

Laptop Dementia Screener Is Accurate, Faster Than MMSE

BY PATRICE WENDLING
Chicago Bureau

CHICAGO — A quick, computerized screening test for dementia may be one step closer to reality.

Researchers at the University of Florida Alzheimer's Center and Research Institute have developed the Dementia Screening Battery, a self-administered test that takes about 15 minutes to complete on a laptop computer.

In contrast, the currently widely used Mini-Mental State Examination (MMSE) is administered by a trained professional and can take up to 90 minutes to complete.

The computerized screener can be used with even severely demented populations, and all tests in the battery were based on tests in the public domain to minimize costs, principal investigator Dr. Kenneth M. Heilman and colleagues reported in a poster at the annual meeting of the American Academy of Neurology.

"The availability of a self-administered computerized cognitive screening test could improve public-health awareness of dementia and lead to earlier treatment, as well as reduce the burdens of time and staff train-

ing for primary care providers," Dr. Heilman, distinguished professor and program director department of neurology, University of Florida, Gainesville, said in an interview.

The investigators tested the Dementia Screening Battery in 39 healthy adults (mean age 64 years) and 66 adults (mean age 72 years) who were diagnosed by a behavioral neurologist as hav-



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DR. HEILMAN

ing abnormal cognition, including mild cognitive impairment in 19, probable Alzheimer's disease in 17, and other dementias in 30.

All participants were given the MMSE, and assessed for ideomotor apraxia and executive dysfunction. The traditional Hopkins Verbal Learning Test and Boston Naming Test were given to 90% of patients and 62% of controls.

There were no significant differences between the screening battery and MMSE performance, although there was a trend for superior performance of the MMSE in identifying patients in

the "other dementias" group, the investigators reported.

A laptop total score of 75 proved to be the optimal cutoff point, providing the maximal specificity (72%) and sensitivity (92%).

The area under the receiver operating characteristics (ROC) curve was high at 0.94 and comparable with the MMSE at 0.95.

Subtests of memory, naming, praxis, and orientation from the Dementia Screening Battery significantly correlated with standard domain-related neuropsychological tests. The Pearson Correlation between the laptop total score and the MMSE was significant at 0.80.

The investigators acknowledged the generally high level of education (mean 15 years) and computer literacy in the patients, who were selected from an academic referral practice. There also may have been a selection bias because of the consenting process, as patients who are intimidated by computers or whose dementia severity precluded their likelihood of successfully completing the test may have refused to participate.

Future steps include implementation of reaction times, the addition of more sensitive tests for frontal-executive dysfunction, simplification of the keyboard, and testing the device on a communitywide level. ■

Type 2 Diabetes Doesn't Affect Alzheimer's Risk

BY HEIDI SPLETE
Senior Writer

WASHINGTON — Type 2 diabetes did not increase the risk of onset or progression of Alzheimer's disease in older adults, according to results from a study of more than 700 individuals presented in a poster at the annual meeting of the American Geriatrics Society.

The prevalences of Alzheimer's disease (AD) and type 2 diabetes are rising, and data from previous studies suggest an association between the two conditions.

In this prospective study, Youngjee Choi of the Alzheimer's Disease Research Center and a medical student at Washington University in St. Louis, and colleagues examined the frequency of type 2 diabetes in 506 adults (196 men and 310 women) with dementia and 318 adults (127 men and 191 women) without dementia.

The study participants, who were enrolled in a longitudinal study of aging and dementia, had an average age of 77 years. The mental status of the participants was determined using the Clinical Dementia Rating, which is sensitive to individual cognitive decline. The study excluded individuals with diabetes who used insulin.

Significantly more of the participants with dementia had type

2 diabetes at baseline than did the nondemented participants (10.7% vs. 5.7%).

But a Cox regression analysis showed no association between type 2 diabetes and the onset or progression of AD during a 12-year follow-up period, although AD and type 2 diabetes were significantly associated at baseline in this sample.

Independent of type 2 diabetes, dementia progression was significantly higher among the participants who were demented at baseline, compared with those who were not. Older age and the presence of the APOE ε4 allele significantly increased the risk of AD onset in nondemented individuals. Older age, the presence of the APOE ε4 allele, and being female and having less education were significantly associated with dementia progression in those who met criteria for AD at baseline.

The study did not use a community-based sample, which may have caused selection bias, and the duration of disease and level of glucose control for the participants with type 2 diabetes were unknown, the researchers noted.

The study was supported in part by grants from the National Institutes of Health and the Summer Training on Aging Research Topics-Mental Health program. None of the researchers disclosed any financial conflicts. ■

Simpler Frailty Assessment Recommended for Nursing Homes

BY DOUG BRUNK
San Diego Bureau

SALT LAKE CITY — Diagnosing frailty in a nursing home resident can be a time-consuming undertaking.

According to Dr. John E. Morley, a generally accepted definition of frailty is useful but not practical for most nursing homes because they don't have the time or the staff to test for the criteria that constitute that definition.

"Unless someone's reimbursing you, you probably don't have the time to do this in your practice," Dr. Morley said at the annual symposium of the American Medical Directors Association.

Dr. Morley, a professor of gerontology at St. Louis University, was referring to the criteria set forth by Dr. Linda P. Fried of the Johns Hopkins Medical Institutions and her associates in 2001. They characterized frailty in older adults as a clinical syndrome occurring when three or more of the following criteria are present: unintentional loss of at least 10 pounds in the past year, self-report of exhaustion, extremely weak grip strength, slow walking speed over 15 feet, and low physical activity as measured

by calories expended per week (J. Gerontol. A Biol. Sci. Med. Sci.2001;56:M146-57).

Instead, Dr. Morley suggested a frailty screening tool developed by the International Academy of Nutrition and Aging, based on simpler answers to questions suggested by the mnemonic FRAIL. F stands for fatigue (Is the person fatigued?);

R for resistance (Can the person walk up at least one flight of stairs?); A for aerobic (Can the person walk at least one block?); I for illness (Does the person have more than five illnesses?); and L for loss of weight (Has the person lost more than 5% of his or her weight in the past year?) (J. Am. Med. Dir. Assoc. 2008;9:71-2).

"If you want to measure for frailty quickly in the nursing home setting, this is a nice way to do it," said Dr. Morley, who is editor in chief of the Journal of the American Medical Directors Association. He noted that validation studies of the screening tool are currently underway. He

said it's already clear that the tool "is far more useful than an echocardiogram" in revealing frailty.

Measuring frailty is important because of its direct link to poor nutrition, he said. Recent studies have demonstrated that frail older people consume fewer than 21 kcal/day and have lower than normal intake of protein; vitamins D, E, and C; and folate. "We should be pushing for a balanced diet," rather than just administering multivitamins, he said.

"Much of the literature that's coming out suggests that balanced diet is what matters." Eating right is hard to do for anyone, let alone a frail elderly person, he added. "If you look at what the average American eats, we often don't come close to five servings of fruits and vegetables a day."

Weight loss in nursing home residents is a matter of major concern. A study of underweight nursing home residents found that 30% of residents who contin-

ued to lose weight died over the next 6 months, while the 6-month mortality rate was 20% among those whose weight stabilized, and 10% among people whose weight loss was reversed (J. Nutr. Health Aging 2002;6:275-81).

Causes of weight loss include anorexia, cachexia, rheumatoid cachexia, sarcopenia, malabsorption, hypermetabolism, and dehydration. "It is now well recognized that not only is weight loss bad for nursing home residents, but anorexia independently predicts mortality at a slightly higher hazard ratio than weight loss," Dr. Morley said.

He recommends the Simplified Nutritional Appetite Questionnaire (SNAQ) as a "simple, easy" way to screen for anorexia. Developed by the Council for Nutritional Strategies in Long-Term Care, this tool is a four-item, single-domain questionnaire. Responses are scored by using a 5-point, verbally labeled Likert-type scale, low scores indicating deterioration in appetite (Am. J. Clin. Nutr. 2005;82:1074-81).

The SNAQ "has very good sensitivity and specificity for weight loss, and it can predict weight loss 6 months down the line," Dr. Morley said. ■



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