ALZHEIMER DISEASE

MMSE vs MoCA: Is One Better Than the Other?

The Mini-Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MoCA), often used in clinical practice as a quick screen for Alzheimer disease (AD) or mild cognitive impairment (MCI), get high marks for diagnostic accuracy in a study of community-dwelling older adults, according to a study done by researchers from the University of Pennsylvania in Philadelphia. But the study also suggests that as a brief, stand-alone cognitive screening measure, the MoCA seems to be more sensitive than the more widely used MMSE. What's more, using the optimal cutoff score, the MoCA's classification accuracy exceeded that of the MMSE for differentiating MCI from healthy age-related changes.

Researchers recruited 321 patients with AD, 126 with MCI, and 140 with healthy cognitive aging (HC) from the Penn Memory Center and Clinical Core of the University of Pennsylvania's Alzheimer's Disease Center.

The researchers say their findings build on previous ones that the MoCA is a superior screen compared with the MMSE for detecting AD and MCI. "More striking" was the accuracy of the MoCA at differentiating MCI from HC. The MoCA was also more useful in a particularly challenging area: subtle transition in clinical status. The data suggest that the MoCA may be more sensitive to early changes in cognitive ability, as it includes more robust measures of visuospatial and executive functions, the researchers say. Because the MoCA shows a wider range of performances in AD and MCI than the MMSE does, the MoCA could be used to determine differing levels of severity or subtypes of MCI, they suggest. This is particularly important, they add, as the diagnosis of MCI or AD increases with age, and thus, performance on the MMSE or MoCA may systematically differ in an 80-year-old patient with MCI, compared with a 60-year-old patient with MCI.

Diagnostic accuracy improved significantly when either the MoCA or the MMSE was combined with the Dementia Severity Rating Scale, which collects information from a "knowledgeable informant" on a patient's impairment in 12 cognitive and functional domains.

The researchers found that, as in previous research, the Consortium to Establish a Registry of Alzheimer's Disease neuropsychologic battery (CERAD-NB) is better at distinguishing patients with MCI or AD from healthy individuals than are brief screening measures—but it was not more accurate than the MMSE or MoCA in differentiating AD from MCI. Further, it's lengthy and requires specialized training for proper administration, making it less practical for use in the typical neurology or geriatric practice, the researchers say. By contrast, both the MoCA and MMSE can be administered with little training.

The study also gave the researchers a chance to test a "simple, yet reliable" method for equating MoCA scores with traditional MMSE scores: In general, lower MoCA scores were equal to higher MMSE scores, they say. For example, scores of 28 to 30 on the MoCA are equivalent to the highest score of 30 on the MMSE. ●