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Disparities in cardiovascular risk based more on socioeconomic status than race, ethnicity

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A new UCLA study suggests that disparities in cardiovascular disease risk in the United States are due less to race or ethnicity than to socioeconomic status.

In the study, published in the August issue of the journal *Annals of Epidemiology*, researchers from the David Geffen School of Medicine at UCLA and colleagues found that there are large differences in risk by socioeconomic status within racial and ethnic groups — with the poorest individuals having the highest risk — but that there are few differences in risk between racial and ethnic groups.

"Most ethnic differences in cardiovascular risk are really due to socioeconomic differences between the races in the U.S. — except for one outstanding exception," said lead researcher Dr. Arun Karlamangla, an associate professor of medicine in the division of geriatrics at the Geffen School of Medicine. "Foreign-born Mexican Americans, as opposed to Mexican Americans born here, are healthier than everyone else, and this may have less to do with ethnicity or genes than with migration patterns."

Previous studies have found large differences in health outcomes by both socioeconomic status and race and ethnicity, and these are thought to be due to differences in access to care, health behaviors, and levels of economic and social stresses, which have been linked to heart disease.

Racial disparities in health have also raised the question of whether there

is a genetic component to these differences, but it has been difficult to untangle real racial and ethnic disparities from socioeconomic disparities because of the higher numbers of socioeconomically disadvantaged individuals in minority racial and ethnic groups.

Using data from 12,154 individuals in the National Health and Nutrition Examination Survey (2001□□), the study authors examined the 10-year risk for coronary heart disease — as predicted by the National Cholesterol Education Program Adult Treatment Panel III guidelines, updated in 2004 — as well as the prevalence of metabolic syndrome and overt diabetes mellitus, a major contributor to coronary heart disease risk, among various racial and ethnic groups.

To separate out socioeconomic risk differences from racial and ethnic differences, the researchers examined socioeconomic disparities separately within the racial and ethnic groups, which included non-Hispanic whites, non-Hispanic blacks, U.S.-born Mexican Americans and foreign-born Mexican Americans (those born in Mexico but living in the U.S.). They also examined racial and ethnic differences among individuals from the same socioeconomic stratum.

The researchers found that the lower the socioeconomic status, the higher the risk — in all racial and ethnic groups. A large fraction of the difference in cardiovascular and diabetes risk could be linked to differences in lifestyle. For instance, there is more smoking, less physical activity and more obesity among the poor.

By contrast, the researchers found inconsistent racial and ethnic risk disparities in some —though not all — socioeconomic strata. Non-Hispanic blacks and Mexican Americans born in the U.S., for example had higher risk, but Mexican Americans born in Mexico had lower risk.

This surprising finding could be explained by selection pressures in

migration, according to Karlamangla.

"Only the healthy are able to migrate here, and the unhealthy go back for their care," he said.

The researchers did note some limitations in the study, such as false discovery stemming from the multiple testing for disparities within four racial and ethnic groups and three socioeconomic strata, and the possibility that effects of health behaviors on risks can vary by ethnicity, which makes it more difficult to control for these factors.

Still, "this large national study documents strong, inverse socioeconomic gradients with coronary heart disease risk in all race/ethnicity groups, and demonstrates that race/ethnicity disparities in risk are primarily due to socioeconomic differences between the groups," the researchers conclude. "Socioeconomically disadvantaged individuals need to be specifically targeted for early risk detection and management and health behavior counseling if we are to improve the cardiovascular health of the nation."

Provided by University of California - Los Angeles