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Keywords: Physical fitness; Chronic pain; Disease; self-reported flexibility; Self-administered scale; Comparison

Objectives. To examine the validity of self-reported flexibility with International Fitness Scale (IFIS) against upper and lower flexibility in fibromyalgia and healthy women. To study the test-retest reliability of the IFIS flexibility item in female fibromyalgia patients.

Methods. For validity purpose, the final sample comprised 413 fibromyalgia and 195 control women. For the test-retest (one-week interval) reliability purpose, 101 fibromyalgia women participated. Flexibility level was both self-reported (i.e. IFIS) and performance-based using standard fitness tests (i.e. "chair sit and reach" and "back scratch"). One-way analysis of variance (ANOVA) was used to examine the associations of self-reported flexibility (very poor, poor, average and good/very good) and performance-based flexibility. Post hoc group comparisons were used to assess the differences across categories of self-reported fitness. The test-retest reliability of the IFIS was tested with weighted Kappa *(k)* coefficients.

Results. Fibromyalgia women reporting a "poor", "average" or "good/very good" flexibility on IFIS had better performance-based test results on flexibility compared with those reporting "very poor" flexibility level (all $p < 0.05$). Likewise, control women reporting a "good/very good" flexibility on IFIS obtained better performance-based test results on flexibility compared with those reporting "average", "poor" or "very poor" flexibility level (all $p < 0.05$). The weighted Kappa was 0.63 which represent a substantial test-retest agreement.

Conclusions. The IFIS is a moderately valid and reliable tool for ranking fibromyalgia patients and controls according to their flexibility level. These results extend the current knowledge on the validity and reliability of the IFIS to measure flexibility in diverse populations.

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Effectiveness of an exercise intervention on body composition and physical fitness in midlife women: the FLAMENCO project

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Keywords: Menopause; Physical fitness; Fat mass; Muscle mass; Aerobic capacity; Strength

Aims. To determine the effects of an exercise intervention in perimenopausal women on body composition, cardiovascular response and physical fitness.

Methods. A total of 27 women from a healthcare centre of Granada with an age ranged 45-60 years participated in this pilot project. Fourteen (mean age 53.9 ± 4 years old) were randomly enrolled in a 9 weeks (60 min/session, 3 days/week) moderate-intensity exercise intervention based on aerobic and strength training completed with flexibility, balance-oriented, coordination and relaxation activities. We used standardized field-based fitness tests to assess cardiorespiratory fitness, upper and lower muscular strength, upper and lower flexibility and static and dynamic balance. Fatness was assessed by impedanciometry and anthropometry. We also measured resting heart rate and blood pressure. Non-parametric Wilcoxon test for paired samples was used.

Results. The exercise program performed decreased a 5% the body mass index, a 9% the waist circumference and an 8% the body fat percentage (all, $P < 0.01$). Despite we have observed an improved tendency in systolic (6.5%) as well as diastolic (3.5%) blood pressure after exercise; we cannot confirm this approach significantly ($P = 0.08$ and $P = 0.05$, respectively). Women improved a 7% their cardiorespiratory fitness ($P < 0.05$) and a 10% their lower-body muscular strength ($P < 0.01$). We have observed an improved tendency in static balance (15%) but it was not statistically significant ($P = 0.08$). Further research is needed in order to determine whether programmes of longer duration (>9 weeks) or higher frequency (>3 sessions/week) induce major improvements on upper muscular strength, dynamic balance and flexibility.

Conclusion. Overall, an exercise program for 9 weeks (3 sessions/week) significantly improved body composition, aerobic capacity and lower-body muscle strength in perimenopausal women. This is a pilot study that must be replicated and confirmed in higher sample size.

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Effects of an exercise intervention on health-related quality of life and optimism in middle aged women: The FLAMENCO project

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Keywords: Menopause; mental health; physical health; physical fitness