



Women's Brain Health

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How to Optimize Brain Health



Research suggests that healthy lifestyle behaviours are associated with a lower risk of developing dementia, including Alzheimer's disease. In a study by Dhana et al. (2020), people who followed two to three healthy lifestyle factors had a lower risk of Alzheimer's dementia than people who followed zero or one healthy lifestyle factor. People who followed four to five healthy lifestyle factors had an even lower risk. The five lifestyle factors studied were non-smoking, regular moderate-to-vigorous physical activity, light-to-moderate alcohol consumption, a high-quality diet, and engagement in late-life cognitive activities (Dhana et al., 2020).

Although not all cases of dementia are preventable, lifestyle habits may help support long-term brain health. The Women's Brain Health Initiative identifies six pillars of brain health: exercise, mental stimulation, social activity, nutrition, sleep, and stress management (Women's Brain Health Initiative, n.d.-a).

The 6 Pillars of Brain Health

Exercise

Evidence suggests that regular physical activity supports brain health and may help reduce the risk of cognitive decline. Physical movement can support blood flow, cardiovascular health, and overall brain function (Women's Brain Health Initiative, n.d.-a).

Mental Stimulation

Mental stimulation may help build cognitive reserve, which refers to the brain's ability to adapt and continue functioning despite age-related changes or disease-related damage. Activities such as learning, reading, problem-solving, and engaging in cognitively challenging tasks may support brain health over time (Women's Brain Health Initiative, n.d.-a).

Social Activity

Social engagement is associated with overall well-being and may help protect cognitive health. Maintaining social connections can support emotional health, reduce isolation, and contribute to healthier aging (Women's Brain Health Initiative, n.d.-a).

Nutrition

Nutrition plays an important role in brain health. A healthy diet provides nutrients that support brain function, and poor nutrition may negatively affect cognitive performance and overall health (Women's Brain Health Initiative, n.d.-a).

Sleep

Sleep is important for memory, learning, and overall brain function. Sleep problems have been associated with a higher risk of cognitive decline and dementia, making healthy sleep habits an important part of brain health (Women's Brain Health Initiative, n.d.-a).

Stress Management

Chronic stress can negatively affect memory, mood, and overall well-being. Managing stress through healthy coping strategies may help support long-term brain health (Women's Brain Health Initiative, n.d.-a).

BrainFit App

The Women's Brain Health Initiative developed BrainFit™, a free mobile application designed to help adults build healthy habits that support brain health. The app focuses on evidence-based habit tracking and practical strategies connected to the six pillars of brain health (Women's Brain Health Initiative, n.d.-b).

Sex and Gender Differences Matter: Stroke, Epilepsy and Alzheimer's Disease

Stroke and Women

Sex and gender differences can influence stroke risk, symptoms, treatment, recovery, and outcomes. Research summarized by the Women's Brain Health Initiative notes that men generally have a higher age-specific incidence of stroke through much of adulthood, but stroke incidence can be higher among younger women than younger men. Women may also experience poorer functional outcomes and greater post-stroke disability, making sex- and gender-informed approaches important in stroke prevention, care, and recovery (Women's Brain Health Initiative, n.d.-c).

Epilepsy and Women

Epilepsy is a neurological disorder characterized by recurrent, unprovoked seizures. Globally, epilepsy affects tens of millions of people and can occur at any age (World Health Organization, 2024).

While epilepsy affects both men and women, women may experience unique clinical considerations related to reproductive health. Seizure patterns can change across the menstrual cycle, and some antiseizure medications may interact with hormonal contraception, fertility treatments, pregnancy planning, and menopause care. For this reason, reproductive stage and reproductive history can be important parts of epilepsy management for women (Women's Brain Health Initiative, n.d.-d).

Why Women Are More Likely to Have Alzheimer's Disease

Women are more likely than men to develop Alzheimer's disease, and longer life expectancy does not fully explain this difference. Research suggests that biological factors, including changes related to menopause and brain energy metabolism, may contribute to women's Alzheimer's risk. These findings support the need for more research into sex-specific risk factors, prevention strategies, and treatments for Alzheimer's disease (Women's Brain Health Initiative, n.d.-e).

Neurological Conditions: ADHD and Autism in Women

ADHD in Women and Girls

Attention-deficit/hyperactivity disorder, or ADHD, has historically been associated more strongly with boys, which has contributed to under-recognition in girls and women. Research suggests that girls and women with ADHD are more likely to present with inattentive symptoms, such as distractibility, disorganization, forgetfulness, and difficulty sustaining attention, while boys are more often referred for assessment because of more visible hyperactive or impulsive behaviours (Nussbaum, 2012; Waite, 2010).

Girls and women with ADHD may also mask or compensate for their symptoms in order to meet social expectations. Masking can include hiding difficulties, over-organizing, trying to appear “fine,” or working harder to avoid criticism. These coping strategies can delay diagnosis and may contribute to low self-esteem, anxiety, or feeling misunderstood (Holthe, 2013; Waite, 2010).

Receiving an ADHD diagnosis can be important for self-understanding and access to support. Many women describe diagnosis as a turning point because it provides an explanation for long-term struggles with attention, organization, emotional regulation, and self-image (Stenner et al., 2019; Waite, 2010).

Autism in Women and Girls

Autism spectrum disorder, or ASD, has also been underdiagnosed or misdiagnosed in women and girls. Historically, autism research and diagnostic criteria were based largely on male presentations of autism, which may have contributed to missed or delayed diagnoses in females (Green et al., 2019).

Research suggests that autistic women and girls may be more likely to camouflage or mask autistic traits in social situations. Camouflaging can include consciously or unconsciously hiding behaviours, copying social behaviours, forcing eye contact, rehearsing conversations, or suppressing visible signs of distress. This can make autism less obvious to others and may delay diagnosis or appropriate support (Green et al., 2019; National Autistic Society, n.d.).

Differences in symptom presentation, psychiatric co-occurring conditions, and social expectations can all contribute to later diagnosis in autistic women and girls. Understanding these sex- and gender-related differences is important because late or missed diagnosis can affect mental health, treatment planning, self-understanding, and quality of life (Green et al., 2019; National Autistic Society, n.d.).

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