Indonesian Journal of Humanities and Social Sciences
https://ejournal.uit-lirboyo.ac.id/index.php/IJHSS
E-ISSN: 2746-2188
Volume 4 Issue 3 November 2023

The Effect Of Exercises Using Rubber Ropes To Develop The Distinctive Strength Of Speed And The Performance Of The Skill Of Sending From The Top In Volleyball

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Abstract

The study aimed to identify the effect of exercises using rubber ropes in developing the distinctive strength of speed of the muscles of the arms, among students of the second grade of primary sports, as well as identifying the impact of these exercises in improving the performance accuracy of the skill of transmitting from above, As the amount of training units (12 weeks) and the research sample of (20) students representing Raie Al-Islah school, the researcher employed the experimental strategy in the pre- and post-measurement procedure. The players were divided into two groups of equal number, the first group experimental and the second group control, The results of the study revealed that rubber rope exercises have an effective impact on the development of (strength characteristic speed arms), and the researcher utilized the statistical bag to know the results of the search (SPSS), and helped to increase the skill of the transmitter from the top down. The researcher advised that physical and skill variables should be paid attention to in order to raise the level of performance of players. The study also advised that the remaining Najaf schools be informed of the study's findings in order to improve the physical and skill responses of volleyball players.

Keywords: Rubber Rope Exercises, Distinctive Strength of Speed, Transmitter from Above.

Introduction

According to methods and programs that have demonstrated how to improve sports performance and reach higher levels by utilizing all sports-related sciences, the training process plays a crucial and critical part in helping players gain the sports abilities they need to achieve the highest level of sporting success. (Al-Raqqad, 2010). Sports training methods also aim to develop the level of sports performance, according to the diversity of training methods and their effects, all this motivated researchers and those interested to choose the appropriate means and training method, one of these methods is the circular training method, which works to develop the distinctive strength of speed and maximum strength, which contributes to the development of achievement (Al-Khatib, 2008).

Thanks to the use of these exercises since the fifties of the last century and then used by many teachers and trainers, it has been modified and changed until it relies on the principles and foundations of training and organizational can be used and relied upon when forming and developing programs in all sports activities to achieve the objectives of the training process.

The performance of basic skills in volleyball also requires special physical abilities that contribute to raising the skill level, therefore, there is a direct relationship between the level of development of the special physical condition and the upgrading of the skill state to reach sports achievement (Khamis, 2005), (Brahimi, 2001) indicates that the game of volleyball needs physical, skill, tactical and psychological preparation, and the great development in the performance of offensive skills, such as the skill of sending from the top, which all players must master from all positions, as the volleyball player jumps in one game a number of jumps exceeds (100) jumps, and indicates (Abu Qamar, 2003) Volleyball has gained popularity in recent years in part due to an improvement in player skill levels. This improvement was made possible by the work of academic and professional scientists, researchers, and scholars who used a variety of training techniques, the most significant of which were rubber rope exercises to improve players' physical and mental skills.

As a consequence of the efforts of researchers and academics to use scientific data in training operations, in line with the capacities and aptitude of the athlete according to the varied requirements of play, the game of volleyball has developed in all of its various facets., physical fitness is of great importance in raising the level of overall sports performance, experts in the science of training have been engaged in continuous research on the best methods to develop them with various modern methods, unlike the traditional methods used previously. Those involved in the field of fitness and public health aspire and seek to seek some forms of physical exercise that do not require the use of expensive tools or devices, on this basis, rubber ropes are one of the forms of those exercises that achieve many benefits and without cost and are practiced anywhere, through the researchers' access to sources and research to develop the elements of physical fitness.

They found that there are many Arab and foreign literature that contains with it exercises using the stationary bike, moving belt, maljam and other tools and aerobic exercises, however, it is devoid of studies on the importance of rubber ropes, and this is what motivated researchers to study the impact of proposed exercises using rubber ropes on health fitness, especially after the recent fundamental amendments to the law of the game, The researcher, a teacher, and a player of the game have noticed through experience that there is a definite weakness in the second grade students' average skill and physical performance, particularly in the accuracy of the performance of the skill of transmitting from the top of the volleyball, due to the low level of concentration in performance.

The study focused on investigating the impact of rubber rope exercises on the development of distinctive speed strength among second-grade students in volleyball. The research revealed statistically significant variations in pre- and post-measurements,

indicating a noteworthy improvement in characteristic speed strength among average athlete students in the second grade. The post-measurement results were particularly favorable, suggesting that the rubber rope exercises had a positive effect on enhancing the students' speed strength.

Additionally, the study explored the influence of rubber rope activities on the proficiency of second-grade students in the skill of transmission. The findings demonstrated statistically significant changes in the accuracy of performance between pre- and post-measurements. The post-measurement results favored the highest accuracy in the skill of transmission among second-grade pupils, indicating that the rubber rope exercises contributed to an improvement in their ability to perform this skill.

The study was conducted in the human field, specifically targeting second-grade intermediate students. The time frame for the research spanned from 1/2/2022 to 1/5/2022, and the spatial field was the Five-a-side Stadium. These details provide context to the study, specifying the participants, duration, and location of the research. The research not only sheds light on the effectiveness of rubber rope exercises but also provides valuable insights into the targeted group – second-grade intermediate students. By focusing on this specific demographic, the study offers practical implications for educators, coaches, and individuals involved in the physical development of young athletes.

The chosen time frame from 1/2/2022 to 1/5/2022 indicates a concentrated period during which the intervention took place. This temporal boundary is crucial for understanding the short-term effects of the rubber rope exercises on the measured parameters. However, it would be pertinent for future research to explore the long-term sustainability and retention of the observed improvements over an extended period. Furthermore, the spatial field being the Five-a-side Stadium provides context to the practical application of the exercises. The choice of a sports-specific venue reinforces the relevance of the study to the domain of volleyball, and it suggests that the interventions were implemented in an environment conducive to the targeted activities.

In conclusion, the study contributes valuable information regarding the positive impact of rubber rope exercises on both the distinctive speed strength and proficiency in the skill of transmission among second-grade students in volleyball. The findings offer practical implications for those involved in the physical development of young athletes and highlight the potential of targeted interventions within a specific time frame and sports-related setting.

Method

The researcher used the experimental approach and the design of the two equivalent groups to suit the nature of the problem at hand. The researcher's scientific program is a way of thinking he adopted to organize his ideas, analyze them, and present them before arriving at reasonable results and facts about the phenomenon under study. The research community was selected from the 25 intermediate second grade students. The sample was

purposefully chosen from the second grade children who had an average of (20) players, with the exception of (5) players who had unique situations.

Devices and Tools:

1. Stopwatch.
2. Leather tape measure length (5) m.
3. Medicine ball weighing (2) kg.
4. Volleyballs.
5. Pens.
6. Chair.
7. Rope.
8. Whistle.
9. Rubber ropes.
10. Swedish seats of different heights.

Determine Physical and Skill Test:

Physical Test:

First: Test Distinctive Strength of Speed

Test name: Bend and stretch the arms from the forward support position for (30 seconds)

Purpose of the test: to assess the power of the arms' muscles.

Tools: square, stopwatch, whistle.

Performance specifications: At the start signal and from the front support position, the tester bends and extends the arms continuously for a period of (30 seconds) so that the chest each time touches the ground when bending and the elbows are completely extended at the extend.

Scoring: The laboratory records the correct number of times it performs within 30 seconds. (Muhammad Subhy, 1994)

Skill Test

First: Transmission Accuracy Test from Above[1]:

Purpose of the Test: Measuring the accuracy of the transmission skill from above:

Tools: Legal volleyball court, ten volleyballs, metric scale.

[1] Muhammad Waheeb Mahdi; The effect of explosive power training in the water environment to develop some skills in volleyball for juniors, (Master Thesis, Diyala University, College of Basic Education, 2011), p. 71-72.

Two lines are drawn parallel to the side line in the second half of the pitch, the first four feet from the side line and the second six feet from the first line (ten feet from the side), to specify the transmission region. It is inscribed in the first rectangle with the number 10, in the second with the number 5, and in the third with the number 1, where these values stand in for the degrees of the laboratory if the ball lands in any of these three locations, as illustrated in Figure (2).

Performance specifications: The tester attempts to drop the ball into the rectangle with the number 10 printed on it while standing in the transmission area and performing the skill of sending to the opposing half of the field, provided that the ball avoids the net (without touching it).

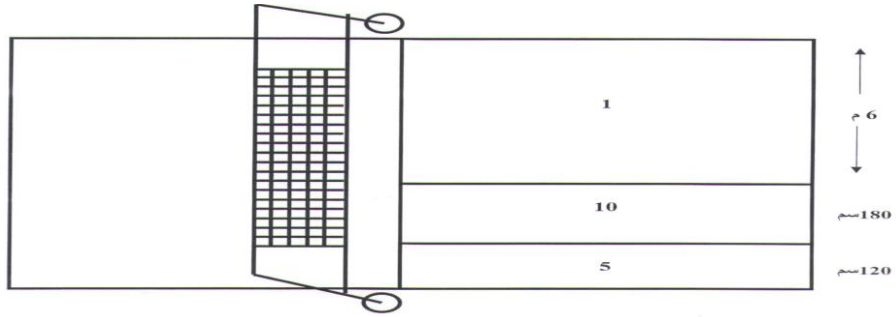
Conditions

1. The transmission method is pre-agreed upon.

2. Each person has 10 (consecutive) attempts at the test.

3. If the ball touches the net, whether it is inside or outside the field or if it is outside the field's limits but does not contact the net, the laboratory receives (zero).

4- The serve must be delivered from inside the stadium's broadcast area, behind the sideline.



Scoring: The player receives (5) degrees if the ball lands in the third rectangle and (10) degrees if it lands in the designated region, which is the first rectangle next to the side line (1). The ball will be regarded as falling within the target scales if it lands on one of the fair lines of either of the two rectangles within the field lines. The final score of these tests is (100), and it indicates the set of laboratory scores in the ten trials it makes.

Figure (1) shows the test of transmission skill accuracy from above

Scientific Basis of Tests

Validity

According to Kadhim Karim Redha Al-Jabri (2011, 217), the test was created to measure the field or phenomenon that was intended to be measured. The face validity was adapted from the skill tests that were presented to professionals and specialists.

Stability

In order to determine the stability of the test, the researcher used the Pearson correlation coefficient between the test results, and the results showed a "significant" correlation between them. A static test is one that produces the same or similar results when applied and under the same conditions. The test was applied to the same sample in order to determine its stability.

Exploratory Experiment

The researcher applied the study tests to a sample of (7) players from outside the original study sample to verify the following:

1. Ensure the validity and appropriateness of conducting tests and identify the duration of time they take.
2. Ensure the validity and appropriateness of measurement tools and training on them.
3. Identify the difficulties and obstacles that the researcher may face during the tests in order to avoid them when implementing the program.

Pre-Tests

The research sample (20) players underwent physical and skill activities, and the conditions of the pre-tests were as closely documented as possible and applied to the post-tests.

Training Program

The training program uses the development of strength characterized by speed as well as improving skill performance in the game of volleyball, taking into account the possibilities and individual differences between the players. When developing the contents of the training program, the researcher relied on the principles of sports training science. The training curriculum included (12) training units, three training units per week, and that the time commitment for each unit was one hour.

Post-Tests

After the implementation of the program prepared by the researcher on the experimental and control groups, the post-tests were conducted on the two groups on a date and the researcher prepared in advance the appropriate conditions in terms of time, place and tools necessary for the post-tests, and implement the same procedures followed in the pre-tests with the help of the same assistant team in the pre-test.

Statistical Methods

The researcher employed SPSS, a statistical package, to determine the outcomes of volleyball tests.

Part Three

Presentation and Discussion of Results

The data obtained following the application of the program created by the researcher during the application of the post-tests for the control and experimental research groups are presented in this section along with a discussion based on those findings. The data were converted into tables as an explanatory tool for research.

Presentation of volleyball physical and skill testing results comparing the control group's pre- and post-tests

Table 1

Tests	Unit of measurement	Pre-test		Post-test		Calculated T value	Tabular T value
		+S	±P	+S	±P		
Distinctive Strength of Speed Test	Meter	82.714	6.499	85.142	5.669	1.087	2.26
Test the accuracy of the transmitter skill from the top of the center (2)	Degree	6.571	0.975	7.428	1.133	1.93	

*Significant at error rate≤ (0.05)

Presentation of volleyball physical and skill testing results comparing the experimental group's pre- and post-tests

Table 2

Tests	Unit of measurement	Pre-test		Post-test		Calculated T value	Tabular T value
		+S	±P	+S	±P		

Distinctive Strength of Speed Test	Meter	81.000	10.535	99.142	14.622	5.024	2.26
Test the accuracy of the transmitter skill from the top of the center (2)	Degree	5.571	1.511	8.428	2.636	3.235	

*Significant at error rate≤ (0.05)

1. The need to pay attention to physical and skill variables due to their importance in raising the level of volleyball players.
2. Conducting periodic evaluation of the extent of development of volleyball players through the physical and skill variables used in this study.
3. Developing comparable curricula to enhance some of the physical and technical skills of volleyball players by drawing on the training program.

Result and Discussion

The results of the study unmistakably reveal substantial distinctions in the post-tests conducted between the experimental and control groups, decisively favoring the former. This observed disparity in outcomes can be comprehensively attributed to a well-rounded intervention strategy that skillfully combines both physical and skill-based exercises. One pivotal aspect contributing to the progress of the experimental group is the meticulous application of an optimal intensity of performance during skill exercises. This nuanced execution aligns seamlessly with Al-Hayali's assertion in (2007), emphasizing that the intensity of skill execution should ideally be less than the characteristic speed, reflecting the ideal intensity of performance. Such alignment with theoretical frameworks not only validates the empirical results but also underscores the thoughtful design and execution of interventions.

It is evident from the results that there are significant differences between the post-tests of the experimental and control groups, favoring the experimental group. The reason for the experimental group's development is attributed to the use of physical and skill exercises and the use of the ideal intensity of performance used by the researcher in the application of skill exercises; this is consistent with what Al-Hayali claimed. (2007)

Furthermore, the researcher's commitment to a scientific methodology in devising exercises and steadfast adherence to the principle of gradation in repetitions emerges as a critical foundation for the observed advancements within the experimental group. This approach not only demonstrates a deep understanding of pedagogical

principles but also resonates with the insights shared by Al-Moaamn (2008). Al-Moaamn underscores the significance of a graded approach in increasing repetitions and difficulty of performance, coupled with the utilization of exercises tailored to meet the specific technical demands of the game. The meticulous design of interventions, adhering to the correct sequence of exercises, as advocated by Al-Moaamn, substantially contributes to the developmental strides witnessed in the experimental group. "The adoption of the principle of gradation in increasing repetitions and difficulty of performance and the use of exercises similar to the specificity of the technical requirements of the game as well as the correct sequence followed in the performance of exercises contributes to development (Al-Moaamn, 2008, 85).

In essence, the success of the study in fostering development within the experimental group is intricately linked to the amalgamation of appropriate intensity, adherence to theoretical underpinnings, and the systematic, graduated progression in exercises. These elements collectively underscore the significance of a thoughtful, scientific approach in crafting interventions for skill and physical development in the context of volleyball training. The study's findings not only contribute to the empirical understanding of effective training methodologies but also highlight the importance of integrating theoretical frameworks into practical applications for optimal results.

Conclusion

The conclusive findings of the scientific article underscore the profound impact of rubber rope exercises on the physical talents and skill performance accuracy of volleyball players. Through a meticulous examination of both physical and skill-related variables, the study reveals a significant correlation between the incorporation of rubber rope exercises and the enhancement of players' overall performance. In dissecting the first key conclusion, it becomes evident that the physical talents of volleyball players experience notable refinement through the systematic integration of rubber rope exercises. The exercises serve as a catalyst for the development of distinctive speed strength, a critical attribute in the game of volleyball. The players, particularly those in the second grade, exhibit a discernible improvement in their physical capabilities, highlighting the effectiveness of the intervention.

Moving on to the second critical conclusion, the study delves into the intricacies of skill performance accuracy. The post-test findings elucidate a clear preference for the two groups subjected to rubber rope exercises, indicating a pronounced positive impact on skill-related variables. The post-test results, which favorably lean in the direction of improved accuracy, underscore the significance of incorporating rubber rope exercises into the training regimen of volleyball players. Collectively, the research signifies that the benefits derived from rubber rope exercises extend beyond mere physical enhancement, encompassing a tangible improvement in skill performance accuracy. The findings serve as a valuable resource for coaches, educators, and practitioners involved in the training

and development of volleyball players, emphasizing the potential transformative effects of targeted interventions on both the physiological and technical aspects of the game.

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