



THE EFFECT OF A THERAPEUTIC APPROACH USING YOGA EXERCISES IN REDUCING OSTEOPOROSIS FOR WOMEN AGED (40-45) YEARS

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ABSTRACT

The research aims to: Preparing a therapeutic approach using yoga exercises that is suitable for the research sample. And to identify the effect of the therapeutic approach in measuring osteoporosis in the research sample. And to know the effect of the therapeutic approach on estrogen and vitamin D. And to identify the effect of the therapeutic approach on the muscular strength of the research sample. The researcher used the experimental method with one group (pre-post) on a sample of women with osteoporosis at the age of (40-45) years attending the Medical City Hospital (Baghdad / Rusafa). Then the medical examination was carried out in the Medical City Hospital (Baghdad) by the medical staff, as the sample was clinically examined, then osteoporosis was examined with the (DEXA) device, and a blood sample was taken to examine vitamin (D3) and estrogen, and the muscle strength of the fist, back and legs was measured. They were introduced to the therapeutic curriculum for a period of time (12) weeks, at the rate of three units per week, and after completing the therapeutic curriculum, post-tests were carried out and data were entered into the statistics for treatment. The research sample . The therapeutic approach using yoga exercises had an impact on the development of the hormone progesterone and vitamin D3, which led to the recovery of the sample from osteoporosis. The therapeutic approach using yoga exercises had a great effectiveness in developing muscular strength in both the strength of the right and left fists, back strength and strength of the legs. The application of exercises on the injured did not leave any negative effects on them, but they got positive effects and rapid improvement.

Keywords: therapeutic approach, yoga exercises, osteoporosis.

Introduction to the research and its importance:

Human medicine was able to treat and control all transitional, infectious and even epidemic diseases, but it stood helpless in the face of diseases resulting from



lack of movement, lethargy and laziness. The worst thing that Iraqi women go through is lack of movement and lack of exercise. Customs, traditions and the clan system impose on the girl from her young age not to go out or play So he made her confined to the house, as well as the presence of technology such as computers, mobile phones, and television. All these things made her a lazy person and lacked movement. Movement or sports activity is very necessary because it is the only way to activate growth hormone and build bones. This hormone is activated by movement and sports, and their absence will make the body vulnerable to osteoporosis. Poor building of bone tissue from the inside.

Osteoporosis is a deficiency in bone density and strength that may make it vulnerable to fractures and can affect any bone in the body, but the hip joint, wrist and spine are the most vulnerable areas. Women are more susceptible to osteoporosis than men, as women at the age of forty years are exposed to 35% of the compact bone and 50% of the spongy bone in the skeleton during their lifetime, while men are exposed to about two-thirds of this percentage, the reason for women losing bone density due to menopause And the lack of estrogen, but sometimes the causes are due to disease, medications, or lifestyle. Also, there are some women who experience menopause at an early age due to a lack of estrogen. This type of women is more susceptible to osteoporosis, and this condition is the absence of menstruation before menopause , Caused by (loss of appetite, severe weakness, vitamin D deficiency that is associated with calcium deficiency and smoking).

Therapeutic exercises are a type of exercise that is given to improve the general muscular performance of the body and strengthen the muscles, bones, joints and ligaments. These movements are performed according to a planned scientific basis and are described according to the condition of the injured or the patient. The aim is to stimulate or restore functions and maintain the body position and its return to its normal state. .

Yoga exercises are the oldest system among many fitness systems, and it means (union), that is, uniting the body, mind, and spirit. And that the system of yoga exercises is to maintain health and avoid diseases, as many doctors conducted scientific medical research, and they witnessed the ability of yoga to treat.

It is certain that yoga improves the ability to breathe deeply and soften the whole body, especially the joints and vertebrae of the back, as yoga has a wondrous physiological effect, as it transforms stagnant congestion into ongoing congestion, which means an abnormal flow of blood in a specific position of the body. Hence



the importance of research in preparing a treatment program using therapeutic yoga exercises to reduce osteoporosis that occurs to women at an early age due to life circumstances and its fluctuations to come up with results that benefit society and treat this disease.

Research Problem :-

Osteoporosis is a major health problem all over the world and in Iraq in particular as a result of (menopause, menstrual disorders, severe thinness and short stature, lack of movement and sports activity, vitamin D deficiency and thus calcium deficiency, smoking, drinking, taking some medications) The researcher formulated her problem in the form of questions, which are:

- 1- Will the therapeutic approach using yoga exercises affect the reduction of osteoporosis for women aged 40 to 45 years.
- 2- Does the therapeutic approach have an effect on the muscular strength of the research sample.
- 3- Will the curriculum affect estrogen and vitamin D for the research sample?

Research Aims :-

- 1- Preparing a therapeutic curriculum using yoga exercises that is compatible with the research sample.
- 2- To identify the effect of the therapeutic approach in measuring osteoporosis in the research sample.
- 3- To identify the effect of the therapeutic approach on estrogen and vitamin D.
- 4- Identifying the impact of the therapeutic approach on strength

Research Hypotheses :-

- 1- There are statistically significant differences in the pre and post tests in measuring osteoporosis, estrogen and vitamin D in the research sample.
- 2- There are statistically significant differences in the pre and post tests in the power variables of the research sample.

Research Areas:

Human domain: A sample of women with osteoporosis at the age of (40-45) years

Time range: From 2/3/2022 to 6/5/2022

- Spatial field: - Medical City Hospital (Baghdad).

Research methodology and field procedures:



Research Methodology: The researcher used the experimental method with one group (pre-post).

The same research: - 14 women with osteoporosis at the age of (40-45) years, who attended the Medical City Hospital (Baghdad / Rusafa).

Means, tools and devices used: - Dynamometer device for measuring muscle strength, (DEXA) device for measuring osteoporosis, centrifuge device for separating blood components, (14) yoga mats, (28) sterile tubes for preserving blood, (28) syringes, tape Height measurement, medical scale for weight measurement.

Field research procedures: The medical examination was carried out in the Medical City Hospital (Baghdad) by medical staff, as the sample was clinically examined, then osteoporosis was examined with the (DEXA) device, and a blood sample was taken to examine vitamin D3 and estrogen.

Tests and measurements used:

1- Medical tests:

- A- Osteoporosis Test (DEXA)
- B- Vitamin D3 screening test
- T- Estrogen screening test

2- Physical exams :

- a- Measuring grip strength
- B - measuring the strength of the muscles of the legs
- T - measuring the strength of the back muscles

The exploratory experiment: The researcher intended to conduct it on a sample of (2) injured women from within the research sample on Wednesday corresponding to 2/3/2022 at exactly ten o'clock in the morning in the Medical City Hospital, Department of Physiotherapy, to find out the appropriateness of the physical tests and the appropriateness of the exercises and the level of the Research sample and find out the efficiency of the assistant work team.

Pre-examinations: They took place on Sunday, 13/3/2022 at 10:00 a.m., for the sample, to be examined in the same aforementioned hospital.



The main experiment: - The researcher chose the exercises that are suitable for the research sample, based on scientific sources and the opinions of specialists in treatment and rehabilitation, as well as joint and orthopedic doctors, work on the therapeutic approach began on Monday, 3/14/2022, and ended on Saturday, 4/5/2022.

The duration of the therapeutic curriculum is (12) weeks, with three units per week (Saturday, Monday, Wednesday)

The time for the treatment unit ranged between (15-20) minutes.

- Total units 36 units.

- The therapeutic curriculum in one unit included (warm-up - the main part (yoga exercises) - and cool-down).

The curriculum was characterized by gradual repetitions (3-5) and groups (2-3) and rest between repetitions according to the principle (1-1) and between groups (1-3).

- The researcher took into account giving exercises from easy to difficult according to the level of the sample.

- The performance of the exercises must be with the ability of the patient or not to make things difficult for her.

- Practicing yoga exercises outdoors and under the sun.

Exercises used in the therapeutic approach:

Tree Pose, Eagle Pose, Warrior Pose, Triangle Pose, Dog Pose, Seated Front Bend, Thunderbolt Pose, Hero Pose, Closed Corner Pose, Half Lotus Pose, Lotus Pose, Lying on the Back with Legs Extended, Lying with Legs Flexion, fish pose, snake pose, wreath pose, resting pose, fetus pose, corpse pose

Post-tests: They were conducted on Monday, 6/5/2022 at ten o'clock in the morning, and were conducted according to the pre- tests with the same conditions and specifications.

Statistical means:

SPSS statistical bag was used

Presentation and discussion of the results:

Presentation and discussion of the results of pre and post medical tests for the research sample:



Schedule (1)

It shows the results of the pre and post tests of the medical tests of the research sample

Variables	Measure- ment	pretest		post test		Calculated T	Statistical significance	Moral Connotation
		M	S	M	S			
Osteoporosis	g/cm ²	3.120	0.493	1.570	0.979	6.041	0.000	Moral
Vitamin D3	nmol/L	6.400	2.170	39.400	6.363	14.725	0.000	Moral
progesterone	ng	2.300	1.418	5.900	1.969	13.500	0.000	Moral

Below the level of significance (0.05) and degrees of freedom (13)

Table (1) shows that there are significant differences in all medical tests (osteoporosis, vitamin D3, progesterone) with statistical significance between the pre and post tests and in favor of the post test. This indicates the effectiveness of yoga exercises in reducing the severity of osteoporosis and improving the level of osteoporosis, and this is indicated by Kreighton (9: 33).

The researcher also believes that yoga is a moderate, regular sport that helps in the treatment of osteoporosis, and this is consistent with (Essam Al-Hasanat: 6: 57) "Regular exercise helps in increasing bone density in children, youth and middle ages if they are exposed to osteoporosis."

Vitamin D3 is one of the important things to be available, as one of the main causes of osteoporosis is vitamin D3 deficiency. Therefore, the researcher conducted yoga exercises in the open air and under the sun in order for the sample to benefit from vitamin D3 from sunlight to compensate for the deficiency, in addition to taking vitamin D3 tablets according to the doctor's prescription, and this It helped with yoga exercises in improving the condition of patients with osteoporosis, and this was confirmed by (Mustafa Shuhayb: 8: 24) On health, and also confirmed that vitamin D can be obtained from sunlight, which is produced by the skin.

Any deficiency in the progesterone hormone causes bone thinning, and this appears clearly in women when approaching menopause or before (10 years) of menopause due to women's poor fertility. The researcher believes that yoga exercises that can increase the benefits gained by doing breathing exercises help in exercises Yoga and the stimulating sensation that tries to fix the imbalance in all parts of the body, which can be addressed by the movements that are



implemented in many yoga positions, so it affected the increase in the proportion of the hormone progesterone, and this was confirmed by (Byaarga Kamar: 1: 255) “The practice of yoga affects the hormone progesterone in a way It is positive and works to regulate the menstrual cycle, and progesterone levels can be increased in case the body produces little.

The American Society also confirmed (that moderate exercise can increase progesterone levels and, with the help of estrogen, they burn fat, and that any moderate exercise can help control the level of progesterone, such as sports (walking, swimming, yoga, aerobics) (Salwa Shafiq : 3: 56).

Presentation and discussion of the results of pre and post physical tests for the research sample:

Schedule (2)

It shows the results of the pre and post tests of the physical tests of the research sample

Variables	Measure-ment	pretest		post test		Calculated T	Statistical significance	Moral Connotation
		M	S	M	S			
Right fist strength	kg	9.00	1.490	16.100	4.175	6.988	0.000	Moral
Left fist strength	kg	8.800	1.988	15.400	3.062	13.591	0.000	Moral
back strength	kg	11.600	2.221	23.300	2.983	19.591	0.000	Moral
Legs strength	kg	18.00	22.800	92.76	4.732	6.896	0.000	moral

Below the level of significance (0.05) and degrees of freedom (13)

Table (2) shows that there are significant differences in all tests (right fist strength, left fist strength, back strength, and two legs strength) with statistical significance between the pre and post tests and in favor of the post test. The researcher attributes the reason for these differences to the increase in strength in relation to the tests through yoga exercises, which are done by taking the individual to a certain position through a slow movement, then steadfastness in this position for a period of seconds, up to five minutes, and then returning to the initial position, with repetitions of (3-10). Sometimes it will lead to the strengthening of the muscles, and this is confirmed by (Richard: 2: 15-16) that yoga exercises work on certain muscle groups and for a long time lead to an increase in muscle strength in general. (Sami’a Khalil: 4: 36) indicated that “muscular strength can be obtained through muscular work. And (Mahmoud Al-Malt: 7: 29) confirms that “when performing yoga exercises in different positions, with slow, relaxed movements and a few repetitions, and in a regular rhythm with breathing, And with a coordinated performance with balance, and thus it will affect the central nervous system, which in turn affects the muscular system,



especially in the strength of the muscles of the abdomen, back, midsection, legs and arms.” (Aida Ahmed Al-Rawajih: 5:56) emphasized that “yoga exercises and through organized training, which in turn lead to To increase the efficiency of the muscular system and can be developed to be able to produce muscle force, whether mobile or fixed.

Conclusions and Recommendations:

Conclusions:

- 1- The therapeutic approach using yoga exercises worked to improve the value of the ratio of osteoporosis to normal among the research sample members.
- 2- The therapeutic approach using yoga exercises had an impact on the development of the hormone progesterone and vitamin D3, which led to the recovery of the sample from osteoporosis.
- 3- The therapeutic approach using yoga exercises had a great effectiveness in developing muscular strength in both the strength of the right and left fists, back strength and strength of the legs.
- 4- The application of the exercises on the injured women did not leave any negative effects on them, but they obtained positive effects and a rapid improvement.

Recommendations:

- 1- Directing programs directing the importance of practicing yoga exercises to reduce osteoporosis in women by the Ministry of Health.
- 2- Awareness should be spread and women who are at risk of osteoporosis should be educated about the instructions and advice they should follow and what they should avoid.
- 3- Emphasis on not giving strenuous physical loads to patients with osteoporosis.
- 4- Women should pay attention to exercise before and after menopause and to prevent osteoporosis.
- 5- The necessity of conducting a periodic examination to know the percentage of osteoporosis from time to time.
- 6- The need to conduct research and studies in this field on different samples and other ages.



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