

Short-term antidepressant use, stress, high-fat diet linked to long-term weight gain

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Short-term use of antidepressants, combined with stress and a high-fat diet, is associated with long-term increases in body weight, a new animal study finds. The results were presented Sunday at The Endocrine Society's 95th Annual Meeting in San Francisco.

"Our study suggests that short-term exposure to stress and antidepressants, rather than a high-calorie, high-fat diet alone, leads to long-term body weight gain, accompanied with increased bone and [spleen](#) weights," said study lead author Suhyun Lee, a PhD candidate in the medical sciences at the John Curtin School of Medical Research at the Australian National University in Canberra, Australia.

Antidepressants are among the most prevalent medications today, accounting for millions of prescriptions each year. In the United States, physicians wrote more than 1.5 million prescriptions for antidepressants in 2009, while physicians in Australia wrote more than 12 million of these prescriptions in 2008.

At the same time, [obesity rates](#) are climbing in developed countries worldwide. Among adults in both the United States and Australia, two-thirds are overweight or obese. Being overweight or obese is a risk factor for many serious diseases, including heart disease, which is the leading cause of death among adults in the United States and Australia.

Unfortunately, weight gain is one of the main side effects associated with antidepressants. The amount of [excess weight](#) varies between

patients, but some have reported increases as high as 7 percent of the amount they weighed at the start of their antidepressant treatment.

In this study, male rats treated with the antidepressant fluoxetine after induced stress had significantly increased body weight compared to control animals. In addition to greater overall body weight, animals in the antidepressant group also developed greater bone and spleen weights, compared to animals in the [control group](#).

"These findings may implicate different pathophysiological mechanisms in stress and antidepressant related obesity when compared to obesity that is solely diet-induced," Lee said.

During the follow-up, investigators also compared behavior between the drug and control groups. This comparison showed that the antidepressants reduced anxiety among the animals in response to induced stress. After the stressful periods, which involved physical restraint, the [fluoxetine](#)-treated animals exhibited significantly fewer symptoms of anxiety, compared to the control animals.

The study involved a two-week period of repeated restraint stress, combined with [antidepressant treatment](#) among one group of animals, and saline administration among the control group. After the two-week period, both groups of animals received a high-fat diet for 295 days.

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Provided by The Endocrine Society

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