

Could the 'Love Hormone' Be a Weight-Loss Aid for Men?

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By Randy Dotinga

HealthDay Reporter

The new study tested a synthetic nasal formulation of oxytocin, and found the hormone treatment reduced the number of calories that men consumed, especially calories from fatty foods.

"We are seeing early signs that oxytocin reduces how much food someone eats at a meal and improves the way their body handles blood sugar," said study lead author Dr. Elizabeth Lawson, assistant professor of medicine at Harvard Medical School in Boston.

The hormone oxytocin is linked to many activities that bond people together, including sex, hugging, kissing, holding hands, giving birth and breast-feeding. In medicine, it's used to induce labor, manage bleeding in mothers after birth and coax out breast milk in nursing women, Lawson said.

The researchers launched their study into oxytocin's potential effects on eating because research in animals has suggested that the hormone helps the body regulate food intake, she said. "Not much is known about oxytocin effects on appetite and food consumption in humans," Lawson added.

In the new study, the researchers randomly assigned 25 men (12 of whom were overweight or obese) to either take synthetic oxytocin via nasal spray or an inactive placebo. The men did not know which spray they were given. The average age of the participants was 27, according to the study.

After receiving either the hormone or placebo, the men ordered breakfast from a menu. They were given double portions of whatever they ordered. At the end of the meal, the researchers measured how much food was eaten.

The men later returned and did the experiment again, but this time they received the placebo if they'd taken oxytocin the previous time, or the reverse.

Those who took the oxytocin ate 122 fewer calories, on average, the study found. They also consumed less fatty food -- about 9 fewer fat grams on average. That translates to about 80 fewer calories from fatty food.

Lawson said it's not clear from this study how oxytocin affects the appetite.

In addition, there are some caveats to the study. The researchers didn't study if the men who ate less were hungrier later, and women weren't included, so there's no way to know how they might be affected.

While the men who took oxytocin didn't have more side effects than the other men, "potential side effects with intranasal oxytocin include uterine contractions in pregnant women and, rarely, nausea, headache or allergic dermatitis," Lawson said.

The nasal spray is approved for use in Europe, but not in the United States. If used prior to meals three times a day, the cost of the drug -- based on European prices -- would be about \$275 a month, Lawson said.

The study is small, and still early in the research process, noted Paul Zak, founding director of the Center for Neuroeconomics Studies at Claremont Graduate University in California.

Still, he sees potential. "From an evolutionary perspective, oxytocin is released during positive social interactions -- when we are around others who care about us. This is just when food sharing is likely to occur. If we want to lose weight, having others around us who care about us can help reduce appetite," he suggested.

Manfred Hallschmid, a neuroendocrinologist with the University of Lubeck in Germany, cautioned that "long-term clinical trials are clearly necessary to answer the question whether oxytocin is effective in reducing body weight and if such an effect might go along with unwanted psychosocial side effects."

Lawson agreed that more research is needed. "We need to do more studies to see whether oxytocin could be used to treat obesity and diabetes," she said.

Lawson said that researchers will continue to study the use of oxytocin before meals as a treatment for obesity, and the researchers want to understand if the hormone has similar effects in women.

The study is scheduled to be presented March 8 at the annual meeting of the Endocrine Society in San Diego. Research presented at meetings is considered preliminary until it is published in a peer-reviewed medical journal.

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SOURCES: Elizabeth Lawson, M.D., assistant professor of medicine, Harvard Medical School, and director, Interdisciplinary Oxytocin Research Program, neuroendocrine unit, Massachusetts General Hospital, Boston; Paul Zak, Ph.D., chairman and professor, economics, and founding director, Center for Neuroeconomics Studies, Claremont Graduate University, Claremont, Calif.; Manfred Hallschmid, Ph.D., neuroendocrinologist, department of neuroendocrinology, University of Lubeck, Germany; March 8, 2015, presentation, Endocrine Society annual meeting, San Diego