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## **Strong by zumba exercises and their effect on some physical abilities and the skill of dribbling (High and Low) for the players of the Baghdad education directorate team**

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### **Abstract**

The study aims to prepare strong by zumba exercises and find out the extent of their impact on some physical and skill abilities. The problem of the research arises in finding diverse and modern methods that are popular for training to develop some physical and skill abilities and to banish boredom and improve the level and demand for training. As for the hypotheses, there were differences with statistical significance. Between the pre- and post-tests among the research community and in favor of the post-test. As for the research community, it was the players of the Baghdad-Al-Karkh Education third basketball team for the academic year 2022-2023. The researcher chose the experimental approach with one group with the pre- and post-tests. The exploratory experiment was conducted, then the pre-tests, and after implementing the strong by zumba training, the post-tests were conducted in the same conditions. The results were processed statistically using the SPSS program, and the researcher reached the following conclusions that the strong by zumba exercises had a positive effect on some physical abilities and the dribbling skill (high and low). Several recommendations were identified to implement the strong by zumba exercises with games and individual and group activities for all ages and for both genders.

**Keywords:** Physical abilities, zumba exercises, dribbling skill, individual and group activities

### **Introduction**

The game of basketball is considered one of the games characterized by suspense and excitement, which many people love to play or watch in terms of scoring the number of goals and the enjoyable movement of the players. The diversity of training methods develops skills and improves performance. The skill of tamping is one of the necessary skills as it is an advanced means of movement, deception, evasion, attack, getting the right place, and taking a good position to create goals. The researcher decided to choose the strong by zumba exercises with the popular musical rhythm accompanying them to train some physical abilities and the skill of dribbling (High and low), as it creates an atmosphere of pleasure for them and thus develops the level of performance and play. Here the problem of the research is determined and emerges in finding diverse and modern methods that are popular for training to banish boredom and improve. The level and interest in training, practicing it with enthusiasm, and focusing on it through training. And control in performing them in an elaborate and beautiful way, as the strong by zumba exercises are those exercises that give activity and strength to the various parts of the body. Studies also confirm that these dancing exercises mixed with strength and muscle movement in a balanced manner and according to the exciting musical rhythm have a positive effect physically and skillfully, and basketball is a game that has Its kinetic rhythms, so it is better to choose these exercises as strength exercises mixed with musical rhythm to break boredom, not feel tired, and engage in exercises with passion and an atmosphere of enjoyment and fun. Here lies the importance of this study using the Strong by Zumba exercises and their effect on some physical abilities and the dribbling skill (high and low) of the female players of the Baghdad/Al-Karkh 3<sup>rd</sup> Education Directorate team.

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**Research problem**

Most of the time, we rely on the usual and routine training methods in training without achieving noticeable improvement or a high level, especially for this type of female player, that is, the education team players. Therefore, the researcher tried to introduce a method different from the traditional methods used with them, so she decided to incorporate the strong by zumba exercises as a new method, as it is mostly. Trainers avoid including music in strength exercises, since strength exercises are tiring and arduous, especially for these ages, through the researcher’s observation that the female players did not accept the old routine exercises previously used in the training units as a tiring and arduous routine, and through the researcher’s exposure to many Arab and foreign sources, she found that diversity in methods and finding a modern style breaks the barrier of boredom and makes the female players accept training with passion. The researcher chose exercises strong by zumba and its effect on some physical abilities and the dribbling skill (high and low) of the female team players of the Baghdad/Al-Karkh 3<sup>rd</sup> Education Directorate.

**Research objectives**

- Preparing strong by zumba exercises for the research sample.
- strong zumba exercises and knowing the extent and effect of some physical abilities and the skill of dribbling (high and low) for the players of the Baghdad-Al-Karkh 3<sup>rd</sup> Education Directorate team.

**Research hypotheses**

1. There are statistically significant differences between the pre- and post-tests among the research sample in strengthening the muscles of the arms, torso, and legs.
2. There are statistically significant differences between the pre- and post-tests among the research sample in the test of dribbling skill (High and low).

**Table 2:** Shows the equivalence between the research variables, the means, standard deviations, variance, and skewness coefficient for the pre-tests of the research population:

| Test   | Mean   | Std. Deviation | variance | Skew ness |
|--|--------|----------------|----------|-----------|
| Standing prone test in 10 seconds  | 13.800 | 1.032          | 1.067    | -0.272    |
| Test raising and lowering the torso behind from lying down                       | 13.100 | 2.923          | 8.544    | 0.757     |
| Testing the strength and speed of the legs by vertical jumping from a standstill | 4.900  | 0.737          | 0.544    | 0.166     |
| High dribbling test  | 7.000  | 0.666          | 0.444    | 0.000     |
| dribbling test   | 5.000  | 0.848          | 0.722    | 0.000     |

The sample is homogeneous because the torsion coefficient is limited to ( $\pm 3$ ).

**The means of collecting information, tools and devices used in the research**

**Means of collecting information**

- Arab and foreign sources.
- Personal interviews.
- Data dumping forms.
- Information network (Internet).

**Tools and equipment used**

- Basketballs (20).
- Different weights.
- Dumbbells.
- CDs (Zumba music).
- Stopwatch.
- Terraces
- Stadium.

**Research fields**

**Human field:** Baghdad - Al-Karkh 3<sup>rd</sup> Education National Team players.

**Time field:** From 12-11-2022 to 15-1-2023.

**Spatial field:** Youth Club Hall Alhuriya.

**Research methodology and field procedures**

**Research Methodology**

The experimental method was chosen because it is most appropriate to the nature of the problem to be investigated, which determines the nature of the approach followed, and because it allows direct and accurate observation and is more sufficient in achieving knowledge, and the experimental method was used in a single group design.

**Community and sample research**

The researcher chose the players of the Baghdad/Al-Karkh Third Education Team, who represent the community of origin. They number (12) players and are 15-17 years old. Two of them were excluded for the purpose of the exploratory experiment, bringing the number to (10) players, and in order to ascertain the variables that may be accompanied by an impact on the research results. It consisted of measuring (Length, Mass, training age, age), and the researcher conducted homogeneity tests for the members of the research community.

**Table 1:** Shows the homogeneity of the research variables, the arithmetic mean, the skewness coefficient, and the level of significance for the research population, (Length, Mass, training age, age)

| N | Variables    | Measuring Unit | Mean | Skew ness | Sig type |
|---|--------------|----------------|------|-----------|----------|
| 1 | Length       | Cm             | 160  | 3.09      | Non sig  |
| 2 | Mass         | Kg             | 58   | 6.54      | Non sig  |
| 3 | Training age | Year           | 16   | 0.75      | Non sig  |
| 4 | Age          | Year           | 3    | 0.61      | Non sig  |

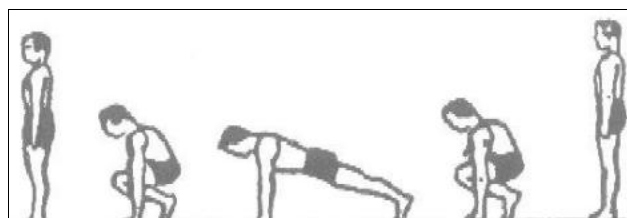
**Field research procedures**

The procedures that the researcher adopted through this research were the use of strength tests for the muscles of the arms, torso, and legs, and a pliability test related to the research associated with the strong by zumba exercises.

**Tests used in the research**

**Physical tests**

**Squat Thrusts or Burpee Test**



**Purpose of the test:** Endurance of the strength of the arms.

**Tools:** A thin rug placed on flat ground, or on flat sandy ground.

**Description of the performance:** Standing upright when giving the signal, bending the knees to descend with the seat on the heels, placing the palms on the ground and the knees between the arms, throwing the legs backwards to take a completely prone position, then throwing the legs forward to reach the position of bending the knees, after that standing in a moderate position with the chest in front. To reach the initial position (perform as quickly as possible and as many times as possible without stopping until the end of time.). The test ends and the counting stops when the time ends (10) seconds. Incorrect attempts are not counted in the number. Only one attempt is given.

**Register:** Four marks are counted for each correct attempt consisting of four parts: Fully bending the knees, throwing the legs backwards, throwing the legs forward, to stand within (10) seconds.

#### **Arm extension test with a barbell**

**Performance method:** Standing, holding the barbell from above with the arms extended high, then bending the elbows while holding it in a vertical position on the shoulders, then extending the arms high.

**Registration:** The largest number of correct times.

**Test for raising and lowering the torso from the back from lying down**

**Testing the strength and speed of the legs, vertical jump from a standstill**

**Skills tests designed by the researcher:** The researcher designed a tapping test accompanied by music, where players used two balls together and tapped in both hands, and set a time for the extent of the player's control over the ball.

#### **High dribbling test**

**Purpose of the test:** To measure the player's control of the ball when making a high tap.

**Tools:** 2 basketballs - a playground - a stopwatch - Zumba music.

**Description of the performance:** The player taps two balls loudly with both hands, accompanied by musical rhythm.

**Registration:** Calculating the time the player keeps the two balls during the tap, and recording stops when one of the balls is lost.

#### **Low dribbling test**

**Purpose of the test:** To measure the player's control of the ball when performing the low tap.

**Tools:** 2 basketballs - playground - stopwatch - Zumba music.

**Description of the performance:** The player performs a low tap with two balls with both hands, accompanied by musical rhythm.

**Registration:** Calculating the time the player keeps the two balls while dribbling, and recording stops when one of the balls is lost.

**Exploratory experience:** The researcher conducted the exploratory experiment on November 10, 2022, in the Al-

Shabab Al-Hurriya Club stadium, to determine the suitability of the tests, the time of their implementation, the obstacles they face, and an attempt to avoid them.

#### **Scientific foundations for testing the dribbling skill:**

The researcher sought to find scientific conditions for the scale used in the research, as these conditions must be met for it, so that its results will not be approved unless these conditions are met.

#### **Validity of the test**

In order to verify the validity of the test designed by the researcher with the research community, the researcher deliberately used (content validity) and prepared a questionnaire form and presented it to the experts (Appendix No. 1) to obtain their opinions, and then we empty our data, as the test obtained a percentage of (90%) from the experts. Experts agreed that this scale, which measures the skill of dribbling (High and low) with Zumba music, is honest, as it is considered (The scale is validity if it measures only what it was intended to measure) (Hassanein, Muhammad Sobhi, 1997, p. 198) <sup>[1]</sup>.

**Reliability:** The researcher repeated the test for the purpose of obtaining the reliability of the test. She conducted the test on a sample consisting of (5) female players, and a week after the first experiment, the researcher repeated the test, in the same conditions and atmosphere, since the measure is considered reliability (if it performs It produces the same results if repeated, especially if the conditions surrounding the scale and the laboratory are the same (Al-Assan, Saleh bin Hamad, 1995, p. 430) <sup>[2]</sup>, and it turns out that the designed test has a reliability coefficient.

**Objectivity:** It is the conformity of the opinions of more than one arbitrator when they evaluate the test (as an objective test is one that does not cause a significant discrepancy between the opinions of the arbitrators. (Al-Yasiri Muhammad Jassim, 2017) <sup>[3]</sup>.

#### **Main experiment procedures**

##### **Pretests**

The researcher conducted the pre-tests, along with the research community's assistant team, at four o'clock in the evening on Monday (Monday), corresponding to 12/11/2022, at the training center of the Education Directorate, the Freedom Youth Center, where physical tests were conducted. On the second day (Tuesday), corresponding to November 13, 2022, physical tests were conducted. Skill tests.

##### **The main experiment**

**Training curriculum:** The researcher prepared the strong by zumba exercises for a period of 8 weeks, with two training units per week, 16 training units, and an intensity ranging between (60-80%), as shown in Appendix No. (1).

##### **Post-tests**

After completing the Strong By Zumba exercises and after completing the application of the used exercise vocabulary, the researcher, with the help of the assistant team, conducted the post-tests for the research community on the day corresponding to (13-14/1/2023) at four o'clock, and the researcher took care as much as possible to match the conditions similar to the pre-tests, which are: (In place, time, tools used in the test, and method of implementing the test).

**Statistical methods: Use the SPSS program as a statistical method to process its data Presentation, analysis and discussion of the results**

**Presentation and discussion of the results of the pre- and post-tests**

**Table 3:** Shows the arithmetic means, standard deviations, variance, and skewness coefficient of the pre-tests of the research community.

| Test   | Mean   | Std. Deviation | Variance | Skewness |
|--|--------|----------------|----------|----------|
| Arm extension test with a barbell  | 11.7   | 1.22           | 1.23     | 0.172    |
| Standing prone test in 10 seconds  | 13.800 | 1.032          | 1.067    | -0.272   |
| Test raising and lowering the torso behind from lying down                       | 4.900  | 0.737          | 0.544    | 0.166    |
| Testing the strength and speed of the legs by vertical jumping from a standstill | 6.07   | 0.08           | 1.01     | 0.244    |
| High dribbling test  | 7.000  | 0.666          | 0.444    | 0.000    |
| dribbling test   | 5.000  | 0.848          | 0.722    | 0.000    |

**Table 4:** Shows the means, Std. Deviation, and variance of the posttests for the research population

| Test   | Mean    | Std. Deviation | Variance |
|--|---------|----------------|----------|
| Arm extension test with a barbell  | 15.862  | 1.802          | 2.555    |
| Standing prone test in 10 seconds  | 17.9000 | 1.911          | 3.656    |
| Test raising and lowering the torso behind from lying down                       | 6.5000  | 1.178          | 1.389    |
| Testing the strength and speed of the legs by vertical jumping from a standstill | 18.000  | 2.108          | 4.444    |
| High dribbling test  | 20.000  | 2.211          | 4.889    |
| dribbling test   | 16.700  | 4.463          | 21.567   |

Below the significance level of 0.005

**Table 5:** Shows the differences in means, standard deviations, t-value, and significance level for the pre- and post-tests of the research community

| Pre-post tests   | Means Differences between pre and post | Std. Deviation | T-Value | Sig level |
|--|--|----------------|---------|-----------|
| Arms test  | 4.100                                  | 1.197          | 10.830  | 0.000     |
| Test raising and lowering the torso behind from lying down                       | 1.600                                  | 0.516          | 9.798   | 0.000     |
| Testing the strength and speed of the legs by vertical jumping from a standstill | 4.900                                  | 3.414          | 4.539   | 0.001     |
| High dribbling test  | 13.000                                 | 2.449          | 17.783  | 0.000     |
| dribbling test   | 11.200                                 | 4.541          | 7.799   | 0.000     |

**Discussion**

After extracting the differences between the pre- and post-tests and for each variable, the results showed that there were high significant differences between the pre- and post-tests in the torso and arms test and the high and low squat tests with the help of Strong by Zumba and in favor of the larger arithmetic mean, which is the post test. Female basketball players depend primarily on the strength of the arms in the process of performing. Stretching skill and that the prepared exercises contributed to increasing the strength work efficiency of the arms and torso and also contributed to increasing the strength endurance of the arms (endurance is the ability of the individual athlete to continue performing effectively without a decline in his efficiency or the athlete's ability to resist fatigue. It is also known as, the ability to resist Organic systems for fatigue during exercise for a relatively long period

The results showed clear progress in performing the tapping and controlling the ball, as the tapping is one of the special methods of progressing with the ball and maintaining its performance without committing a walking violation. It is compatible with the arm, wrist, torso, eye, leg, and ball, as it is necessary and necessary for any player to master it, and therefore the player who He does not have the ability to block easily, so he is not an attacker, and on this basis we can say that blocking is the basis of effective play during an attack. (Al-Rashid Raad Jaber and Zahir, Kamal Arif, 1999, p. 85) [4] This is what the researcher agreed upon with them and emphasized during her training, as we know that the dip has great importance linked to the rest of the skills related to basketball, such as handling, for example, as every player must learn to master the link between the plunge and the

tackle (Taylor, Richard, 1989) [5]

The researcher attributes these differences to the different tests that were applied to the research community, as these different tests are the direct factor in increasing the player's ability to control and the ability to adjust the clenching mechanic accurately to contribute to attack, deception, and dribbling during the performance of female basketball players, and the fact that the game of basketball requires focus and control. There is a high difference between looking at the ball and at the same time looking at the court and the competitors, and the fact that the player performs exercises with Strong Bay Zumba, which leads to mastering both types of tapping, which contributed to increasing the efficiency of the players during attacking, deception, and dribbling the ball with the tapping with high accuracy and concentration. (Muscles are the source of strength in the human body and its engine, because they are the source of the force that causes movement and the performance of most sporting activities depends on it. Players who have good muscular ability are able to produce good general strength and win competitions) (Karima Fayyad, 2004, p. 57) [6]

The researcher gives an explanation for the positive differences between the post-group tests compared to the pre-tests by stating that the exercises mixed with Zumba music were clearly benefited, as this work led to improving the performance of both types of the dribbling skill, which led to, increasing motivation and creating a development in performance, increases learning motivation. It encourages you to perform with desire and enthusiasm.

It must be noted that working and performing exercises by listening to music leads to adjusting the performance to the required skill by linking the musical rhythm to the required



motor performance and focusing on the areas of weakness and strength so that we can accompany them with the motor performance. Laila Zahran, quoting Pavlov, points out, the music is heard first and then followed by a motor situation. Through reflex, because working with music requires a sense of rhythm to master motor skills (Dhafer Hashim Ismail, 2002, p. 102) <sup>[7]</sup>.

The tables show that there are significant differences between the pre- and post-tests for the vertical jump test from a standstill to measure the speed-related strength of the legs based on both mass and distance. There are significant differences between the pre- and post-tests as a result of the use of special exercises in the research through the use of weights and special exercises for speed and strength, and this is confirmed by (Adel Abdel Basir 1999) <sup>[8]</sup> Strength characterized by speed plays an important role as one of the basic characteristics of the components of physical preparation that characterize sports activities (Adel Abdel Basir Ali, (1999, p. 42) <sup>[8]</sup>.

The development in physical variables is due to the type of exercises adopted and their effective effect, the nature of performing those exercises at maximum or near-maximum intensity and in the shortest time, and the result of the effect of speed-specific ability training on the muscles of the legs and arms through plyometric exercises, and this is what (Muhammad Hassan Allawi) confirms, "that There are some factors that work to develop this speed, which are the structural characteristics of the muscle fibers, the ability to relax, the ability of the muscle to stretch and its viscosity. The possibility of developing the speed characteristic has been proven as a result of the development and development of the strength characteristic of the muscle.

In addition, this age stage for the community sample is characterized by rapid learning, especially because girls tend to listen to music on the one hand and have almost reached maturity on the other hand, which shows their readiness to learn and progress in performance. There is a close link between learning and maturity, as learning depends to a large extent on maturity (Muhammad Hassan Allawi and Abu Al-Ala Ahmed Abdel Fattah, 2000), p. 109) <sup>[9]</sup>

The researcher attributes that the improvement that appeared in the female education team players was due to the inclusion of music, which led to it playing a distinct and clear role in the learning process and the continuous demand for training. These results are consistent with the findings of the study, which showed the effect of music in the learning process through Compatibility between performance and musical scale. (Muhammad Hassan Allawi, 1992, p.10) <sup>[10]</sup>

The diversity of exercises has a great impact in expanding students' awareness and concepts in order to understand the skill, control the movements, and achieve coordination between the movements that make up the skill in proper sequential performance at the appropriate time. (Najah Mahdi Shalash and Mahmoud Akrami Muhammad Sobhi, 2000, p. 12) <sup>[11]</sup>

Accordingly, it is confirmed that linking strength exercises and music leads to rapid response in mastering the implementation of the skill required to be mastered in order to reach a high and distinguished level.

## Conclusions and recommendations

### Conclusions

1. Strong by zumba exercises had a positive effect in strengthening the muscles of the arms and torso.
2. Strong by Zumba exercises developed the performance of the high and low dribbling skill.

### Recommendations

1. The possibility of doing Strong By Zumba exercises with games and individual and group activities
2. The possibility of doing strength training exercises by Zumba for all ages and for both genders

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**Appendix (2)****A sample of strong by zumba exercises**

| <b>N</b> | <b>Exercise</b>  | <b>Purpose of the exercise</b>   | <b>Repetition and rest</b>  |
|----------|--|--|---|
| 1        | Standing, holding the dumbbells with the handles of the hands, extend forward and bend the arms forward for a distance of 10 meters.                           | Arm strength   | 20 x 3 Rest 3 minutes between one repetition and another                  |
|          | Standing, holding the dumbbells with the handles, extend forward and bend the arms to the sides and then up  |  | 15 x 3 Rest 3 minutes between one repetition and another                  |
|          | From a sitting position, extend your arms to the sides and twist them up and down  |  | 25 x 3 Rest 1 minute between one repetition and another                   |
|          | From the front-rest position with the presence of small steps and resting with one hand on the step and the other on the ground, and alternating between them. |  | 10 x 3 rest, 3 reps and another   |
| 2        | Running between the monuments, zakzak, 20 m  | Agility exercises for flexibility, balance and coordination                  | 20m x 5 at medium intensity rest walking 20 m                             |
| 3        | Tie the torso (a rubber rope fixed) behind the body, pulling the arm from back to front  | Spinal flexibility + arm strength  | 20 x 5 right arm<br>20 x 5 left arm                                       |
|          | Pulling the tow spring in front of the body. One end is formed by the feet and the other   | Flexibility and strength of the spine + strength and flexibility of the arms | 10 times x 5 } x 2  |
| 4        | Wear a weight (125 grams) and carry the ball and tap one low and one high time   | endurance with strong arms   | 3s x 10 reps 2-3<br>Rest for 3 minutes between one repetition and another |
|          | Draw a large circle on the floor and do two curls with your arms together and move sideways along the circumference of the circle                              | endurance strength   | The time period is 2 minutes and the rest is 1 minute                     |
|          | Alternating in moving the ball from one arm to another during the tap-tap  | endurance  | 15 x 3 rest 1d  |
| 5        | Light jog 3 minutes  | Calming exercises  |   |