



Nutritional psychiatry is showing how diet affects inflammation, a key driver in brain metabolism

HOW FOOD CAN TREAT MOOD

by Sharon Oosthoek

Photography by Stephen Lewis

SOMETIME IN THE DARK HOURS before dawn on Jan. 25, 2023, Theodora Lamb's East Vancouver house began to burn. As she and her partner and three children slept, the house next door – vacant during renovations – caught fire and flames started licking at their walls. The family grabbed their shoes and jackets and fled into the street. No one was seriously hurt, but she and some neighbours lost their homes, and they are still rebuilding.

After the initial shock, her family recovered their equilibrium, but she did not. "I would have waking terrors, night terrors, anxiety attacks, triggered by even a flicker that might look like a flame," recalls Lamb, 41.

She was diagnosed with post-traumatic stress disorder (PTSD), which she had always associated with first responders, soldiers and people in war zones – not someone like her. "I just thought I was going crazy."

NOURISH + FLOURISH

Lamb's doctor referred her to the provincially funded Food as Medicine program, which has treated more than 600 patients since it started in 2016. Founded by psychiatrist Dr. Leslie Wicholas, it's run by the Mood Disorders Association of British Columbia.

Over two months, patients meet online once a week for three hours with either Dr. Patricia Mills or Dr. Carmen Chornell, both of whom specialize in nutrition and mental health. Patients learn how their dietary habits and lifestyles can lead to chronic inflammation, believed to >

be one of the root causes of pain and mood disorders, including depression, anxiety, schizophrenia and bipolar disorders. (See sidebar.)

While patients learn techniques to reduce stress, optimize sleep and eat mindfully, a big part of the program is eliminating processed foods and focusing on a “Mediterranean plus” diet. It raises the vegetable and fruit intake from the usual four to seven servings a day to a turbocharged six to nine, with a heavy emphasis on veggies.

“A Mediterranean diet is really good for health maintenance, but if you have high levels of inflammation you need to up the anti-inflammatory aspects of your diet, which lies in the vegetables,” says Mills.

It turned out to be exactly what Lamb needed. “I found out I’d been trauma-eating for a year. It was like being removed from my drug of choice – sugars, fats, caffeine, alcohol,” she says. “Now it’s 12 cups of veggies a day and at least 50 per cent [of my plate] at any meal.”

While she still sometimes has

night terrors, Lamb feels she has better emotional resilience. She no longer goes to bed with head- and stomach aches, sleeps better and has more energy. Blood work before and after the program showed reduced markers for inflammation. “It changed my life,” she says. “I feel ‘clearer.’ It helped me build out the emotional space to think about what I went through.”

The good news is there’s no clear evidence normal aging means higher risk of depression or anxiety. “With aging also comes a lot of learning about one’s self – [an] ability to self soothe, cope with professional support, friend support, create boundaries [and] attend training for one’s mental health,” Chornell explains.

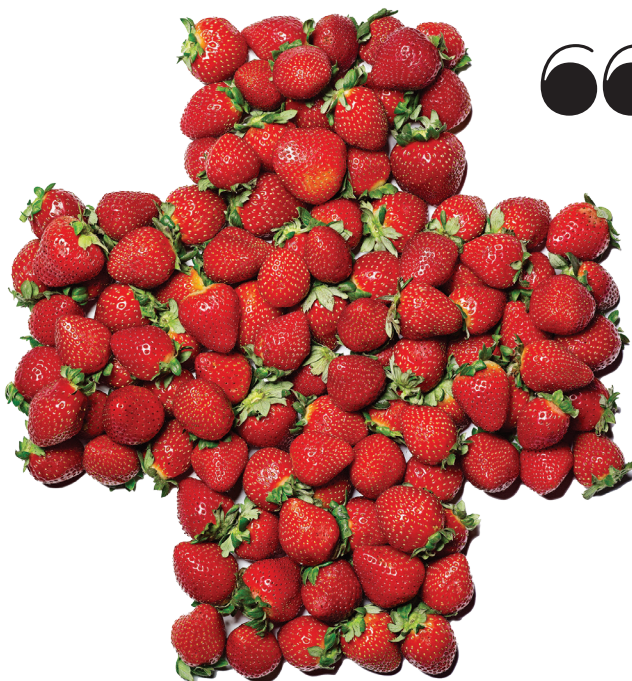
Although depression may be less common in older adults, they do experience life changes associated with it, such as bereavement, insomnia and disability (loss of vision, hearing or mobility), not to mention the stress of retiring or moving into a long-term care home, for example.

A NEW FIELD

The link between food and mood has recently gained traction in the medical system, says psychologist Bonnie Kaplan, co-author of the 2021 book *The Better Brain: Overcome Anxiety, Combat Depression, and Reduce ADHD and Stress with Nutrition*.

Semi-retired from the University of Calgary’s school of medicine, she has been studying the role of nutrition in mental illness since the 1970s. Lamb’s experience is echoed in the work done by Kaplan and others showing the benefits of micronutrient supplements.

After the 2010/2011 earthquakes in Christchurch, New Zealand, and the 2013 floods in Calgary, for example, researchers found significant reductions in psychological distress for survivors who took mineral and vitamin micronutrient supplements in the following months. That’s because minerals and vitamins are essential for brain metabolism. Take serotonin, for example, a neurotransmitter best known for boosting mood. “We cannot eat serotonin. We have to manufacture it,” Kaplan says.



I’D BEEN TRAUMA-EATING FOR A YEAR – SUGARS, FATS, CAFFEINE, ALCOHOL”

“The way we do that is we provide minerals and vitamins, which make the metabolic steps function.”

Even though researchers have been publicizing the importance of diet in brain health for decades, nutritional psychiatry didn’t truly

MINERALS AND VITAMINS ARE ESSENTIAL FOR BRAIN METABOLISM”

emerge as a field of study until 2017. That’s when a clinical trial in Australia and New Zealand of 67 people diagnosed with depression showed an improved diet was a legitimate treatment.

Participants were split into two groups, one of which got individual consulting sessions from a dietitian who guided them toward whole grains, vegetables, fruit, legumes, low-fat and unsweetened dairy foods, raw and unsalted nuts, fish, lean red meats, chicken, eggs and olive oil. They were advised to avoid sweets, refined cereals, fried food, fast food, processed meats and sugary drinks – all of which cause inflammation. The other group got “befriending” social-support sessions, where trained personnel discussed neutral topics such as sports, news or music, with the intention of keeping participants engaged and positive.

After 12 weeks, nearly 33 per cent of those in the dietitian’s group were assessed as in “remission,” compared to just 8 per cent in the befriending group.

DIET RX

The Mediterranean diet is the most widely studied for its effect on mood, says Monique Aucoin, a naturopathic doctor and adjunct professor in human health and nutritional sciences at the University of Guelph in southern Ontario. “We don’t exactly know the mechanism because diet is so complex,”

says Aucoin. “Ask someone to eat a salad rather than a burger and so many nutrients change, and they all have overlapping effects.”

Still, the Mediterranean diet doesn’t have the market cornered. A 2018 study that followed roughly 89,000 people in Japan for 10 years showed the suicide rate in those who ate mostly vegetables, fruits, potatoes, soy products, mushrooms, seaweed and fish was half that of those eating less healthy diets.

On the other side of the equation, a 2011 Spanish study measured fast food consumption in nearly 9,000 adults who had never been diagnosed with depression and checked back with them six years later. While the researchers didn’t ask whether participants might have changed their diet in the intervening years, those who had reported eating the most fast food were 40 per cent more likely to be depressed than those who ate the least.

But those who ate a middling amount of fast food were not in the middle in terms of risk for depression. “They actually did OK,” says Kaplan. “Some other data suggests there’s a threshold effect, and the reason I like to cite this study is that you don’t have to be a purist.”

Lamb, for one, doesn’t beat herself up when she veers off course. “I don’t know if I would have had the maturity before the age of 40 to recognize I needed this, and do it,” she says. “But now, when I do break my own rules and have that gorgeous croissant, it’s done with attention and awareness.” ■

HOW INFLAMMATION AFFECTS MOOD

Inflammation can increase the production of cytokines, proteins that normally help regulate the immune system. When they travel to the brain, they can disrupt several important processes.

NEUROTRANSMITTER METABOLISM:

Inflammation can make the brain’s processing of neurotransmitters – chemical messengers like serotonin and dopamine – less efficient. This sluggishness can lead to mood imbalances because neurotransmitters are crucial for regulating emotions.

NEUROENDOCRINE FUNCTION:

Inflammation can also alter hormone levels in the brain. Some hormones that usually help regulate mood may be reduced, while others that can cause stress might increase. This imbalance can contribute to feelings of depression.

NEUROPLASTICITY: The brain’s ability to adapt and change can be impaired by inflammation. When the brain is less flexible, it has a harder time coping with stress, which can lead to mental health issues.

NEUROTROPHIC SUPPORT:

Inflammation can reduce the levels of proteins called peptides that support the growth and survival of nerve cells. Without enough of them, neurons may weaken or die, contributing to symptoms of depression.

Source: Dr. Patricia Mills

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