

On Multimodal Exercise in Falls Prevention

In general, multimodal exercise is a beneficial element in falls prevention programs for older adults. Challenging and stimulating the executive function (EF) is important to augmenting functional capacity which in many cases deteriorates or diminishes with aging.

Mignardot, Beauchet, Annweiler, Cornu, and Deschamps (2014) studied postural sway velocities in older adults with mild cognitive impairment (MCI) and mild-to-moderate Alzheimer's disease (MMAD). Individuals with MCI (dementia) and MMAD had been found to be at increased risk for falls particularly exhibited by increased postural sway and gait variability (Mignardot et al., 2014).

Mignardot et al. (2014) conducted a modified Romberg test (clinical balance test) on a force plate and noted that "the absolute maximal velocity in the antero-posterior direction increased with the highest levels of cognitive impairment" and fallers showed the "highest absolute values of velocity, suggesting that the control of postural sway is implicitly corrected and reversed at high velocity thresholds" (p. 435). Changes in postural sway (velocity-based postural control) and difficulties with dynamic balance indicated potentially higher risk for falls (Mignardot et al., 2014).

Definitely adding the cognitive challenge tasks you mentioned would provide a more well-rounded, whole-person approach to falls prevention exercise programs.

References

Mignardot, J. B., Beauchet, O., Annweiler, C., Cornu, C., & Deschamps, T. (2014). Postural sway, falls, and cognitive status: A cross-sectional study among older adults. *Journal of Alzheimer's Disease*, *41*(2), 431-439.