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بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

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COMPARISON OF SPINAL CURVATURES AND FLEXIBILITY IN OSTEOPOROTIC AND NORMAL WOMEN

By:

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B. Sc., Physical Therapy (2000)

A Thesis Submitted in Partial Fulfillment for the Requirement of the Master of Science Degree of Physical Therapy

Department of Physical Therapy for Musculoskeletal Disorders and Its Surgery
Faculty of Physical Therapy
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جامعة القاهرة
كلية العلاج الطبيعى
مركز خدمات العلاج الطبيعي و التعليم المستمر
وحدة اللغة

To Whom It May Concern

This is to certify that the following thesis has passed through an *English language editing* process at the Language Unit of the Physical Therapy Services and Continuing Education Centre, Faculty of Physical Therapy, Cairo University.

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By	**Nermin Gamil Fakhry Beshara**
Supervisors	**Prof. Nadia Abd Elazim Fayaz** **Asst. Prof. Enas Fawzy Youssef** **Dr. Mohamed Abdel Latife Shahin**

This statement is issued upon the holder's request without any liability on the Center's Administration.

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Comparison of Spinal Curvatures and Flexibility in Osteoporotic and Normal Women / Nermin Gamil Fakhry Beshara, B Sc., Physical Therapy, Cairo University, 2000, Supervisors: Prof. Dr. Nadia Abd Elazim Fayaz, Prof. Dr. Enas Fawzy Youssef and Dr. Mohamed Abdel Latife Shahin, Faculty of Physical Therapy, Cairo University, Master Thesis

ABSTRACT

A total of 45 women are included in this study. They are divided according to their bone mineral density into three groups, Group I: 16 women with osteoporosis (OP); Group II: 15 women with low bone mineral density (osteopenia) (OST); Group III: 14 women with normal bone mineral density (control group). The thoracic kyphosis, lumbar lordosis, thoracic spine range of motion (ROM) and lumbar spine range of motion (ROM) are measured in the three groups. There are significant differences between the three groups regarding the thoracic kyphosis, lumbar lordosis, thoracic range of motion and lumbar range of motion. It is concluded that osteoporosis is associated with increase of the thoracic kyphosis and lumbar lordosis as well as the decrease of the thoracic and lumbar spine range of motion.

Key Words: Spinal Curvatures, Spinal Mobility, Osteoporosis

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ABSTRACT

The aim of this study is to compare the spinal curvatures (thoracic kyphosis and lumbar lordosis) and spinal flexibility (thoracic spine range of motion and lumbar spine range of motion) in osteoporotic and osteopenic women with age matched, healthy normal women. **Subjects:** Forty five women participate in this study. **Methods:** Women are divided according to their bone mineral density into three groups: the first group is the osteoporotic group consisting of sixteen women with a mean age of 58.9 (±3.6) years, the second group is the osteopenic group consisting of fifteen women with a mean age of 57.6 (±4.4) years and the third group is the control group consisting of fourteen women with a mean age of 56.8 (±5.6) years. Bone mineral density is measured by Dual-Energy X-ray Absorptiometry (DXA). The thoracic kyphosis and lumbar lordosis are measured by Foremetric II System. The thoracic spine range of motion and lumbar spine range of motion are measured by using Spinal Mouse. **Results**: There are significant differences between the three groups regarding the thoracic kyphosis, lumbar lordosis, thoracic range of motion and lumbar range of motion. **Conclusions:** Osteoporosis is associated with an increase of the thoracic kyphosis and lumbar lordosis as well as a decrease of the thoracic and lumbar spine range of motion.

Key Words: Spinal Curvatures, Spinal Mobility, Osteoporosis

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Nermin Gamil Fakhry

2007

DEDICATION

To My

Parents

& All the Members of My Lovely Family

Special

Dedication

To My

Husband AMIR

& Our Little Son ROBIER

Nermin Gamil Fakhry

2007

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