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CORRELATION BETWEEN TRUNK MUSCLE FUNCTION AND RISK OF FALLS IN ELDERLY WOMEN WITH OSTEOPOROSIS

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BACKGROUND

Fall is the main risk factor for fracture in women with osteoporosis, which present high levels of physical inactivity, compression fractures, pain, postural alterations and musculoskeletal disfunctions in the trunk, which can impair balance and lead to falls. The objective of this study was to verify the correlation between trunk muscle function, functional mobility, balance and fall risk in women with osteoporosis.

MATERIALS AND METHODS

This research included women with osteoporosis over the age of 65. Trunk range of motion (ROM) was evaluated with a goniometer; lordosis angle with flexicurve; trunk flexors and extensors isometric peak of force (IPF) was assessed by a hand-held dynamometer. The functional mobility and balance (FMB) were evaluated by the Timed up and Go Test; risk factor for falls (RFF) with the Physiological Profile Approach. Normality was tested with Shapiro-Wilk; Pearson or Spearman was used for correlation between variables and linear regression to establish a relationship between dependent and independent variables.

RESULTS

Nineteen women (72.36 ± 6.19 years) enrolled the study, with a body mass index of 30.04 ± 6.50 kg/m² – overweight. The FMB can be explained in 31.1% by left trunk rotation ROM ($r = -0.598$; $p = 0.014$); in 38.8% by lumbar lordosis ($r = -0.660$; $p = 0.010$); and in 34.1% by trunk muscle flexors IPF ($r = -0.623$; $p = 0.013$). The RFF can be explained in 16.1% by trunk extension ROM ($r = -0.577$; $p = 0.019$).

CONCLUSION

It might be recommended exercises to enhance trunk ROM and strength and postural exercises in the interventions to treat risk of falls in older women with osteoporosis.

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