

## COGNITIVE IMPAIRMENT IN HEALTHY FILIPINO ADULTS WITH MRI WHITE MATTER HYPERINTENSITIES

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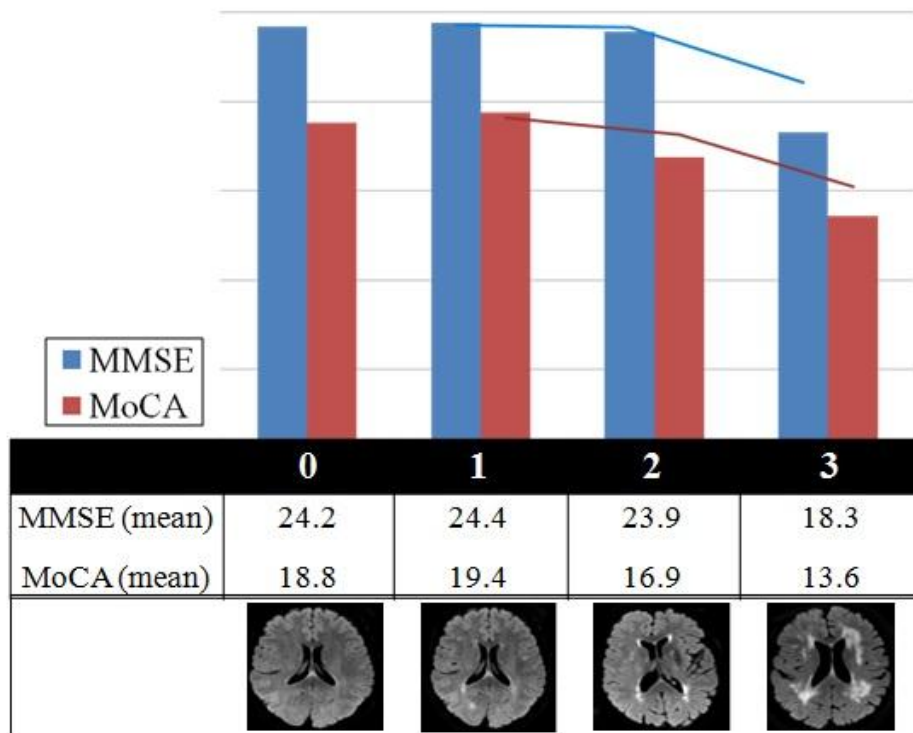
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Background – White matter hyperintensities (WMH) are frequently seen on MRI of patients presenting with stroke or dementia, but are also observed to be present in healthy adults with no neurologic or cognitive impairment. Are they radiological findings of uncertain clinical significance? Or are they pre-clinical signs of dementia and cognitive decline. This paper studies the relationship of WMH and cognitive function of healthy Filipino adults with normal hippocampal volume and with no previous history of strokes.

Methods – 202 patients with MRI hippocampal volumetry, neurocognitive screening tests and normal metabolic parameters were studied. Hippocampal volume was determined using NeuroQuant®, a software utilized by US-National Institute for Health studies for dementia. Those with low hippocampal volume and evidence of stroke of any age were excluded. MRI were reviewed and WMH were graded using Fazekas scale. Correlational statistical analysis was made on the relationship of WMH to neurocognitive scores.

Results – There is clinically significant decline in Mini-Mental State Exam (MMSE) and Montreal Cognitive Assessment Test (MoCA) scores with increasing WMH, most significant between Fazekas 2 to Fazekas 3.

### RESULT: MMSE / MoCA and Fazekas Scale



Conclusions – This paper to the best of our knowledge is the first to use hippocampal volumetry to exclude subjects with Alzheimer's and vascular dementia, and get a pure sample of healthy adults with only WMH on MRI. Our results show that there is a clinically significant neurocognitive impairment with increasing WMH in adults with no apparent neurocognitive complaints, but in this paper it lacked statistical power due to small sample size. WMH are preclinical evidence of cognitive impairment in an otherwise healthy adult, and warrants close follow-up.