The effect of a Program by using (Clinical exercise - Medication) for Osteoporosis Patients aged (40-50) Years

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Abstract

The research included several axes through the use of a program that includes clinical exercises and drugs to reduce bone density loss in women with osteoporosis, the study aims to identify the proposed program to reduce osteoporosis among women. The study was conducted on three groups of women with osteoporosis (program - exercise - medication) and their ages ranged from 40-50 years and their number was (27) affected, they were divided into three groups, for each group (9) women with osteoporosis, the first group included the program (clinical exercises - medication) and the second group included exercises, while the third group included medicines, the experimental approach was used to design the three equivalent groups, where the program was applied, which includes (24) weeks with a rate of (48) treatment units and the time of the treatment unit (20) minutes, health fitness for the injured, the results of the study indicated an improvement in the loss of bone mass for all groups and a greater improvement in favor of the program group (clinical exercises - medication). The study recommended the use of the proposed program for women with osteoporosis.

Keywords: *Clinical exercise – Medication, Patients, Program, Osteoporosis*

Introduction

Bones are one of the most basic components of the human body, as they are the basic structure that carries that body, and on top of that, osteoporosis leads to a gradual weakening of the bones so that they become weak and easy to break, so normal bones are like a piece of sponge full of small pores, in the case of osteoporosis, the size of the pores increases and the bones become more fragile, as the percentage of calcium in it decreases, which is one of the basic components of bone tissue [(1)]. Since bones are living tissue that strengthens and weakens according to the amount of its use, bones that are not subjected to continuous movement and do not bear any effort weaken and deteriorate in density and mass, and because the lack of motor activity weakens the muscles and reduces the mechanical forces exerted on the bones, which encourages the process of bone loss [(2)], in order to prevent osteoporosis and increase their density, a moderate intensity physical activity should be practiced and in which the body is carried or a burden is placed on the bones [(3)], and clinical exercises, which are exercises that emphasize the precise, gentle, small movements that are accomplished in a very slow movement. The movements in your clinical exercises are more like a pulse that allows you to control the amount of force exerted on the muscle. These exercises may be considered very effective exercises because they confirm the techniques that prevent any Stress on the lower back, and these exercises actually relieve pressure on the back by extending the spine at the same time, training the surrounding muscles [(4)].

Most osteoporosis treatments currently licensed, including bisphosphonates, may reduce bone loss and reduce the risk of fractures, but they do not cure osteoporosis, so treatment and exercise remain beneficial for people with osteoporosis because it will reduce the risk of developing more fractures, we should realize that exercises and medicines used in the treatment of osteoporosis will not be immediate, as their benefits appear in a period ranging from one year to a year after the treatment [(5)].

Research problem :

The increase in the number of osteoporosis cases nowadays is a problem that many women suffer from, especially that osteoporosis is a disease that infiltrates the bones. without giving clear indications of his arrival, especially with women who suffer from early interruption of the menstrual cycle and the consequent deficiency in the secretion of the estrogen hormone, which has the main role in reducing the dissolution of calcium in the bones, in addition to not practicing sports activity, which has an effective role in prevention, treatment and reduction from low bone mass operations.

Research objectives: The research aims to identify the following:

- Knowing the effect of clinical exercise on osteoporosis patients aged (40-50) years.

- Knowing the effect of medications for patients with osteoporosis, ages (40-50) years.

- Identify the effect of a program using (clinical exercises - medication) on patients with osteoporosis from (40-50) years old.

Research hypotheses :

- There is an effect of using clinical exercise in patients with osteoporosis between the ages of (40-50) years.

- There is an effect on the use of medicines in patients with osteoporosis between (40-50) years of age.

- There is a preference for the program by using (clinical exercises - medication) for patients with osteoporosis from (40-50) years old.

Research fields:

The human field: Women with Osteoporosis in Al-sadder Hospital / 2019-2020.

Time field: From 1/2/2020 to 9/7/2020.

Spatial field: Physical therapy at Al-Sadder Hospital - Najaf.

Research methodology and field procedures:

Research Methodology:

The two researchers used the experimental approach with three equivalent groups that the experimental research includes an attempt to control the basic factors affecting the change of the dependent variables in the experiment, except for one factor that the researcher controls and changes in a specific way in the matter of determining and measuring its effect on the variable or dependent variables [6], and that the sample is the model that the researcher conducts as a whole and the focus of his work on it, and it is part of the research community [7]. Accordingly, the research community was determined from among the (27) patients with osteoporosis in the Al-Sadr Teaching Hospital in Najaf, their ages ranged from (40-50) years by an intentional method, where the program was implemented, which includes exercises for clinical and medicines for a period of (24) weeks, at a rate of (48) treatment units and the time of treatment unit (20) minutes, and the osteoporosis screening device (DEXA) was used, to determine the percentage of osteoporosis among the injured, the tools for the experimental procedures, the performance evaluation form, the Chinese-made HP laptop were prepared.

Pre-tests and measurements:

Pre-tests and measurements were taken on 8/2/2020, which included tests and measurements of the percentage of osteoporosis in affected women.

Program used:

The program was implemented, which includes clinical and medication exercises for a period of (24) weeks, at a rate of (48) treatment units, and the time of the training unit was (20) minutes, and the osteoporosis screening device (DEXA) was used to determine the percentage of osteoporosis among women.

Post-tests and measurements:

Post-tests and measurements were conducted on 7/9/2020, including all the dependent variables that were performed in the pre-tests.

Statistical means: SPSS statistical program was used.

Results and Discussed

After unpacking the data obtained by the researcher and treating them statistically to verify the validity

of the hypotheses, results of the research groups (program - exercises - medicine) appeared in those with osteoporosis, according to the experimental design of the research, then the data were analyzed statistically using the statistical bag (SPSS) to compare the mean scores of the pre and post tests for the research groups (program - exercises - medicine). The contrast analysis test was used for independent correlated samples to find the significance of the differences for the arithmetic mean between the research groups, and verifying the effect of the program in reducing the loss of bone mass among women with osteoporosis from the research sample, the results indicated that there are high significant differences between the pre and post-tests of the research variables, as the results showed an improvement in reducing the loss of bone mass in the research sample and in favor of the program group (clinical exercises - medicine).

Table (1) the statistical results of the post-tests for the three research groups (program - exercises - medicine) with the studied research variables.

Variables	Variance	Total squares	Freedom degree	Average of squares	F	Sig level	Sig type
Osteoporosis	Between groups	0.37	2	0.18	0.381	0.687	Non sig
	Within groups	11.72	24	0.48			

It appears through table (1) that the statistical results showed that there was no statistical difference in the vulnerability variable between the three research groups. This indicates that the three research groups benefited from the effects that were given to them despite some differences in the arithmetic milieus and in favor of the program group, because the program group included medicines that reduce the loss of bone mass, as well as exercises for the clinical, as regular exercise helps to stretch the working muscles in need of the necessary fuel to continue their performance at work for long periods [(8)]. As exercise has a major role in improving the control of the body's balance, as the strength of the back and leg muscles, especially the twin muscles, contributes to maintaining the balance of the body the effect of this appears greatly on the members of the sample because muscle weakness leads to imbalance in movement and consequently exposure to many accidents and injuries, given that women with osteoporosis are more likely to fracture the bone [(9)] .

Conclusions and Recommendations

Conclusions:

It can reduce the loss of bone density in women with osteoporosis, and that regular exercise and medication will not restore lost bone mass, but rather stop or reduce the loss of bone mass and protect the bone from the risk of fracture in the future, and that the use of clinical exercises helped in improving the strength and flexibility of the muscles of the back and lower limb for the three groups and with greater improvement for the benefit of the program group (clinical exercises - medication).

Recommendations:

Getting enough calcium through a diet rich in calcium. Getting enough vitamin (D) to keep healthy and strong bones, exercising regularly, getting more exposure to sunlight, sunlight helps the body synthesize vitamin (D), periodic examination of women, especially women who have an early interruption in their menstrual cycle, and that this disease does not show any symptoms.

Financial Disclosure: There is no financial disclosure.

Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the University of Baghdad, Iraq and all experiments were carried out in accordance with approved guidelines.

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