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Feed your brain well



How Nutrition Can Influence Mental Wellbeing



Eating a diet high in saturated fat, sugar, and refined carbohydrates can lead to **systemic inflammation**¹ and **oxidative stress**² and is linked to mental health problems.



Research on the **gut-brain**³ connection has shown the gut's **microbiome**⁴ is a contributing factor in the development of mental health conditions. A diet high in fibre helps the growth of beneficial bacteria.

These helpful bacteria have anti-inflammatory effects. In a healthy microbiome, bacteria produce hormones and neurotransmitters needed for brain function, as well as, immune and hormonal systems.



Chronic inflammation can negatively change the gut microbiome and make your intestinal lining more porous leading to other health issues.



The evidence:

Studies show a healthy diet is one way individuals can improve brain health and reduce symptoms of depression.

Eating nutrient dense and high fibre foods is linked with fewer symptoms of depression. Examples include vegetables, fruit, legumes, whole grains, nuts and seeds, fish, and moderate portions of lean meats and dairy, as seen in the Mediterranean-style diet.

A dietary pattern with high levels of saturated fat, sugar, refined carbohydrates, processed meat, and highly processed 'junk food', does not provide enough essential nutrients for good brain health and may contribute to increased inflammation in the body and to more symptoms of depression or other mental health disorders.

The mental health benefits depend on the positive interactions of "all" the foods you eat for brain chemistry, and not just specific nutrients and foods.



Looking for more information on diets? Contact your local Health Promotion Office.



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Links between Mental and Physical Health

- Looking after your physical health supports your mental wellbeing and vice-versa.
- The brain needs a lot of energy and nutrients from food for structure and function.
- Choosing healthy foods and regular exercise may reduce depressive symptoms.
- Healthy food choices are one aspect that can contribute to decreasing symptoms of depression, the risk of developing heart disease, high blood pressure, stroke, and diabetes.
- **Mental** health conditions such as depression and anxiety are a leading cause of disability, and can negatively affect health, relationships and work.
- **One** in five people experience symptoms of anxiety and/or depression in any given year.
- **Eating** a healthy diet can be one factor that can positively affect your mental wellbeing, and can play a valuable role in the prevention and treatment of mental health disorders.
- **Nutrition** is important for your brain health, as it is for heart health or athletic performance.

Nutrients Supporting Brain Health and Mental Wellbeing

Nutrient	Role in Supporting Mental Health	Food Sources
Omega-3 fatty acids	Anti-inflammatory benefits	Oily fish (salmon, mackerel, sardines, trout), chia seeds, canola oil, walnuts and navy and soybeans
Vitamin C	Antioxidant benefits	Citrus fruits, peppers, berries, kiwi, broccoli, tomatoes, potatoes, green vegetables
Vitamin E	Antioxidant benefits	Canola and olive oils, avocados, nuts and seeds and wheat germ
B Vitamin B6, B12, folate	Carbohydrate, fat and protein metabolism (energy) and cell production, neurotransmitter synthesis	Whole grains, meat, poultry, eggs, legumes (lentils, black beans, kidney beans), leafy green vegetables and fortified cereals
Iron	To help red blood cells carry oxygen throughout the body	Red meat, poultry, oysters, legumes, leafy greens, quinoa, pumpkin seeds, fortified cereals and dark chocolate
Zinc	Immune and nerve function, neurotransmitter synthesis	Shellfish, legumes, seeds, nuts, dairy, eggs, whole grain and dark chocolate!
Vitamin D	Anti-inflammatory benefits associated with cognition (brain functioning) and mood	Milk*, some fortified dairy products, sunlight, eggs, oily fish, fortified cereals
Fibre and fermented foods	Maintains a healthy gut microbiome promoting the growth of beneficial bacteria	Fruit, vegetables, whole grains, beans, pulses and fermented products like yogurt, kefir, kimchi, and natural sauerkraut

*All Canadian fluid milk is fortified with Vitamin D. Check the labels on other dairy products to see if they are fortified or not.

Footnotes:

- 1) Inflammation is how your body responds to harmful stimuli, ranging from illness to injury and lifestyle factors such as stress, smoking, diet, sleep deprivation and obesity. Long term inflammation damages tissues and is linked to cancer, heart disease, diabetes and Alzheimer's disease.
- 2) Oxidative stress and free radicals. Oxidative stress occurs when there are more free radicals present than can be kept in balance by antioxidants. Free radicals are byproducts of digestion and environmental toxins and can do damage to fatty tissue, DNA, and proteins in your body. Free radicals are linked to diabetes, heart disease, cancer and Parkinson's disease. Antioxidant containing foods, found in vegetables and fruits, help balance out free radicals.
- 3) The gut-brain (connection) axis is a two-way physical and chemical connection and communication between the gut and the brain through the vagus nerve, which runs from the brain stem to the colon. The gut and brain are also connected by neurotransmitters which control emotions and feelings. Serotonin, a feel good neurotransmitter, is produced mostly in the gut.
- 4) The gut microbiome relates to the billions of microorganisms living in our gut and plays a major part in many bodily processes including nutrient absorption, production of vitamins, neurotransmitters and gut health. Changes to the microbiome may play a role in the development of diseases including heart disease and irritable bowel syndrome.

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