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Linking Fibromyalgia to Depression and Anxiety

By Nancy Christie

Examining fibromyalgia-related conditions that contribute to depression and anxiety



Chronic, widespread muscular pain and tenderness, sleep problems and fatigue, morning stiffness and headaches, concentration and digestive irregularities: All these symptoms can make daily functioning very difficult for those with fibromyalgia. But equally challenging are the depression and anxiety that often accompany the disorder. Each occurs in approximately 8 percent of those with fibromyalgia, according to Jacob Teitelbaum, M.D., medical director of The Fibromyalgia & Fatigue Centers, Inc. In people with fibromyalgia, he says, anxiety often

manifests itself as rapid shallow breathing (hyperventilation), and depression (as a decrease in normal interests).

While it is not unexpected to have an emotional or psychological response to a chronic illness, there may be other physiological reasons that explain why anxiety and depression occur in fibromyalgia patients consistently enough that they are listed as symptoms of the condition. "Biochemically, depression is very different in [people with] fibromyalgia than otherwise," says Dr. Teitelbaum. "In fibromyalgia, it is often associated with an underactive adrenal function [a low cortisol level], whereas depression [in a non-fibromyalgia population] is associated with a high cortisol level."

According to some doctors who routinely treat fibromyalgia, there are a number of factors that appear to increase the likelihood of developing anxiety and/or depression if you have this condition. These include:

- **Hypothyroidism.** According to antiaging medicine specialist Pamela W. Smith, M.D., MPH, director of The Center For Healthy Living and Longevity and author of the best selling

book, *HRT: The Answers and What You Must Know About Women's Hormones*, "Ninety-five percent of people with fibro have low thyroid function (hypothyroidism) and 100 percent of them have low adrenal function — and both conditions can cause depression and anxiety." The thyroid gland produces hormones that help regulate metabolism. Fortunately, hypothyroidism (when the level of certain thyroid hormones produced is below normal) is easy to diagnose. A complete blood test for thyroid levels, including TSH (thyroid stimulating hormone) and other thyroid hormones, can identify if a problem exists, says Dr. Smith. Once treated with appropriate medication, thyroid function should return to normal, and depression or anxiety should ease as well.

- **Low cortisol levels.** Cortisol is a hormone produced by the adrenal glands in response to stress. When the body has an insufficient supply of cortisol, however, it can result in what's sometimes called "adrenal fatigue;" symptoms include muscle aches and pains, extreme fatigue, anxiety, and elevated levels of cholesterol, blood sugar, and blood pressure. According to Dr. Smith, adrenal fatigue can occur when the body is under stress for extended periods of time. "When you are first stressed, cortisol elevates," she explains. "But if you stay stressed for a long time, the body can't keep up by making extra cortisol, so it makes just enough to keep you alive."

Dr. Smith says that low cortisol levels related to stress often do not show up on standard blood tests, and she has found they are best measured by saliva testing. (For help finding a physician who can administer a saliva test to measure your cortisol levels, contact the American Academy of Anti-Aging Physicians.) "Many physicians only measure cortisol levels as related to Addison's Disease or Cushing's disease. They do not look at what happens when the body makes only enough cortisol to stay alive but not to function well (adrenal fatigue)," she explains.

Cortisol levels can be normalized by reducing stress. Techniques Dr. Smith recommends include "prayer, meditation, tai chi, yoga, breathing techniques and massage, [although] herbal therapies, adrenal extracts, and medications may all be necessary to bring cortisol levels back to normal." she says, adding, "it may take one to two years to fully normalize the body's stress system." As cortisol levels are restored, fibromyalgia-related anxiety and depression generally lessen.

- **Poor Mitochondrial Functioning.** Mitochondria are the energy-producing parts of the cell that assist in vital body processes like metabolism. And when their function is impaired, they can also play a role in the development of depression and anxiety in people with fibromyalgia, says Dr. Smith. She reports that in her patients, supplements such as coenzyme Q10 (CoQ10), the amino acid-like compound L-carnitine, NADH (nicotinamide adenine dinucleotide, which is related to niacin, a B vitamin), D-ribose, and the antioxidant alpha-lipoic acid all help to refuel mitochondria. And in some patients, taking these supplements has been helpful in reducing symptoms of depression and anxiety related to fibromyalgia.

- **Low Levels of Vitamin D.** According to a number of recent studies, up to 50 percent of

fibromyalgia patients are deficient in vitamin D. Such low levels have also been linked to incidences of depression in fibromyalgia patients, according to a study in the medical journal *Nature Clinical Practice Rheumatology*. Vitamin D deficiency can be offset by increased sun exposure, supplementation, and eating foods enriched with this nutrient, such as fortified orange juice or margarine.

- **Poor Sleep.** Insufficient restorative sleep can lead to or aggravate existing anxiety and depression in people with fibromyalgia. Some studies have indicated that someone with FM may not go into the stage of sleep known as REM sleep, says Dr. Smith. This problem may be further compounded by taking antidepressant medication, which can suppress REM sleep in certain people. Other causes of non-restorative sleep in patients with fibromyalgia can include muscular aches and pains and, according to one study, decreased levels of the hormone melatonin.

"There really are metabolic reasons why people with fibromyalgia have the symptoms that they have," says Dr. Smith. She recommends that people with fibromyalgia undergo testing to determine if an underlying deficiency or a related health condition could be complicating their situation and bringing depression and anxiety to the surface.



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