

# Exposure to environmental chemicals may disrupt sleep during menopause

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For menopausal women who have difficulty sleeping, it might be because of chemicals in the environment. A new study based on data from the Midlife Women's Health Study suggests that exposure to various chemicals, such as phthalates, found in hundreds of products used daily, is associated with sleep disruptions in midlife women. Study results are published online today in *Menopause*.

Up to 60% of women in the menopause transition experience sleep difficulties. Women who have trouble falling asleep are at greater risk of developing [persistent depression](#) that can lead to worse health outcomes, may require more [medical care](#), and increase absenteeism.

Earlier studies have shown that such sleep disruption is the result of decreasing [hormone levels](#). Exposure to endocrine-disrupting chemicals (EDCs), however, is one largely unexplored area that may help to explain the increased prevalence of sleep difficulties in midlife women. Phthalates are common EDCs that are found in industrial plasticizers and chemical stabilizers. Phthalates increase the performance of everything from food packaging and clothing to cosmetics and children's toys. Personal care products, in particular, represent a major area of exposure.

Although everyone is exposed to phthalates, they appear to concentrate more in women than men. A previous study suggested that increased exposure to phthalates from [personal care products](#) significantly increased the risk of hot flashes. Other studies have demonstrated associations between phthalate exposure and the likelihood of waking up

at night, as well as the risk of suffering from depression.

Since phthalates are known to modulate the hormones associated with sleep and depression, researchers in this latest study surmised that they may be directly or indirectly associated with sleep in midlife women. This study, based on data gathered from more than 760 premenopausal and perimenopausal women, suggests that the frequency of [sleep disruptions](#) is associated with urinary concentrations of phthalates. It is the first known study to document this association. The relationship, however, appears complex, because other variables, such as smoking status, have been shown to influence the effect. More research is warranted to fully understand this association, as well as the underlying mechanisms of how hormones and EDC exposure influence sleep, particularly in midlife women.

Study results appear in the article "Associations of phthalate exposure and endogenous hormones with self-reported sleep disruptions: results from the Midlife Women's Health Study."

"This study raises concerns and additional questions about a possible contribution of phthalates to sleep disturbances in premenopausal and perimenopausal women. Additional research into these endocrine-disrupting chemicals and their interactions with hormones, sleep, and mood in midlife women is needed," says Dr. Stephanie Faubion, NAMS medical director.

Provided by The North American Menopause Society

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