



# دوازدهمین همایش بین المللی علوم ورزشی



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## A comparison of water and land-based core strengthening exercise programs on thoracic kyphosis angle and scapular position in young and middle-aged women with kyphosis: A pre-post cohort study

پذیرفته شده برای بوستر  
نویسندگان

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چکیده

**Background:** Previous studies have shown that the water and land-based exercise programs are effective on thoracic kyphosis angle and scapular position. However, little is known to compare the water and land-based core strengthening exercise programs on thoracic kyphosis angle and scapular position in young and middle-aged women with kyphosis

**Objectives:** The primary aim of study was to compare the effects of an eight-week water and land-based core strengthening exercise programs on the thoracic kyphosis angle and scapular position in young and middle-aged women with kyphosis

Study Design: Cohort study

**Methods:** We recruited 30 women aged between 25 to 45 years old with thoracic kyphosis angels' range between 42-50 degrees who were able to participate in an eight-week exercise programs either in water or land-based core strengthening exercise programs (15 participants per group). Participants attended three supervised sessions per week, 60-80 minutes per session. Thoracic kyphosis angle (measured by inclinometer) and scapular position (measured by tape measure) were the primary outcome measures. Thoracic kyphosis angle was assessed by inclinometer and scapular position was measured by tape measure before and after the exercise. Data were analyzed utilizing the analysis of variance with repeated measures (ANOVA) and were considered significant if  $P \leq 0.05$ .

**Results:** There was no significant difference between core strengthening exercise in water and on land on the thoracic kyphosis angle ( $P > 0/05$ ); however, there was a significant difference within the land-based group on thoracic kyphosis angle compared with the water-based group. There was no significant difference between core strengthening exercise in water and on land in scapular position.

**Conclusion:** The results of this study showed that both water and land-based core strengthening exercise programs could decrease the thoracic kyphosis angle and improve scapular position in young and middle-aged women with kyphosis however the land-based core strengthening exercises was more effective than the water-based

کلیدواژه ها

Water-based exercises ؛ Scapulae ؛ Land-based exercises ؛ Kyphosis ؛ Core strengthening exercise

موضوعات

آسیب شناسی ورزشی و حرکات اصلاحی

نوع پذیرش

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