NEWS

Clinical research: Oxytocin may improve quality of life

BY **LAURA GEGGEL**

22 FEBRUARY 2013

Sniff test: Doses of oxytocin via a nasal spray may help improve recognition of emotions, but not harmful repetitive behaviors.

People with autism who inhaled regular doses of the hormone oxytocin were better at recognizing others' emotions and reported a higher quality of life than those who took a placebo, according to a small study published 5 December in *Molecular Autism*[1].

However, those taking oxytocin did not see any significant changes in nonverbal or verbal communication and social interactions, harmful **repetitive behaviors** such as self-injury, social responsiveness or obsessive-compulsive behaviors.

Oxytocin is known for **encouraging social, trusting behavior**, including in some people with autism. But this isn't always the case.

For instance, a 2009 study in *Biological Psychiatry* involving a monetary game of chance showed that oxytocin increases feelings of envy in people when they win less money than a fake participant does, and feelings of schadenfreude (gloating over the misfortune of others) when they receive more money than the fake participant[2].

Genetic studies show **duplications and deletions of the oxytocin receptor** in individuals with autism, suggesting the hormone plays a role in the condition. But studies of the drug in people with

the disorder have produced **mixed results.**

In the new study, researchers randomly assigned ten people with autism to the oxytocin group and nine people with the disorder to the placebo section. The participants inhaled either oxytocin or a saline solution twice a day for six weeks.

Individuals taking oxytocin improved on the **Reading the Mind in the Eyes** test — which assesses how well people interpret emotions from photos of expressive eyes — and a **World Health Organization** self-reported quality-of-life questionnaire about their emotional and social well-being.

It's unclear why oxytocin improved the quality of the participants' lives. The reward center of the brain is rich in oxytocin receptors, but it is unknown whether oxytocin alleviated their anxiety or enhanced their social reward, or their ability to recognize others' emotions.

Although those taking oxytocin did not show any change in harmful repetitive behaviors, some of them showed a decrease in pleasurable repetitive behaviors, such as tapping their fingers.

In their next trial, with children aged 10 to 17, the researchers plan to examine oxytocin's effects on social engagement and motivation more closely.

The researchers say the results are preliminary because the sample size is small. If oxytocin is offered as a treatment for autism, they say, it would need to be used in conjunction with behavioral therapy.

References:

1: Anagnostou E. *et al*. *Mol. Autism* **3**, 16 (2012) **PubMed**

2: Shamay-Tsoory S.G. *et al. Biol. Psychiatry* **66**, 864-870 (2009) **PubMed**