

Postpartum women less stressed by threats unrelated to the baby, study finds

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This is Heather Rupp. Credit: Herbert Ascherman

(Medical Xpress)—Following the birth of a child, new mothers may have an altered perception of stresses around them, showing less interest in threats unrelated to the baby. This change to the neuroendocrine circuitry could help the mothers adapt to the additional stress often accompanying newborns, say researchers from Indiana University's Kinsey Institute and the University of Zurich.

When viewing disturbing images during the study, postpartum women reported less distress and demonstrated less activity in their amygdala,

the part of the brain that controls emotional response, than nulliparous, or childless, women, according to [functional magnetic resonance imaging](#).

When the [childless women](#) were administered a nasal spray containing the hormone oxytocin, however, their [brain images](#) looked more similar to the postpartum women, and they also reported less subjective stress when viewing the images.

"Our findings extend previous work showing a lower [stress response](#) with motherhood that likely enhances her ability to cope with this dramatic new role," said lead author Heather Rupp, director of psychology and neuroscience at [Brain Surgery](#) Worldwide Inc. and a research fellow at The Kinsey Institute for Research in Sex, Gender and Reproduction.

The study, "[Amygdala response to negative images in postpartum verses nulliparous women and intranasal oxytocin](#)," was published in the online journal *Social Cognitive and Affective Neuroscience*.

While other studies have demonstrated that postpartum women are more sensitive to baby-related threats, this is the first study to show that new mothers are less responsive to stresses unrelated to the baby.

Oxytocin, which is released in greater amounts during and after childbirth, likely plays a role in these changes, but how was not clear to the researchers. Earlier research has shown that oxytocin can play a powerful role in a healthy mother's unique state of mind by providing a calming effect when mothers breastfeed and by heightening interest in baby-related threats.

The IU study involved 29 postpartum women and 30 women who had never borne children. Participants were assigned to either the placebo or

oxytocin nasal spray group in a double-blind procedure, meaning that neither the study participants nor researchers knew who received the hormone or placebo. The average age of the women was 27.

To gauge the women's responses, the researchers used brain imaging, and questionnaires to learn of the women's subjective responses, and they measured the levels of the stress hormone cortisol in the women's urine.

The postpartum women had children 1 to 6 months old, so it is unknown how long the reduced stress reaction lasts.

Provided by Indiana University

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