

AI model has potential to detect risk of childbirth-related PTSD

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Researchers have adapted an artificial intelligence (AI) program to identify signs of childbirth-related post-traumatic stress disorder (CB-PTSD) by evaluating short narrative statements of patients who have

given birth.

The program successfully identified a large proportion of participants likely to have the disorder, and with further refinements—such as details from [medical records](#) and birth experience data from diverse populations—the model could potentially identify a large percentage of those at risk. The study appears in *Scientific Reports*.

Worldwide, CB-PTSD affects [about 8 million people](#) who give birth each year, and current practice for diagnosing CB-PTSD requires a physician evaluation, which is time-consuming and costly. An effective screening method has the potential to rapidly and inexpensively identify large numbers of postpartum patients who could benefit from diagnosis and treatment.

Untreated CB-PTSD may interfere with breastfeeding, bonding with the infant and the desire for a future pregnancy. It also may worsen maternal depression, which can lead to [suicidal thoughts](#) and behaviors.

Investigators administered the [CB-PTSD Checklist](#), which is a questionnaire designed to screen for the disorder, to 1,295 postpartum people. Participants also provided short narratives of approximately 30 words about their childbirth experience.

Researchers then trained an AI model to analyze a subset of narratives from patients who also tested high for CB-PTSD symptoms on the questionnaire. Next, the model was used to analyze a different subset of narratives for evidence of CB-PTSD. Overall, the model correctly identified the narratives of participants who were likely to have CB-PTSD because they scored high on the questionnaire.

The authors believe their work could eventually make the diagnosis of childbirth [post-traumatic stress disorder](#) more accessible, providing a

means to compensate for past socioeconomic, racial, and ethnic disparities.

The study was conducted by Alon Bartal, Ph.D., of Bar Ilan University in Israel, and led by senior author Sharon Dekel, Ph.D., of Massachusetts General Hospital and Harvard Medical School, Boston.

More information: Bartal A, et al. AI and narrative embeddings detect PTSD following childbirth via birth stories. *Scientific Reports* (2024). [dx.doi.org/10.1038/s41598-024-54242-2](https://doi.org/10.1038/s41598-024-54242-2)

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