

The International 22nd Puijo Symposium
**"PHYSICAL EXERCISE IN CLINICAL MEDICINE –
 CRITICAL APPRAISAL OF SCIENTIFIC EVIDENCE"**
 June 24 - 28, 2014 Kuopio, Finland

FITNESS STANDARDS AND GENDER DIFFERENCES IN a-MCI

Blasco-Lafarga C¹, Sanchis G¹, Caus N² & Tortosa-Martínez J². ¹Physical Activity and Sport Sciences Faculty, University of Valencia, Spain; ²Faculty of Education, University of Alicante, Spain.
m.cristina.blasco@uv.es

Objective.

Physical Activity (PA) is related to cardiovascular health and cognitive improvement in Amnesic Mild Cognitive Impairment (a-MCI) [1, 2]. It reduces inflammation, enhances immune function and protects against depression, factors also related to MCI [3]. Recent studies suggest the use of PA Programs as low-cost non-pharmacological treatments in this prodromal form of Alzheimer, in order to delay or even avoid it [2]. However, little is known about the expected fitness level in this population. This study aims to evaluate the cardiovascular fitness, gait speed, lower-limb strength and balance in elderly with a-MCI, analyzing them regarding fitness standards in elderly population [4]. Gender differences will be considered.

Methods.

33 a-MCI [5] subjects (21 female and 12 male) recruited from the Neurology Unit (San Vicente del Raspeig Hospital, Spain), completed the 6 minutes walking Test (6MWT), the Stand&Seat Test (SST-30s) and the Timed-Up&Go Test (TUG).

Results.

Table 1 shows an overall low fitness level compared to standards [4], specially in 6MWT. There were no gender differences in physical fitness, although women diastolic blood pressure trended to be better.

Conclusions.

6MWT showed a low score, similarly to Makizako et al. [6], who reported a correlation among the 6MWT, and Memory and Brain volume in old MCI subjects. According to Rikli & Jones [4], our results correspond to one decade over the standard population, a lower functioning which increases the risk for loss of mobility and independence. Moreover, the SST-30s placed our group among frail and pre-frail population [7]. PA programs must be implemented to improve cognitive capacities, but also to prevent the associated risk of frailty and comorbidity in MCI population. The absence in gender differences may be attributed to the pre-frail symptoms whatever the gender. New test should be develop to assess fitness level rejecting the influence of the cognitive status.

Table1. Descriptives (mean±SD) and Gender differences (*Student-T Test*) in a-MCI.

SAMPLE	MALE	FEMALE	
Age (years)	74.67±7.36	77.15±7.93	73.26 ± 6.79
Systolic Blood pressure (mmhg)	131.39±15.15	126.15±14.02	134.35±15.25
Diastolic Blood pressure (mmhg)	70.69±9.10	66.92±6.63	72.83±9.87†
TUG Test (s)	7.39±1.68	7.29±1.76	7.44±1.67
SST-30s (cycles)	11.15±3.25	11.58±2.90	10.90±3.52
6MWT (m)	438.03±78.10	446.25±95.30	433.33±68.56
Gait Speed in 6MWT (m/s)	1.21±0.21	1.23±0.26	1.20±0.19