

## Nighttime hot flashes may spark mild depression

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A woman's perception that she is experiencing a high number of nighttime hot flashes can trigger mild symptoms of depression during menopause, according to a new study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism*.

Menopause occurs when a woman's ovaries stop producing estrogen and other hormones, and her menstrual periods stop, according to the Hormone Health Network. The transition takes place gradually, usually over four or five years. Among American women, the average age for menopause to occur is 51 years old. The Hormone Health Network's interactive Menopause Map helps women learn more about the stages of menopause and where they are in the journey.

Using a medication to simulate the decline in a <u>woman</u>'s estrogen levels during menopause, the researchers found both interruption of sleep and greater frequency of perceived nighttime hot flashes were associated with mood disturbance.

"When women were awake long enough to later recall nighttime hot flashes, that perception contributed to mood disturbance in women whose estrogen levels had fallen," said the study's first author, Hadine Joffe, MD, MSc, of Brigham and Women's Hospital and Dana Farber Cancer Institute at Harvard Medical School in Boston, MA. "The association was independent of sleep disruption that the women experienced."



Twenty-nine healthy, premenopausal women between the ages of 18 and 45 took part in the study. The women took a medication to suppress estrogen production in the ovaries for a four-week period, a treatment that mimics menopause and induces menopausal symptoms to varying degrees of intensity. Before and after the four-week timeframe, researchers monitored the participants' sleep and hormone levels. The participants completed mental health questionnaires at the beginning and end of the study.

The study found that women who reported experiencing frequent nighttime hot flashes were more likely to experience mild symptoms of depression than those who reported fewer or no nighttime hot flashes. Although researchers also monitored the women for physiologic signs of nighttime hot flashes during the sleep study, they found only the women's perception of hot flash frequency—not the measured number of hot flashes—was linked to changes in mood.

Women who experienced sleep interruption also were more likely to exhibit symptoms of depression than women who got more sleep. Daytime hot flashes had no effect on the participants' mood.

"The results of our research suggest menopausal women who report experiencing nighttime hot flashes and sleep disruption should be screened for mood disturbances," Joffe said. "Any treatment of mood symptoms in this population also should incorporate efforts to address sleep and nighttime hot flashes."

**More information:** "Independent Contributions of Nocturnal Hot Flashes and Sleep Disturbance to Depression in Estrogen-deprived Women," *Journal of Clinical Endocrinology & Metabolism*, press.endocrine.org/doi/10.1210/jc.2016-2348



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