The AQT® as a Useful Short Screening Test for Dementia. Evidence from Two European Cultures

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Background: Alzheimer’s disease (AD) is the most common cause of dementia in the growing elderly population in many countries. The quests for symptomatic relief and prospects of pharmacological treatments of AD, call for sensitive and reliable screening tests which can be easily used by general practitioners in different countries and cultural settings. General criteria for such screening tests should include easy administration and unequivocal scoring, and independence of factors known to be related to cultural settings and educational level. The AQT is a novel screening test designed to assess cognitive processing speed. Three sets of universal stimuli are presented to patients in a fixed protocol. The administration takes 3 - 5 minutes and the clinical outcome measure is the time (seconds) it takes to perform the test. The AQT is standardized and validated in the USA and in Sweden. It is used by general practitioners and hospital staff throughout Sweden as a supplementary test to the MMSE in the assessment of dementia.

Objective(s): We performed a collaborative research study between two European countries, Sweden and Greece, in order to establish the validity and reliability of the AQT, and to further evaluate whether test results meet the criteria of being independent of language and educational level.

Methods: The Swedish participants were 97 patients with AD, and 59 healthy subjects, while the Greek participants were 75 patients with AD, and 29 healthy subjects, respectively. All patients met the NINCDS-ADRDA and the DSM-IV criteria for dementia. The patients’ educational level ranged from 2 to 17 years, MMSE: mean 22.6. The AQT and the MMSE were assessed in all subjects by experienced psychiatrists and neuropsychologists in routine clinical settings in both countries. The discriminatory values of the AQT and the MMSE in the two countries and languages are presented in the Table below.

<table>
<thead>
<tr>
<th>Test</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Predictive values (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQT Sweden</td>
<td>93.1</td>
<td>99.9</td>
<td>99.9</td>
</tr>
<tr>
<td>AQT Greece</td>
<td>98.7</td>
<td>6.6</td>
<td>98.7</td>
</tr>
<tr>
<td>AQT Sweden</td>
<td>88.7</td>
<td>95.5</td>
<td>97.2</td>
</tr>
<tr>
<td>AQT Greece</td>
<td>93.3</td>
<td>69.0</td>
<td>88.6</td>
</tr>
</tbody>
</table>

Conclusions: The results demonstrate that cognitive processing speed is a general and very sensitive measure that clearly separates mild dementia from normal aging. The usefulness of the AQT in dementia assessment is suggested by the striking similarity of findings in different cultural settings.