

The effectiveness of fractal jump exercises using Hopz on some physical variables related to the blocking skill of female volleyball players

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Research Summary

The research aims to study the effectiveness of the jump exercises using Hopz on some physical variables related to the skill of blocking the wall of volleyball players, in order to achieve the objectives of the research and test its hypotheses. The research community is represented by female volleyball players who are registered with the Egyptian Volleyball Federation - Ismailia region in the sports season 2022/2023 AD, and their number has reached (175) players. (25) Twenty-five female players, representing 14.3% of the research community, and the researcher found the effectiveness of the jump exercises using Hopz on some physical variables related to the skill of blocking the wall of volleyball players. Research in favor of telemetry .

Key words

– Fractal jump exercises , Hopz , Blocking skill .

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Introduction and research problem :

The recent spread of some training with tools that help develop the elements of physical fitness among its practitioners, and it has become one of the most famous tools for physical fitness in the world and is practiced in schools, homes, and gymnasiums (2: 201) .

Achieving sporting achievement Nowadays, it is not just a workout or a drill, but the achievement is a time-consuming process. To achieve a high sporting achievement, different disciplinary roles are required. Achieving sporting achievements magnifies many influencing factors. The factors that determine athletic achievement are biological, psychological, environmental and other supporting aspects. In general, the increased performance of athletes who need a lot of movement is strongly influenced by the readiness of four major components. The four main components are physical, technical, tactical and mental Among the many components of the physical condition, leg muscles are one of the important components needed by many dynamic sports, for example it can be seen in athletics, running, jumping, jumping and volleyball, and it is mentioned that some dynamic sports require a lot of The role of the calf muscles (3:13) .

- 25 -design this vertical jump training program to help you increase leg strength and explosiveness, as well as to help reduce knee and ankle injuries. If performed with proper technique, you will develop the muscular strength and balance necessary to improve the vertical jump. Proper technique is vital for learning various skills.

It develops in the player self-confidence and makes him trust in his physical and skill abilities and the effectiveness of his performance, and the method of individual training appeared to meet the differences between the learners, where the differences appear in the physical capabilities, skills, reason, motor and tactical experiences, defensive methods and attitudes, and in emotional and social maturity (4: 11) .

The researcher mentions that the Hopz tool is one of the modern methods and means through which it creates an effective training program that can improve sports performance and can develop general fitness variables and special sports skills as it can be integrated into training programs for different sports, especially team sports such as volleyball, and tool training consisting of a waist belt It can be formed and hangs from it two rubber bands with different resistances that connect between the

wrists of the feet and the waist belt and use the weight of the body against gravity to build strength, balance, compatibility, flexibility and develop muscle strength and depend on its performance on the muscles of the abdomen, back and pelvis using a set of different exercises and can be used for everyone without distinction in age or gender and in a variety of ways and can be modified according to the individual differences of the practitioners, as it depends in its performance on the main principles, including the principle of direction of resistance and the principle of stability.

Through the researcher's review of previous studies that used the Hopz tool exercises, the results of all studies highlighted the extent to which the level of players developed physically and skillfully, and in particular, which issued that the results of the players who used the Hopz tool exercises increased their physical and skill levels significantly from others, but the researcher found that To the best of her knowledge, the studies that used these performances are in individual sports only and not used in team sports.

And through the experience of the researcher academically as a teacher in the Department of Sports Training and Movement Sciences specializing in volleyball, and the practical experience as a coach for young women in volleyball, she found the importance of the block weaver skill, which is no less important

as a defensive skill in preventing the competitor from obtaining a point from the most important offensive skills, which is the crushing hit. From the defensive skill to the crushing hitting skill, and to perform this skill efficiently and at a distinct level to achieve its goal, the player must be characterized by many physical capabilities, the most important of which are the muscles of the two legs that qualify the player to reach the maximum height so that he can block the opponent's balls, and this is what prompted the researcher to prepare vertical jump exercises using hopz And the preparation of this research and its title: The effectiveness of the jump exercises by using Hopz on some physical variables related to the skill of blocking the wall of volleyball players.

Search goal:

The research aims to study the effectiveness of the jump exercises using Hopz on some physical variables (the strength of the muscles of the legs, the strength of the muscles of the torso, and the vertical jump) and the skill of blocking the volleyball players.

Research hypotheses :

In light of the research objective, the researcher hypothesizes :

- There are statistically significant differences between the pre- and post-measurement in the physical variables (the strength of the two legs muscles, the vertical jump) with the skill of

blocking the wall of the volleyball players in favor of the post-measurement.

Search procedures

Research Methodology :

In order to achieve the objectives of the research and to test its hypotheses, the researcher used the experimental approach, as it is the appropriate approach for the nature of the research. He used a model of experimental designs, which is the pre- and post-measurement of one experimental group .

Research community and sample:

The research community is represented by female volleyball players who are registered with the Egyptian Volleyball Federation - Ismailia region in the sports season 2022/2023 AD, and their number has reached (175) players. 20) Twenty players, representing 14.3% of the research community.

search tools

- The duration of the training program is 12 weeks.
- The number of training units is 4 training units.
- Training days (Sunday, Monday, Tuesday, Thursday) of each week, where the exercises are applied in the volleyball court at the Canal Sports Club.

- Determining the preparation period (public, private, and pre-competition stage) :
 - o 4 weeks for the general preparation
 - o 5 weeks for your numbers .
 - o 3 weeks for pre-competition numbers .
- Pregnancy cycle during the program :
 - o Determine the menstrual cycle of pregnancy (2: 1)
- Fractal jump exercises using Hpoz :
 - o Fractal jump exercises started using Hpoz from the fifth week until the end of the ninth week .
 - o Fractal jump exercises are carried out using Hpoz in the special physical preparation part .
 - o The time of exercises in the daily unit is 15 minutes.

Search steps:

1- The researchers will conduct the exploratory study to train the assistants in the tests Exploratory studies:

and ensure that they are appropriate to the nature of the research sample, as well as to inform the female players about the nature of the tool used in the training program, how to use it, and its purpose.

2- Tribal measurement :

The researcher conducted the pre-measurement before starting the

application of the training program, and this day corresponding to 4/9/2022.

3- Implementation of the proposed training program :

The researcher implemented the training program in the period from corresponding to 5/9/2022 to 24/11/2022

4- Dimensional measurement and analysis :

The researcher conducted the post-measurement after completing the application of the training program and under the same conditions as applying the pre-measurement, and this is on the day corresponding to 27/11/2022 .

5- Statistical treatment :

In order to achieve the objectives of the research and to test its hypotheses, the researchers will use the computer in statistical processing by using the spss statistical program in order to obtain statistical treatments.

research results

The researchers attribute this improvement in the physical and skill variables to the HOPZ exercises, which are codified within the proposed training program, which are performed with specific intensity and repetitions, and also the integration of these exercises on the movements prevailing in the defensive plans in volleyball, which works to increase defensive confidence and try to make every effort to prevent the ball from entering the space. his stadium .

The researcher also points out that HOPZ exercises through the appropriate training program for the research sample, such as volleyball players, and regularity in training works to increase the physical elements, and the positivity of these exercises appeared in the strength of the muscles of the legs as well as the muscles of the trunk (abdomen, back), and thus improving many physical elements, the most important of which is the ability, explosive power .

This result is consistent with the study of "Shahenda Omar Noby" (2023) (5), which concluded that the application of the training program using HOPZ exercises when training rhythmic gymnastics because of its positive effect in raising the level of performance of the motor system of students of rhythmic gymnastics, and also agrees with the study of "Shidqi Hamdi, Hari Setijono, Oce Wiriawa (2019) (6): whose results revealed a positive effect of plyometric hurdles jumps and tuck jump training on strength and leg muscle strength in martial arts players .

In terms of developing defensive skills, this result is consistent with the study of Amira Shwki (2018) (1), which concluded that the proposed training program led to a significant improvement in physical variables and muscle balance ratios, and this led to an improvement in the forms of strength and the level of performance of some defensive skills in volleyball .

Through the previous presentation and the results of the post-analysis of the matches and the opinions of the experts, the researcher sees that the research hypothesis has been fulfilled, which states: There are statistically significant differences between the pre and post measurement in the physical variables (the strength of the muscles of the legs, the vertical jump) with the skill of blocking the volleyball players in favor of the post measurement .

Conclusion

In the light of imposing the research and the procedures that were followed and the research sample, and the results of the research, the researcher found the effectiveness of the jump exercises using Hopz on some physical variables related to the skill of blocking the wall of volleyball players .

Thanks and appreciation

The researcher extends sincere thanks and great appreciation to everyone who contributed to the exit of this work to the fullest extent, especially the experts in the field of volleyball training. Allocate time and information for the research to come out in the desired way and the ability to achieve the desired goal.

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