

- Freeze dried-foods

Watching what you eat: Ultra-processed foods can affect the brain

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NEW YORK – Roughly 60 per cent of the calories in the average American diet come from highly processed foods.

People have known for decades that eating such packaged products – like some breakfast cereals, snack bars, frozen meals and virtually all packaged sweets, among many other things – is linked to unwelcome health outcomes, like an increased risk of diabetes, obesity and even cancer.

But more recent studies point to another major downside to these often delicious, always convenient foods: They appear to have a significant effect on the mind too.

Research from the past 10 or so years has shown that the more ultra-processed foods (UPFs) a person eats, the higher the chance that he or she feels depressed and anxious.

A few studies have suggested a link between eating UPFs and increased risk of cognitive decline. What is so insidious about these foods and how can you avoid the mental fallout? Scientists are still working on answers, but here is what is known so far.

WHAT MAKES UP ULTRA-PROCESSED FOODS

In 2009, Brazilian researchers put food on a four-part scale, from unprocessed and minimally processed (such as fruit, vegetables, rice and flour) to processed (oils, butter, sugar, dairy products, some canned foods, and smoked meats and fish) and ultra-processed.

“Ultra-processed foods include ingredients that are rarely used in homemade recipes – such as highfructose corn syrup, hydrogenated oils, protein isolates and chemical additives” like colours, artificial flavours, sweeteners, emulsifiers and preservatives, said researcher Euridice Martinez Steele in food processing at University of Sao Paulo in Brazil.

This classification system is now used widely by nutrition researchers.

UPFs make up the majority of the packaged foods you find in the frozen food aisles at grocery stores and on the menu at fast-food restaurants – 70 per cent of the packaged foods sold in the United States are considered ultraprocessed.

They are increasingly edging out healthier foods in people’s diets and are widely consumed across socioeconomic groups.

“Ultra-processed foods are carefully formulated to be so palatable and satisfying that they’re almost addictive,” said Dr Eric M. Hecht, a public health researcher at the Schmidt College of Medicine at Florida Atlantic University.

“The problem is that in order to make the products taste better and better, manufacturers make them less and less like real food.”

THE EFFECT ON MENTAL HEALTH

Recent research has demonstrated a link between highly processed foods and low mood.

In one 2022 study of more than 10,000 adults in the US, the more UPFs participants ate, the more likely they were to report mild depression or feelings of anxiety.

“There was a significant increase in mentally unhealthy days for those eating 60 per cent or more of their calories from UPFs,” said Dr Hecht, the study’s author. “This is not proof of causation, but we can say that there seems to be an association.”

New research has also found a connection between high UPF consumption and cognitive decline.

A 2022 study that followed nearly 11,000 Brazilian adults over a decade found a correlation between eating ultra-processed foods and worsening cognitive function (the ability to learn, remember, reason and solve problems).

“While we have a natural decline in these abilities with age, we saw that this decline accelerated by 28 per cent in people who consume more than 20 per cent of their calories from UPFs,” said professor Natalia Gomes Goncalves at the University of Sao Paulo Medical School and the lead author of the study.

It is possible that eating a healthy diet may offset the detrimental effects of eating ultra-processed foods.

The Brazilian researchers found that following a healthy eating regimen, like the Mind diet – rich in whole grains, green leafy vegetables, legumes, nuts, berries, fish, chicken and olive oil – greatly reduced the dementia risk associated with consuming ultra-processed foods.

Those who followed the Mind diet, but still ate UPFs “had no association between UPF consumption and cognitive decline”, Prof Goncalves said, adding that researchers still do not know what a safe quantity of UPFs is.

It is unclear why ultra-processed foods might have this effect.

“Many high-quality, randomised studies have shown the beneficial effect of a nutrient-dense diet on depression, but we still do not fully understand the role of food processing on mental health,” said researcher Melissa Lane at the Food & Mood Centre at Deakin University in Australia.

However, there are some clues. Much of the research has focused on how poor gut health might affect the brain.

Diets that are high in ultraprocessed foods are typically low in fibre, which is mostly found in plant-based foods like whole grains, fruit, vegetables, nuts and seeds.

Fibre helps feed the good bacteria in the gut. Fibre is also necessary for the production of shortchain fatty acids, the substances produced when it breaks down in the digestive system, and which play an important role in brain function, said Dr Wolfgang Marx, president of the International Society for Nutritional Psychiatry Research and a senior research fellow at Deakin University.

“We know that people with depression and other mental disorders have a less diverse composition of gut bacteria and fewer short-chain fatty acids.”

Chemical additives in UPFs might also have an impact on gut flora.

“Emerging evidence – mostly from animal studies, but also some human data – suggests that isolated nutrients (like fructose), additives such as artificial sweeteners (like aspartame and saccharin) or emulsifiers (like carboxymethylcellulose and polysorbate-80) can negatively influence the gut microbiome,” Dr Marx said.

Poor gut microbiota diversity – as well as a diet high in sugar – may contribute to chronic inflammation, which has been linked to a host of mental and physical issues, Dr Lane said. “Interactions between increased inflammation and the brain are thought to drive the development of depression,” she said.

PROFESSOR NATALIA GOMES GONCALVES, lead author in a 2022 study that followed nearly 11,000 Brazilian adults over a decade. It found a correlation between eating ultra-processed foods and worsening cognitive function (the ability to learn, remember, reason and solve problems)