the experimental group with an increase in score reaching 7,200. For the ability to pass the pretest in the control group, a score of 6,000 was obtained and without special treatment, a score of 6,900 was given. In this case the 3V2 and 4V3 forms of training are the most influential in improving the passing ability. Even though the increase in passing ability was not significant in the experimental group and the control group, there was still an increase even though it was slightly after being given the small side games training treatment for 12 meetings. This is in accordance

with the opinion of (Dahlan et al., 2020) that practicing for 12-16 times is said to have a permanent change.

Endurance is a condition of the capacity to perform work continuously in an aerobic environment (Mascarin et al., 2019). Futsal game is a game that requires endurance for a long time. Playing futsal must have adequate physicality, one of which is by increasing the player's endurance. When a player's endurance is well honed, endurance, strength, and agility can be used for a relatively long time (Husein Allsabah & Sugito, 2021).

The results showed that the endurance ability carried out in the experimental group before being given treatment (pretest) got a score of 36,420 and after getting treatment for 12 meetings (posttest) the score obtained increased by 41,870. Then the endurance ability in the control group (pretest) got a score of 37,080 and was not given treatment (posttest) got a score of 42,040. The experimental group experienced an increase after being given treatment. The increase in endurance ability of the experimental group was not significant, this was because the training load given was too excessive and made the subjects experience fatigue or over training.

The results of this study indicate that there is an effect of small side games training after being given treatment for 12 meetings on the passing and endurance skills of Banteng Muda Indonesian men's futsal athletes. Even though there was an increase in passing and endurance abilities, the increase was not significant in either the experimental group or the control group. This is due to weaknesses carried out by researchers.

Endurance can be interpreted as a state or physical condition of the body that is able to work for a long time (Dahlan et al., 2020). An athlete is said to have good endurance if he is not easily tired or can continue to move in a state of fatigue, or he is able to work without experiencing excessive fatigue (S, 2021).

The small side game exercise is a form of training in playing futsal by using a smaller field than the actual futsal field (Moore et al., 2014). Small side game training can have an impact on increasing aerobic fitness because athletes can adapt to the environment, they face by using mental and physical techniques to achieve maximum performance (Oppici et al., 2018). The small

side game method really helps players move agilely, quickly, improve skills and dodge opponent's ambushes, so that aerobic endurance will increase. To be able to do all of that well and succeed, a futsal player should do it diligently and seriously (Mascarin et al., 2019). In this study, it was limited to only training passing and endurance in Banteng Muda Indonesian futsal players, because it was in accordance with the team's weaknesses when competing.

In small side game training, futsal players play like a real match, where in the game the players are physically active in moving, running after the ball, running with the ball, competing with the opponent to pick up the ball, and blocking the opponent's movement (Malone & Collins, 2017). Based on observations in the field, in small side games there are explosive movements such as sprinting and turning backwards, sideways and changing direction which affect speed, agility so that aerobic abilities increase.

CONCLUSION

From the results of the study, data analysis and discussion, the following conclusions were obtained: Small sided games exercise affected the passing ability of the male futsal athletes of the Banteng Muda Indonesian Majalengka club. The small-sided games exercise influences the endurance of the male futsal athletes of the Banteng Muda Indonesian Majalengka club. Small side games exercise affects the passing and endurance abilities of Banteng Muda Indonesian Majalengka male futsal athletes after being treated for 12 meetings. Then the researcher provides recommendations especially for coaches and generally for all futsal players by providing a form of training that can improve passing ability and endurance such as variations of small side game exercises.

AUTHOR'S CONTRIBUTION

Author 1: Writing - Review & editing. Author 2: Methodology. Author 3: Software and Writing - Original Draft. Author 4: Validating.

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