

# Protecting cognitive function and delaying dementia: preliminary evidence from Lebanon

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## Abstract

**Background:** In Lebanon, it is projected that dementia will become a health crisis within the next 20 years. Therefore, the protection and management of cognitive impairment in older adults are of great significance for the aging population. We will present findings from research examining the role cognitive reserve factors and vitamin D play in cognitive impairment among older adults.

**Methods:** In the first study, we investigated the cognitive function and cognitive reserve factors of 508 community-based Lebanese older adults aged 65 years using secondary data analysis. In a second cross-sectional study, we explored the cognitive performance and serum vitamin D levels in 254 older (>60 years) as well as younger (30-60 years) adults.

**Results: Study 1.** Older adults with dementia had lower education levels and attained lower occupational complexity. High education, complex occupation attainment, and leisure activity significantly predicted better global cognitive function. An older adult who gained high education levels or high complexity level occupation was 7.1 or 4.6 times more likely to have better global cognitive function than another who attained lower education or complexity level occupation, respectively. **Study 2.** Pearson's correlation and stepwise linear regression analyses showed that a low serum 25 dihydroxy vitamin D (<30ng/ml) level was associated with a higher risk of cognitive impairment in older as well as younger adults (30 years).

**Conclusion:** These results suggest that cognitive reserve factors should be taken into consideration clinically during dementia diagnosis and when initiating community-based preventive strategies in Arab populations. These findings also suggest that vitamin D correction needs to be explored as an intervention to prevent cognitive impairment. Other evidence supporting lifestyle changes and cognitive rehabilitation for the prevention and treatment of cognitive impairment should also be considered. Such interventions may reduce the risk of cognitive impairment and Alzheimer's disease in older adults.