

## **Improving detection of dementia in an Arabic speaking population with low education: Combining the Rowland Universal Dementia Assessment Scale and the Informant Questionnaire on Cognitive Decline in the Elderly**

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**Background:** Screening for dementia in Lebanon is challenging due to the high rate of illiteracy among older people. Commonly used cognitive screening tests, such as the Mini Mental State Examination, are rarely suitable as they usually require reading, writing, and arithmetic skills. The Rowland Universal Dementia Assessment Scale (RUDAS) and the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) have previously been successfully validated in this population. The aim of this study was to evaluate whether there was any added value of combining the RUDAS and the IQCODE when screening for cognitive impairment among Arabic speaking older persons with low education.

**Methods:** Data from 225 subjects older than 65 years, 90 with mild to moderate dementia and 135 non-demented controls, were analyzed. The subjects were recruited from social organizations, community-based primary care clinics, and hospital-based geriatric clinics. The diagnosis of dementia was made according to the DSM-IV criteria. The RUDAS and the short form of the IQCODE were used adopting previously established cut-off scores. Area under the curve (AUC), sensitivity, specificity, positive and negative predictive values (PPV and NPV) were obtained using three combination methods; the "And" method, the "Or" method, and the "Weighted Sum" method. **Results:** The IQCODE outperformed the RUDAS in all analyses. Logistic regression demonstrated that the combination of the RUDAS and the IQCODE resulted in better prediction of dementia than either measure alone. The "Weighted Sum" method had the best AUC and specificity, while the "Or" rule had the best sensitivity. A graphical method was developed to facilitate the adoption of the "Weighted Sum" method in everyday clinical practice. **Conclusions:** We recommend that the IQCODE is used as a supplement to formal cognitive testing with the RUDAS in Arabic speaking older populations with low education and that the "Weighted Sum" method is used to combine the two measures. In order to generalize our results, this approach needs to be further validated in populations with diverse cultural and educational characteristics.