# Study finds men's antidepressant use doesn't negatively impact IVF success

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In vitro fertilization (IVF) is a time-intensive and often stress-inducing fertility procedure. Yet how does that stress impact its success? Investigators at Brigham and Women's Hospital, a founding member of the Mass General Brigham health care system, assessed the effects of anxiety and depression in men on fertility and IVF outcomes. Their findings reveal no correlation between anxiety, regardless of

antidepressant use, on IVF outcomes or live birth rate. Results are published in *Human Reproduction*.

"Our findings indicate that despite past concerns over antidepressant medication's impact on fertility, treatment should not be withheld from men experiencing anxiety or depression," said Zachary Walker, MD, a reproductive endocrinology and infertility fellow in the Center for Infertility and Reproductive Surgery at the Brigham.

Investigators conducted a voluntary, survey-based study, collecting responses from 222 men undergoing IVF at a hospital-affiliated fertility center between September 2018 and December 2022, using the Hospital Anxiety and Depression Scale (HADS) questionnaire. Participants scoring eight or higher on the survey's sub-sections were considered to have anxiety or depression, respectively.

The study evaluated the correlation between these mental health conditions and IVF outcomes and live birth rates, as well as various semen parameters, while also examining the prevalence of erectile dysfunction and low libido among the cohort.

Results indicated that 22.5% of respondents experienced anxiety and 6.5% experienced depression, according to HADS scores. There was no notable difference in live birth rates between those with and without anxiety, though men with anxiety had, on average, lower total motile sperm counts during egg retrieval. Walker and the team found that IVF outcomes and live birth rates were unaffected by antidepressant use. Additionally, there were no statistically significant findings regarding erectile dysfunction or low libido between groups.

"There's debate among fertility specialists about prescribing antidepressants during IVF due to potential fertility impacts. However, stress itself can alter hormones, sometimes leading to a condition called

hypogonadotropic hypogonadism, where the brain tells our reproductive organs to shut down because we are too stressed to conceive," explained Walker.

"So, while anxiety medication can hinder fertility, so can stress. Given that IVF is notoriously stressful, our findings underscore the importance of prioritizing patient mental health during fertility treatment."

The study's limitations included an inability to assess sperm morphology at time of egg retrieval and to evaluate the full impact of depression scores on fertility due to the small portion of participants with high depression scores. Researchers also could not fully assess all patients' hormone levels—something they aim to investigate with future studies.

Roughly 80 percent of the cohort was Caucasian, which Walker explains may be indicative of access barriers, such as cost and insurance coverage , that many medically underserved racial and ethnic groups face when seeking fertility care.

Going forward, Walker and his team aim to evaluate patient hormone levels throughout the duration of fertility treatment to better understand how stress affects IVF and birth outcomes. He emphasizes the importance of screening patients for mental health issues prior to beginning IVF.

"These findings add to the growing body of literature examining general medical health and male fertility outcomes. Based on this study, I would encourage my patients to pursue and continue appropriate therapies for anxiety and depression without concern that they will adversely impact their IVF outcomes," said senior author Martin Kathrins, MD, a urologist in the Department of Urology at the Brigham.

**More information:** Zachary Walker et al, The effects of male anxiety

and depression on IVF outcomes, *Human Reproduction* (2023). DOI: 10.1093/humrep/dead179

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