

Study shows that some, but not all, premenstrual symptoms are linked with inflammation

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Certain premenstrual symptoms, such as mood changes, breast pain and abdominal cramps, are linked with inflammation, but headache is not, according to new research from UC Davis Health System.

Published in the current issue of the *Journal of Women's Health*, the results suggest that anti-inflammatory medications may be appropriate for some but not all symptoms associated with menstruation.

The study is a rare look at inflammation and its association with premenstrual symptoms, which can disrupt the lives of many [women](#).

"Premenstrual symptoms are not well studied even though they affect most women, some of them significantly," said lead author Ellen Gold, professor public health sciences at UC Davis. "It's important to understand the physiology of these symptoms, because it's the first step to gaining insights that can improve treatments."

In conducting the study, Gold and her colleagues used data from the Study of Women's Health Across the Nation, or SWAN, a longitudinal, multicenter study of about 3,000 women in midlife from five racial/ethnic groups. Participants responded to questions about their experiences with frequently occurring premenstrual symptoms. They also evaluated physical and mental [health](#), social factors and lifestyle habits, and had blood drawn in which levels of an inflammatory marker

known as C-reactive protein (CRP) were measured.

They found that higher CRP levels were associated with premenstrual mood changes, abdominal cramps or back pain, appetite cravings, weight gain or bloating, and [breast pain](#), but not with premenstrual headaches.

The analyses also indicated that abdominal cramps and breast pain were reported more by Hispanic women. In addition, all symptoms were reported less by Chinese and Japanese women and more by women in the initial stages of the menopause transition.

"Our results show that the physiology of premenstrual symptoms is likely complex, and that probably not all symptoms should be treated or prevented in the same way," Gold said.

The study provides a good start to a more thorough understanding of premenstrual symptoms, especially because it included a large, diverse, community-based sample of women, according to Gold. Because of the limits of cross-sectional analyses, however, the results do not define the timing of inflammation in relation to the symptoms.

"Our next step will be prospective analyses of SWAN data to determine if inflammation precedes and thus may be causally related to premenstrual symptoms," Gold said. "We also want to examine the nature of the role of hormonal factors in the onset of symptoms. Our hope is ultimately to provide [health care providers](#) with information they can use in reducing [premenstrual symptoms](#) for those affected."

More information: Ellen B. Gold et al, The Association of Inflammation with Premenstrual Symptoms, *Journal of Women's Health* (2016). [DOI: 10.1089/jwh.2015.5529](https://doi.org/10.1089/jwh.2015.5529)

Provided by UC Davis

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