

Social inequity linked to lower use of epidural in childbirth

February 1 2024



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In a study of women in labor in the U. S., social inequity was associated with lower use of neuraxial analgesia—an epidural or spinal pain reliever— among non-Hispanic white women and, to a greater extent,

among African American women, according to research at Columbia University Mailman School of Public Health and Columbia Vagelos College of Physicians and Surgeons (P&S). The results are published online in *Obstetrics & Gynecology*.

Neuraxial analgesia, which can be a combined spinal and epidural analgesia, is the most effective technique to relieve pain during labor. It also helps reduce severe maternal morbidity.

The new study suggests that addressing social [inequity](#) in education, employment, and [criminal justice](#) represents a promising pathway to improve [pain management](#) for childbirth and reduce [racial disparities](#) in maternal health outcomes.

About three-quarters of women in labor receive neuraxial analgesia in the U. S. Compared with white women, African American women are about 10% less likely to receive neuraxial analgesia during labor.

Mechanisms accounting for the lower use of labor neuraxial analgesia among African American women include patient preference—because of insufficient prenatal education on pain management options during labor—and reduced access to labor neuraxial analgesia in the delivery hospital which can be due to lack of a 24/7 dedicated obstetric anesthesia team.

"Social inequity and racism could be significant contributors to racial and ethnic disparities in labor neuraxial analgesia use," said Jean Guglielminotti, MD, Ph.D., assistant professor of anesthesiology at Columbia P&S, and first author.

"Racism—including structural, institutional, and interpersonal racism- is suggested as a root cause of racial and ethnic disparities in perinatal care access and utilization in the U.S."

To assess the association between social inequity and use of labor neuraxial analgesia, the researchers used data of 1.7 million African American and white women in labor in 45 U.S. states and the District of Columbia in 2017 provided by the CDC. Social inequity was calculated using an index based on Black-to-white inequity ratios in low education rates, unemployment rates, and incarceration rates.

The average age of the women was 29 years, of which 23% were African American. In counties with the highest social inequity index, labor neuraxial analgesia was used by 78% of white women and by 72% of African American women. After adjusting for demographic and clinical characteristics, African American women had a 17% decreased odds of receiving labor neuraxial analgesia compared with white women.

In the study, social inequity was measured based on data for the county of the delivery hospital. Compared to counties with low social inequity, giving birth in counties with high social inequity was associated with a 16 percent decreased use of neuraxial analgesia for white women and a 28% decreased used for African American women.

"A notable finding of our study is that social inequity negatively impacts both white and African American women.," observed Guglielminotti. "A potential explanation is that inequities negatively impact all people that enter the [health care system](#), because the system is not operating at an optimal level when racism undermines policies, practices, and procedures."

In 2021, the American Society of Anesthesiologists issued recommendations for reducing racial and ethnic disparities and mitigating the effects of racism on obstetric anesthesia care, targeting anesthesiologists, nurse anesthetists, and department chairs.

These recommendations included: ensuring accurate documentation of

race and ethnicity and primary spoken language; creation of disparities dashboards to track changes over time; education of attending anesthesiologists and nurse anesthetists on racial and [ethnic disparities](#) in anesthesia care and the roles of bias, institutional, and structural racism; development of best practices for shared decision-making when discussing labor neuraxial [analgesia](#); and diversifying the anesthesia workforce in their department.

"Our research suggests that interventions to improve socioeconomic equity and justice may help reduce disparities in obstetric anesthesia care and maternal health outcomes, and benefit all women regardless of race and ethnicity," said Guohua Li, MD, DrPH, professor of Epidemiology and Anesthesiology at Columbia Mailman School and P&S, and senior author.

Co-authors are Allison Lee and Ruth Landau, Columbia University Vagelos College of Physicians and Surgeons; and Goleen Samari, USC Keck School of Medicine and formerly of Columbia Mailman School of Public Health.

More information: Structural Racism and Use of Labor Neuraxial Analgesia Among Non-Hispanic Black Birthing People, *Obstetrics and Gynecology* (2024). [DOI: 10.1097/AOG.0000000000005519](https://doi.org/10.1097/AOG.0000000000005519)

Provided by Columbia University's Mailman School of Public Health

Citation: Social inequity linked to lower use of epidural in childbirth (2024, February 1) retrieved 12 May 2024 from <https://medicalxpress.com/news/2024-02-social-inequity-linked-epidural-childbirth.html>

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