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This press release contains:

- **Summaries of newsworthy papers:**

[Increased glutamate in women with postpartum depression](#)

[ADHD medications do not increase likelihood of drug addiction](#)

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[Increased glutamate in women with postpartum depression](#)

DOI: 10.1038/npp.2012.101

Postpartum depression is associated with increased levels of the brain chemical glutamate, according to a study published online this week in *Neuropsychopharmacology*. These findings could help in better understanding this devastating condition and lead to new treatments.

Postpartum depression, which occurs in up to 20% of new mothers, is characterized by feelings of inadequacy and hopelessness soon after childbirth. Little is currently known about its causes.

Jean-Michel Le Melleo and colleagues looked at levels of the neurotransmitter glutamate in women with postpartum depression using a new non-invasive brain imaging procedure, magnetic resonance spectroscopy, which measures the concentration of specific molecules in the brain. The authors found that, compared to matched healthy participants scanned during the same period post-birth, women with postpartum depression within three months of giving birth had increased glutamate levels in their prefrontal cortex. This region has previously been shown to be affected by fluctuations in female hormones and is implicated in mood regulation and major depression.

These findings differ from some previous major depression studies, which have reported decreased levels of glutamate and glutamine. Le Melleo and colleagues suggest these differences could be partly explained by female hormone-related differences in the biological mechanisms leading to postpartum depression and regular major depression.

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[ADHD medications do not increase likelihood of drug addiction](#)

DOI: 10.1038/npp.2012.117

DOI: 10.1038/npp.2012.119

Long-term treatment of attention deficit hyperactivity disorder (ADHD) with stimulant drugs does not negatively affect cognition and brain function, or increase vulnerability to future cocaine or amphetamine abuse in rhesus monkeys. These findings, published in two independent studies this week in *Neuropsychopharmacology*, provide important support for the safety of stimulants as treatments of ADHD symptoms in children and adolescents.

ADHD is a behavioral disorder that can be effectively treated with stimulants like methylphenidate or amphetamine. Because of the pathological changes that are reported to occur in the brains of those abusing stimulants, concerns have been raised about the long-term effects of stimulant treatment during childhood and adolescence, when the brain is developing.

In one study, Linda Porrino and colleagues looked at 16 adolescent rhesus monkeys that were treated daily with either methylphenidate or a control pill. After a year of treatment and a three to five month period with no treatment pills, their weight, growth, and dopamine receptors were unaffected. There was also no difference in their predisposition to cocaine addiction, as compared to the control group.

In a separate study, Nancy Ator and colleagues monitored the effects of twice-daily oral treatments with either methylphenidate, amphetamine or control solution on groups of eight peri-adolescent rhesus monkeys over of 18 months of treatment and six months after treatment ended. They found no consistent differences in cognition, physiological development, general activity, or neurochemistry among the groups treated with a stimulant and the control group.

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