

# Nutrition and Our Brain Health

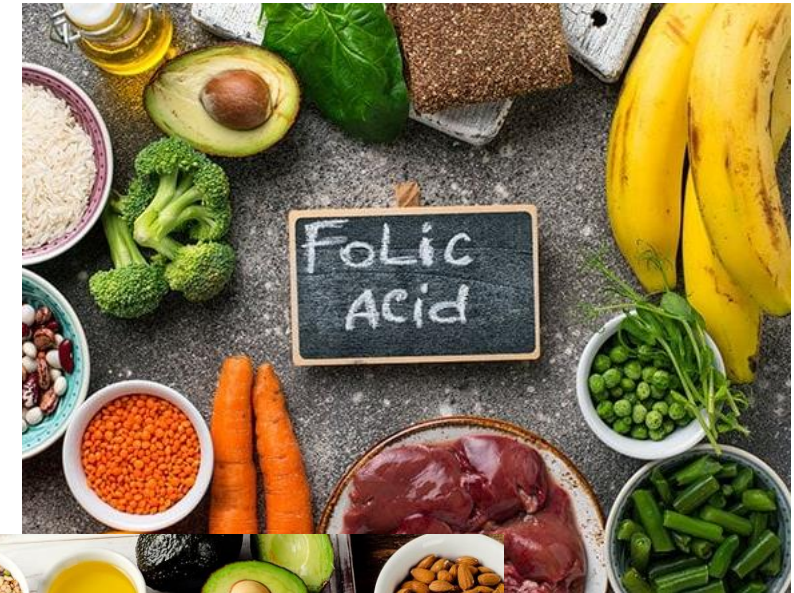


- Eating a diet high in beneficial nutrients is associated with improved cognition and reduced age-related changes to the brain.
- Today, we will go over some of the beneficial nutrients and how we can incorporate them into our diet.

# Brain Healthy Micronutrients

**Micronutrients** include vitamins and minerals that our bodies need. These can support brain health and overall wellbeing.

- A combination of **folic acid and omega 3** are associated with cognitive health and lowered dementia risk
  - Omega 3: avocado, fish, walnuts,
  - Folic acid: bananas, broccoli, eggs, oranges
- Some studies suggest **vitamin D** protects neurons and reduces inflammation
  - Fish, eggs, fortified cereals
- **Carotenoids** might reduce oxidative stress, lower inflammation, and lower dementia risk
  - Lutein and zeaxanthin: Dark leafy greens, yellow and orange fruits and veggies
  - Beta-carotene: Orange colored fruits and veggies



# Brain Healthy Macronutrients

**Macronutrients** are nutrients we need in larger quantities - carbohydrates, proteins, and fats. Incorporating good sources of macronutrients supports cognitive function by reducing oxidative stress and inflammation in brain tissue.

## Carbohydrates

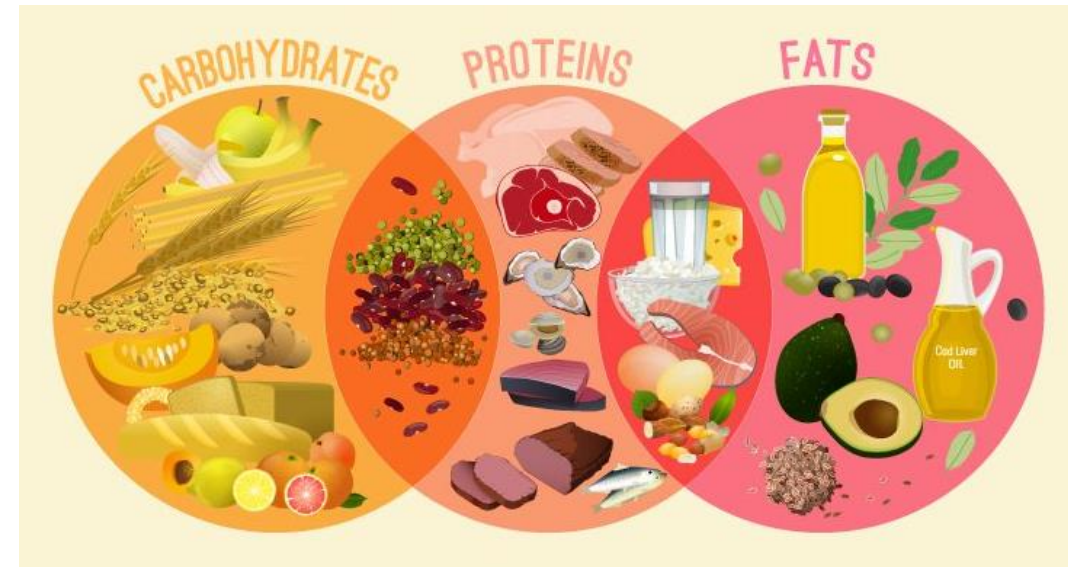
- ✓ Replace simple carbs with complex carbs like **whole grains, fruits, vegetables, and legumes**. Carbs are important because they provide the brain with its main source of energy – glucose.

## Proteins

- ✓ Make sure you're getting 1-2 grams of protein per kilogram (roughly 2 lbs.) of body weight each day. Proteins are found in foods like **yogurt, eggs, tree nuts, beans, fish, and meat**. Proteins are important because they provide amino acids for neurotransmitter protection, support brain structure, and facilitate brain cell repair and growth.

## Fats

- ✓ Replace saturated fatty acids with unsaturated fatty acids like omega-3 and omega-6 **found in seafood and vegetable-based oils**. Fats are important because they build and maintain cell membranes.



# Brain Healthy Diets

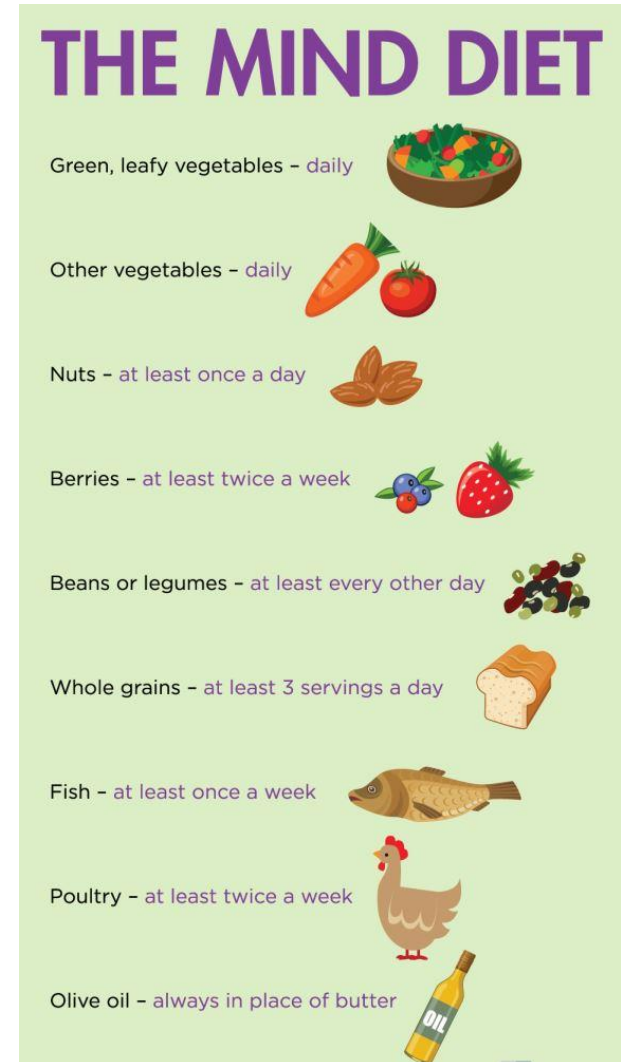
The way we eat on a day-to-day basis has an impact on our brain health. These diets include the specific brain healthy nutrients we mentioned and focus on overall diet rather than one specific nutrient.

- **The Mediterranean Diet**

- Meals based on fruits and veggies (vitamins B and C), whole grains (carbs, fiber), seeds and nuts (healthy fats and antioxidants), and beans (protein, fiber, minerals) with occasional fish and seafood (omega-3 fatty acid)
- Positive effect on heart health and brain health

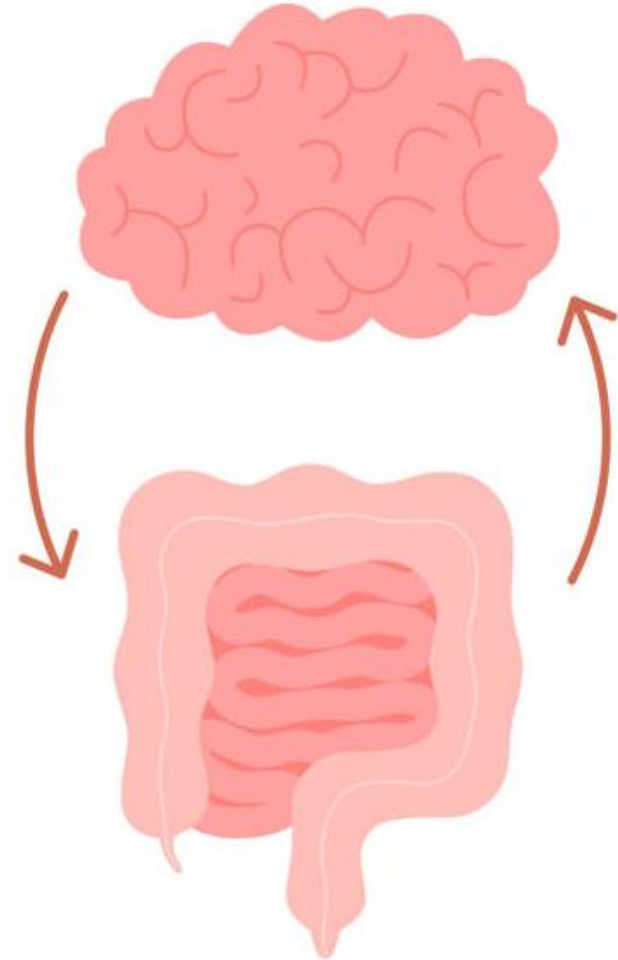
- **The MIND Diet**

- Based on the Mediterranean diet, this diet also specifically includes berries (flavonoids and vitamin C) and green leafy vegetables (folate and vitamin K), and limits dairy (lactose and saturated fats).
- These modifications are based on dementia prevention research.

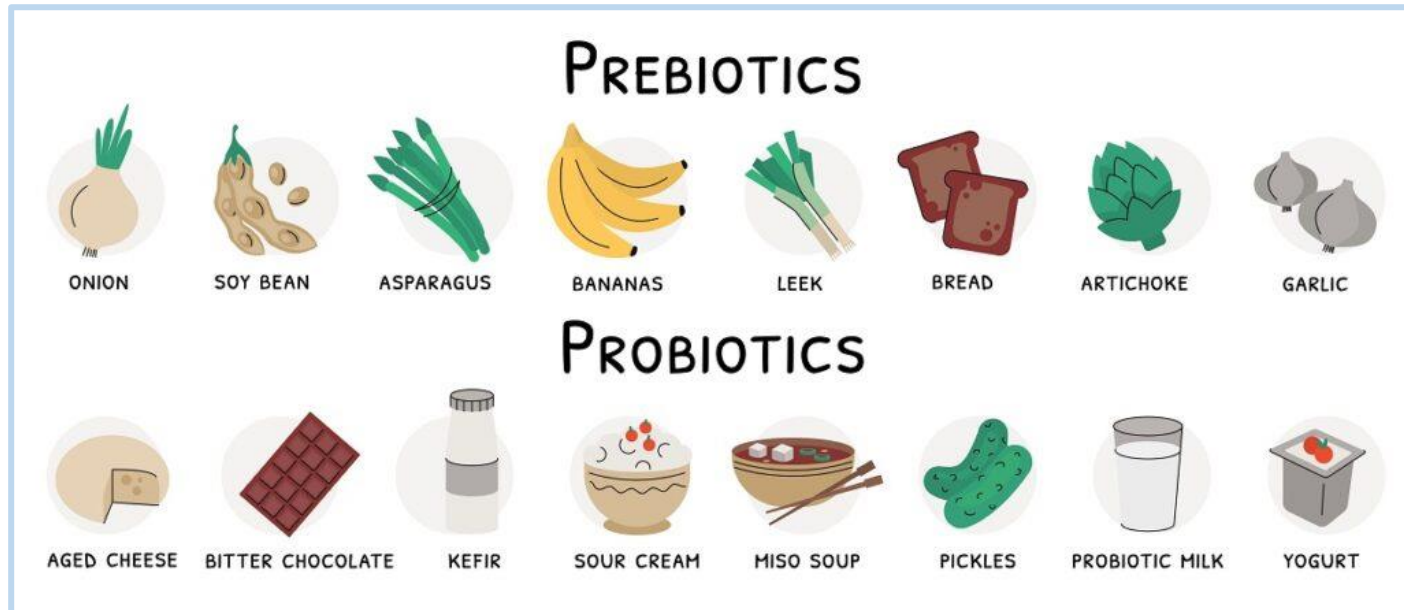


# Gut Health and Our Brains

- We have a combination of helpful bacteria and other microbes in our gastrointestinal tract – this is called our **gut microbiome**. These microbes help us break down a variety of foods and assist with digestion.
- Scientists think that the health of our gut microbiome affects the health of our brains. These microbes send messages to our central nervous systems that change the way we think, feel, or act. Therefore, making sure that our guts are healthy helps our brains to stay healthy.



# Ways to Improve Gut Health



## Incorporate prebiotics and probiotics into diet

- Probiotics: important bacteria for gut health
- Prebiotics: fuel for probiotics

## Find ways to reduce stress

- Practicing mindfulness
- Adequate sleep
- Social support system

## Aim for daily movement

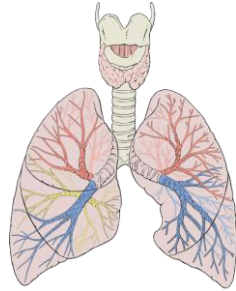
- Cardio
- Strength
- Flexibility



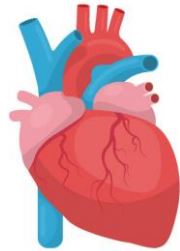
# Caffeine and Alcohol

- Adults can generally consume up to 400 mg of caffeine per day, but individual tolerance and health considerations should guide your intake.

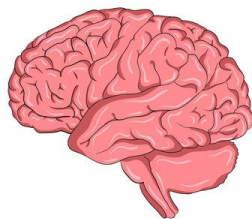
**Lungs:** Caffeine can have positive effects on lung function by acting as a bronchodilator and potentially improving respiratory performance during exercise. It might cause irritation in some individuals, though.



**Heart:** Caffeine can cause increased heart rate, risk for heart attack, increased blood pressure.



**Brain:** Caffeine is a stimulant that can increase alertness, improve mood, and enhance cognitive performance. Caffeine can also induce anxiety, irritability, and increase risk for insomnia.



A general rule of thumb for alcohol is that less is better.

- When consumed in moderation, alcohol can have both positive and negative effects:
  - Positive Effects
    - Lower risk of heart disease
      - Red wine (resveratrol)
    - Mixed evidence on lowering risk of dementia
  - Negative Effects
    - Liver disease, exacerbation of mental health challenges, weight gain, metabolic syndrome, weakened immune system.

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