

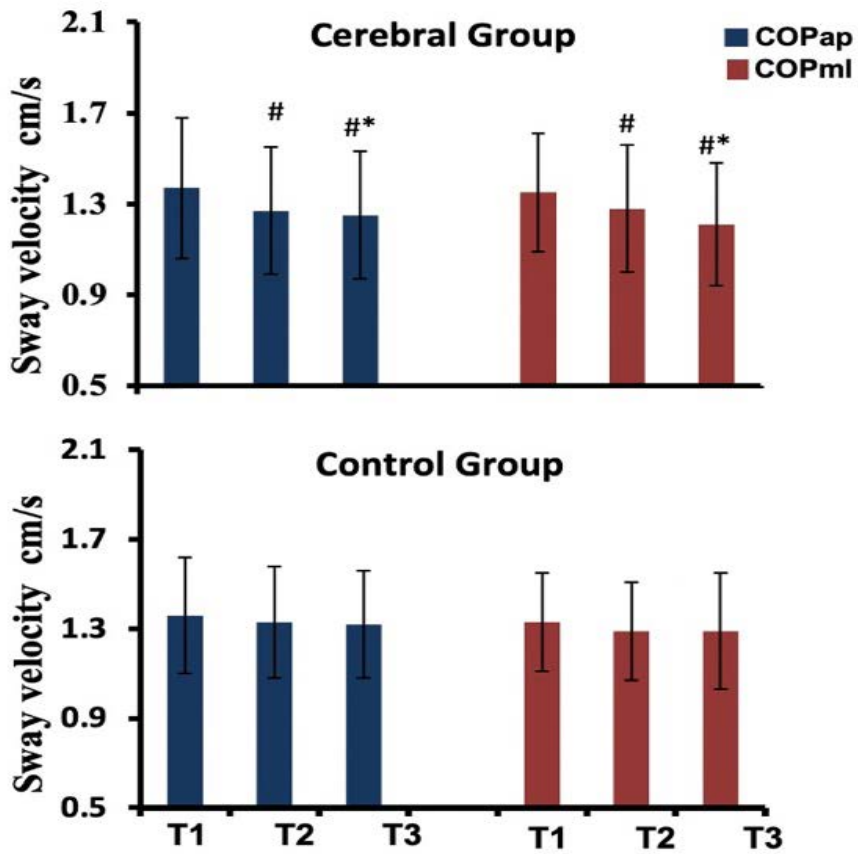
**Effects of cognitive exercise on postural control in healthy, physically inactive older women**

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**Statement of the Problem:** Impaired balance is a significant risk factor for falls among older people. Moreover, tasks that require greater attention and cognitive involvement increase this risk. However, no studies have analyzed the effects of the cognitive exercises (CE) on postural control (PC) in older adults. The aim of the present study was to assess the effects of CE on the performance of PC in healthy older women. **Methods:** Twenty healthy, physically inactive older women (mean age:  $65.5 \pm 4.59$  years) were enrolled in a randomized, blind, crossover study. Each participant was submitted to two tests in random order: a single session of CE (three cognitive tasks; duration of seven minutes) and without CE (WCE). Sway velocity of the center of pressure in the anterior-posterior (COPap) and medial-lateral (COPml) directions was calculated using a force plate (bipedal, 90s, three times, eyes open) before, immediately after and 10 minutes after CE. In the WCE group, the same evaluations were performed but CE was substituted with seven minutes of rest seated on a chair. A one-week period was respected between sessions. **Findings:** Two-way repeated-measures analysis of variance revealed a statistically significant difference in sway velocity between groups in both directions (COPap:  $F = 5.76$ ,  $p = 0.005$ ,  $\eta^2 = 0.14$ ; COPml:  $F = 4.19$ ,  $p = 0.01$ ,  $\eta^2 = 0.10$ ). In the CE group, a significant reduction ( $p < 0.05$ ) in sway velocity was found immediately after and 10 minutes after CE in both directions (COPap and COPml). **Conclusion:** Cognitive exercises improved postural control in healthy, physically inactive older women. This finding suggests that a CE program can contribute to an improvement in postural control in this population.

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**Figure 1.** Mean and standard deviation of sway velocity of center of pressure in anterior-posterior (COPap) and medial-lateral (COPml) directions and with without cognitive exercises, recorded before (T1), immediately after (T2) and 10 minutes after (T3) after cognitive exercises.