

Food for thought: how food and nutrition affect mental health

We often focus on eating well for our physical health, but nutrition also plays a key role in mental wellbeing. The food you eat can influence your mood, energy, focus, and emotional balance.

Research shows that diet affects the brain, the gut, hormones, and the body's response to inflammation - all of which are linked to mental health.

The good news is that simple changes to everyday eating can support mental wellbeing over time. You don't need to follow a perfect diet; even small adjustments can make a meaningful difference.

How food affects mental wellbeing

Nutrient-rich foods provide the building blocks your brain needs to function effectively. They support the production of key neurotransmitters that regulate mood, motivation, and stress, and feed the beneficial bacteria in the gut. A healthy gut, in turn, plays a crucial role in emotional and cognitive wellbeing.

In contrast, diets high in ultra-processed foods (UPFs), saturated fats, and certain additives are linked to poorer gut health, higher levels of long-term (chronic) inflammation and disrupted mood regulation.

Evidence-based ways food can support mental wellbeing include:

- Eating a wide variety of plant foods each week
- Including omega-3 fats for brain and mood support
- Adding fermented foods to promote a healthy gut
- Reducing pro-inflammatory foods such as sugary drinks, highly processed snacks, and refined carbohydrates

How food can support mental health

1. The gut-brain connection

The gut and brain are closely connected and communicate constantly. This connection influences mood, sleep, appetite, and the body's stress response.

A healthy gut:

- Supports the production of serotonin, dopamine, and GABA, which help regulate mood and motivation
- Helps regulate immune and stress responses
- Maintains the gut lining and reduces chronic inflammation

Diets high in UPFs can damage the gut lining, allowing inflammatory substances to enter the bloodstream. Overtime, this may negatively affect mental health.

2. Omega-3 fats

Omega-3 fats are essential for brain function and emotional regulation. They help:

- Build and maintain brain cells
- Support neurotransmitter function
- Help reduce inflammation

Oily fish such as salmon, mackerel and sardines provide omega-3 fats known as EPA and DHA, which are particularly important for brain health.

Plant-based foods like flaxseeds, chia seeds and walnuts contain a different omega-3 fat (ALA) which the body can partly convert. For people following a plant-based diet, algae oil supplements provide a direction, vegan-friendly source of EPA and DHA.

3. Vitamins and minerals that support mental wellbeing

Vitamins and minerals, are essential for how the brain works.

Important micronutrients include:

- **B vitamins** (B6, B9, B12), which help make mood-related brain chemicals
- **Magnesium and zinc**, which help calm the nervous system and may help reduce inflammation
- **Iron and vitamin D**, which support energy, thinking and immune health
- **Amino acids** like tryptophan and tyrosine, which help the body make brain chemicals

Low levels of some nutrients are linked to higher risk of low mood and anxiety. Eating a wide range of whole foods helps meet these needs. Some people, such as those following vegan diets, may need supplements for nutrients like vitamin B12.

How food can harm mental health

1. Ultra-processed foods

Ultra-processed foods are made in factories and contain ingredients not usually found in home kitchens. These include artificial sweeteners, preservatives, emulsifiers, refined sugars and industrial oils.

Examples include:

- Crisps and biscuits
- Fast food and ready meals
- Fizzy drinks
- Sweetened cereals

Diets high in these foods are linked to:

- Poor gut health
- Higher levels of inflammation
- Disrupted brain and hormone signals

Ultra-processed foods are often high in calories but low in fibre and nutrients. They also tend to be high in omega-6 fats. While omega-6 fats are not harmful on their own, having too much without enough omega-3 may increase inflammation.

Many people in the UK eat a high proportion of ultra-processed foods, especially children. You don't need to cut them out completely. Small changes, like cooking simple meals at home more often, can help support mood and wellbeing.

2. Sugary foods and drinks

Too much sugar can:

- Disrupt gut bacteria
- Cause rapid spikes and crashes in energy
- Increase inflammation over time

Fruit juices and smoothies, while nutritious in small amounts, are high in natural sugars and easy to have too much of. Limiting these to one small glass a day is a practical approach.

3. Caffeine and alcohol

Both affect the nervous system and brain chemistry:

- Too much caffeine can increase anxiety and disrupt sleep
- Alcohol can lower mood and act as a depressant

Moderation is key, and timing matters. Caffeine later in the day or larger amounts of alcohol can have stronger negative effects.

What to eat for better mental wellbeing

1. Aim for 30 or more plant foods a week

Eating a wide variety of plant foods helps keep the gut healthy. Different plants feed different gut bacteria, which supports brain health and mood.

Plant foods include:

- Fruit and vegetables
- Wholegrains

- Beans, lentils, nuts and seeds
- Herbs and spices

You don't need to do this all at once. Adding two or three new plant foods each week is a good place to start.

2. Eat fermented foods

Fermented foods contain beneficial bacteria that support gut health and gut-brain communication. Fermentation is a natural process where foods are broken down by these bacteria, yeast, or other microorganisms.

Fermented foods can help:

- Increase helpful gut bacteria
- Improve digestion
- Strengthen the gut lining
- May help reduce inflammation over time
- Support emotional balance

Examples include:

- Live yoghurt or kefir (choose lower-sugar options where possible)
- Sourdough bread
- Sauerkraut and kimchi
- Miso and tempeh
- Kombucha
- Marmite (also great for those who need more vitamin B12 in their diets!)

3. Increase omega-3 intake

Omega-3 fats support brain structure and mood. Getting enough may support mental wellbeing, especially alongside fewer processed fats.

Good sources include:

- Oily fish
- Algae oil supplements
- Flaxseeds, chia seeds, walnuts and hemp seeds

If you don't eat fish, combining plant foods with an algae-based supplement can help support brain health.

Foods to limit for better mood and mental health

No food needs to be banned. But some foods can affect us more than others if eaten too often.

1. Sugary foods

Too much artificial sugar can:

- Disrupt gut bacteria
- Cause energy spikes and crashes
- Increase inflammation over time

2. Fizzy and artificially sweetened drinks

Drinks matter too:

- Sugary drinks can increase inflammation
- Diet drinks may affect gut bacteria in some people
- Fruit juice and smoothies can be high in sugar without fibre

Try to limit fruit juice to one small glass a day.

3. Ultra-processed foods

These foods often:

- Harm gut health
- Increase inflammation
- Provide few nutrients

Reducing them gradually can make a real difference to how you feel.

4. Caffeine and alcohol

Both affect the brain and nervous system.

- Too much caffeine can increase anxiety and disturb sleep
- Alcohol can lower mood, especially in larger amounts

Try to limit caffeine later in the day and drink alcohol in moderation.

Food for thought: small changes matter

The food we eat affects how we feel, think, and cope with stress. It influences the brain, the gut and the body's response to inflammation.

You don't need to eat perfectly. Small, regular food choices can support both your physical and mental wellbeing over time.

Glossary of terms

Inflammation – A natural response by the body to injury or infection. Long-term (chronic) inflammation is when this response continues over time, which can affect the brain and mood.

Amino acids – The building blocks of protein. Some, like tryptophan and tyrosine, are used to make neurotransmitters that help regulate mood and motivation.

Neurotransmitters – Chemicals in the brain that send signals between brain cells. Including:

- **Serotonin** – Helps regulate mood, sleep and appetite
- **Dopamine** – Helps with motivation, focus and pleasure
- **GABA** – Helps calm the nervous system and reduce stress

Gut microbiome – The collection of bacteria and other microorganisms in your gut. A healthy microbiome supports digestion, immune function and mental wellbeing.

Omega-3 fats – Healthy fats that support brain function and may help reduce inflammation.

Ultra-processed foods (UPFs) – Foods made in factories with ingredients not usually found in a home kitchen, like preservatives, artificial sweeteners and refined oils.

Fermentation / Fermented foods – A natural process where foods are broken down by bacteria, yeast, or other microorganisms. This creates probiotics, which can support gut health and, in turn, mental wellbeing.