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The Effect of Resistance Band Training and Full Over Training on Badminton Smash Ability of PB. Fila Watch Makassar

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ABSTRACT

This study aims to determine the effect of Resistance Band Training on the Smash Shot Ability of Badminton PB. Fila Watch Makassar. The research method is experimental research. In this design, there are two groups selected randomly, then given a pretest to determine the initial condition of whether there is a difference between the Resistance band training group and the full-over training group. The sample taken for this study was 20 Badminton players PB. Fila Watch Makassar City. Based on the results of data analysis, the results of hypothesis testing, and the results of the discussion of the research that have been obtained, the conclusions in this study can be explained. The first is that there is an effect of Resistance Band Training on the Smash Shot Ability of Badminton PB. Fila Watch Makassar is proven by an increase in the average value of 20.40 to 23.80 with a Thit value of 9.619> Ttab 2.262. Second, there is an effect of Full Over Training on the Smash Shot Ability of Badminton PB. Fila Watch Makassar is proven by an increase in the average value of 20.20 to 22.00 with a Thit value of 4.743> Ttab 2.262. The third is a difference in the Effect of Resistance Band Training and Full Over Training on the Ability of Badminton Smash Strokes PB. Fila Watch Makassar with an average value of Resistance Band training 23.80> average value of Full Overtraining 22.00 with a Thit value of 3.818> Ttab 2.101. The conclusion is that Resistance Band training has a greater influence than Full Over Training in improving the ability of Full Over training on Badminton Smash Strokes PB. Fila Watch Makassar.

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INTRODUCTION

Badminton in Indonesia is more often played by two people against two people or what is called doubles. Badminton is a very old sport considering that everyone has

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flexible sports abilities. Nowadays, most people like badminton, and now many people use this sport (Satriyo, 2020). Badminton is a sport that is included in game sports and can be played indoors or outdoors on a field that is limited by length and width lines. Two areas of the same size, separated by a net. Based on the author's quote, the author concludes that badminton is a game that can be used to count individuals or groups with rackets, while shuttlecocks can be played in open or closed areas that are limited by a net in the middle of the field (Limbong, 2021).

Therefore, the game of badminton can develop rapidly. Indeed, doubles games in badminton are very popular in society in Indonesia because the game is more exciting and the level of fun in playing is more crowded. In the sport of badminton, is a sport that is very popular with the general public, both in urban areas and in remote villages. The popularity of this sport is such that almost every corner of the room has a badminton court, even in a very simple form. Badminton for the Indonesian nation is a sport that has brought a good name to the Indonesian nation. This is proven by the success of our badminton athletes in winning various tournaments at the ASEAN, Asia and world levels and so on (Sudiadharma & Rahman, 2021).

Indonesian society has known badminton since the Dutch colonial era. However, at that time the badminton associations that were formed then moved independently without a single goal and a single ideal of struggle in the independent country. Of course, this cannot be allowed to continue. An organization must be attempted nationally, as a unifying organization. To take the path towards a single organizational forum, the most appropriate way is to bring together badminton figures in one congress. At that time it was indeed rather difficult to communicate between one region and another. The only thing that could be done was the Java island environment, and that could be done after the formation of PORI (Republic of Indonesia Sports Association). The efforts made by Sudirman and his friends through letters, the essence of which was to invite them to establish a badminton association, brought results. So, at a meeting on May 5, 1951, in Bandung, the All-Indonesian Badminton Association (PBSI) was born and the meeting was recorded as the first PBSI congress (Denatara, 2021).

In South Sulawesi Province itself, badminton is very popular with the community, this is proven by the many badminton associations in the region, one of which is in Makassar City. Many athletes from PB. Fila Watch wants to deepen its knowledge of badminton. Badminton athletes from the Fila Watch Badminton Association commonly abbreviated as PB Fila Watch, Makassar City are one of the badminton clubs that have been established for a long time in Makassar City. The training program is implemented by dividing athletes using an age system, starting from an early age, children, beginners, teenagers, cadets, and adults. Each player has a different level of physical condition and smash technique.

In PB Fila Watch has sports achievements. At the National Level, players from PB Fila Watch have been sent to participate in the National Championship competition. In the past four years, they have often failed to win, such as in the men's

doubles at the SIRNAS Championship (National Circuit), and PB Fila Watch players failed in the semifinals. This badminton sport is very interesting and is not something foreign to them.

Based on the results of observations in PB Fila Watch training, there are still some players who are not good at smashing, but the majority can smash well so the skills of the players in smashing are still very varied, there are players who can do it well and there are also players who are still lacking in mastering smash skills. (James P., 2006), stated that this stroke is called a half smash because the speed is lower and the shuttlecock falls closer to the net. Players at PB Fila Watch Makassar City in doing the smash technique are still wrong, so the hit on the shuttlecock is not right, for example, the arm is not straightened enough when hitting, and there are even players when smashing the shuttlecock gets caught in the net and even goes out of the field.

For an athlete to have good smashing ability, arm muscle strength is a very influential factor in increasing the ability to do a smash (Arisman et al., 2018). Muscle strength is the ability of muscles that use maximum power to lift weights. Arm muscle strength is the ability of the arm muscles to generate tension in resistance and lift weights. Arm muscle strength in badminton is needed to control the hardness of the blow or the distance of the blow to the opponent. The stronger the arm muscles when hitting or receiving a blow, the better at playing badminton (Sholeh, 2018). Therefore, to increase arm muscle strength, a special training method is needed.

Weight training can be done using weights from your body weight (internal weight) or using external weights, namely free weights such as rubber, dumbbells, barbells or weight machines (gym machines) (Yachsie, 2021). Good exercises to do to increase arm muscle strength are Resistance band exercises or exercises using rubber weights and dumbbell exercises, both of which are forms of weight training that are very directly related to arm muscle strength. To increase the ability to smash arm muscle strength. In successful badminton games, it is necessary to develop exercises using rubber and dumbbells which aim to connect speed and strength movements to produce a well-directed and good shot (Latuheru et al., 2021).

Resistance band training or training using rubber is training that uses rubber that provides a load when the arm is swung from top to front. Resistance band rubber has elastic and spring force properties, its elastic properties can be used in the resistance training process by utilizing the tensile force of the rubber itself. The elastic properties of rubber tyres in training spring force (Maulana & Wijaya, 2018). This exercise is very useful for providing speed and arm strength when swinging when doing a smash in playing badminton. While the dumbbell training method is a good training method to increase arm muscle strength is full over training. Basically, full over training is designed to develop physical elements, especially arm and shoulder strength which are the main driving elements in doing a smash. The main target of providing full over training is to develop the power element or explosive power in the arms and shoulders so that it is hoped that after providing full over training, strength can be developed (S. Sudiadharma & Ishak, 2020).

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METHODS

This research method is experimental research because this research requires treatment to be given to the sample. Experimental research is a research method used to find the effect of certain treatments on others under controlled conditions.

A sample is part of the number and characteristics possessed by a population (Sugiyono, 2015). The number of samples in this study was 20 PB Fila Watch Makassar City players. The sample was pretested to determine two balanced treatment groups. The treatments were ranked based on their pretest scores, then paired with an A-B-B-A pattern (ordinal pairing) in two groups of 10 sample members each.

The variables in this study consist of one independent variable and one dependent variable. The independent variables in this study are Resistance Band Training and Full Over Training. While smash ability is a dependent variable measured by the smash ability test (Sudiadharma & Hikmad Hakim, 2016).

To obtain data on the Effect of Resistance Band Training and Full Over Training on Badminton Smash Ability PB. Fila Watch Makassar as a material to test the truth of the hypothesis, and then data collection is carried out based on Resistance Band Exercise and Full Over Exercise. The data that needs to be collected in this study includes pretest and posttest data from the results of the smash ability test in badminton. After the data is collected, the next step is to analyze the data. Data analysis in this study uses the t-test technique, namely by comparing the average (mean) between the initial test (pretest) and the final test (posttest) of the smash ability.

RESULTS AND DISCUSSION

Result

Descriptive data is a general description of the data of each variable in the study. Research data are numbers that will later be translated into research results and will later provide a description of the condition of each variable studied, namely the ability of the badminton smash strokes of PB. Fila Watch Makassar City. The results of the badminton smash strokes of PB. Fila Watch Makassar City will be explained in Table 1 description of the results of the badminton smash strokes of PB. Fila Watch Makassar City from the two groups in question, as follows:

Table 1.
Descriptive Pretest and Posttest Values

	Pretest Resistance Band Training	Posttest Resistance Band Training	Pretest Full Over Training	Posttest Full Over Training
Number of Samples	10	10	10	10
Number of Values	204	238	202	220
Average	20,40	23,80	20,20	22,00
Standard Deviation	3,471	2,781	3,393	2,539
Result Area	9	8	9	8
Minimum	16	19	16	18
Maximum	25	27	25	26
Variance	12.044	7.733	11.511	6.444

For the initial test data before giving Resistance band training on badminton smash ability from 10 samples, the total value was 204 with an average of 20.40, a variance of 12.044, a standard deviation of 3.471, range or result area 9 and maximum value 16 and minimum value 25.

For the final test data after giving Resistance band training on badminton smash ability from 10 samples, the total value was 238 with an average of 23.80, variance of 7.733, standard deviation of 2.781, data range or result area 8 and maximum value 19 and minimum value 27.

For the initial test data before giving Full Over training on badminton smash ability from 10 samples, the total value was 202 with an average of 20.20, variance of 11.511, standard deviation of 3.293, data range or result area 9 and a maximum value of 16 and a minimum value of 25.

For the final test data after giving Resistance band training on badminton smash ability from 10 samples, a total value of 220 was obtained, an average of 22.00, a variance of 6.444, a standard deviation of 2.539, a data range or result area of 8 and a maximum value of 18 and a minimum value of 26.

The normality test was conducted on the Badminton Smash Shot ability data at PB. Fila Watch Makassar City which will be tested for normality of distribution using the Liliefors Test (Kadir, 2010: 108), at a significance level of $\alpha = 0.05$. Complete data on Smash Shot Ability as follows:

Table 2.
Results of the Normality Test

Group	N	L_h	$L_{t(0,05)}$	Information
Resistance Band Training (A)	10	0.156	0.258	Normal
Full Over Training (B)	10	0.141	0.258	Normal

The results of the calculation of the normality test of the initial Resistance Band training test on smash hitting ability, where n = 10 obtained Lh of = 0.156 and Lt (0.05) = 0.258. Thus, because Lh is smaller than Lt (0.05), it can be concluded that the initial data on smashing ability from Resistance band training at PB. Fila Watch Makassar City comes from a normally distributed population. The results of the calculation of the normality test of the initial Full Over training test on smash hitting ability, where n = 10 obtained Lh of = 0.141 and Lt (0.05) = 0.258. Thus, because Lh is smaller than Lt (0.05), it can be concluded that the initial data on smashing ability from Full Over training at PB. Fila Watch Makassar City comes from a normally distributed population.

The results of the analysis for the homogeneity test of variance in two groups of experimental design cells were carried out using a variance comparison test at the $\alpha = 0.05$ level. Complete data on the homogeneity analysis can be seen in the summary of the results of the homogeneity analysis with the variance comparison test presented in the following table:

Table 3.
Homogeneity Test Results

Group	s^2	F_{Count}	F_{table}	Information
A	12,044	1,046	3,178	Homogen
B	11,511			

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Because Fcount = 1.09 ≤ Ftab = 3.68, then Ho is rejected (H1 is accepted). So the data variance is homogeneous.

The research hypothesis testing was conducted using the analysis used in the T-test. The reason for using the T-test is because the data owned by the group is the same amount. Analysis of variance is used to test the main effect of the independent variables of the Resistance band and full overtraining on the dependent variable, namely the Badminton smash ability at PB. Fila Watch Makassar City.

The results of the hypothesis testing were conducted using the T-test. For clarity, it is summarized and presented in the following table:

Table 4.
T-Test Results

Variable	T_{Count}	T_{Table}	Information
A_1 and A_2	9,619	2.262	significant
B_1 and B_2	4,743	2.262	significant
A2 and B2	3,818	2.101	significant

From the results of the Hypothesis Test or T Test in Table 3, the following conclusions can be drawn:

Resistance Band training initial data (A1) badminton Smash Shot ability at PB. Fila Watch Makassar City compared to Resistance Band training final data (A2) badminton smash shot ability at PB. Fila Watch Makassar City, the results are; Thit = 9.619> Ttab (0.05) = 2.262. Thus Ho is rejected, so it can be interpreted that there is a significant difference in badminton Smash Shot ability at PB. Fila Watch Makassar City between the Resistance Band training group on the initial data and the final data.

Full Over training initial data (B1) badminton Smash Shot ability at PB. Fila Watch Makassar City compared to Full Over training final data (B2) badminton smash shot ability at PB. Fila Watch Makassar City, the results are; Thit = 4.743> Ttab (0.05) = 2.262. Thus Ho is rejected, so it can be interpreted that there is a significant difference in the ability of badminton Smash Strokes at PB. Fila Watch Makassar City between the FulL Over training group in the initial data and the final data.

Resistance Band training initial data (A2) badminton Smash Stroke ability at PB. Fila Watch Makassar City compared to Full Over training final data (B2) badminton smash stroke ability at PB. Fila Watch Makassar City, the results are; Thit = 3.818> Ttab (0.05) = 2.101. Thus Ho is rejected, so it can be interpreted that there is a significant difference in the ability of badminton Smash Strokes at PB. Fila Watch Makassar City between the Resistance Band training group in the final data, and the Full Over training group in the final data.

Discussion

The Effect of Resistance Band Training on the Smashing Ability of Badminton PB. Fila Watch Makassar

Based on the results of the research data analysis, it was stated that the results were Ho rejected, the Resistance Band training group can be interpreted that there was

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a significant difference in the smashing ability of PB. Fila watched Makassar City badminton between the initial test and the final test.

The Resistance Band training process (rubber media load) is a training using rubber media by utilizing the spring power in the rubber as a load, which is done by pulling the rubber-like when doing a smash in badminton. Therefore, Resistance Band training or training with rubber media as a load is a good method to improve the smashing ability in badminton, this is because the elastic nature of rubber can train speed, and arm muscle strength, and can improve movement in doing a smash in badminton.

The Effect of Full Over Training on the Smashing Ability of Badminton PB. Fila Watch Makassar

Based on the results of the research data analysis, it was stated that the results were Ho rejected, the full over training group can be interpreted that there was a difference in the smashing ability of PB. Fila watched Makassar City in real terms between the initial test and the final test.

The full over training process has advantages, where full over training can increase the strength and explosive power of the arm. The strength and explosive power of the arm are used to hit the shuttlecock hard and fast in badminton. The implementation of full over training, results in progress or an increase in the smash ability of the PB Fila Watch Makassar badminton game. In this case, the full over training process will provide an increase in the arm's ability to smash hard and fast.

Differences in the Effect of Resistance Band Training and Full Over Training on the Smash Ability of Badminton PB. Fila Watch Makassar

Based on the results of the research data analysis, it was stated that the results were Ho rejected, so it can be interpreted that there is a significant difference in the smash ability of PB. Fila watches Makassar badminton between the Resistance band training group and the full over training group.

The smash ability of PB. Fila Watch Makassar badminton given Resistance band training will improve the smash ability of PB. Fila Watch Makassar badminton. Where in playing badminton it is clear that Resistance band training is one of the training processes that focuses on the activity of forming strength in the arms, especially in the bicep and tricep muscles (Ridwan. M, 2023). This shows the results of the badminton smash training of PB. Fila Watch Makassar Athletes require training to gain strength in the arms. This acquisition includes a new way of doing something and how to solve problems in new situations. In this case, badminton smash training applies training by sorting out smash stroke movement techniques. This means that smash training is done by repeatedly performing smash techniques. Full over training in this study is a modified dumbbell training with a standing position, where the exercise begins with a standing position while holding a dumbbell behind the head with two hands, then both hands are straightened up to the front of the chest by lifting the barbell until the arms are straight up. By looking at the pull over training pattern, it is assumed that it can improve the ability

of the arm muscles, especially the biceps and triceps. Therefore, the full over training process has advantages, where full over training can increase the strength and explosive power of the arms. The strength and explosive power of the arms are used to hit the shuttlecock hard and fast in badminton (Muehliza, 2023). Full over training is a training activity process to support the smash ability of the PB. Fila Watch Makassar badminton game. By having the strength or explosive power of the arms, it can improve the smash ability of the PB. Fila watched Makassar's badminton game where the PB. Fila Watch Makassar badminton players can hit smashes hard and fast so that they can stop the opponent's game or end the rally. The implementation of full over training, results in progress or improvement in the ability to smash badminton games PB. Fila Watch Makassar In this case, the full over training process will provide an increase in the arm's ability to smash strongly and quickly. The ability to smash badminton games PB. Fila Watch Makassar is seen from the Thit value between Resistance band training > full over training so that it can be said that Resistance band training will have better results compared to full over training on the ability to smash badminton at PB. Fila Watch Makassar City. Resistance bands allow players to make movements that are more similar to the smash movement pattern in sports such as badminton. Resistance bands can be used to imitate hitting movements with directions and intensities that are similar to real movements, making them more effective in training the muscles directly involved. Resistance bands allow exercises to be done in various directions and angles that resemble natural movements in smashes. While full over training using dumbbells, on the other hand, tends to limit the range of motion to the direction from the back of the head to the front of the head only.

CONCLUSION

Based on the results of data analysis, hypothesis testing results and research discussion results that have been obtained, several conclusions can be explained as follows.

1. There is an Effect of Resistance Band Training on the smash-hit ability of Badminton PB. Fila Watch Makassar.
2. There is an Effect of Full Over Training on the smash-hit ability of Badminton PB. Fila Watch Makassar.
3. There is a difference in the Effect of Resistance Band Training and Full Over Training on the Smash Hit Ability of Badminton PB. Fila Watch Makassar.

REFERENCES

Arisman, A., Saripin, S., & Vai, A. (2018). Hubungan Kelentukan Pergelangan Tangan Dan Power Otot Lengan-Bahu Dengan Hasil Akurasi Smash Bulutangkis Putra Pada Pb. Angkasa Pekanbaru. *Journal Of Sport Education (JOPE)*, *1*(1), 9. https://doi.org/10.31258/jope.1.1.9-16

Denatara, E. T. (2021). *Buku Ajar Bulutangkis*. GUEPEDIA.

James P. (2006). Belajar Bulutangkis. *Penerbit Pioner Jaya*.

Latuheru, M. E., Lolangluan, W. A., & Wattimury, H. (2021). PERBANDINGAN LATIHAN PUSH UP DAN BEBAN DUMBELL TERHADAP KECEPATAN PUKULAN STRAIGHT PADA ATLIT TINJU AMATIR SASANA LIPANG BAJENG KABUPATEN TAKALAR. *MANGGUREBE: Journal Physical Education, Health and Recreation*, *2*(1), 26–36.

Limbong, D. M. (2021). Pengaruh Latihan Dengan Lampu Reaksi Dan Shuttlerun Terhadap Kelincahan Gerak Kaki (Footwork) Pada Peserta Bulutangkis PB. Tj Prestasi Tebo. *Indonesian Journal of Sport Science and Coaching*, *3*(2), 68–74.

Maulana, A., & Wijaya, M. (2018). *Pengaruh Latihan Karet Ban Dalam dan Pemberat Kaki Terhadap Kecepatan Tendangan Sabit Pesilat Putri Ekstrakurikuler Pencak Silat SMP Negeri 2 Gunung Guruh Kabupaten Sukabumi 2017/2018*.

Muehliza. (2023). Pengaruh Latihan Full Over Terhadap Kemampuan Smash Pemain Bulutangkis PB.PSC Tinambung Polman. *FIKK, UNM*.

Ridwan. M. (2023). Pengaruh Latihan Latex Power Band Terhadap Kemampuan Pukulan Smash Dalam Permainan Bulutangkis PB. Mandar. *FIKK, UNM.*

Satriyo, E. B. (2020). *Perancangan pusat pelatihan atlet olah raga bulu tangkis di Malang dengan pendekatan smart building*. Universitas Islam Negeri Maulana Malik Ibrahim.

Sholeh, M. (2018). Hubungan Antara Kekuatan Otot Lengan, Dengan Kemampuan Long Service Dalam Permainan Bulutangkis Pada Pemain Pembinaan Prestasi Bulutangkis Utp Surakarta Tahun 2017. *Jurnal Ilmiah PENJAS*, *4*(1), 68–78.

Sudiadharma & Hikmad Hakim. (2016). Pengaruh latihan model komando dan model bermain terhadap keterampilan pukulan smash permainan bulutangkis ditinjau dari panjang tungkai. *FIKK, UNM*.

Sudiadharma, A. R., & Rahman, A. (2021). *Metode Pembelajaran Terhadap Keterampilan Pukulan Lob Permainan Bulutangkis*.

Sudiadharma, S., & Ishak, M. (2020). Pengaruh Latihan Pull Over Terhadap Kemampuan Smash Pada Permainan Bulutangkis. *Competitor*, *10*(2), 67–73.

Sugiyono, D. (2015). *Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R\&D*.

Yachsie. (2021). Pengaruh Metode Latihan Beban Free Weight Dan Gym Machine Terhadap Kekuatan Otot Lengan Ditinjau Dari Daya Tahan Otot Lengan Atlet Panahan. *Pharmacognosy Magazine*, *75*(17), 399–405.