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Research Study Literature Review: Exploring Types of Smash Training Methods in Volleyball

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Abstract

The purpose of this study was to show that both training programs have a significant effect on performance in various aspects of volleyball, especially smashing, as well as muscle fitness and arm power, all of which contribute to improving volleyball technical abilities such as smashing, passing, and serving. The instrument used was the traditional literature review method . Based on ten articles in the form of research journals that have been analyzed by the author related to the title of the writing, namely Training Methods in Volleyball Sports, the approach innovative For increase technique and strength smash hit with use obstacle or tool help that is not conventional . This method aims to improve Power jumping , timing , accuracy , and creativity player in perform a deadly smash .

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INTRODUCTION

Sport is one of the activity physical activity that is done in a way regular with objective For increase fitness body, maintain health, and improve quality life. Besides that, it is also useful for health physical, sports also have Lots impact positive on mental health, such as drain stress. Therefore thatsports should made into part from style life a day day For reach a better life healthy and balanced. According to Mora et al., (2021) Sport is a need for human beings. This is because of man is moving creatures. Man in do his activities No Once let go from the process of movement, because No There is life without existence movement. Its implementation, sports nature activity physical which is universal because sport can done by all layer public without look at difference ethnicity, race, religion and background behind education, economic status and gender.

Problem sport is activity physical help guard health and strengthen muscles body. Activities This can done For increase performance or as recreation. According to Yunus in (Kamaruddin et al., 2021), “ Everything layer people really like volleyball, both teenager and adults, and according to experts, incl in sport most popular second in the world that is popular society. Along with progress knowledge knowledge and technology, sports are also developing with fast.

According to Manalu et al., (2023) Study is about teach student For applying pedagogical ideas, and theories Study is predictor important success education. learning is exchange information two direction. Physical Education and Health Learning is essentially is an educational process

that utilizes activity physical and health for produce holistic change and quality individual, good in matter physical, mental, and emotional. Physical education treat child as A unity whole, total being , rather than just consider it as someone who is separated quality physical and mental (Irawati et al., 2024) . One of branch a sport that is popular among public moment This that is branch sport volleyball, because sport This can done by all circles, good man and women. Sports volleyball is one of branch sports that have been developing in society widely , both in clubs, offices, villages , and schools (Palevi, 2019) .

According to Wulandari et al., (2021) Currently volleyball game almost played in all countries in the world because volleyball game is fun sport. At first the basic idea volleyball game is to put the ball into the area against pass a obstacle in the form of rope or net and try to win game with kill the ball in the area opponent. Sport volleyball education useful in maintenance freshness physical.

main purpose volleyball practice is For teach player technique basic, improve strength physique them, and grow interest and talent them. For that, is very important For start exercise from level beginner For increase ability jump. Therefore that, ability jumping and hopping is very important in volleyball game (Gunadi et al., 2020)

Achievement in branch volleyball sport, mastery technique base game need mastered by each players. As for the technique base in volleyball game, namely : 1) attitude and movement body in volleyball game (posture and movement in volleyball), 2) passing, bait (set up), 3) receiving the ball (receive), 4) spaike (smash), 5) dam (block), 6) service (service) (Jemmy

Jes Mangindaan, 2023) . While according to Supriyanto & Martiani, (2019) In a game volleyball smash is also a a technique For make it easier get mark or numbers. Smash has characteristic features diving, sharp, and fast. For do a smash with Good need notice factors following: start, push, hit, and landing.

Leap is a movement lift all over member body to direction wherever from One point to another point. According to The Greatest in (Suriadi & Mursidin, 2020) states that leap is movement lift body from a point to another point more far and high. Jump in volleyball game is very much needed especially at the moment somebody will do smash movement (Durahim & Sarman, 2021). Smash is blow main in volleyball game used For attack to the opponent's area as effort For get victory (M. Yunus in Pranopik , 2017). Good smash jump in volleyball game own benefit that is as effort For get score with method do attack toward opponent and the ball falls in the area defense against without Can returned by the opponent. The importance of good jump on the game volleyball will give convenience in somebody For do a smash in effort get A points For get victory.

According to Sistiasih Vera Septi, (2021) smash is blow fast directed down with strong and sharp , meaning is smash hit can done from front on head above the net. The ball is hit with strong, but player must set the tempo and balance before speed up smash speed. Smash also requires a lot of energy and can exhausting player with fast, besides that, the more Far player from the net more and more reduce the sharpness of the smash. According to Asnaldi, (2020) smash is dipping ball shot toward field against with use Power explosion muscle arm

For hit the ball to die in the area against .

From the expression above, deep smash volleyball game is techniques used with enough blow hard and sharp For print points. This technique need combination strength, speed, and accuracy, as well as involving four stage main. With do good exercise later smash can become powerful in volleyball game.

METHODS

The author conducted a literature review using the traditional literature review method. Traditional literature review is a comprehensive, critical, and objective analysis of science or knowledge on a particular topic that does not have a specific research question or specific method in the literature search strategy.

According to Ridwan et al., (2021) When it meets the requirements such as being relevant, up-to-date, and can be a theoretical basis for solving the problem being studied, then a literature review is declared good. This theoretical basis can then help researchers to understand more deeply about the research topic in accordance with a good and correct scientific framework. When reviewing literature, there needs to be a process of analyzing, synthesizing, summarizing, comparing research results, and conducting a literature review which can then help a researcher to find goals and describe the process of the research.

In this literature review, the author analyzes the smash training method in volleyball. The population is all literature sources related to the topic of this literature review . While the sample is all research sources with the topic of the smash training method in volleyball that meet the inclusion criteria. The inclusion criteria for this literature review are articles that have titles and

contents that are relevant to the purpose of writing, research articles published nationally or internationally, research articles published in 2010-2024, full text research articles, research articles indexed by Scimago Journal and Country Rank (SJR) and Sinta (Science and Technology Index), and research articles that have a minimum level of internal validity of category B (limited) according to critical appraisal .

literature review data source was obtained from a literature study that has been published through electronic databases including Google Scholar, Garba Digital Reference, Science Direct, PubMed, and various other journal sites as well as books and other written data related to the title of this writing. The keywords used in this literature search are:"smash training method in volleyball". The literature sources used are literature published in the last 8 years, namely 2012-2020 and selected using inclusion criteria.

Literature review search strategy is to analyze or summarize several articles or research journals related to the questions and objectives of the writing. Literature search is the process of in-depth searching for published information on a topic. Literature search aims to obtain as many scientific publications on a topic as possible.

RESULT

The author conducted a literature review of six published research journals related to the title of the article. The article was found in the data. Google Scholar electronic base and Garba Digital Reference.

Table 1 : Journal Articles

No	Title	Author and year	Method	Research results
1	Differences in the Effect of Squat Jump and Standing Jump Exercises on the Jump Height of Male Volleyball Players at the State University of Malang	(Arifin et al., 2019)	Quasi Experimental results	From the results of the t-test, it can be seen that the calculated t is 6.862 and the t table is 1.795 (df 9) with a significance value of p of 0.000. Therefore, the calculated t is 6.862. $> t$ table 1.795, and significance value $0.000 < 0.05$, then this result shows that there is a significant difference. Thus the alternative hypothesis (H_a) which states "There is an effect of standing jump training on the jump height of male volleyball players at FIP Universitas Negeri Malang", is accepted. This means that standing jump training has a significant effect on the jump height of male volleyball players at FIP Universitas Negeri Malang
	Contribution of Medicine Ball and Expanding Dynamometer Training to Students' Volleyball Smashing	(Hidayat et al., 2023)	Experimental results	Based on the calculation results, the medicine ball pretest group I has an average value of 163.60 joules and the posttest average value is 173.52 joules. While in group II, the expanding dynamometer pretest average value is 31.08 kg. For the posttest, the average value is 33.42 kg. In the experimental group I (medicine ball) has a calculated $t = 6.720 > t$ table = 1.714 with sig = 0.001 which means there is an influence of the

	Ability				pretest and posttest data of the experimental group I (medicine ball). In group II (expanding dynamometer) has a calculated t value = $8.530 > t \text{ table} = 1.714$ with sig = 0.003 which means there is an influence of pretest data and posttest data of experimental group II (expanding dynamometer). The results of the percentage analysis of experimental group data obtained experimental group I experienced an increase after being given treatment in the form of medicine ball exercises by 6% and group II with expanding dynamometer exercises experienced an increase of 8%.
3	Hanging Ball Training on Smash Accuracy in Volleyball Extracurricular	(Mahfud et al., 2023)	Experiment Pseudo		Based on the calculation results of the p-sig value of $0.000 < 0.05$, the hypothesis "there is a significant influence of hanging ball training on smash accuracy in the volleyball extracurricular at SMAN 1 Kamal" can be accepted.
4	The Effect of Plyometric Training Using the Circuit Method on the Smashing Ability of Volleyball Athletes	(Eriyaldi & Masrun, 2019)	Experiment Pseudo		Thus it can be stated that all data groups in this study were taken from a normally distributed population, so they can be used for hypothesis testing. After the analysis requirements were tested and it turned out that all variable data met the requirements for hypothesis testing. The statistical test used was the t-test with a significance level of 0.05. The effect of plyometrics training using the circuit method on the smash ability of volleyball athletes at the Hunter Club, Sawahlunto City, with an average score of 4.88 and a standard deviation of 2.42 in the pre-test, and after being given treatment 16 times, the average score was 8.25 and a standard deviation of 2.76 in the post-test
5	Smash Training Model in Volleyball Games for Beginners	(Nurfalah et al., 2019)	Research and Development		Based on the advantages and disadvantages of the product produced, there are several inputs to achieve improvements to the product produced, including: (1) The implementation instructions and images on the model must be arranged and made clearly so that they are easy for athletes to understand, (2) the arrangement of the level of difficulty of the model items must be more careful, because of the similarity of movements and the accuracy of the explanation of the position; (3) the smash training model must be in accordance with the training objectives, namely for beginner athletes so that starting from the easiest to the most difficult, and (4) the facilities and tools used must be in accordance with the training objectives. The quality of the target must also be taken into account to support the training process.
6	The Influence of Drill Training	(Arif Rachman Alhakim)	Experiment		After being given drill training, there was an increase where the average pretest result was 23.20 and the posttest was 33.93 and the t-count

	Methods on et al., Smash 2022) Accuracy in Volleyball Games at the Semarang Red and White Taruna Club			value of the pretest and posttest was -10.761 with sig = 0.000 and the t-table value was 2.144, so it can be concluded that H1 is accepted, and it can be explained that there is a difference in the increase in the accuracy of the Taruna Merah Putih Semarang volleyball club players' smashes between before and after being given drill training. Based on the analysis of the research results and the discussion above, it can be concluded that there is an increase in the accuracy of the Taruna Merah Putih Semarang volleyball club players' smashes through the drill training method.
7	The Effect of Plyometric and Hurdle Training to Improve Jumping Smash Ability in Extracurricular Volleyball Students of Girls' Junior High School 2 Karanggayam	(Junianto Widodo, 2023)	Experiment	First, There is no effect of plyometric jump training on the jumping smash of extracurricular volleyball athletes at SMPN 2 Karanggayam with t count (1.608) > t table (2.201), and a significance value of p (0.136) <0.05, with a percentage increase of 0.07% or 2.75 cm. Second, There is an effect of hurdle training on the jumping smash of extracurricular volleyball athletes at SMPN 2 Karanggayam with t count (3.616) > t table (2.201), and a p value (0.004) <0.05, the results indicate that the t count value is greater than the t table. With an increase of 0.13% or 5 cm. Third, Hurdle training is better for improving the jumping smash of extracurricular volleyball athletes at SMPN 2 Karanggayam calculated from the difference in the average difference that the average difference in the post-test of the plyometric jump group is 3.08cm, average value
8	The Effect of Plyometric Training on Smash Accuracy	(Saputra & Yudi, 2019)	Pseudo - Experiment	The normality test is used to determine whether or not the data from the variables in this study are normal. The calculation of the normality test in this study uses the help of the lillefor test formula . The criteria used to determine whether a distribution is normal are if $p > 0.05$ then the distribution is declared normal and if $p < 0.05$ the distribution is said to be abnormal. From the t-test it can be seen that tcount 4.16 and ttable 1.812 (df10) with a significance value of p of 0.001. Therefore tcount 4.16 > ttable 1.812 and a significance value of 0.001 <0.05, the results show that there is a significant difference. Thus the hypothesis that states "There is a significant effect of plyometric training on the accuracy of Smash Volleyball players at SMK Cersa Pasaman Barat" is accepted
9	The effectiveness of vertical jump on men's volleyball	(Aguss et al., 2021)	Descriptive Quantitative	Based on the results of the study using the vertical jump test and conducting observations and discussions that have been described, it can be concluded that the ability to jump vertically also plays a role in a person's ability when doing

smash ability				a smash in volleyball. We can see in the research table that students with an average jump height of above 55 cm have good smash abilities. Of the 12 samples, only 2 samples have sufficient abilities and 1 other is not good.
10	Experimental Study of the Effect of Jump In Place Training on Volleyball Smashing Ability	(Ricky, 2020)	Quasi-Experiment	The results of the analysis prove that jump in place training has a significant effect on volleyball smash ability. The large role of jump in place training on volleyball smash ability when viewed from the mechanics of movement, this training requires explosive power and great strength to do a jump in a smash. This training can be done in various ways with modifications using the field, many people, and increasing intensity. This can be seen from the results of the t-test with the initial test and final test which experienced a significant increase.

DISCUSSION

The discussion of these studies shows that both training programs have a significant effect on performance in various aspects of volleyball, especially smash, as well as muscle fitness and arm power, all of which contribute to improving volleyball technical abilities such as smash, pass, and serve. Thus, a training program that combines muscle strength development is essential to improving the performance of volleyball athletes. Mahfud et al., (2023) found that in students who took part in extracurricular volleyball at SMAN 1 Kamal Bangkalan, there is a significant effect of hanging ball training on smash accuracy. For students, using the hanging ball training method has an effect and is useful for increasing smash accuracy, with this it is expected for students who are members of the Volleyball team to improve smash accuracy by using hanging ball training. And research by (Eriyaldi & Masrun, 2019) found that plyometrics training increased the smash ability of volleyball athletes at the Hunter Club in Sawahlunto City, significantly proven by the data $t_{count} = 12.81 > t_{table} = 1.859$. with an average of 4.88 in the pre-test and 8.25 in the post-test.

CONCLUSION

Based on ten articles in the form of research journals that have been analyzed by the author related to the title of the writing, namely Training Methods in Volleyball Sports, this literature review has the conclusion that there is a relationship with various research designs and models that have been given a smash training model that can facilitate the training process and improve the ability to smash which is varied and deadly.

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