

Depression affects how women with PMDD respond to stress, pain

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As science slowly, but continually, unravels the causes of disorders, it increasingly teases apart biological threads that, when spooled together, begin to take on the warp and weft of separate disorders.

Add to the developing fabrics a severe [mood disorder](#), premenstrual dysphoric disorder, which affects 5 percent to 7 percent of all women of reproductive age in the United States but is often misdiagnosed as major depression or other mood disorder.

A recent study further establishes that PMDD is biologically different, and that women with PMDD who have experienced depression could make up a subset.

The findings are important because they give physicians more reason to search for a more specific diagnosis and could possibly lead to more precise treatments, of which there are currently few good choices, said Susan Girdler, Ph.D., professor of psychiatry at the University of North Carolina at Chapel Hill School of Medicine who led the study.

"PMDD is not garden-variety premenstrual symptoms. PMDD causes severe impairment in quality of life, equivalent to post-traumatic stress disorder, [major depressive disorder](#) and panic disorder, that continually cycles on a monthly basis. Some women spend half their lives suffering from this disorder," said Girdler, who also is director of the Stress and Health Research Program in UNC's Center for Women's Mood Disorders.

In a study published ahead of print in the journal *Biological Psychology*, Girdler and her colleagues measured biological responses to stress and pain. Previous studies demonstrated that women with chronic major depression have a heightened biological response to stress and release more stress hormones, such as cortisol. And, Girdler and her group have previously shown that women with PMDD respond conversely, with blunted stress responses.

The current study is the first known head-to-head comparison of the two groups and confirmed earlier findings.

"We found the greatest weight of evidence that PMDD and major depression are really two distinct entities in terms of biological response to stress and with respect to pain sensitivity and pain mechanisms," Girdler said.

But more important, Girdler said, was the finding that women with PMDD who also had experienced depression in the past looked different from PMDD women who had never been depressed. Only the PMDD women with prior depression had lower cortisol and greater sensitivity to pain compared to non-PMDD women with prior depression. These differences between PMDD and non-PMDD women were not seen in women who had no depression history.

"So while the study shows that PMDD is biologically different from [major depression](#), a history of [depression](#) may have special relevance for women with PMDD with respect to [stress hormones](#) and [pain](#) response," Girdler said.

Current treatments for PMDD are effective in only about half of [women](#). But, Girdler says, gathering more biological clues about PMDD could expand the treatment options.

Provided by University of North Carolina School of Medicine

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