

## Study finds reasons for accumulated stress levels more complicated than thought

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said there was growing interest in the impact of stress on women's health, including lifetime accumulated stress and the psychological toll of having to repeatedly respond to stress. Credit: St. Michael's Hospital

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Study author Dr. Pat O'Campo, a researcher with the Centre for Urban Health Solutions of St. Michael's Hospital, said there was growing interest in the impact of [stress](#) on [women's health](#), including lifetime accumulated stress and the psychological toll of having to repeatedly respond to stress.

In a study published today in the journal *Social Science & Medicine*, Dr. O'Campo compared the "allostatic load" of African-American, Latina and Caucasian women enrolled in a large longitudinal health disparities study in the United States.

"Allostatic load" is an emerging concept that refers to the biological "wear and tear on the body," which grows over time as a person is exposed to repeated or chronic stress.

Dr. O'Campo's team developed a list of 10 biomarkers to determine the "allostatic load" of each of the 1,766 women in the study: Body Mass Index, waist-hip ratio, systolic and [diastolic blood pressure](#), pulse, high-sensitivity C-reactive protein (a protein that increases in the blood with inflammation and may play a role in predicting the risk of developing cardiovascular disease), blood sugar levels over time (HbA1c), levels of "good" cholesterol, total cholesterol and levels of the [stress hormone](#)

[cortisol](#). Women who fell outside the clinical cutoffs for each biomarker were given one point, up to a maximum of 10.

The average allostatic load scores were 4.65 for African-Americans, 4.57 for Latina and 3.86 for Caucasians.

Dr. O' Campo said researchers then adjusted the numbers to account for what they assumed were the factors behind the discrepancies: household poverty, neighbourhoods, self-reported stress and resilience to stress. But that explained only 36 per cent of the high AL for African-American women compared to Caucasian women and only 42 per cent of the excess risk for Latinas compared to Caucasians.

"There remained a significant unexplained inequality between African-American and Latina women as compared to Caucasians even after adjustment for this set of variables," said Dr. O'Campo, who has a PhD in social epidemiology.

One explanation could be that this study looked at the women's current economic and health situation rather than their lifetime income levels, for example, she said. Another explanation could be that more social determinants of health need to be studied such as employment and housing status.

Dr. O'Campo noted that while there has been considerable research on women's health prior to and during pregnancy, this study focused on women at least one year after giving birth who were not pregnant again.

"Women's health during the childbearing years is important for reproductive health," Dr. O'Campo said. "But postpartum health status can promote or hinder healthy aging."

The women in this study were part of the Community Child Health

Research Network developed to examine how community-, family-, and individual- level stressors may influence and interact with biological factors to affect maternal and child health. It was conducted in three urban sites (Washington, D.C., Baltimore and Los Angeles County), one suburban site (Lake County, Il.) and one rural site (seven counties in eastern North Carolina).

Provided by St. Michael's Hospital

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