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The Impact of Korean Training and Resistance on Women's Mobility at the Age of 25-30

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Abstract

The significance of this study lies in the use of resistance training accompanied by Korean exercises and understanding its impact on certain motor abilities of women aged 25-30. Through monitoring exercises of women in the age group of 25-30 at fitness centers, the researcher observed a decline and weakness in the level of physical fitness among women. This issue is considered one of the main challenges to public health, possibly stemming from factors such as unhealthy nutrition, lack of physical activity, and genetic and environmental factors. Unhealthy nutrition and lack of physical activity are the two main factors behind the decrease in physical fitness components in this age group. The researcher employed an experimental approach with a matched group design, utilizing tools and methods that aided in conducting the research. In the third chapter, the results were presented and analyzed, discussing them based on scientific sources. The fifth chapter includes the conclusions and recommendations derived by the researcher from the results.

Keywords: *Special exercises, resistances, motor abilities, dietary regimen, body mass.*

1- Introduction and Research Importance

Scientific progress is evident across various facets of life through the accumulation of experiences, experiments, and research, aiming to achieve more benefits for humanity at large. The field of sports is no exception, as new horizons have opened up for researchers and scholars in various sports to explore the latest developments. The acquisition of scientific knowledge by individuals involved in sports directly contributes to the development of learning outcomes and motor skills. It also assists in achieving optimal results by following methods and innovations in sports science.

In recent decades, sports scientists and coaches have been keen on finding new and creative methods to enhance the sports process. These efforts have consistently faced challenges, emphasizing the need for increased research to revitalize this process. [3].

One type of physical training used to enhance health and fitness is resistance and core training. This type of exercise is conducted to increase muscle strength and physical fitness, in addition to improving endurance, physical capacity, and speed. Through the implementation of these exercises, individuals can enhance their muscle strength and physical fitness, improving their

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overall ability to withstand physical activities. Moreover, this type of training contributes to increased flexibility and enhances balance and motor coordination.

Training with resistance and core exercises is considered an effective method recommended for people to improve their physical fitness, develop their motor skills, enhance endurance, flexibility, balance, and coordination between the body and muscles. These exercises stand out for their diversity, excitement, and challenge, involving the use of weights, resistance bands, ropes, and muscle-building equipment.

This type of exercise is of significant importance for women, especially in the age group of 25 to 30 years, as it can contribute to improving body mass index and muscle development. Resistance training helps enhance muscle strength, improve their appearance, and aids in fat burning. The research focuses on the use of Korean exercises accompanied by resistance training and aims to understand their impact on certain motor abilities in women aged 25-30.

1-2 Problem Statement

Through the researcher's observation of exercises performed by women aged 25-30 at fitness centers, a noticeable decline and weakness in the level of physical fitness among women have been identified. This problem is considered a major challenge to public health, with potential causes including unhealthy nutrition, lack of physical activity, and genetic and environmental factors. Unhealthy nutrition and insufficient physical activity are identified as the primary factors leading to the decrease in physical fitness components in this age group.

Therefore, Korean and resistance training can be an effective solution to overcome this issue, as intensive exercise is known to improve physical fitness levels. Studying the impact of sports training on certain motor abilities and body mass index in women aged 25-30 is of significant importance, warranting further investigation.

1-3Research Objectives

1. Develop Korean and resistance training programs for women aged 25-30.
2. Identify differences between pre-test and post-test results for both control and experimental groups in Korean and resistance training.
3. Determine the superiority of post-test results in Korean and resistance training.

1-4 Research Hypotheses

1. Measurable differences exist between pre-test and post-test results for each group, and efforts will be made to accurately verify and determine these differences.
2. Measurable differences exist between pre-test and post-test results for both control and experimental groups.

5. Research Domains

1-5-1 Human Domain

Women aged 25-30, engaged in sports and resistance exercises, in a fitness center in Thi Qar Governorate.

1-5-2 Temporal Domain

Duration from (3/1/2022) to (3/5/2022)

1-5-3 Spatial Domain

Fitness center (Fitness Center) at Thi Qar Governorate, specializing in fitness and bodybuilding.

2-1 Research Methodology

The selection of the research methodology to address the problem is based on the nature of the problem. Therefore, an experimental approach with the equivalent groups design was adopted to suit the nature of the problem.

2-2Research Population and Sample

The research population is defined as "the total number of units that the researcher aims to study to achieve the study's results and can generalize the study's results to the entire population." The research sample, on the other hand, is "a number of individuals or things selected according to a specific rule or method from the statistical population representing this population." The research population was deliberately chosen, representing women aged 25-30, engaged in sports and resistance exercises in a fitness center in Thi Qar Governorate. The total population was 25 players for the year 2022.

The research sample was selected using a method, and their number was (20) players, representing 80% of the original population. They were divided into two groups, experimental and control, with 10 players in each group.

2-2-1 Sample Equivalence

To ensure the equivalence of the research groups in variables (motor skills), the researcher conducted an equivalence test using the independent samples t-test and Table (5) showing the equivalence of the research groups.

Table (1): Demonstrates the Equivalence of the Research Groups in Variables (Fitness, Flexibility, Coordination) Using the T-Test for Independent Samples.

#	Tests	Unit of Measurement	pre test for the control group		post test for the experimental group		Calculated (T)value	Significance level	significance
			Mean	Standard Deviation	Mean	Standard Deviation			
1	fitness	sec	10.7510	.89020	10.8980	0.93148	0.613	0.3456	Insignificant
2	flexibility	sec	14.2000	1.22927	14.000	0.66667	0.724	0.323	Insignificant
3	coordination	cm	5.3000	0.67495	5.1000	.87560	0.857	0.368	Insignificant

3-Data Collection Methods

It is essential to describe the tools used in the research to provide an indication of the study's needs. As mentioned by Mohammad Khalil and others, "The appropriate tool is determined in light of the research objectives, hypotheses, and questions the researcher seeks to answer. Tools are the means used by the researcher to obtain information." In order for the researcher to complete the study successfully, it is necessary to use tools and methods that assist in accomplishing the work.

1. Arabic and Foreign Sources and References:

- Utilizing literature from both Arabic and foreign sources to gather relevant information.

2. International Information Network (Internet):

- Accessing the internet as a source of information and data.

3. Tests and Measurements:

- Employing tests and measurements to assess various variables.

3-1 Devices and Tools Used in the Research

1. Weight and height measuring device.
2. Treadmill machine (10, Chinese-made).
3. Stationary bicycle (10, Chinese-made).
4. Pull-up machine.
5. Vibration fat-burning machine.
6. Skin measuring tape to measure body circumferences.
7. Camera for photographic purposes (Chinese-made).
8. Video recording camera (Japanese-made).
9. Electronic computer device (Acer, Chinese-made).
10. Stopwatch (10 units).
11. Electronic calculator (10 units).
12. Elastic resistance bands.

The researcher utilized various assistive tools in the study, including

1. Light Device Tool

- This tool consists of four colored lights (red, yellow, green, blue) mounted on a rectangular wooden base. Each light has a corresponding button on an electrical point connected to a 3-meter wire. The lights are surrounded by white plastic to enhance color visibility. The tool serves multiple purposes, including improving targeting, handling, rolling, as well as enhancing responsiveness, attention concentration, and attention diversion.

2. Compatibility Ring

- This plastic tool, shaped like a circular disc with a radius of 15 cm, serves various purposes in games and is particularly useful for developing motor coordination.

3. Double-Ended Rope Tool (2)

- Composed of two large markers with a height of 1.5 meters connected by a 5-meter plastic rope. A weight is attached to stabilize the markers. The purpose of this tool is to improve agility and flexibility.

4. Large Plastic Barriers (4)

- These plastic barriers, 80 cm in height and 70 cm in width, are secured by a 40 cm base for stability. The purpose is to teach and master handling, flexibility, and other learning outcomes.

5. Small Plastic Barriers (10)

- These plastic barriers, 40 cm in height and 60 cm in width, are secured by a 30 cm base for stability. The purpose is to develop distinctive strength with speed.

6. Ladders (2)

- Comprising two ropes of 2.5 meters connected by plastic squares (8 in total, 40 cm each). The purpose is to develop distinctive strength with speed and agility.

7. Survey Experiments (35)

- Experimental surveys were conducted on January 20, 2022, at a fitness club in Baghdad, aiming to ensure the functionality of devices, assess the team's proficiency in measurements and tests, identify potential obstacles, determine the time required for measurements, and identify errors.

8. Pre-Measurements (37)

- Pre-measurements were conducted on January 25, 2022, covering various body dimensions for participants in the training.

9. Measurements Used in the Study (37)

- Body measurements included height (in centimeters) and weight (in kilograms).

10. Proposed Physical Curriculum Design (8)

- The proposed physical curriculum comprises 12 weeks, with three training units per week (Saturday, Monday, Wednesday), totaling 36 training units. The duration of each unit ranges from 60 to 90 minutes, applying the principle of progression. The program includes diverse exercises to prevent boredom, aligns with the research objectives, and is adaptable to practical application.

11. Physical Training Tools

- Various training tools were employed, such as sticks, medicine balls, elastic ropes, and weights of different intensities.

12. Intensity and Progression

- The program's intensity was tailored to the sample's nature and research goals, progressing from light to moderate, medium, above average, and below maximum.

In designing the physical program, the researcher considered the appropriateness and progression, ensuring alignment with the study's goals, scientific principles, and practical execution. Safety measures and participant well-being were prioritized in the program design.

Considerations in the Program Design

1. Training Unit Duration

- Each training unit has a duration of 60-70 minutes.

2. Weekly Training Units

- The program includes three training units per week.

3. Monthly Training Units

- There are 12 training units in a month.

4. Distribution of Training Units

- The total time allocation for the program is divided into three parts:

A. Preparatory Section Execution Time: 600 minutes (equivalent to 10 hours).
B. Main Section Execution Time: 1800 minutes (equivalent to 30 hours).
C. Concluding Section Execution Time: 300 minutes (equivalent to 5 hours).

4- Statistical Measurements and Methods

The researcher utilized the statistical software SPSS to extract and process the data in accordance with established statistical principles.

Results Presentation, Analysis, and Discussion

4-1 Presentation, Analysis, and Discussion of Pre- and Post-Tests Results for Control and Experimental Groups

The researcher will present and analyze the results of both pre- and post-tests for the control and experimental groups. The analysis and subsequent discussion will provide insights into the effectiveness of the training program. The statistical tool SPSS was employed to process the data, and the results will be thoroughly examined and discussed.

Table (2): Shows the Means, Standard Deviations, and the Calculated (T-Test) Values, Along with their Statistical Significance, for the Pre-Test and Post-Test of the Research Variables (Control Group).

#	Tests	Unit of Measurement	pre test		post test		Calculated (T)value	Significance level	significance
			Mean	Standard Deviation	Mean	Standard Deviation			
1	fitness	sec	10.7510	.89020	9.4830	.66883	5.613	0.000	Significant
2	flexibility	sec	14.2000	1.22927	12.5500	2.08766	2.724	0.023	Significant
3	coordination	cm	5.3000	0.67495	6.2000	0.63246	3.857	0.004	Significant

Table (3): Illustrates the Means, Standard Deviations, and the Calculated (T-Test) Values, along with their Statistical Significance, for the Pre-Test and Post-Test of the Research Variables (Experimental Group).

#	Tests	Unit of Measurement	pre test		post test		Calculated (T)value	Significance level	significance
			Mean	Standard Deviation	Mean	Standard Deviation			
1	fitness	sec	10.8980	0.93148	8.8490	0.47400	6.965	0.000	Significant
2	flexibility	sec	14.000	0.66667	11.4640	0.60844	11.107	0.000	Significant
3	coordination	cm	5.1000	.87560	7.3000	0.48305	8.820	0.000	Significant

Table (4): Displays the Means, Standard Deviations, and the Calculated (T-Test) Values, along with their Statistical Significance, for the Pre-Test and Post-Test of the Research Variables (Post-Post).

#	Tests	Unit of Measurement	pre test for the control group		post test for the experimental group		Calculated (T)value	Significance level	significance
			Mean	Standard Deviation	Mean	Standard Deviation			
1	fitness	sec	9.4830	.66883	8.8490	0.47400	7.654	0.000	Significant
2	flexibility	sec	12.5500	2.08766	11.4640	0.60844	9.785	0.000	Significant
3	coordination	cm	6.2000	0.63246	7.3000	0.48305	10.856	0.000	Significant

From the analysis of Tables (2-3-4) concerning the pre- and post-test results of physical abilities for both the experimental and control groups, a significant development in these variables is evident for both groups. Upon reviewing the comparative Table (4), it becomes apparent that women in the experimental group outperformed those in the control group. The researcher attributes these results to the Korean exercises and resistances designed by her. These were tailored to the training level of the targeted sample in terms of intensity, repetitions, and gradual progression in the training load. The method of Dorra played a clear role in adapting these exercises for this specific ability (using tools and aids). According to the results, it proved effective in aligning training methods, regulating exercises, considering individual weights for each member of the group. This allows the opportunity to train resistances in a way that aligns with their capabilities for the purpose of development. This is achieved by targeting the working muscles, which was the primary focus. The specificity of these exercises in interchange and distribution within muscle groups helped avoid fatigue and boredom among women. These exercises facilitated qualitative adaptation in the nervous system by increasing the speed of stimulus transmission and the number of active motor units in those muscles. The results demonstrated their responsiveness to these training methods. As for the control group, its development is attributed to the commitment of women to regular unit attendance, following the style and method employed by the physical fitness trainer.. Ismail (Esam Abdel Khaleq) mentions that the progressive increase in training load means "adding new requirements over time periods that allow the occurrence and development of adaptation processes." "[4]. Marwan AbdulMajid Ibrahim and Mohammed Jassim believe that the description of periodized training depends on several elements, including the components of the training load, which consist of the intensity of the training stimulus, the volume of the training stimulus, and the rest period. These factors are determined by the biological age of the player, the level of specific physical abilities, and the skill level. "[5](1). Talha Hussam al-Din and others emphasize that the ability to regulate tension or stress in any muscle of the body is considered the fundamental principle in developing the efficiency of performance for any movement pattern. " [6]. It is essential to work on preserving muscle tissues and their endurance in training. It is important to consider the repetitions with the required resistance that the muscle needs to overcome. [(7)].

[4] Esaam Abdelkhalek: "Sports Training: Theories – Applications," 11th edition, Alexandria, Manship Al-Maarif, 2003, p. 99.

[5]

[6] Marwan Abdelmageed Ibrahim and Mohammed Jassim: "Modern Trends in Sports Training," 1st edition, 2004, p. 106

[7](Shaffer, R.A., Brodine, S.K., Ito, S.I., and Le, A.H., Epidemiology of illness and injury among U.S. Navy and Marine Corps female training populations, *Mil. Med.,*164, 17, 1999.

This is affirmed by Abdul Rahman Zaher, who states, "In strength training, many studies indicate that the method of performing exercises should closely resemble the techniques of skill execution as much as possible." Changing or stabilizing resistance in maximal muscle strength exercises using equipment can develop both the working and stabilizing muscles if used correctly according to the principles of sports training that achieve more than one goal at a time. [8].

Conclusions and Recommendations

5-1 Conclusions

1. The types of exercises used had a positive impact on the development of some motor skills, as evidenced by significant improvements in post-test results.
2. Despite their difficulty, motor skills can be utilized to enhance overall physical fitness.
3. There is a noticeable improvement in the values of the control group that utilized the coach's exercises.

5-2 Recommendations

1. Emphasize the development of physical and motor skills at early stages, as delaying this process requires significant training time.
2. Utilize Korean exercises for their substantial impact on the development of motor skills across different age groups.
3. Conduct studies and research on other physical attributes that play a crucial role in enhancing overall physical fitness.

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