

Evaluation of thoracic ROM in elderly women after a specific flexibility-training program

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The purpose of this study was to assess the effects of a specific flexibility training program on thoracic spinal range of motion (T-ROM) in female older subjects. Thirty older women were randomized into either a trained group [TG] (n: 17; age: 68.35±6.04 years; height: 1.54±0.06 m; weight: 64.78±10.16, kg, BMI: 27.28±3.08) and a control group [CG] (n: 13; age: 69.69±7.94 years; height: 1.57±0.06 m; weight: 68.42±8.18 kg, BMI: 27.88±2.81). Trained subjects were trained for 8 weeks by two sessions/week. In particular, every trained session included: a warm up period (~15 min), a training period (~60 min) including specific exercises to train spinal flexibility, cool down period (~15 min). Control subjects did not perform any programmed physical activity during the experimental period. Data were obtained before and after the experimental phase. Spinal ranges of motion were measured using SpinalMouse® (Idiag, Volkswill, Switzerland), which is an electronic computer-aided device that measures sagittal spinal ROM and inter-segmental angles non-invasively (Imagama et al. 2011). Each angle was measured three times in a neutral standing (nS) position, maximum extension (maxE) position and maximum bending (maxB) one, and average data were used.

We found a significant increase in thoracic ROM from nS to maxB position ($p<0.05$) in TG compare to CG after the training period. Instead, we did not show any significant difference in T-ROM from nS to maxE position ($p>0.05$).

In conclusion, our findings indicate that used flexibility training protocol performed for eight weeks can improve the thoracic ROM from nS to maxB position in elderly people. In agreement with Imagama et al. (2011), we suggest that an increase in T-ROM could have positive consequences on quality of life and activities of daily living in older women.

References

- [1] Imagama S et al. (2011) Back muscle strength and spinal mobility are predictors of quality of life in middle-aged and elderly males. *Eur Spine J* 20(6): 954-61.

Key words

Exercise training, elderly women, quality of life, stretching, core stability.