

NEWS

Clinical research: Oxytocin alleviates social anxiety

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Eye to eye: Teenagers with fragile X syndrome tend to have social anxiety and avoid eye contact, which might improve with oxytocin treatment.

Individuals with **fragile X syndrome** make slightly more eye contact in stressful social situations after taking oxytocin compared with placebo, according to a study published 20 August in *Psychoneuroendocrinology*¹.

The results suggest that oxytocin could help treat the social anxiety that is common in individuals with the disorder.

Oxytocin is a **neurotransmitter** and hormone that is much hyped for its role in **enhancing feelings of trust and empathy** in both people and **rodents**.

Several studies also report that taking intranasal oxytocin can **lessen repetitive behaviors** and **enhance eye-contact** in individuals with autism.

In the new study, eight teenage boys with fragile X syndrome took either 24 or 48 intranasal units of oxytocin or placebo on three separate occasions before interacting with a female researcher.

The researchers randomized the order in which they gave each boy the three doses. The study was also double-blind, meaning that neither the researchers nor the participants knew when the teenagers received the drug or placebo.

For the first five minutes, the teenagers sat directly in front of the researcher while she read aloud from a magazine or a book, with their knees almost touching. The researcher then told the boys that they would have a conversation, which lasted another five minutes, and that the teenagers should make as much eye contact with her as possible.

The teenagers shifted their gaze in order to look at the researcher slightly more often — approximately 20 times instead of 15 — after taking the lower dose of oxytocin compared with placebo, the study found. Their overall level of eye contact was still significantly lower than is typical, however.

The higher dose of oxytocin had no statistically significant effect on eye contact compared with placebo, however.

Studies have shown that high doses of oxytocin **lead to epigenetic changes** that reduce the amount of the brain's oxytocin receptor.

There was also no significant difference in the level of eye contact made between the two situations, which the researchers describe as social proximity and social interaction.

The participants also had lower levels of the stress hormone cortisol in their saliva after taking the higher, but not the lower, dose of oxytocin. The researchers say they cannot explain the contradictory data for the two doses of oxytocin, but recommend further trials with large numbers of participants.

References:

1: Hall S.S. *et al. Psychoneuroendocrinology* Epub ahead of print (2011) **PubMed**