Medical Xpress

Postpartum about brain, not just hormones

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Women with postpartum depression who viewed pictures of scared or angry faces had less activity as shown by functional magnetic resonance brain imaging than did healthy mothers in the dorsomedial prefrontal cortex, a part of the brain that controls emotional responses and recognizes emotional cues in others. The mothers with postpartum depression also had less communication between this area and the amygdala, the hub of emotional conditioning.

Previous research on postpartum depression has primarily focused on hormonal factors. These new functional MRI findings by Eydie Moses-Kolko, M.D., and colleagues at the University of Pittsburgh indicate that it is the brain biology of peripartum depression that seems to interfere with responding to emotional cues. This deficit may underlie decreased bonding to the infant, the biggest problem with the disorder.

The depressed mothers' clinical state correlated with amygdala responses to the scared or angry faces. Within this group, lower activity in the left amygdala was associated with greater depression severity, and lower activity in the right amygdala was correlated with greater hostility toward the infant.

Dr. Moses-Kolko stated, "Finding abnormalities in these two brain regions, and in the connection between them, suggests that mothers with postpartum depression have problems in the neural circuitry underlying not only their own emotions but their attunement to the emotions of others. This could interfere with the bonding between the mothers and their infants and have important repercussions for the offspring later in

life. Ultimately, clarifying brain mechanisms of mother-infant attachment has the potential to guide the development of more effective treatments for postpartum depression."

More information: The study of 14 depressed mothers and 16 healthy mothers will appear on September 15 at AJP in Advance, the online advance edition of *The American Journal of Psychiatry* (AJP), the official journal of the American Psychiatric Association.

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