

Alzheimer's Disease Research Highlights: Implications for Primary Care

In July, researchers released results of several studies at the Alzheimer's Association International Conference® 2012 (AAIC) that impact primary care practice. More than 4,300 members of the Alzheimer's scientific community gathered in Vancouver, Canada to learn about these and other advances in Alzheimer's research and treatment.

Diabetes and cognitive impairment

New research continues to show a connection between diabetes and cognitive impairment.

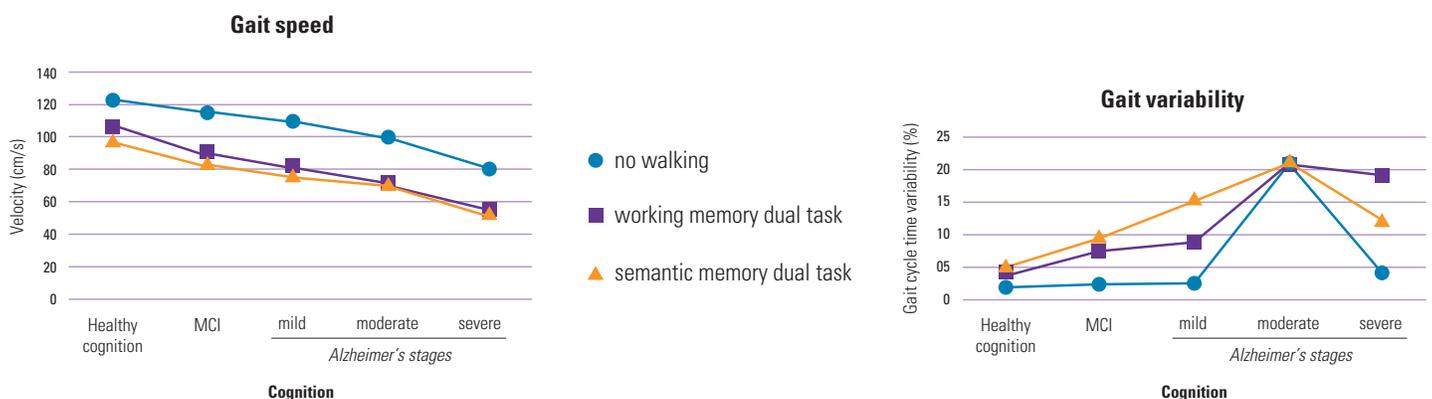
- Researchers assessed hypoglycemic events and cognitive function in 913 diabetic older adults (mean age 74.1 years, dementia-free at baseline) over 12 years¹ and found a reciprocal relationship between the two.
 - Participants who were diagnosed with dementia during the study had a greater risk of experiencing a hypoglycemic event than participants without dementia.
 - Participants who had experienced a hypoglycemic event had a greater risk for developing dementia than those not experiencing a hypoglycemic event.
- In a study² of 1,627 Mexican Americans over the age of 60, investigators found an increased risk of dementia and cognitive impairment without dementia (CIND) in older Mexican Americans with T2DM, even after accounting for stroke and higher mortality among those with T2DM.

Changes in gait as indicators of cognitive decline

Gait is closely linked to cognitive function. New research suggests specific components of gait may be associated with cognitive impairment.

In Switzerland, investigators followed 1,153 older participants (mean age 78.5)³ and found that walking speed slowed and gait became more variable as cognition declined, especially when asked to walk and do another task, such as counting backward aloud or calling out names of animals they were shown.

Figure 1: Gait speed and variability in normal and cognitively impaired older adults³



Changes in gait as indicators of cognitive decline (cont.)

Investigators from the Mayo Clinic Study of Aging⁴ explored the gait of more than 1,341 participants over 15 months to determine which gait components were associated with cognitive decline. Participants with lower cadence, velocity, and amplitude of stride length experienced significantly larger declines in global cognition, memory, and executive function.

For busy clinicians, monitoring deterioration in a patient's gait could improve early detection of fall risk and the earliest stages of cognitive impairment in older adults.

Sleep quality tied to risk of cognitive decline

Several new studies suggest sleeping too little or too much, abnormal breathing during sleep, and excessive daytime sleepiness are significantly associated with cognitive impairment.

- More than 15,000 participants in the Nurses' Health Study⁵ who were aged 70 or older at their first cognitive examination were followed for up to six years, including record of sleep duration and cognitive assessments. A subset of women (n=468) had plasma beta-amyloid (A β) measured.
 - Compared to the women who slept about 7 hours per night, those who slept either two hours more or less than 7 hours had worse average cognition and lower ratios of plasma A β 42/40, a predictor of cognitive decline and dementia.
 - Abnormal sleep duration was cognitively equivalent to aging by 2 years.
- A 5-year study⁶ of 1,300 women aged 75 and older found that participants with sleep-disordered breathing or sleep apnea had more than twice the odds of developing MCI or dementia over the five years compared with those who did not have sleep-disordered breathing.
- The French Three-City Study⁷ is an ongoing, long-term, multi-site study of the relationship between vascular disease and dementia in community-dwelling individuals aged 65 or older. Nearly 4,900 non-demented study participants were followed for up to eight years. Scientists found that excessive daytime sleepiness, which was reported by 17.9% of participants, was associated with an increased risk of cognitive decline.

Implications of these findings could be substantial, as they may lead to the eventual identification of sleep-based strategies for reducing risk of cognitive impairment and dementia. Interventions to normalize sleep duration and correct sleep disorders may not only improve quality of life, but have the potential to reduce or prevent cognitive decline.

Interested in learning more?

We will explore each of these topics in greater detail in upcoming issues of In Brief. To receive new issues, just send an email with "In Brief" in the subject line to HCPServices@alz.org.

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