Effect of Back Extension Exercise on Quality of Life & Back Extensor Strength of Women with Osteoporosis

Goyal[1], M., Kumar[2], Ashok, Moitra[3], M. & Pathania[4], A.

[1]Ass. Professor & Head, MM Institute of Physiotherapy & Rehabilitation, MM University, Mullana, Haryana, India. E-mail: manu_goyal1902@yahoo.co.in

[2]Assistant Professor, Department of Sports Science, Punjabi University Patiala

[3]Ass. Professor & Head, MM Institute of Physiotherapy & Rehabilitation, MM University, Mullana, Haryana, India

[4]MPT Student, MM Institute of Physiotherapy & Rehabilitation, MM University, Mullana, Haryana, India

Abstract

The purpose of the study was to observe the effect of back extension exercise on quality of life and back extensor strength of women with osteoporosis. A sample of 30 subjects in the age group of 45 to 60 years were assessed and selected on the basis of inclusion and exclusion criteria. After obtaining their consents, the subjects were randomly allocated in the Experimental Group-A and the Control Group-B. Group A was given moist heat pack and back strengthening exercise and Group B was given hot pack and isometric exercise 1 set (10 repetitions) a day, 5 days a week for 4 weeks. The independent variables were back extension exercise and isometric exercise. The dependent variables were quality of life and back extensor strength. It is concluded that both the back extension exercise and back isometric exercise are effective in increasing back extensor strength and improving quality of life; however results suggest that back extension exercise is more effective than back isometric exercise in increasing back extensor strength and improving quality of life in post menopausal osteoporotic female patients.

Key words: Osteoporosis, Strength, Oswestry Disability Index.

Introduction

Osteoporosis is a disorder generally affecting the biomechanical competence of bone leading to an increased risk of fractures. It is a skeletal disorder characterised by a reduction in bone mass with accompanying micro architectural damage that increases bone fragility and risk of fracture *(Bijvojet et al., 1989)*. The primary osteoporosis refers to the condition when it occurs in the aging population when a secondary predisposing condition cannot be found. Thus, the primary condition includes both postmenopausal osteoporosis and osteoporosis of aging. The clinical hallmark of the disease is fracture, which most characteristically occurs in the spine, femoral neck, or distal radius, although it may occur in the pelvis, humerus, or any other bone and is associated with minimal trauma. As bone mass declines with menopause and age, fracture frequency also increases with age *(Hui et al., 1988; Riggs & Melton 1986)*. Osteoporotic fractures are most common in postmenopausal women and in elderly persons of both sexes and typically occur with moderate trauma. Bone mass is the major determinant of fracture risk with bone strength being 80-90% dependent on bone mass. Several studies in young adults show a correlation between bone mineral density and physical activity level, suggesting that exercise might increase