

Animal research sheds light on harmful mood disorders in new mothers

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In the days shortly after giving birth, most mothers experience a period of increased calmness and decreased stress responses, but around 20% of mothers experience anxiety. Some women may become depressed, and around one in a thousand can develop psychosis. The latest evidence indicates that these distressing responses to motherhood are still poorly understood, but that animal research could provide valuable clues to their causes.

Writing in the *British Journal of Pharmacology*, Dr David Slattery and Dr Clara Perani highlight that anxiety, depression and psychosis during this 'postpartum' period of life not only affect the well-being of the mother but also place at risk the long-term health of the infant. Infant care and bonding can also be altered, which in turn may lead to long-term behavioural and emotional problems for the child.

Despite the seriousness of the situation, little is known about the causes of postpartum disorders. Slattery and Perani believe [animal research](#) could play a greater role. "All female mammals give [birth](#), produce milk and adapt their behaviour in order to care for the offspring. Research in rodents shows that they too experience a host of important behavioural and physiological alterations during this time. For example, just like most breastfeeding [mothers](#), rodents are generally calmer and show a smaller increase in the stress hormone cortisol when subjected to stress," says Slattery.

Factors like smoking, drinking alcohol throughout pregnancy and marital

status, all influence the likelihood of a mother developing these sorts of postpartum mood and [anxiety disorders](#), and having a previous history of a mood condition places a woman at greater risk. "While we know this from observing women, what we need now is a greater understanding of the underlying causes and mechanisms so that we can begin to identify mothers who are at risk and start to provide them with preventative advice and effective therapies," says Slattery.

While it is very difficult to impose experimental restraints on women, some of the factors such as diet or repeated exposure to stress during pregnancy can be explored in research involving animals.

Identification of such causes could lead to better treatment and faster diagnosis of the disorders, which would help both the mother and her child. "Long-term, we hope that increased study, involving both animals and humans, will improve our understanding of postpartum psychiatric disorders, and lead to improved, earlier diagnosis and to novel treatment approaches for this particular time period of a woman's life," says Slattery, who has previously published a number of studies assessing how pregnancy stress effects the normal adaptations that occur immediately before or after giving birth.

More information: Perani CV & Slattery DA. Using animal models to study post-partum psychiatric disorders. *British Journal of Pharmacology*. 2014. [DOI: 10.1111/bph.12640](https://doi.org/10.1111/bph.12640)

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