MedicalXpress

'Love hormone' could provide new treatment for anorexia

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Oxytocin, also known as the 'love hormone', could provide a new treatment for anorexia nervosa, according to new research by a team of British and Korean scientists.

The study, published today, found that oxytocin alters anorexic patients' tendencies to fixate on images of high calorie foods, and larger body shape. The findings follow an earlier study by the same group showing that oxytocin changed patients' responses to angry and disgusted faces.

Anorexia nervosa affects approximately 1 in 150 teenage girls in the UK and is one of leading causes of mental health related deaths, both through physical complications and suicide. As well as problems with food, eating and body shape, patients with anorexia often have social difficulties, including anxiety and hypersensitivity to negative emotions.

Professor Janet Treasure from King's College London's Institute of Psychiatry and senior author on both studies says: "Patients with anorexia have a range of social difficulties which often start in their early teenage years, before the onset of the illness. These social problems, which can result in isolation, may be important in understanding both the onset and maintenance of anorexia. By using oxytocin as a potential treatment for anorexia, we are focusing on some of these underlying problems we see in patients."

Oxytocin is a hormone released naturally during bonding, including sex, childbirth and breastfeeding. As a synthesized product, it has been tested

as a treatment for many psychiatric disorders, and has been shown to have benefits in lowering social anxiety in people with autism.

In the first study (1), published today in *Psychoneuroendocrinology*, 31 patients with anorexia and 33 healthy controls were given either a dose of oxytocin, delivered via nasal spray, or a placebo. The participants were then asked to look at sequences of images relating to food (high and low calorie), body shape (fat and thin), and weight (scales). Once the images flashed on screen, the researchers measured how quickly participants identified the images. If they had a tendency to focus on the negative images, they would identify them more rapidly. The test was done before and after taking oxytocin or placebo.

After taking oxytocin, patients with anorexia reduced their focus (or 'attentional bias') on images of food and fat body parts. The effect of oxytocin was particularly strong in patients with anorexia who had greater communication problems.

The second study (2), published in *PLOS ONE*, involved the same participants. A similar test was done, before and after oxytocin or placebo, but this time testing the participants' reactions to facial expressions, such as anger, disgust or happiness. After taking a dose of oxytocin, patients with anorexia were less likely to focus on the 'disgust' faces. They were also less likely to avoid looking at angry faces, and became simply vigilant to them.

Prof Youl-Ri Kim, from Inje University in Seoul, South Korea and lead author on both studies, says: "Our research shows that oxytocin reduces patients' unconscious tendencies to focus on food, body shape, and negative emotions such as disgust. There is currently a lack of effective pharmacological treatments for anorexia. Our research adds important evidence to the increasing literature on oxytocin treatments for mental illnesses, and hints at the advent of a novel, ground-breaking treatment

option for patients with anorexia."

Prof Treasure from King's, adds: "This is early stage research with a small number of participants, but it's hugely exciting to see the potential this treatment could have. We need much larger trials, on more diverse populations, before we can start to make a difference to how patients are treated."

More information: (1) Kim, Y-R. et al. 'Intranasal oxytocin attenuates attentional bias for eating and fat shape stimuli in patients with anorexia nervosa' published in *Psychoneuroendocrinology*

(2) Kim, Y-R. et al. 'The impact of intranasal oxytocin on attention to social emotional stimuli in patients with anorexia nervosa: a double blind within subject cross-over experiment' published in *PLOS ONE* on 6th March 2014

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