

Residential segregation may increase risk for high blood pressure

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Black and Hispanic adults who live in racially segregated neighborhoods may be more likely to develop high blood pressure than their peers who live in nonsegregated communities, a new study shows. The same was not true for Chinese adults.

But the gap begins to close if people in those segregated [neighborhoods](#) feel safe and socially connected to one another, researchers found. The findings were published Thursday in the *Journal of the American Heart Association*.

"The chronic stress from living in a segregated neighborhood with limited access to services, education and economic opportunities can increase the risk of hypertension," said lead study author Mahasin Mujahid, an associate professor of epidemiology at the University of California School of Public Health in Berkeley. "But a positive social environment can be beneficial in reducing that chronic stress."

High blood pressure, also called hypertension, is a major risk factor for heart attacks, strokes and other [health issues](#), including dementia. In the U.S., hypertension rates among Black adults are among the highest in the world, affecting more than half of both men and women. And while Hispanic and Asian adults are less likely than their white counterparts to develop [high blood pressure](#), they also are less likely to get blood pressure under control once hypertension sets in.

Previous research shows segregation plays a significant role in creating health disparities among racial and ethnic groups. Segregation is the result of past and present discriminatory policies based on race, such as mortgage redlining, urban renewal and systemic barriers to educational and economic opportunities. The associated lack of investment in predominantly Black and Hispanic neighborhoods often results in places with fewer safe places to play and walk and less access to fresh foods and produce, said Mujahid, "which impacts diet and physical activities

and increases blood pressure."

In the new study, researchers tracked the development of hypertension over an average seven years of follow-up among 1,937 Black, Hispanic and Chinese adults. Participants were in their mid-to-late 50s, living in segregated and nonsegregated neighborhoods in six U.S. cities. By the end of the study, 66% of Black, 54% of Hispanic and 48% of Chinese participants had high blood pressure, which the researchers defined as a reading of at least 140/90 or taking blood pressure-lowering medication.

Black and Hispanic residents of segregated neighborhoods were 33% more likely to develop high blood pressure than their peers who lived in nonsegregated neighborhoods. They found no statistically significant difference in hypertension risk among Chinese adults living in segregated versus nonsegregated neighborhoods, which researchers said possibly was due to the small number of Chinese participants.

For Black residents of segregated neighborhoods, but not for Hispanic residents, that risk was somewhat lower when they reported a positive social environment. This included factors such as the aesthetic quality of the neighborhood, how safe people felt and whether they had good relationships with their neighbors. The more positive aspects the social environment included, the lower the residents' chances of developing high blood pressure.

"The pattern of racial segregation we see today was produced by policies that prevented Black, Hispanic, Asian and Indigenous people from buying or owning homes, attending high-quality schools, and pursuing economic opportunities in well-resourced, predominantly white neighborhoods," Mujahid said. "To cope with these oppressive limitations, minoritized communities frequently developed internal support systems to take care of each other."

For example, in neighborhoods where people are more socially connected, neighbors may have more supportive relationships that allow them to informally exchange services such as child care, which can make life easier, she said.

The new study "builds on the fact that where you live and who your neighbors are has an important effect on your health," said Dr. Girish Kalra, a senior cardiology fellow at the University of California's David Geffen School of Medicine in Los Angeles.

Kalra co-wrote an editorial published concurrently with the study in which he points out that living in a racially segregated neighborhood is just one factor contributing to the significant health disparities found among racial and ethnic groups in the United States. Other factors—called social determinants of health—include income, education, employment, health care access, housing, food insecurity and social inclusion.

Like segregation, other social determinants of health often are shaped by structural racism, which has historically dictated where racial and ethnic minorities could live, work, go to school and seek medical attention, Mujahid said.

This latest research showed Black and Hispanic adults who lived in segregated neighborhoods had lower education levels and income than those in nonsegregated neighborhoods. Black adults in segregated communities also were less likely to have health insurance than their nonsegregated peers. Investigators used statistical models to adjust for those variables—all of which are known to be associated with developing hypertension and other health problems—in order to gage the effect of segregation.

Despite these adjustments, Black and Hispanic participants living in

segregated neighborhoods still had a greater risk for high blood pressure than their nonsegregated peers. Chinese participants, however, had similar levels of education, insurance and income regardless of where they lived and didn't have an increased risk. "This may suggest varying effects of own-group racial segregation based on whether the neighborhood in question is disproportionately Black, Hispanic, or Chinese," Kalra wrote in the editorial.

Mujahid said she'd like to see more research on how other facets of structural racism contribute to health disparities.

"Segregation is only one mechanism that distributes resources and risks unequally along racial lines," Mujahid said. "More studies are needed to understand additional mechanisms of structural racism—such as gentrification, evictions and environmental racism—that influence neighborhoods where people of color live. Studies should also examine how all of these forces operate together to produce persistent racial and ethnic [health](#) inequities."

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