"Love Hormone" Promotes Bonding

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Gazing into your lover's eyes isn't only romantic; it may also mimic early attachments that forever alter your brain and body.

Researchers at the University of California, San Diego, School of Medicine are studying whether the brain hormone released with touches, hugs, or when a mother and her newborn baby bond might help patients with schizophrenia, social anxiety and a variety of other disorders.

Oxytocin is a brain chemical associated with pair bonding, including mother-infant and male-female bonds, increased paternal involvement with children, and monogamy in certain rodents, according to Kai MacDonald, MD, assistant clinical professor of psychiatry at UCSD.

In humans, oxytocin is released during hugging and pleasant physical touch, and plays a part in the human sexual response cycle. It appears to change the brain signals related to social recognition via facial expressions, perhaps by changing the firing of the amygdala, the part of the brain that plays a primary role in the processing of important emotional stimuli. In this way, oxytocin in the brain may be a potent mediator of human social behavior.

"That's why oxytocin is sometimes called 'the love hormone,'"said MacDonald. "It's said that the eyes are the window to the soul…they certainly are the window to the emotional brain. We know that the eye-to-eye communication—which is affected by oxytocin—is critical to intimate emotional communication for all kind of emotions – love, fear, trust, anxiety."

He adds that people with schizophrenia or autism often avoid eye-to-eye gaze, focus on less relevant areas of the face, and avoid meaningful social contact. The UCSD researchers theorize that use of oxytocin might act on the brains of patients with schizophrenia and anxiety and may ultimately increase the level of trust or emotional contact between patient and physician, or with patients and significant others.

The hormone, also known by its trade name, Pitocin, has been used for years to induce labor and promote lactation in women. But its effects on the brain are just beginning to be understood.

"Previously studies of healthy individuals have shown that intranasal doses of oxytocin reduce activation of brain circuits involved in fear, increase levels of eye contact, and increase both trust

and generosity," MacDonald said. "Interestingly, people given oxytocin don't report feeling any different, but they act differently."

"A hug or a touch that causes a releases of this hormone might change brain signals," he added. "We want to know if oxytocin can also impact social and emotional behavior in patients with psychiatric disorders."

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