Exposure to green space linked to reduced risk of postpartum depression

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"This study adds important new data that helps us understand what environmental improvements can be made to help postpartum mothers adjust to their new lives after the birth of their child," says senior and corresponding author Jun Wu, UCI professor of environmental and occupational health. Credit: Steve Zylius / UCI

In an analysis of more than 415,00 electronic health records of healthy, full-term births in Southern California, a team of researchers led by the

University of California, Irvine, determined that exposure to green space and tree coverage was associated with a decreased risk of postpartum depression among mothers.

The study, published online today in the journal *The Lancet Regional Health—Americas*, suggests that researchers, city planners and public health professionals should work together to develop policies and interventions that increase the amount of tree coverage to create a beneficial environment for community members—especially new mothers who are at risk of postpartum depression.

"This is the first study of its kind that examined the relationship between diverse green spaces, postpartum depression and the role of physical activity," said senior and corresponding author Jun Wu, Ph.D., professor of environmental and occupational health in UCI's Program in Public Health. "We were able to show a reduced risk of postpartum depression associated with eye-level exposure to green space on the streets of the neighborhood, and that reduction was further mediated by physical activity."

According to the Centers for Disease Control and Prevention, one in eight women who recently gave birth experience symptoms of postpartum depression, and if left untreated, the condition can impact the mother's health and may cause sleeping, eating and behavioral problems for the baby.

The UCI team set out to fill a gap in research about the relationship between green space and postpartum depression. Existing studies only covered prenatal depression and relied solely on satellite-based green space data, without considering the types of green space or the mediating role of physical activity.

Analysis of the electronic health records of 415,020 singleton births to

women residing in Southern California between 2008 and 2018 revealed that the highest reduction in risk of PPD was associated with a street-level view of green space, compared to, say, proximity to a park.

"The postpartum depression risk decreased by approximately 4.2% with each 10% increase in street-view green space," said lead author Yi Sun, a former UCI postdoctoral scholar now a researcher at Peking Union Medical College. "Tree coverage showed stronger protective effects against postpartum depression versus other types of green space (i.e., low-lying vegetation and grass)."

Furthermore, the researchers found that increased physical activity during pregnancy was a plausible pathway linking green space to lower risk of postpartum depression.

More information: Yi Sun et al, Association between urban green space and postpartum depression, and the role of physical activity: a retrospective cohort study in Southern California, *The Lancet Regional Health—Americas* (2023). DOI: 10.1016/j.lana.2023.100462

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