

Editorial

Disease Management on Alzheimer's Disease and Dementias

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Editorial

More than 6 million Americans have Alzheimer's, the most common form of dementia. The number is predicted to hit 14 million by 2060. In 2021, the World Health Organization (WHO) reported that dementia affects more than 55 million people worldwide, costing the economy \$1.3 trillion annually.

Check with your healthcare providers whether your cognition is slightly off due to infections, anxiety, depression, sleep disturbance, polypharmacy, or adverse drug effects. Cognition can improve by addressing it early onset. 12 lifestyle risk factors can delay up to 40% of dementia cases as per author Hara (2023).

Genetic Variants APOE Risk Factors:

There are three different variants- APOE2, APOE3 and APOE4 and you have two copies, one each from your mother and father. The APOE2 variant is the rarest form of APOE and is associated with a reduced risk for Alzheimer's [1]. The APOE3 variant is the most common and has an average risk for Alzheimer's. The APOE4 variant increases the risk for Alzheimer's disease which is present in up to 15% of people [1].

Diet: A plant-based diet is viable. Eat more whole grains, berries, nuts, Omega-3s, fruits and vegetables to preserve your brain. Mediterranean diet correlated with up to a 33% lower risk of developing mild cognitive impairment and Alzheimer's disease [1]. **Alcohol:** Any amount or type of alcohol appears to increase the risk of Alzheimer's in individuals who are carriers of the

APOE4 variant [1].

Hypertension: Managing high blood pressure will preserve cognitive function in individuals those people with APOE4 [1].

Hyperlipidemia: APOE4 is correlated with higher LDL-cholesterol levels and results from higher cardiovascular risk. APOE2, on the other hand, is correlated with a significantly lower LDL-cholesterol [1]. **Oral health.** Gingivally infected PG, particularly pEVs, may cause cognitive decline with periodontitis. Therefore, pEVs may be a risk factor [2].

Depression: According to a new study of people in Denmark, people diagnosed with depression in early adulthood or middle age have a tripled risk of getting dementia. Men diagnosed with depression were three times more likely to be diagnosed with dementia, in comparison to women. The findings were published in the journal JAMA Neurology [3]. **Sleep:** Lack of sleep may be a cause of dementia, including Alzheimer's disease. Try to get seven to nine hours of sleep every night.

Hearing: Hearing loss in older adults is linked to brain problems, such as Alzheimer's and loss of brain tissue. No louder than 60% of your device's maximum volume- no more than a couple of hours at a time [4]. **Physical activity:** Get 150-300 minutes of moderate physical activity weekly for the prevention of Alzheimer's, heart disease, diabetes and cancer. Cardio improves mental and physical health and brain functioning.

Smoking: Smoking can shrink your brain. It makes your memory worse and more inclined to get dementia, including Alzheimer's. It can also cause heart disease, diabetes, stroke and high blood pressure [4].

Controlling the light: The study suggests controlling the kind of light and the timing of the light could be key to reducing circadian disruptions in Alzheimer's disease [5]. Research shows that sunlight keeps your brain functioning well.

How Biomarkers Help Diagnose Dementia

Brain Scans are used to help diagnose dementia including CT, MRI, Cerebrospinal Fluid Biomarkers (CSF), Fluorodeoxyglucose (FDG) and PET scans. MRIs can show areas of the brain have atrophied [6]. Genetic testing. Genetic tests are done by genetic counseling which includes discussion of the risks, benefits and limitations of the results. Check with your healthcare providers for your risk factors.

Blood tests. Reflecting US FDA guidelines, to order a blood test to measure levels of beta-amyloid (NIH, 2023). Authors Brum, et al., suggest the new blood-based p-tau biomarkers, especially a variant called p-tau217, have been demonstrated to be an effective clinical tool for screening patients with early cognitive symptoms [7].

Online therapy helps to reduce social isolation and the risk of mental health problems. Volunteering for a cause. Joining a senior center, learning a new hobby such as pickleball, aquatic swimming, or a new language. Online social media with family, friends and old acquaintances to reduce loneliness or social isolation. Cognitive stimulation is great for the blood flow. Yoga, meditation and relaxation skills are great ways of regulating your anxiety and emotions. Annual and oral check-ups with health care providers.

Keywords: Alzheimer's; Biomarkers; Blood Flow; Mental Health

Conflict of Interest

The author has no conflict of interest to declare.

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