

PTSD Linked to Increased Risk for Preterm Birth

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Active posttraumatic stress disorder (PTSD) appears to be a risk factor for preterm births on par with other known risks, including advanced maternal age, a study has shown.

In the largest cohort of PTSD-exposed deliveries studied to date, mothers with a PTSD encounter in the year before delivery had 35% increased odds of spontaneous preterm delivery, Jonathan G. Shaw, MD, from the Center for Primary Care and Outcomes Research, Stanford University, California, and colleagues report in an article published online November 5 and in the December issue of *Obstetrics & Gynecology*.

Using Department of Veterans Affairs (VA) administrative data, the investigators analyzed all deliveries from fiscal years 2000 to 2012, which included 16,334 deliveries among 14,047 women. They used International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM), diagnostic codes to identify PTSD predating the delivery and preterm birth and conducted multivariate analyses of PTSD as a predictor of preterm birth, controlling for military sexual trauma, deployment, demographics, and comorbidities. The primary study outcome was the odds ratio of spontaneous preterm delivery, identified through ICD-9-CM diagnostic codes, by PTSD diagnosis.

Of the 16,334 births analyzed, 3049 were to women with an antepartum diagnosis of PTSD, two thirds of whom had active PTSD, defined as cases documented in any encounters within 365 days before delivery. Approximately one third of the deliveries (4948) were to women who had recent deployments to Afghanistan or Iraq, and 23% (3568) were to women reporting a history of military sexual trauma, the authors report.

Of the full cohort, there were 1248 spontaneous preterm deliveries. In an unadjusted analysis, preterm deliveries were more common among women with active PTSD (9.2%; n = 176) compared with women with past PTSD (8.0%; n = 90) or no PTSD (7.4%; n = 982; P = .02).

The association between active PTSD and preterm birth persisted after adjusting for covariates, with an odds ratio of 1.35 (95% confidence interval, 1.14 - 1.61).

"The 35% increased odds of spontaneous preterm delivery in those with active PTSD is clinically relevant (two excess preterm births per 100 affected deliveries) and on par with risks such as advanced maternal age (older than 35 years) and, within our cohort, only slightly smaller than the well-established risk factor of African American race," the authors write.

Plausible biologic mechanisms for the link between PTSD and preterm delivery "include neuroendocrine, inflammatory, and cardiovascular alterations — all of which have been implicated in our incomplete understanding of premature labor," the authors write.

The current findings build on suggestive previous studies that were too small to detect the association between preterm delivery and PTSD, the authors note, adding that the current study benefits from a design "that confirms PTSD temporally preceded the delivery, adding support for a causal relationship."

The VA includes mandatory PTSD screening with a validated instrument in the electronic health record, and the investigators' reliance on clinician-entered encounter diagnoses is supported by prior VA studies confirming the ICD-9-CM diagnosis reliably predicts PTSD, they state.

"Our study adds to the nascent understanding of the relationship between stress and preterm labor, suggesting the abnormal stress response imparted by PTSD might contribute to preterm delivery," the authors write. The analysis also identifies PTSD-affected mothers "as an important clinical population in which to focus efforts to elucidate, and hopefully interrupt, the pathway from stress to preterm birth," they state.

Although the generalizability of the findings to non-VA populations is uncertain, "the association is not unique to combat veterans because the majority of our cohort was nondeployed," the authors explain.

"Regardless of setting or population, obstetric and primary care providers will inevitably find themselves caring for women with active PTSD in pregnancy and preconception and need to be aware of it as a risk factor," they write, advising the inclusion of brief, effective screening tools in prenatal care, "especially in populations with high prevalence."

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