



Nutrition's Impact on Mental Health



According to the American Psychiatric Association, mental illnesses are health conditions that involve changes in emotions, thinking, or behavior, or a combination of these. Mental illness includes a wide range of psychiatric disorders such as depression, anxiety disorder, obsessive-compulsive disorder (OCD), and bipolar disorder.

Depression: Depression symptoms vary from mild to severe and can include sadness, loss of interest in activities once enjoyed, changes in appetite, trouble sleeping or sleeping too much, loss of energy or increased fatigue, feelings of worthlessness or guilt, difficulty concentrating or making decisions, and thoughts of suicide. Nutrition matters when it comes to mental health, including depression. A 2020 review of 20 studies looked at diet's impact on depression. The results showed that high adherence to healthful dietary recommendations, such as fish consumption, exclusion of processed foods, and adequate intake of folic acid and magnesium, were associated with a reduced risk of depression. In addition, several studies showed that inflammatory foods including sweets, refined flour, high-fat foods, and red and processed meats were associated with a significantly increased risk of depression, especially in middle-aged women and the overweight or obese. Researchers concluded that diet may have a significant effect on preventing and treating depression, especially one that includes vegetables, fruits, fiber, fish, whole grains, legumes, and reduced sugar and processed food intake. In addition, researchers found that micronutrients such as magnesium, folic acid, and various B vitamins are important for depression prevention and treatment and should be consumed in adequate amounts.

Anxiety Disorders: Generalized anxiety disorder involves constant worrying that interferes with daily life and activities. This worry may be accompanied by physical symptoms, including feeling on edge, fatigue, restlessness, difficulty concentrating, problems sleeping, and muscle tension. Insufficiency in omega-3 polyunsaturated fatty acids (PUFAs), as well as high caffeine intake, have been investigated for their potential links to anxiety disorders. Researchers concluded that low levels of omega-3 PUFAs may predispose some individuals to depression and anxiety. There's some evidence that omega-3 DHA supplements may help treat anxiety disorders, but more research is needed. Although caffeine boosts alertness, energy, and an

overall feeling of well-being, over consumption can lead to trouble sleeping, jitters, and gastrointestinal irritability and distress. According to the 2020–2025 Dietary Guidelines for Americans, the recommended daily maximum intake for caffeine is 400 mg per day, which is equivalent to four or five cups of coffee. Caffeine has been shown to have some benefits for brain health; however, a 2011 review of eight studies showed that caffeine aggravated symptoms of anxiety and panic disorder. Researchers concluded that individuals with underlying mental health issues may be more susceptible to symptoms caused by higher caffeine consumption.

OCD: OCD is characterized by recurring, unwanted thoughts or ideas (obsessions) that make individuals feel driven to do something repetitively (compulsions). These compulsions, such as excessively checking on things, cleaning, or hand washing, tend to significantly interfere with daily activities and social interactions.

According to some evidence, a healthful diet may play a role in making OCD symptoms more manageable. Research has shown that insufficient intake of vitamin D, vitamin B12, omega-3 fats, and probiotics may be associated with OCD. A 2017 study of 82 children and adolescents (52 with OCD and 30 healthy controls) investigated whether vitamin B12, vitamin D, and homocysteine play a role in OCD. Participants were tested for vitamin B12, vitamin D, folate, and homocysteine levels. The results found a significantly lower level of vitamin B12 and vitamin D and higher levels of homocysteine in those with OCD compared with the control group.

Probiotic supplementation also has been studied in animals for a potential connection to OCD. A 2014 study examined probiotic pre-treatment for OCD-like behavior induced in mice. Mice that received both a two- and four-week probiotic pre-treatment experienced a decrease in the development of OCD-like behavior compared with those that received placebo.

Bipolar Disorder: Research also has been done on the impact of nutritional interventions on bipolar disorder. Individuals with bipolar disorder experience episodes of intense emotional states that tend to occur for days or weeks. These episodes are characterized by periods of mania or hypomania (abnormal excitability and over activity and, in mania, sometimes delusions and/or hallucinations), or depression (with symptoms akin to those seen in major depressive disorder).

A 2021 study examined the effects of various PUFA ratios on improving mood stability in bipolar disorder. The modified double-blinded randomized controlled 48-week study included 82 subjects. The intervention included a high-omega-3 and low-omega-6 diet versus a usual US level of omega-6 and omega-3 PUFAs (the control diet). Variability in mood, energy, irritability, and pain were reduced in subjects on the high-omega-3 and low-omega-6 diet compared with those on the control diet.