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EFFECTIVENESS ON THE POSTURAL CONTROL OF A CORE STABILITY PROGRAM IN ELDERLY WITH OSTEOPOROSIS.

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Introduction. Osteoporosis is a prevalent health concern among older adults, characterized by reductions in bone mineral density, deterioration of bone tissue, increased fragility, and risk of falls that incur fractures. Postural control is the inherent capacity to maintain the center of mass within the support base that defines the stability limits. Elderly with osteoporosis have greater postural imbalance and reduction in muscle strength that cause a predisposition to falls. The purpose of this preliminary study was to assess the effectiveness of a core stability program in elderly with osteoporosis in order to evaluate postural control and its correlation with knee muscle strength and reports of falls during the past year.

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Materials and methods. A total of 30 patients with osteoporosis were enrolled in the study. Subjects were divided into 2 groups: the exercise group (EG) and the control group (CG). The following outcomes were analyzed before and after three months of training: Quality of life questionnaire QUALEFFO-41, Chair stand test (CST), Timed Up and Go Test (TUGT), walking performance (6MWT) of all participants were evaluated. Postural sways were assessed with a stabilometric platform with open eyes for 60s. Four stabilometric parameters relative to the center of pressure displacement were considered for the analysis: AREA, LENGTH, AVIDIST, SPEED-VAR.

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Results. We found statistical improvements in the EG for muscle strength, functional aspect, walking performance and stabilometric parameters. No statistical differences were found in the CG for any outcome. There was a good correlation between stabilometric parameters, muscle strength and rate of falls in the EG.

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Conclusion. Evaluating postural control and muscular strength and relating these to falls are essential aspects to develop interventions and effective preventive strategies, as well as improving the quality of live for elderly with osteoporosis.

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