

**EMBARGOED UNTIL 12:01 A.M. EST
WEDNESDAY, JANUARY 22, 2025**



The
**Menopause
Society™**

Leading the Conversation

Contact:

The Menopause Society

Ella Adams (eadams@fallsandco.com)

Phone: (216) 696-0229

Traffic-Related Air Pollution May Be Hazardous for Women’s Mental Health

New study suggests that this specific type of pollution is associated with depression; sociodemographic status and reproductive health factors also play a role

CLEVELAND, Ohio (Jan 22, 2025)—It is no secret that air pollution of any kind is bad for our health. Recently, though, there has been more focus on the association between traffic-related air pollution (TRAP) and depression specifically. A new study not only supports previous findings about this association but also identifies the mediating effects of menstrual cycle characteristics. Results of the study are published online today in *Menopause*, the journal of The Menopause Society.

Thanks to population growth and urbanization, nearly one-quarter of the US population now live in proximity to high-volume roadways, exposing these persons to hazardous TRAP, which includes particulate matter and nitrogen oxides. The adverse health outcomes, including psychiatric health conditions, of such exposure have been well documented.

Multiple studies have already examined the association between TRAP and depression, including a study that suggested that women are more vulnerable to the psychiatric effects of TRAP exposures than men. A number of these studies confirmed that the closer the distance to the traffic, the greater the depressive symptoms, regardless of whether the exposure was short or long term.

What the previous studies lacked, however, was the examination of whether these linkages are independent of key variables such as sociodemographic factors and overall reproductive health. With respect to sociodemographic factors, there are obvious racial or ethnic and socioeconomic disparities in TRAP exposures. That’s because minority and poorer populations are more likely to live in high-traffic areas.

TRAP exposures in midlife women have also predicted aspects of body composition, including fat mass, proportional fat mass, and lower lean mass, as well as the risk for type 2 diabetes. From a reproductive health standpoint, TRAP exposures have been linked to a number of adverse outcomes, including an earlier age of puberty, menstrual cycle irregularity, reduced fertility, and negative birth outcomes.

In this latest study focused on the depressive effects of TRAP exposure, regression analyses were done on nearly 700 healthy reproductive-aged women involved in the Ovarian Aging Study. Researchers concluded that TRAP exposure is related to depression in women, and this association is independent of a host of sociodemographic and health factors, as well as menstrual cycle characteristics. Additionally, however, it found that the association between TRAP exposure and depression may be partially mediated by menstrual cycle characteristics, reflecting reproductive health status more broadly.

Study results are published in the article “Traffic pollution, reproductive health, and depressive symptoms in a healthy multiethnic sample of reproductive age women in the Ovarian Aging Study.”

“This study highlights the association between traffic-related air pollution and depression in reproductive-aged women. The findings also showed a significant independent effect of socioeconomic status (SES) and reproductive health factors on risk for depression. The SES-depression links are especially troublesome because TRAP exposures disproportionately burden lower SES people, potentially setting the stage for a clustering of risk factors for poor mental health in vulnerable persons,” says Dr. Stephanie Faubion, medical director for The Menopause Society.

For more information about menopause and healthy aging, visit www.menopause.org.

The Menopause Society (formerly The North American Menopause Society) is dedicated to empowering healthcare professionals and providing them with the tools and resources to improve the health of women during the menopause transition and beyond. As the leading authority on menopause since 1989, the nonprofit, multidisciplinary organization serves as the independent, evidence-based resource for healthcare professionals, researchers, the media, and the public and leads the conversation about improving women’s health and healthcare experiences. To learn more, visit menopause.org.