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Study Says Race, Gender and Geography Predict Poorer Health With HIV

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HIV-positive women, nonwhites and people residing in the Southern United States had poorer health than HIV-positive men, whites and people residing outside the South—despite having nearly equal access to antiretroviral (ARV) therapy. These data, published online January 18 in The Journal of Infectious Diseases, suggest there might be significant challenges in achieving the goals of the 2010 National HIV/AIDS Strategy.

Disparities in HIV care, overall health and risk of death between women and men, and between white and nonwhite individuals in the United States have been noted in multiple studies. In particular, such studies have shown that race and gender affect multiple aspects of HIV health and treatment, including late entry into care and HIV testing, later initiation of ARV therapy and poorer adherence to treatment. Few studies have looked, however, at the intersection of race and gender and simultaneously examined how geography may contribute to differences in health among people with HIV.

To explore these factors, Amie Meditz, MD, from the University of Colorado in Denver, and her colleagues examined data from the Acute Infection and Early Disease Research Program (AIEDRP) cohort study, which took place primarily in North America and Australia between 1997 and 2007 and followed 2,277 individuals newly infected with HIV.

Most of the participants were men—only 5.4 percent were women. There were also differences between the male and female participants. Most of the men were white (77 percent), while the majority of women enrolled were nonwhite (55 percent). Nonwhite was defined as either black, Hispanic or other races. Women were also far more likely to be from the Southern United States and to have a history of injection drug use than men.

Generally, women started the study with lower viral loads and higher CD4s than men, and they reported fewer symptoms—such as fever or rash—during the earliest stages of infection.

Though viral load and CD4 counts differed by gender and race initially, these differences largely disappeared within six months after a person started ARV therapy. There remained, however, significant differences in other measurements of health and HIV disease progression.

White women were more likely to start ARVs than white men, and white participants were more likely than nonwhite participants to start ARVs at any time over an average follow-up time of four and a half years. Participants from the Southern United States were also less likely to start ARVs during the follow-up period than participants residing outside the South. This remained true even after controlling for people with a CD4 count of less than 200 before 2004 and less than 359 after 2004. In 2004, the U.S. HIV treatment guidelines began recommending that treatment be started when CD4s dropped below 350, where previously the threshold had been 200 CD4s.

Looking at race and sex in regards to health status, women (particularly nonwhite women) had more HIV-related health problems than others when controlling for most factors, including a history of intravenous drug use. Nonwhite women were twice as likely as nonwhite men, three times as likely as white men, and more than eight times as likely as white women to have a CD4 count under 200 at any time point. Women (overall) were also more than twice as likely as men to have a non-AIDS-related health problem, and nonwhite women had more AIDS-related and non-AIDS-related problems than all other groups.

The authors note that such differences have not been commonly observed outside of the United States but have commonly showed up in U.S. studies. They write: “Collectively, these data suggest that sex differences in HIV related morbidity observed in this study are not biologically based but are the result of socioeconomic conditions specific to the United States.”

The authors acknowledge the limitations of their study. In particular, there were few women in the study and few nonwhite men. Even the geographical data were unbalanced: 58 percent of the men enrolled were in Western states, compared with only 7 percent of the men enrolled residing in the South. This limits the conclusions that may be drawn from the study, though much of the data are consistent with other studies examining race and gender in HIV care and treatment.

People in the study were also followed much more closely than people in the average medical setting and were more likely to start and stay on ARV therapy than has been observed in other studies. This, the authors warn, means that the study probably significantly underestimated the disparities in health they found: especially those by sex, race and region.

In all, they explain, “Data from this study suggest that differential use of [ARV therapy] cannot entirely explain elevated [illness] in nonwhites and women, but that socioeconomic factors associated with residence in the South and nonwhite race may play a role.”

According to an accompanying editorial, the study results suggest that the discrepancies they found in health and mortality “threaten the success” of the goals of the National HIV/AIDS Strategy released in 2010. Those goals include having all people with HIV know their HIV-status and be engaged in care—both for their own health and as a means to reduce transmission to others.

“Socioeconomic factors…represent complex challenges that are beyond the traditional influence of public health. A collaborative policy and research effort across all levels of community, government and science must be undertaken if we hope to meet the goals of the National HIV/AIDS Strategy,” conclude the editorial’s authors.