VITAMIN D AND D BRAIN

Or… "D FENCE"!

Taken from a blog post on amenclinics.com

Do you know your Vitamin D levels? Do you know over 60% of those tested have insufficient levels? Do you know low levels correlate with poor cognition, higher risk of dementia, Alzheimer's, depression & autism? Do you know all you have to do to know your level is ask your doctor to put that test on the lab order along with all the others?

HOW VITAMIN D AFFECTS THE BRAIN

Modern lifestyle choices, like sunscreen application and less time spent outdoors, have diminished vitamin D levels. Low levels of vitamin D have been associated with more than 200 conditions, from depression and dementia to autism and heart disease. On the other

hand, optimal levels support both physical and mental health in many ways.

Numerous studies have linked vitamin D to effects on the brain. A 2014 study found that vitamin D prevented cognitive decline in aging rats. Those given higher vitamin D3 diets were able to perform complex memory tasks, unlike rats with low or normal dietary amounts of vitamin D. The authors cited increasing evidence associating vitamin D with maintaining cognitive function (and its deficiency with accelerated cognitive decline with age).

In humans, a 2022 study linked vitamin D with better cognitive function. Subjects with higher brain concentrations of vitamin D showed 25-33 percent lower odds of dementia or mild cognitive impairment (MCI) before death. Research from 2015 determined that those with deficiencies in vitamin D had greater rates of decline in episodic memory and executive function, compared to those with adequate levels. Participants who already had mild cognitive impairment ***had lower levels of vitamin D*** than those who were cognitively healthy. These findings backed up a study published in the journal *Neurology* in 2014, that tracked 1,658 people over the age of 65 over six

years. Researchers found insufficient vitamin D may more than double the risk of developing dementia in older populations—a 53 percent increase. Those who were severely deficient had a 125 percent increased risk, compared to participants with normal vitamin D levels. These results were similar when looking at Alzheimer's disease. Participants with lower levels of vitamin D were nearly 70 percent more likely to develop Alzheimer's. Severe deficiency was associated with a 120 percent increase in the likelihood of developing the disease.

CAN VITAMIN D REDUCE DEMENTIA RISK?

This information is not surprising, as vitamin D receptors are present throughout the brain. It plays a crucial role in protecting cognitive function, learning, and making memories.

A study published in the *Journal of Alzheimer's Disease* suggested that vitamin D may stimulate the immune system, helping rid the brain of beta-amyloid, which are the plaques seen in Alzheimer's disease. If low vitamin D is linked to dementia risk and cognitive decline, researchers were quick to ask: Does vitamin D prevent dementia & could supplementation help?

A Canadian study published in 2023 explored this link between vitamin D supplementation and dementia in

12,388 individuals who did not have dementia. Researchers reported that “vitamin D exposure was associated with significantly longer dementia-free survival and lower dementia incidence rate than no exposure.” Results showed that vitamin D deficiency was associated with a higher risk for dementia (1.42 times the risk) and a 34 percent elevated risk for cognitive impairment. But vitamin D benefits peak at a certain level with optimal vitamin D levels at 77.5-100 nmol/L vitamin D for reducing dementia risk and over 40.1 nmol/L for decreasing risk of Alzheimer’s disease.

WHAT ARE OPTIMAL LEVELS OF VITAMIN D?

A 25-hydroxyvitamin D level lab will let you know where you fall in the range of results:

Deficient: less than 30 ng/mL (nanograms per milliliter)

Low: 30-50 ng/mL

Normal: 50-100 ng/mL

Optimal: 70-100 ng/mL

Once you know, what do you do?

HOW TO BOOST VITAMIN D

Maintaining optimal vitamin D levels protects your brain from dementia, but also boosts your mood, promotes mental health, and improves your immunity.

Here are three ways to make sure you're getting enough of this crucial vitamin:

1. **Mind your diet.** Foods rich in Vitamin D: mushrooms, fatty fish (such as salmon and tuna), and eggs (especially yolks).
2. **Bask in the sun.** Aim for getting some sun (without sunscreen) in short bursts. Go outside twice a week for 5-30 minutes to activate vitamin D production. If out longer, put on protective clothing.
3. **Take a supplement.** Vitamin D supplements are helpful to ensure your levels are optimal. Depending on lab results, add 2,000-5,000 IU of vitamin D3 per day to your system through high-quality supplements. The need is greater in winter.

Easy peasy, right? And no only will you protect you brain, going outside in the sunshine & eating good foods, just makes you happy!