

Sex, race, and geography influence health outcomes following primary HIV infection

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Women, nonwhites, and people in the southern United States who were newly infected with HIV and followed for an average of four years experienced greater HIV/AIDS-related morbidity compared to men and people of other races living in other regions of the country. The findings, published in the February 15 issue of *The Journal of Infectious Diseases*, underscore the urgent need to improve the health of these populations in order to reduce HIV-related morbidity and mortality in the U.S. (Please see below for a link to the embargoed study online.)

The researchers did not expect women to show the worst [health outcomes](#) because their viral loads were lower and CD4+ T cell counts were higher than men's following diagnosis, reported study author Amie L. Meditz, MD, of the University of Colorado- Denver. (The study was part of the Acute Infection and Early Disease Research Program, a multicenter study network funded by the National Institute of Allergy and Infectious Diseases.) However, during the course of the study (1997-2007), the frequency of HIV-related illnesses in women was more than double that of men, with nonwhite women having the most negative outcomes. After eight years of infection, HIV-related events affected 64 percent of nonwhite women, and AIDS-defining events occurred in 22 percent of nonwhite women. In comparison, HIV-related and AIDS-defining events occurred in 21 percent and 6 percent of individuals in other combined race and sex groups, respectively.

The data representing subjects from the southern U.S. show that race and region play a major role in health outcomes of both women and men

infected with [HIV](#). Eight years following their diagnosis, 78 percent of nonwhites and 37 percent of whites in the southern U.S. had experienced one or more HIV/AIDS-related event, compared to 17 percent of nonwhites and 24 percent of whites in other geographic locations.

According to the investigators, race-sex differences in response to antiretroviral therapy were nonexistent. The researchers observed that nonwhite women and men and individuals from the South were not as likely as white men and individuals from other regions of the U.S. to initiate antiretroviral therapy. Nevertheless, use of antiretroviral therapy only explained part of the differences in outcomes. The authors hypothesized that the disparities could be attributed to the influence of socioeconomic factors, including "access to health care, health behaviors, lifestyle, and environmental exposures." Delayed therapy may be one factor affecting increased morbidity in HIV-infected individuals living in the South; however, socioeconomic factors probably also play a role.

In an accompanying editorial, Carlos del Rio, MD, and Wendy S. Armstrong, MD, of Emory University's Center for AIDS Research in Atlanta, commented on the challenges presented in the study. The likelihood of HIV-infected individuals seeking care depends on factors not related purely to biology, and it is critical to consider socioeconomic factors when developing care strategies for these individuals. They noted that "[socioeconomic factors](#) play a much more important role in determining HIV disease outcomes, both at an individual as well as at a population level, and although theoretically modifiable, they represent complex challenges that are beyond the traditional influence of public health."

Dr. Meditz concluded that "understanding the causes of poor health outcomes among HIV-infected women, nonwhites and people from the South is a critical first step. In addition, development of strategies or

interventions to improve health outcomes in these populations is essential."

More information: Fast Facts:

- 1) The researchers evaluated data from more than 2,000 primarily North American patients who were identified within a year of acquiring HIV infection and then were followed for an average of four years.
- 2) The majority of men (77 percent) in the study were white, while the majority of women (55 percent) were nonwhite. Almost half (45 percent) of nonwhite women were from the southern U.S., and 79 percent of women from the South were nonwhite.
- 3) Antiretroviral therapy was less likely to be started at any time point by nonwhite women and men compared to white men and by individuals from the southern U.S. compared to others.
- 4) Women were 2.17-fold more likely to experience more than one HIV/AIDS-related event than men. Further, nonwhite women were most likely to experience an HIV/AIDS-related event compared to all others.
- 5) In the study, 78 percent of nonwhites and 37 percent of whites from the southern U.S. experienced more than one HIV/AIDS-related event eight years after diagnosis, compared to 24 percent of whites and 17 percent of nonwhites from other regions.

Provided by Infectious Diseases Society of America

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