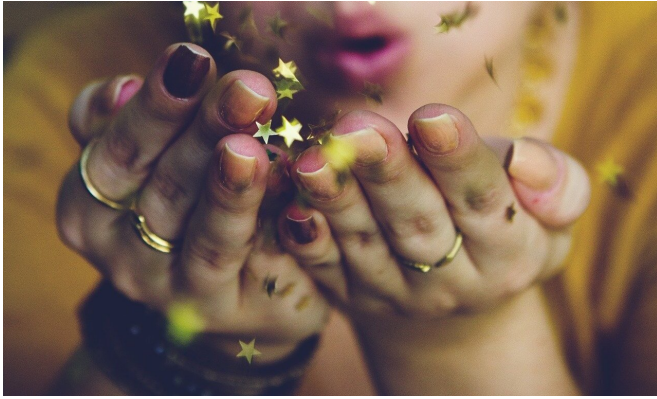


Promising treatment for premenstrual dysphoric disorder, PMDD

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The mental symptoms of premenstrual dysphoric disorder improve following treatment with a progesterone receptor modulator, as demonstrated by SciLifeLab researcher Erika Comasco and Professor Inger Sundström-Poromaa, Uppsala University. The drug's mechanism of action provides insights into the potential molecular mechanisms underlying this psychiatric disorder and its treatment.

It has long been known that the [menstrual cycle](#) can affect [women's](#) mood and well-being. For the majority of women of reproductive age, this manifests itself in mild symptoms that do not need any treatment, but for 3% to 5% of women, the hormonal changes during the menstrual cycle lead to disabling mental symptoms collectively referred to as premenstrual dysphoric disorder (PMDD).

Selective progesterone receptor modulators bind to and inhibit progesterone receptors in the brain. This is a relatively new class of drugs developed for the treatment of uterine fibroids and endometriosis. In this multicentre, double-blind, placebo-controlled clinical trial, researchers from Uppsala University, Karolinska Institutet and Umeå

University, all in Sweden, have demonstrated for the first time the efficacy of a selective progesterone receptor modulator as a treatment for PMDD.

According to the study now published in the *American Journal of Psychiatry*, the progesterone receptor modulator primarily reduces the mental symptoms of PMDD, such as irritability and depression. Half of the women (50 percent) receiving the treatment improved completely, while the corresponding proportion of women receiving placebo was 21 percent.

"Side effects were mild, and the ongoing development of well-tolerated progesterone receptor modulators will hopefully make this a [treatment option](#) for patients with PMDD," says Professor Inger Sundström-Poromaa of the Department of Women's and Children's Health and the Centre for Women's Mental Health during the Reproductive Lifespan (WoMHeR) at Uppsala University.

Looking ahead, the researchers are currently investigating how [progesterone](#) receptor modulator affects the brain in women with PMDD. By neuroimaging the brain of these patients before and during treatment, using [magnetic resonance](#) imaging, the researchers aim to define structural and functional brain signatures that can explain the relief of PMDD symptoms.

The research results will be an important piece of the puzzle of improving our understanding of the mechanisms behind PMDD, the researchers say. Today, the first-line treatment for PMDD is serotonin reuptake inhibitors. Although these drugs are very effective, they are not suitable for all women and additional treatment options are of value. In addition, it would be desirable to have a treatment that more specifically addresses the mechanisms underlying this psychiatric disorder.

More information: Erika Comasco et al. Ulipristal

Acetate for Treatment of Premenstrual Dysphoric Disorder: A Proof-of-Concept Randomized Controlled Trial, *American Journal of Psychiatry* (2020). DOI: [10.1176/appi.ajp.2020.20030286](https://doi.org/10.1176/appi.ajp.2020.20030286)

Provided by Uppsala University

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