

The Effect of Medicine Ball Throw Exercise on Volleyball Servicing Ability in Pusri Palembang Athletes

Azola Dwi Anisa¹, Andi Rahman², Ilham Arvan Junaidi²

¹Pusri Volleyball Club Palembang, South Sumatra, Indonesia, ²Universitas PGRI Palembang, South Sumatra, Indonesia

Corresponding author e-mail: azola.2022152013.students@univpgri-palembang.ac.id

Abstract: This experiment used a pretest-posttest control group design technique. The Quasi Experimental Design or Group Pretest Posttest Design was employed in this investigation. Athlete Pusri Palembang provided the sample for this study, which included 20 athletes. In the investigation, the retrieval procedure samples This approach employs random sampling. The findings of the study support the concept. Because the $p_{0,000}$ value is less than 0.05, this indicates that medicine ball throw workouts have a substantial effect on Service Ability for Volleyball Games. Where posttest results have a higher average value than pretest scores. It is possible to infer that there is an affect technique Medicine Ball Throw exercise against Service Ability for Volleyball Games in Volleyball Club Athletes Pusri Palembang at the alpha level of 0.05 with a 95% confidence level.

Keywords: Medicine Ball, Service Ability for Volleyball, Throw

A. Introduction

Volleyball is already well-known in Indonesia. Volleyball is a sport played by two teams in each field divided by a net, according to *Persatuan Bola Voli Seluruh Indonesia* (Amalia et al, 2023). Goal of the game This is pass the ball over the net to get hit fall touch floor field against and to prevent business from happening. Each team is allowed three reflections. For ball returns (outside matter block). Ball started game after ball struck by culprit service pass across net to opposing area. Game continues until the ball touches the floor, the ball "goes out," or one team fails to correctly return the ball.

Volleyball is a team sport performed in the form of a cooperative team, with each team's territory bounded by a net. Every team seeks to pass the ball to the other team as quickly as possible, employing strategies and tactics that are legal and play the ball. Can you pull the conclusion that game ball? Volleyball is a game that consists of two teams of six athletes each, who begin by hitting the ball for passing above the net to gain numbers, but each team can play three reflections for return ball. The game is played on a rectangular field 9x18 meters in size, with a net height of 2.24 meters for

the daughter and 2.43 meters for the son, which separates the second field. Technique base in volleyball as (a) technique service hand below, (b) technique service hand above, (c) technique passing down, (d) technique pass top, (e) technique bait (sets up), (f) technique smash, and (g) technique block (dam). The control technique basis in volleyball is an important aspect in being able to play ball volleyball with competence.

Technique foundation is something that gives rise to liveliness physically and proof in practice with as much as possible to fulfill work in branch volleyball (Destriana, 2019). The athlete performs the service by touching the ball first (Dinata, 2021). At originally, service was solely seen as a blow start, with the goal of starting the game. However, the development service has evolved into a strategy for performing an assault first in order to obtain a point. Which service will be particularly effective on the road match? Because of the necessity of function service, coaches will establish A team and strive to train the athlete so that they can control technique service with alright. The aim is to score points by attacking first. Understanding the service itself, that is, the effort put the ball in the direction against with method hit ball with one hand by athlete from line back in the area services (Supriatna, 2023).

Initially, serve was regarded as the starting opening of the volleyball game course; now, with contemporary volleyball growth, service is seen as one vital triumph A team. As the first attack in a modern volleyball game, athletes must provide technique good service, in accordance with volleyball development technique, in which service done by an athlete volleyball can make it difficult defense against in build attack or even direct produce number (Fitrian et al, 2022).

In ball volleyball, there are various varieties of service, including hand bottom, overhand floater, service topspin, service floating circle, and service leap. According to Nurjana et al. (2022), there are several types of service in volleyball, including service hand lower, service hand side, service on head, service floating, service topspin, leaping floating service, and serve jump spin. Strength muscle is a state for someone who was generated by muscles or a collection of muscles employed by the body to oppose prisoner or weight in a certain activity as well as protect the body from injury. In sports, muscular strength is a needed biomotor component in practically every branch sport (Jaya et al, 2019). One type of deliberate workout for improving throw-in skill is the medicine ball throw exercise. Player's practice holding the ball behind their heads. Practice throwing a medicine ball with your entire hand at the same time. It is highly beneficial in business to enhance muscular power in the arm.

Based on observations of athlete Pusri Palembang's results. According to observations made by a researcher from the whole student body of Athlete Pusri Palembang, a

total of 20 persons, during a match or exercise, service on less well and still weak. Service for control skills with To avoid injury, it is necessary to engage in frequent and meaningful exercise in line with a planned training program under the supervision and guidance of a coach. Physical fitness factors are also extremely supportive of ability service. As an example, strength muscle arm and power explosion muscle. Based on the above description, researchers are interested in doing research on the topic Influence medical ball throw practice vs ability service on volleyball game for athletes Pusri Palembang.

B. Methods

The pretest-posttest control group design approach was used in this experimental investigation. This study's population consists of 20 athletes from Pusri Palembang. Athlete Pusri Palembang provided the sample for this study, which included 20 athletes. In the investigation, the retrieval procedure samples. This approach employs random sampling. This study makes extensive use of method testing, measurements, and documentation. A t-test with a 95% confidence level was utilized to analyze the data in this investigation.

C. Results and Discussion

Athlete Pusri Palembang is a student who collects data from tests and measurements of 20 topics. This study compares the technique impacts of the medicine ball throw exercise on ability service for volleyball games for Pusri Palembang athletes. The variables in this study represented medicine ball throw with X as the independent variable, and service for Volleyball Games with Y as the variable bound.

The following are the measurement pretest results measuring services for volleyball games: score top 23 points The distribution frequency is shown in table 1 as follows: lowest 19, average 22.78, standard deviation 1.98, and variance 6.13.

Table 1. Analysis Results Measurement Pretest Service for Volleyball Games

Analysis Items	Mark
Sample	20
Means	22,78
std. Deviation	1.98
Variances	6,13
Minimum	19.00
Maximum	23,00
Sum	487,00

The following are the measurement findings Posttest Service for Volleyball Games: The distribution frequency is shown in Table 2 as follows: score highest 27, score lowest 20, with a mean of 20.00, standard deviation 2.33, and variance 7.65.

Table 2. Analysis Results Measurement Posttest Service for Volleyball Games

Analysis Items	Mark
Sample	20
Means	27.00
std. Deviation	2.73
Variances	7,47
Minimum	22.00
Maximum	31.00
sum	540.00

After calculating the service pretest data for volleyball games, the L-count is 0.1392 and the L table is 0.21981. This signifies that the L-count is reduced from 1 tab 1. Service pretest data for Volleyball Games is generally distributed after it has been finished. Posttest Service for Volleyball Games gives an L-count 0.1138 less than the L-table of 0.1981. We may infer that the distribution of outcome data Posttest Service for Volleyball Games is normal.

Table 3. Hypothesis Test

Group	Statistics	Pretest	Posttest	p-values	% Change
Medicine Ball Throw	xSD $\pm$	35.12 $\pm$ 9.25	59.15 $\pm$ 12.11	0.000	34.01 $\pm$ 4.25
N = 20					
p-values		0.545	0.010		0.002

According to table 3 above, Data acquired were descriptively analyzed, and hypothesis testing was performed on a problem namely affect method exercise Medicine Ball Throw to ability service for Volleyball Games for Athletes Pusri Palembang, where its meaning was examined with a t test. It is possible to conclude that Ho is rejected and H1 is accepted. The impact or difference is regarded to be significant if the mark probability (p-value) is less than 0.05. The hypothesis is p-value in column one. This value is 0.000 because a p0,000 value less than 0.05 indicates that workout medicine ball throw has a substantial impact on ability service for Volleyball Games for Athletes Pusri Palembang, where mark posttest has a higher average value than mark pretest.

The p-value in the bottom third right column is derived from the percentage p-value change. Because the p0.002 value is less than 0.05, it indicates that there is a difference in the influence of exercise medicine ball throw and drills resistance bands against Ability Service for Volleyball Games for Athletes Pusri Palembang, where For percentage change using form exercise medicine ball throws own improvement. It is possible to infer that there is an influence technique exercise Medicine Ball Throw to Ability Service for Volleyball Games for Athletes Pusri Palembang at an alpha level of 0.05 with a 95% confidence level.

Based on data analysis and result calculation, workouts medicine ball throw affect Ability Service for Volleyball Games for Athletes Pusri Palembang. The activity medicine ball tosses can develop muscular arm strength. This makes the muscular arm stronger and more supportive of the quality technique base serving in volleyball games. According to Sugianto's notion, exercise done for 6-8 weeks will have enough effect with strength of 10-25% (Kusuma & Hartini, 2022). Medicine ball throws have an impact on Ability Service for Volleyball Games for Athletes Pusri Palembang at the implementation stage. Shape exercise medicine ball throws is one type of purposeful exercise for practicing strength muscle arm (Mahesar et al, 2018). Excessive workout medicine ball tosses that employ the entire arm while tossing medical balls (Mori & Mariana, 2022). It is highly beneficial in business to enhance the muscular arm strength, which results in the Ability Service for Volleyball Games for Athletes Pusri Palembang. According to Nurjana et al. (2022), there are no exercise medicine balls available at the time of activity. Because if there is no coach, doing heavy and difficult movements will result in injury (Nurjana et al, 2022).

D. Conclusion

Conclusion from the study: 1) there is a significant influence to service ability for volleyball games in athletes Pusri Palembang with the use of exercise medicine ball throws; and 2) this can be seen from the results testing hypothesis showing that marks from exercise medicine ball throws p-value 0.05, so it can be concluded that exercise medicine ball throws are influential in a significant way to Service Ability for Volleyball Games in Athletes Pusri Palembang. Coaches are expected to develop a workout program medicine ball throw with good to attain the best outcomes for their athletes.

E. Acknowledgments

We would like to express our sincere gratitude to our family, friends, and colleagues from Pusri Volleyball Club Palembang and Universitas PGRI Palembang.

References

- Amalia, R., Junaidi, S., Indardi, N., Anggita, GM, Mukarromah, S. B., & Ali, M. A. (2023). The Effect of Setter Training Ball and Medicine Ball Exercises on Upper Passing Skills in Women's Volleyball Athletes. *Indonesian Journal of Kinanthropology (IJOK)*, 3 (1), 1–9. <https://doi.org/10.26740/ijok.v3n1.p1-9>
- Destriana, D. (2019). Pasing Exercise on Double Contact on Volleyball Skills. *Altius: Journal of Sports and Health Sciences*, 7 (1). <https://doi.org/10.36706/altius.v7i1.8112>
- Dinata, W. W. (2021). The Effect of 3 KG Medicine Ball Training on Extracurricular Participants Ability of Passing. *Atlantis Press; Advances in Health Sciences Research*, 35, 348–350.
- Fitrian, Z. A., Adam, B., Manopo, H., & Fitrianto, E. J. (2022). The Effect of Small Sided Games Training and Rondo Training on Passing Accuracy in Aldifa Banjarmasin Futsal Club Players. *JSES: Journal of Sport and Exercise Science*, 5(2), 50–58.
- Jaya, H., Insanisty, B., Sofino, S., & Defliyanto, D. (2019). The Effect of The Hanging Ball Modification Training Model on The Service Ability of Son's Extracurricular Vocational School 3, Bengkulu City. *Kinesthetics*, 2 (2), 153–159. <https://doi.org/10.33369/jk.v2i2.6494>
- Kusuma, W., & Hartini. (2022). The Influence of Continue Medicine Ball and Shooting Practice on Freethrow in Basketball at Bison Patriot Academy, Sragen District. *Spirit Scientific Journal*, 22 (1), 29–40. <https://doi.org/10.36728/jis.v22i1.1775>
- Mahesar, M. R., Husin, S., & Wicaksono, L. (2018). The Effect of Medicine Ball and Resistance Band Exercises on Fast Bowling Cricket Throwing Results. *Pendidikan Jasmani Kesehatan Dan Rekreasi FKIP UNILA*, 3(2), 1–12. <http://jurnal.fkip.unila.ac.id/index.php/JUPE/article/view/15387/0>
- Mori, S., & Mariana, R. (2022). Rubber Ball Modification to Increase Interest in Volleyball Materials For Students of Class V SD. *Muara Education Journal*, 7 (1), 137–147. <https://doi.org/10.52060/mp.v7i1.774>
- Nurjana, M., Rahmadani, Y., & Zulhendri. (2022). The Effect of Arm Muscle Strength Exercise on Down Service Ability in Women's Volleyball. *Indonesian Educational Science Research Journal*, 1 (1), 07–15. <https://doi.org/10.31004/jpion.v1i1.5>
- Supriatna, E. (2023). *Volleyball Coaching Textbook*. Indramayu: Adab Publisher.