



SPB PHYSIOTHERAPY COLLEGE
(MANAGED BY SOUTH GUJARAT MEDICAL EDUCATION & RESEARCH CENTRE)

Correlation of cognition with walking and manual dexterity among the elderly population of South Gujarat: A cross sectional study.

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ABSTRACT

Background: According to WHO aging is defined as a persistent decline in the age-specific fitness components of an individual due to internal physiological degeneration. [1] The set of physiological as well as pathological changes experienced by elderly people with the growing dependence, which is also called a need for help for performing all the activities of daily living. [2] As the age increases mostly walking is affected and its a Walking is the complex motor function.[3] Poor mobility can lead to detrimental factors such as fear of going out, increased social

isolation, poor quality of life and hospitalizations and even death.[4] With the advancing age the cognitive abilities such as reasoning, executive function, processing speed, problem solving and memory decline.[5] The normal process of aging cause decline in cognition and sensorimotor changes that cause impairment of cognition and dexterity in older population.[6]As the older population is increasing worldwide, so it become necessary to take the evaluation of cognition, dexterity and walking in older age to improve their functional independency.

Aim of the study: To find out the correlation of cognition with walking and manual dexterity among the elderly population of South Gujarat.

Objectives: To find out the correlation of cognition with walking and manual dexterity among the elderly population by MMSE, DHI and 6MWT.

Materials and methods: After the baseline assessment, the cognitive function was assessed by MMSE, manual dexterity by DHI, walking by 6MWT and after that correlation was obtained between cognition and manual dexterity as well as between cognition and walking.

Result: Result showed that among 40 subjects in whom 47% were male and 53% were female. The Mean value of MMSE was 27.25 and SD was 2.21591, The Mean value of 6MWT was 269.3 and SD was 100.8579 and The Mean value of DHI was 1.225 and SD was 2.303704. The correlation between MMSE and 6MWT was 0.55569582 and the correlation between MMSE and DHI was 0.516483174. A linear positive correlation was obtained between the MMSE and 6MWT as well as between MMSE and DHI. The correlation was statistically obtained with ($p < 0.05$).

Conclusion: A linear positive correlation was obtained between the MMSE and walking as well as between MMSE and DHI. The correlation was statistically obtained with ($p < 0.05$).

Keywords: Elderly, cognition, manual dexterity, walking, MMSE, DHI, 6MWT.

References:

1. Rose, M. R., Flatt, T., Graves, A new definition of aging? General Commentary, 2012.
2. Olivia Galvao Lucena Ferreira¹, Silvana Carneiro Maciel², Antonia Oliveira Silva et al, Active aging from the perspective of aged individuals who are functionally independent, Rev Esc Enferm USP 2010; 44(4): 1060-4.
3. Catharine R Gale, Michael Allerhand, Avan Aihie Sayer et al., The dynamic relationship between cognitive function and walking speed: the English Longitudinal Study of Ageing, 2014.
4. Naiara Demnitz, Patrick Esser, Helen Dawes et al; A systematic review and meta-analysis of cross-sectional studies examining the relationship between mobility and cognition in healthy older adults, Gait & Posture 50 (2016).
5. Eling D de Bruin, André Schmidt., Walking behavior of healthy elderly: attention should be paid, de Bruin and Schmidt Behavioral and Brain Functions 2010.
6. Claudia Rodriguez-Aranda, Matthias Mittner et al; Association between executive Functions, Working Memory, and Manual Dexterity in Young and Healthy Older Adults: An Exploratory Study, 10.1177/0031512516628370.