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Our January 2026 Newsletter for Healthy Living

Nutrients and Mental Health

Mental health issues are becoming more widespread, with depression and anxiety leading the way. The World Health Organization (WHO) estimates that about 280 million people live with depression worldwide, while 301 million deal with anxiety. In the U.S. alone, about one in five adults is affected by some form of mental illness each year.

Many people diagnosed with mental health problems rely on medication to get through daily life. But two easily accessible, often overlooked nutrients — magnesium and vitamin D — have a well-established link to mental health and help manage symptoms more effectively, without the side effects that often come with pharmaceuticals.

Magnesium is the second most abundant intracellular cation and is essential for the proper function of your brain and nervous system. It supports over 300 enzymatic reactions, including those involved in regulating mood, stress response, and emotional stability. Low magnesium levels have been consistently associated with higher rates of depression, anxiety, and other mood disorders.

One of magnesium's primary roles is controlling neural excitability. It acts as a gatekeeper for NMDA receptors, which respond to glutamate, the brain's main excitatory neurotransmitter. Glutamate is vital for learning and memory. However, in excess, it becomes toxic to neurons and fuels anxiety, agitation, and eventually neurodegeneration. Magnesium blocks these receptors when they're not needed, keeping glutamate in check and preventing the overstimulation that makes it harder to feel calm, focused, or emotionally steady.

Magnesium supports gamma-aminobutyric acid (GABA), which is your brain's main inhibitory neurotransmitter. It works like a brake pedal in the nervous system, helping you wind down, recover from stress, and sleep. Low magnesium levels weaken this brake system. It leaves the brain stuck in a state of tension or alertness, which often shows up as restlessness, racing thoughts, or physical symptoms like jaw clenching or muscle tightness. Over time, this contributes to burnout, anxiety, and mood instability.

Additionally, adequate levels of magnesium support neuroplasticity by enhancing synaptic remodeling and boosting brain-derived neurotrophic factor (BDNF), a protein that regulates neuronal repair and connectivity. Without enough magnesium, the brain becomes less flexible and more susceptible to the damaging effects of chronic stress. The hypothalamic-pituitary-adrenal (HPA) axis, which regulates the body's response to stress, is directly affected by magnesium availability. In animal models, magnesium deficiency leads to increased release of corticosterone and induces anxiety-like behavior.

"The complementary actions of magnesium and vitamin D... stabilize mood-related brain chemistry."

These findings point to magnesium's role in tempering the neuroendocrine response to chronic stress, an effect that prevents the onset of mood disorders. A review of 18 studies found that magnesium supplementation reduces subjective anxiety across diverse populations, including healthy individuals under acute stress and those with diagnosed anxiety disorders. Magnesium regulates limbic system activity and reduces the release of excitatory neurotransmitters that heighten fear and arousal. Some patients experience noticeable symptom relief within days of starting supplementation. Chronically low magnesium levels contribute to elevated cytokines and oxidative stress in the brain, which are now recognized as drivers of depression and cognitive decline. Research shows that people with low magnesium intake are more likely to develop depressive symptoms, and clinical trials have shown that correcting magnesium deficiency improves mood, especially in individuals with mild to moderate symptoms.

Deficiency is widespread and often overlooked; more than 45% of Americans are deficient in magnesium. Part of the problem is that standard blood tests don't reflect how much magnesium is actually available in tissues, especially the brain. Most magnesium is stored inside cells, so serum levels often appear normal even when functional deficiency exists. That means many people are walking around with too little magnesium to support optimal brain function, and they're not being told.

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What's Inside This Issue

Processed Food and Your Lungs

Lung cancer strikes more than 2.4 million people worldwide every year, according to the World Health Organization, making it one of the most common and deadliest forms of cancer. This disease is characterized by the uncontrolled growth of abnormal cells in the lungs, leading to symptoms such as persistent cough, chest pain, shortness of breath, coughing up blood, and unexplained weight loss. Left untreated, lung cancer spreads rapidly to other parts of the body, and survival rates are grim, especially for advanced cases.

"Eating the most processed foods meant a much greater likelihood of being diagnosed with lung cancer."

Smoking is widely known as the leading cause, yet a growing number of diagnoses occur in people who have never smoked a day in their lives. That fact alone demands another explanation. A new study published in Thorax uncovered that the way you eat, specifically the amount of ultraprocessed food in your diet, is tied to a dramatically higher risk of developing lung cancer.

Ultraprocessed foods are not just "convenience foods." They're industrial products like sodas, chips, packaged soups, chicken nuggets, and diet soft drinks — engineered with additives, preservatives, flavor enhancers, and unhealthy fats your body wasn't meant to process. These ingredients do more than expand shelf life; they alter how nutrients are absorbed, generate toxic byproducts during processing, and introduce harmful chemicals from packaging into your system. That combination sets the stage for inflammation, immune dysfunction, and ultimately, cancer.

Understanding this link between food and lung cancer risk changes the conversation. It's not only about smoking anymore — it's about what you put on your plate. To see how this risk unfolds in the data, let's look at what the researchers discovered in their analysis. The Thorax study explored whether eating ultraprocessed foods influences the risk of developing lung cancer. Researchers analyzed dietary data from more than 100,000 adults, following them for over 12 years. Their goal was straightforward: determine if a higher intake of ultraprocessed foods was tied to a greater chance of lung cancer, including both non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC).

Participants in the study were middle-aged and older adults, averaging 62.5 years old at the start. Over more than 12 years of follow-up, 1,706 lung cancer cases were confirmed. Those in the highest quarter of ultraprocessed food intake faced a significantly higher risk of developing lung cancer compared with those in the lowest quarter. In simple terms, eating the most processed foods meant a much greater likelihood of being diagnosed with lung cancer, regardless of type. Importantly, the elevated risk did not disappear after researchers adjusted for smoking, diet quality, age, sex, and other variables. This suggests the link between processed food consumption and lung cancer is not simply explained by smoking or lifestyle..According to the study, industrial processing alters the natural food matrix — essentially, the way nutrients are packaged and delivered in whole foods. This disruption affects how your body absorbs nutrients and may reduce protective compounds normally present in unprocessed foods

Beyond losing natural nutrient benefits, ultraprocessed foods expose you to harmful byproducts formed during manufacturing and cooking. One example highlighted is acrolein, a toxic chemical also found in cigarette and vape smoke, plastics, and gasoline. Acrolein forms when fats and oils are cooked at high temperatures, which means the danger isn't only in smoking but also in what's on your plate.

Researchers noted that chemicals leaching from food packaging also contribute to cancer risk. Many ultraprocessed foods come in plastic, lined containers, or wrappers that release compounds that interfere with your hormones and immune defenses. The research emphasized that more than one factor is likely responsible for the higher cancer risk in those who consume the most ultraprocessed foods. It's not just additives or just packaging chemicals — it's the combined effect of nutrient loss, toxin exposure, and microbiome disruption that makes processed foods so damaging to your long-term health.

Surprisingly, the association between processed food and lung cancer was stronger among people who had never smoked. That detail matters to you because it shows the danger is not just relevant to smokers. Even if you've avoided cigarettes, a diet high in ultraprocessed foods raises your risk. Outside experts suggest that the cancer risk is driven by inflammation. Chronic inflammation occurs when your immune system stays switched on due to constant irritants, such as chemical additives and poor nutrient quality. Over time, inflammation damages tissues, weakens immune surveillance, and gives mutated cells an opportunity to grow unchecked.

If your goal is to avoid lung cancer, one of the most impactful actions you can take is to shift away from ultraprocessed foods and toward whole, unprocessed ingredients. This is not about perfection, but about stacking the odds in your favor by choosing real food over industrial products. The connection between ultraprocessed foods and lung cancer is strong, but the good news is that you have direct control over what goes into your body.

Consistent healthy choices shift the balance in your favor. Real food doesn't need a long ingredient list. You'll find it in the perimeter of the store — fruits, vegetables, grass fed meats, pastured eggs and dairy. These foods fuel your metabolism without flooding your body with toxic oils or additives. If you do pick up something in a package, look carefully for red-flag ingredients such as "vegetable oil," "soy lecithin," "natural flavors," or "maltodextrin." Those are signals the product is ultraprocessed no matter how "healthy" the marketing looks.

One of the fastest ways to wreck your metabolism is through your glass. Sodas, energy drinks, and many plant-based milks are loaded with high-fructose corn syrup, emulsifiers, phosphates and artificial sweeteners that spike your blood sugar or disrupt insulin signaling. Even diet drinks damage your gut and metabolism. Stick with filtered water, herbal teas, or sparkling water with a splash of fresh juice. This way your pancreas isn't hit with a constant stream of chemical stressors.

Most people are shocked when they actually see how much ultraprocessed food slips into their daily routine. Write down or log everything you eat for five days. Look for hidden sources — frozen entrees, protein bars, salad dressings, or even "healthy" snacks. Once you spot the patterns, it becomes easier to swap them out for foods that truly nourish you. This isn't just about awareness; it's about giving you direct feedback so you can connect your choices with how you feel, think, and function.

Reference: WHO, International Agency for Research on Cancer, Global Cancer Observatory, Lung. *Thorax* July 29, 2025. CNN July 29, 2026.

Magnesium *continued from page 1*

Vitamin D receptors and the enzymes required for its activation are present in several regions of the brain involved in emotion and behavior, including the prefrontal cortex, hippocampus, cingulate gyrus, thalamus, and substantia nigra. The widespread distribution of these receptors supports the idea that vitamin D plays a regulatory role in brain function and your mental health.

"Dietary nutrients….. have shown promise in the prevention and improvement of depressive symptoms,"

Vitamin D helps the brain grow, maintain, and repair its nerve cells by regulating key proteins that support neuron health, including BDNF, nerve growth factor (NGF), and glial cell line-derived neurotrophic factor (GDNF). These proteins are like growth signals that keep your brain flexible, resilient, and able to adapt to stress. Vitamin D also plays a role in making important brain chemicals like dopamine, which help regulate mood, motivation, and emotional balance. Together, these actions help vitamin D keep your brain chemistry steady and supportive of emotional well-being.

Vitamin D plays an important role in regulating the immune system, both in the brain and throughout the body. It lowers the production of inflammatory molecules like TNF-α and IL-6, while increasing anti-inflammatory signals such as IL-10. This matters because chronic inflammation has been linked to depression, anxiety, and other mood disorders. Vitamin D receptors are found on microglia, the brain's immune cells. When activated, they help keep these cells from becoming overactive and triggering harmful inflammation. By quieting this inflammatory response, vitamin D helps create a more balanced and supportive environment for emotional and cognitive health.

Individuals with low serum 25 (OH)D (circulating vitamin D) concentrations are more likely to report feelings of sadness, hopelessness, and reduced interest in daily activities. Population studies across different age groups, including adolescents, adults, and the elderly, have observed that lower vitamin D levels are correlated with a higher risk of depression.

Magnesium and vitamin D do more than support mental health independently — they rely on each other to work properly. These nutrients are metabolically intertwined, and deficiencies in one interfere with the function of the other. When used together, they offer enhanced support for mood regulation, cognitive performance, and stress resilience that exceeds the effect of either nutrient alone. Vitamin D boosts magnesium absorption in your gut, while magnesium helps convert inactive vitamin D into its active form. That means if your magnesium is low, vitamin D won't work properly, and vice versa.

These two nutrients also work synergistically with vitamin K2. Combining all three supplements significantly reduces the amount of vitamin D needed to maintain optimal health. A study of 2,920 individuals indicated that many of those not taking magnesium and K2 required a remarkable 244% more oral vitamin D to achieve similar healthy levels compared to those who took magnesium and K2. Magnesium buffers against vitamin D-induced calcium overload as one of its roles is to increase calcium absorption, and ensuring adequate magnesium intake keeps this calcium signaling in check.

Both nutrients have independent anti-inflammatory effects, but they also amplify each other's immune-modulating power. Magnesium deficiency increases the expression of pro-inflammatory cytokines, while optimal magnesium levels help vitamin D suppress these inflammatory markers more effectively The complementary actions of magnesium and vitamin D balance excitatory and inhibitory neurotransmission and stabilize mood-related brain chemistry. When both nutrients are in adequate supply, the brain is more likely to function in a calm, focused, emotionally regulated state.

Thus, co-supplementation improves mood and neuroinflammatory markers. In a randomized controlled trial, obese women with mild to moderate depressive symptoms received either vitamin D, magnesium, both, or placebo for eight weeks. The co-supplementation group showed significant improvements in mood, along with favorable changes in BDNF, inflammatory markers, and s

In another randomized study involving children with ADHD who received vitamin D and magnesium for eight weeks, findings showed significant improvements in emotional problems, peer difficulties, total difficulties, and internalizing symptoms compared to those receiving a placebo. These gains were most pronounced in children with low baseline levels of both nutrients.

Vitamin D synthesis in the body depends heavily on sun exposure, making natural sunlight the most effective and biologically efficient way to raise your levels. Although supplementation is sometimes necessary, sun-derived vitamin D provides additional health benefits that go beyond what supplements offer. Your skin converts UVB radiation from the sun into vitamin D3, a process that occurs most efficiently when bare skin is exposed to midday sunlight without sunscreen.

Good Food → Good Health

This natural pathway supports not only serum vitamin D levels but also a wide range of downstream benefits, including improved mental health, reduced inflammation, and enhanced longevity. In fact, many of the benefits historically attributed to vitamin D supplements, such as reduced cancer risk, lower all-cause mortality, and better psychological outcomes, are driven by sun exposure itself. Supplementation is a helpful tool during winter months when significant time is spent indoors. Consult a health practitioner for advice on your specific needs.

Even with a whole-food, plant-rich diet, many people are still running low on magnesium, and that's not necessarily because of poor habits. The deeper problem is systemic — modern agriculture has stripped magnesium from the soil, leaving today's vegetables with a fraction of the mineral content they once had. You could eat perfectly and still come up short. Industrial farming has exhausted topsoil magnesium levels, especially in conventionally grown produce. This means even if you eat a generous amount of leafy greens, you may not getting the magnesium your brain and nervous system require. Normally, the best approach to nutrient repletion is through food. But magnesium is one exception. If your nervous system is overworked or depleted, supplementation is often required to bridge the gap and restore function. Especially when the goal is preserving mental health, food alone rarely delivers a full recovery.

Reference: WHO, *Depressive Disorder*. WHO, *Anxiety Disorders*. NIH, *Mental Illness*. *Nutritionist Resource*, Oct. 11, 2023. *Nutrients* 2020, 12(6): 1661. *Nutrients* 2017 May, 9(5): 429. *PLOS ONE*, June 27, 2017 DOI:10:1371/journal.pone.01800167. *Nutrient*s 2025, 17(5):887. *Current Nutrient Reports*, 2022 Sept. 13; 11(4): 675-81.*Diseases* 2024, 12(6): 181. *GrassrootsHealth* March 10, 2020. *BMC Pediatrics*, 2021 April 17; 21(1): 178.