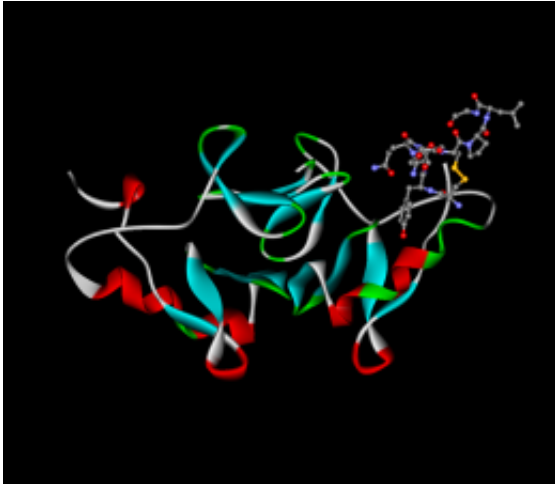


# Oxytocin connected to postpartum depression

16 May 2011, by Deborah Braconnier



Oxytocin (ball-and-stick) bound to its carrier protein neurophysin (ribbons) Image: Wikipedia

(Medical Xpress) -- According to a new study published in *Neuropsychopharmacology*, researchers, led by Gunther Meinlschmidt, PhD, may have found a connection between the brain chemical oxytocin and postpartum depression.

Postpartum depression affects close to one in five women and can create bonding issues with a newborn child. It can also cause [suicidal thoughts](#), and is a leading cause of [maternal death](#) in the UK. It affects up to 19 percent of mothers and can adversely affect the mental development of a child.

[Oxytocin](#), also known as the 'love hormone' or 'feel good chemical' is released during human contact. It is also connected to uterine contraction during delivery and the letdown reflex which occurs during breastfeeding.

In the study, researchers measured the blood levels of oxytocin in 73 women during their third trimester of pregnancy. Their blood levels varied from 14.4 to 245.7 picograms per milliliter. The

women were given written screenings, both during pregnancy, as well as two weeks after giving birth, to determine their risk of depression. Of the women, 14 went on to develop [postpartum depression](#), and these women also showed the lower level of oxytocin.

While this is just a preliminary study, researchers plan to further explore the possible connection between [oxytocin](#) and postpartum depression, as they believe it is one of several factors. They need to determine if the low levels are a symptom or a cause of the depression. They say, however, that testing a pregnant woman's blood level could help to determine those who may be at risk and suggest counseling options in advance.

**More information:** Plasma Oxytocin Concentration during Pregnancy is associated with Development of Postpartum Depression, *Neuropsychopharmacology*, (11 May 2011) [doi:10.1038/npp.2011.74](https://doi.org/10.1038/npp.2011.74)

## Abstract

Postpartum depression (PPD) affects up to 19% of all women after parturition. The non-peptide oxytocin (OXT) is involved in adjustment to pregnancy, maternal behavior, and bonding. Our aim was to examine the possible association between plasma OXT during pregnancy and the development of PPD symptoms. A total of 74 healthy, pregnant women were included in this prospective study. During the third trimester of pregnancy and within 2 weeks after parturition, PPD symptoms were assessed using the Edinburgh Postnatal Depression Scale (EPDS). Blood samples for plasma OXT assessment were collected in the third trimester. Following the literature, participants with postpartum EPDS scores of 10 or more were regarded as being at risk for PPD development (rPPD group). In a logistic regression analysis, plasma OXT was included as a potential predictor for being at risk for PPD. Results were controlled for prepartal EPDS score,

sociodemographic and birth-outcome variables.

Plasma OXT concentration in mid-pregnancy significantly predicted PPD symptoms at 2 weeks postpartum. Compared with the no-risk-for-PPD group, the rPPD group was characterized by lower plasma OXT concentrations. To our knowledge, this is the first study to show an association between prepartal plasma OXT concentration and postpartal symptoms of PPD in humans. Assuming a causal relationship, enhancing OXT release during pregnancy could serve as a potential target in prepartum PPD prevention, and help to minimize adverse effects of PPD on the mother - child relationship.

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