**Title:** A guided walking protocol for the amelioration of cognitive functions in subject with schizophrenia. A pilot study

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**Background:** individuals with schizophrenia show low levels of physical fitness and consequently are more susceptible for diseases.

**Objective:** to enrol a group of subjects with schizophrenia in a long-term moderate-intensity physical activity program and to evaluate its effects on their cognitive functions and cardiovascular risk factors.

**Methods:** forty sedentary patients with schizophrenia (mean age 46.4 ± 9.6) were enrolled: 28 followed a 1-year walking program consisting of two guided walking sessions/week and 12 followed the usual Cognitive Rehabilitation program. All subjects were evaluated for blood pressure and anthropometric variable. Cognitive functions were assessed with the Screen for Cognitive Impairment in Psychiatry (SCIP) and with the Frontal Assessment Battery (FAB) questionnaires. In the subjects following the walking program $VO_2$peak and walking speed were also assessed.

**Results:** the 20 subjects completing the walking program displayed significant improvements of cognitive functions ($d_{ppc2}$ 0.35 for SCIP and 0.26 for FAB), with a positive correlation between SCIP score and the number of sessions attended ($R= 0.86$, $p<0.001$), evident in the patients attending to at least 75/100 walking sessions. Walking speed and $VO_2$peak increased significantly and a decrease of body weight, BMI, systolic and diastolic blood pressure was also observed. The 12 patients maintaining the sedentary lifestyle did not display improvements of cognitive functions.

**Conclusions:** The walking program, led by exercise specialists, has proven effective in involving people with mental disorders with an improvement in cognitive functions significantly related to the number of walking sessions attended.
**Trial registration:** n. ISRCTN14763786.