

Practical recommendations from Dietitian to Dietitian episode 3: Can the foods we eat impact mental health?

- Nutrients of interest for mood disorders:
 - Omega-3 fatty acids:
 - Two grams per day is recommended
 - Choose food sources first:
 - Fish and other seafood (especially cold-water fatty fish, such as salmon, mackerel, tuna, herring, and sardines)
 - Tinned fish is an accessible and affordable option for many
 - Nuts and seeds (such as flaxseed, chia seeds, and walnuts)
 - Supplementation:
 - Can use a supplement in place of food sources; however, quality can be an issue with fish oil supplements
 - May not be appropriate due to access or food security issues
 - Vitamin D:
 - Check serum levels
 - Get outdoors
 - Be sure to include fat-containing foods in the diet in order to utilize this fat-soluble vitamin
 - Folate:
 - Be sure to include food sources such as green leafy vegetables and whole grains
 - Multivitamins:
 - Multi-nutrient supplements do not substantially reduce the risk of depression
 - Diet should be the focus and a multivitamin should only be used on a case-by-case basis depending on the patient
- Recommended blood work:
 - Screen for nutritional deficiencies:
 - There is a link between low vitamin D, zinc, magnesium, iron, and vitamin B12 and depression; correct as necessary on a case-by-case basis.
 - Use labs that are ordered medically to look for manifestations of mental health issues:
 - HbA1c – Blood sugar instability will often lead to mental health manifestations
 - Hepatic panel (alkaline phosphatase (ALP), ALT, AST) – Will show if the liver and heart are showing inflammatory signs indicating malnutrition
 - Chem panel (look at Na in particular; psychiatric medications INCREASE PO sodium needs)
 - Methylmalonic acid instead of B12 – Genetic mutations can affect serum B12 levels, so this shows a more accurate value for deficiency
 - If not limited by access to care, check "MTHFR" as a serum blood test. A positive test warrants special attention to the amount of methyl donors (aka fruits, vegetables, and methylated-MVI) available by the body. Furthermore, the MTHFR mutation increases risk for CVD, depression, miscarriage, and GI issues.

- MTHFR: <https://pubmed.ncbi.nlm.nih.gov/34093281/>; <https://pubmed.ncbi.nlm.nih.gov/30944507/>
Vitamin B12 assessment via MMA: <https://pubmed.ncbi.nlm.nih.gov/27446930/>
Depression and food: <https://pubmed.ncbi.nlm.nih.gov/30254980/>;
<https://pubmed.ncbi.nlm.nih.gov/28137247/>

References

Jacka FN, O'Neil A, Opie R, Itsiopoulos C, Cotton S, Mohebbi M, Castle D, Dash S, Mihalopoulos C, Chatterton ML, Brazionis L, Dean OM, Hodge AM, Berk M. A randomised controlled trial of dietary improvement for adults with major depression (the 'SMILES' trial). *BMC Med.* 2017 Jan 30;15(1):23. doi: 10.1186/s12916-017-0791-y.

Parletta N, Zarnowiecki D, Cho J, Wilson A, Bogomolova S, Villani A, Itsiopoulos C, Niyonsenga T, Blunden S, Meyer B, Segal L, Baune BT, O'Dea K. A Mediterranean-style dietary intervention supplemented with fish oil improves diet quality and mental health in people with depression: A randomized controlled trial (HELFIMED). *Nutr Neurosci.* 2019 Jul;22(7):474-487. doi: 10.1080/1028415X.2017.1411320.

Francis HM, Stevenson RJ, Chambers JR, Gupta D, Newey B, Lim CK. A brief diet intervention can reduce symptoms of depression in young adults - A randomised controlled trial. *PLoS One.* 2019;14(10):e0222768.

Gomez-Donoso C, Sanchez-Villegas A, Martinez-Gonzalez MA, Gea A, Mendonca RD, Lahortiga-Ramos F, et al. Ultra-processed food consumption and the incidence of depression in a Mediterranean cohort: the SUN Project. *Eur J Nutr.* 2020;59(3):1093-103.

Bot M, Brouwer IA, Roca M, Kohls E, Penninx B, Watkins E, et al. Effect of Multinutrient Supplementation and Food-Related Behavioral Activation Therapy on Prevention of Major Depressive Disorder Among Overweight or Obese Adults With Subsyndromal Depressive Symptoms: The MoodFOOD Randomized Clinical Trial. *JAMA.* 2019;321(9):858-68.

Firth J, Marx W, Dash S, Carney R, Teasdale SB, Solmi M, et al. The Effects of Dietary Improvement on Symptoms of Depression and Anxiety: A Meta-Analysis of Randomized Controlled Trials. *Psychosom Med.* 2019;81(3):265-80.

Firth J, Teasdale SB, Allott K, Siskind D, Marx W, Cotter J, Veronese N, Schuch F, Smith L, Solmi M, Carvalho AF, Vancampfort D, Berk M, Stubbs B, Sarris J. The efficacy and safety of nutrient supplements in the treatment of mental disorders: a meta-review of meta-analyses of randomized controlled trials. *World Psychiatry.* 2019 Oct;18(3):308-324. doi: 10.1002/wps.20672.