

Socioeconomic position associated with effectiveness of HIV drugs

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Socioeconomic position is a determinant of antiretroviral treatment effectiveness during initial therapy for HIV-1 infection. The effect was found even among subjects with high rates of drug adherence, according to a study published in the August 1 issue of the *Journal of Psychosomatic Research*.

The study was conducted by a team of researchers from Harvard School of Public Health (HSPH), Massachusetts General Hospital, Stanford University Medical School, and the American Psychological Association.

The researchers used data from a clinical trial that recruited HIV-positive men and women in the U.S. and Italy who had not previously taken any HIV medications. The study participants were being treated with highly active antiretroviral treatment (HAART), a combination of antiretroviral drugs sometimes referred to as an AIDS “cocktail.”

Scientific literature suggests that stress and emotional distress predict a faster decline in the immune system cells that can fight HIV progression. Previous studies have shown that people at lower socioeconomic positions often report chronic life stressors. The HSPH team and its collaborators wanted to examine whether socioeconomic position would influence immune functioning and response to antiretroviral treatments, even if patients adhered to their antiretroviral drugs. The researchers used the educational level of subjects as a measure for socioeconomic position.

The study's authors documented the length of time until a participant first experienced a regimen failure, meaning that the drug combination had failed to maintain low HIV levels in the bloodstream or that HIV drugs had been changed or stopped. The researchers found that participants with lower levels of education reached initial regimen failure faster than participants with a college- or graduate-level degree.

However, participants with high levels of so-called "adherence self-efficacy," despite lower education levels, experienced a reduction in initial regimen failure by 15 to 17 percent. Adherence self-efficacy was described by the authors as a coping resource that reflected the strength of the patient's belief in the effectiveness of their medication and their ability to adhere to their treatment regimen. The authors suggest that one reason behind this association may be that coping styles are known to be associated with better immune functioning in individuals with HIV disease.

"These findings support health promotion programs focusing on psychological and behavioral aspects associated with therapeutic regimens, which might not otherwise be considered in the treatment of HIV," said Linda Marc, who led the research project while a Doctor of Science candidate in the Department of Society, Human Development, and Health at HSPH. Marc is now a lecturer at Yale School of Public Health and chair of the HIV/AIDS Special Interest Group for the International Society for Quality of Life Research.

Marc and her team also point out that the study's results may be particularly relevant to HIV care in the developing world. However, Marc noted, it is unknown if these results can be extrapolated to resource-poor settings because the trial was conducted with participants who live in developed nations. Marc added that since little is known about the impact of stressors on immune functioning in resource-poor settings, she believes there is a need to promote research methods in these parts of the

world that simultaneously examine biological and social factors.

“In this way, researchers can better understand the variations of immune functioning and determine what proportion of treatment failure is modifiable through social variables, in contrast to known biological factors of HIV treatment effectiveness,” she said.

Source: Harvard School of Public Health

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