



Gestational Diabetes is a Risk Factor for Postpartum Depression

Afranio Cogo Destefani*

Professor of the Biomedicine Course of the Faculty of Biomedical Sciences of Espírito Santo, Brazil

Submission: February 09, 2017; **Published:** April 03, 2017

***Corresponding author:** Afranio Cogo Destefani, Professor of the Biomedicine Course of the Faculty of Biomedical Sciences of Espírito Santo, Cariacica /ES, Rua Bolivar de Abreu, 48, Campo Grande, Cariacica/ES, ZIP CODE: 29.146-330, Brazil, Email: afraniocd@gmail.com

Opinion

Gestational diabetes appears to be an independent risk factor for postpartum depression (PPD) in primiparous women, new research shows. Results from a large population-based study revealed that even in the base released history of depression, gestational diabetes significantly increased the risk of postpartum depression. The researchers, led by Michael E. Silverman, an assistant professor of psychiatry at the Icahn School of Medicine at Mount Sinai in New York, also found that women with a history of depression are 20 times more likely to have postpartum depression than their uninsured peers.

A history of maternal depression in conjunction with gestational diabetes further increases the likelihood of PPD. "Most professionals think of these two conditions as isolated and very different, but we now know that gestational diabetes and postpartum depression should be considered together," Silverman said in a statement. "While having gestational diabetes increases the risk of postpartum depression in all women, for those who have had a previous depressive episode, having diabetes during pregnancy makes them 70 percent more likely to develop postpartum depression," he added.

Largest Study so Far

Researchers point out that postpartum depression can have an adverse impact on the development of women and children. They note that, to date, no study has examined how a maternal history of depression interacted with known risk factors. To assess the impact of a history of depression on PPD and pre and perinatal risk factors, the researchers analyzed data from a prospective cohort of first-born births between 1997 and 2008 in the Swedish Medical Birth Register. In addition to information on virtually all births in Sweden, the registry has included, since 2000, data on outpatient hospital care.

The study, the largest of its kind to date, showed that among 707,701 women who had a non-twin birth during the study period, there were 4,397 postpartum depression cases in the first

year after termination of gestation. For DPP, the study included diagnoses of the condition as well as major depressive disorder, general episodic mood disorder, or depressive disorder, which occurred within the first year after delivery.

A history of depression before pregnancy dramatically increased the risk of postpartum depression, with 1154 cases per 10,000 patients among those with a history of depression, compared to only 42 cases per 10,000 patients among those with no history of depression (relative risk, RR, 21.03, confidence interval, CI, 95%, 19.72-22.42). Women with gestational diabetes had a significantly increased risk of postpartum depression regardless of whether or not they had a history of depression (RR 1.70, 95% CI 1.36-2.13). Women older than 35 years also had an increased risk of PPD, regardless of their stories of depression, compared with the ladies between 25 and 29 years of age (RR, 1.25, 95% CI 1.14-1.37).

The risk for postpartum depression was also significantly increased among women who had a history of depression as well as pre-gestational diabetes compared to those without pre-gestational diabetes (RR 1.49, 95% CI 1.01 - 2.21) as well as preterm delivery from 32 to 36 weeks of gestation (RR 1.20, 95% CI, 1.06 - 1.36).

Fantastic Find

The increased risk for gestational diabetes was a surprise, as were the findings of pre-gestational diabetes, Silverman told Medscape. "It was a surprise that pre-gestational diabetes was only a problem with the history of depression. I say this because there is a well-understood link between depression and diabetes, so women with no history of depression who have diabetes represent what appears to be a resilient population in the postpartum period," he added.

Among women without a history of depression, other risk factors for postpartum depression included young age (15-19 years and 20-24 years, RR, 2.14, 95% CI, 1.79-2.57), Cesarean

section (RR, 1.64, 95% CI, 1.07 - 2.50); Delivery with the aid of instruments (RR, 1.23, 95% CI, 1.09 - 1.38); And moderate risk of preterm birth - less than 32 weeks of gestational age (RR, 1.36, 95% CI, 1.05 - 1.75).

Previous studies had reported inconclusive findings of the link between preterm birth and postpartum depression. The association in the new research may reflect the study design, which included follow-up of women for one year postpartum. This allowed the researchers to capture late diagnoses of depression, they note. Although a history of depression is a well-known risk factor for postpartum depression, the authors were surprised by the magnitude of the increased risk.

"We were surprised not only by the extent of the predictive power of a history of depression for postpartum depression but also by how few cases of PPD occurred without a history of depression. Thus, postpartum depression without a history of depression is rarer than we, and I think we all expected it," Silverman said.

Although the dramatic hormonal fluctuations of gestation and birth are commonly attributed as the cause of postpartum depression, the authors point to another possible mechanism, inflammation, which is associated with many of the risk factors. "We know that there is a strong relationship between inflammatory cytokines and depression - even for those who are otherwise medically healthy - and between cytokines and diabetes; diabetes and gestational depression are independently associated with obstetric complications, preterm birth, and Neonatal complications, among others," said Silverman.

"Obviously, the association does not imply causation, but we know that inflammatory cytokines have profound effects on hormone metabolism and neurotransmitters in brain areas that regulate emotion, such as the hypothalamic-pituitary-adrenal axis," he said.

More Searches Needed

More research is required to determine the role of these mechanisms in postpartum depression, the authors write. The findings highlight the need for doctors to pay attention to risk factors for postpartum depression even during pregnancy, Silverman said. "While depressed women do not always return for postpartum follow-up, which includes screening for depression, pregnant women represent a population captured by medical care," he said. "Based on these new findings, we believe that the vast majority of women who develop postnatal depression can be caught before birth by asking about the history of depression and monitoring for diabetes." He added that the role of doctors

in postpartum depression could be compared to their role in tobacco use.

"The reason a doctor asks you if you smoke is that we know you are 20 times more likely to get cancer if you do. Since it is the same situation for the history of depression and postpartum depression, we believe Gynecologists and Obstetricians should do the same with the history of depression," he said. "These women can be identified, and interventions can be performed before depression occurs and before something potentially catastrophic happens."

Promise of New Therapeutic Agents

Commenting on the findings for Medscape, Dr. Emily S. Miller, an assistant professor in the Division of Maternal-Fetal Medicine at Northeastern University Feinberg School of Medicine in Chicago, Illinois, said the study's strengths include the use of a large population. "This is an important study because the authors were able to identify risk factors for postpartum depression in a large epidemiological assessment," she said. "The large sample, coupled with the very specific definition of depression, adds in our knowledge about these risk factors for postpartum depression." In a previous study published in the Archives of Women's Mental Health in 2016, Dr. Emily and colleagues evaluated a cohort of fewer than 305 women and found no association between gestational diabetes and postpartum depression. She said the larger size of the new study explains the difference. "The most notable limitation of our study was the sample size, so we did not have sufficient power to identify small effects such as the hazard ratio (RR) of 1.70".

Dr. Emily's current research focuses on the role of inflammation, "which has a causal relationship to depression," she said. "Similarly, the underlying pro-inflammatory medium that may contribute to the development of gestational diabetes may also contribute to the development of depression before or after birth." "While the underlying molecular mechanisms that lead to this relationship are not completely defined, they carry the promise of using novel therapeutic agents that may improve the symptoms of depression, particularly in women with elevated levels of inflammation."

Funding

The study received funding support from the Eunice Kennedy Shriver National Institute of Child Health and Human Development. Co-author Henrik Larsson was a spokesperson for Eli Lilly and Shire. Dr. Emily stated that she had no relevant conflicts of interest.



This work is licensed under Creative Commons Attribution 4.0 License
DOI: [10.19080/JOJCS.2017.02.555592](https://doi.org/10.19080/JOJCS.2017.02.555592)

**Your next submission with Juniper Publishers
will reach you the below assets**

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
(Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission

<https://juniperpublishers.com/online-submission.php>