

High amounts of the hormone leptin are linked to decreased depression

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Women who have higher levels of the appetite-controlling hormone leptin have fewer symptoms of depression, and this apparent inverse relationship is not related to body mass index (BMI), a new study finds. On Monday the results will be presented at The Endocrine Society's 93rd Annual Meeting in Boston.

"Animal data suggest that leptin may reduce anxiety and improve depression. Our study in women suggests that leptin may indeed have antidepressant qualities," said the study's lead author, Elizabeth Lawson, MD, of Massachusetts General Hospital and Harvard Medical School in Boston.

Leptin, the product of [fat cells](#), signals satiety, or fullness. It is low in thin women and high in obese women, according to Lawson. She also said there is an increased prevalence of [anxiety and depression](#) in certain conditions in which leptin levels are typically low. These include the eating disorder anorexia nervosa, in which there is abnormally low weight and body fat, and functional hypothalamic amenorrhea, in which women have stopped menstruating despite having normal weight.

"It is unknown whether low leptin levels contribute to the development of mood disorders in these women," Lawson said.

She and her co-workers studied the relationship between leptin levels and symptoms of anxiety and depression in 64 women. Fifteen of the women had [anorexia nervosa](#), 12 were normal weight with hypothalamic

amenorrhea, 20 were normal weight and in good health, and 17 were overweight or obese but still healthy.

All subjects were asked questions to assess symptoms of depression and anxiety, with high scores indicating more symptoms. Besides measuring leptin levels in the blood, the researchers assessed the women's BMI, a measure of weight for height.

They found that higher leptin levels were linked to decreased symptoms of anxiety and depression. The relationship between leptin and [depression symptoms](#) was independent of BMI. This finding indicates that leptin may mediate symptoms of depression and that this effect is not a function of low weight, Lawson said.

"Further research administering leptin to humans will be important in understanding whether this hormone has a potential role in the treatment of depression," she said.

Provided by The Endocrine Society

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