Effect of Anxiety Symptoms on Adherence to Highly Active Antiretroviral Therapy in HIV-Infected Women

To the Editor: Psychiatric comorbidities are known to impair adherence to highly active antiretroviral therapy (HAART) in human immunodeficiency virus (HIV)–infected individuals[1] and to affect women and men differently.[2] To date, it is still controversial whether women are at higher risk of HIV progression[3] or nonadherence to HAART.[4] The VESPA survey, which enrolled a French representative sample of HIV-infected patients, was used here to assess whether psychiatric disorders affect HAART adherence differently in men and women.

Method. In this national cross-sectional survey (ANRS-EN12-VESPA study), conducted in 2003, 4,963 HIV-infected patients were recruited by random sampling in 102 French hospitals. We selected only participants receiving HAART with complete adherence and psychiatric disorders assessment (446 women and 1,363 men).

Adherence to HAART was measured by a validated indicator[5] with a 100% cutoff to minimize social desirability bias.[6] Nonadherence was reported by 42% of women and 39% of men. Anxiety and depression were assessed using the Hospital Anxiety and Depression (HAD) scale.[7] The prevalence of anxiety and depressive symptoms was, respectively, 63% in women and 49% in men and 24% in women and 22% in men.

Results. In the multivariate logistic regression model, in both women and men, we identified known correlates of nonadherence to HAART: patients who were younger, were migrant,[8] abused

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alcohol,[9] reported side effects,[10] and were employed were more likely to be nonadherent to HAART. Such factors have been commonly found as determinants of nonadherence to HAART in several contexts, particularly in disadvantaged populations whose adherence may be compromised by socioeconomic barriers and psychiatric comorbidities.[11] Interestingly, anxiety symptoms remained associated with nonadherence to HAART in men who had (OR [95% CI] = 1.5 [1.1–2.1]) and had not (OR [95% CI] = 1.5 [1.2–2.0]) received anxiolytics, while women with anxiety symptoms who had received anxiolytics exhibited the same adherence as women with no anxiety symptoms. To test whether these results were attributable to the limited sample size of women, we performed a sensitivity analysis in men using a series of reduced samples (n = 446) and computed OR estimations by bootstrap.[12] This approach confirmed the results that were found in the whole male sample.

Co-occurring anxiety disorders are more frequently associated with major depression in women.[13] Moreover, women are more sensitive than men to the pathogenic effects of low levels of social support at the onset of major depression,[14] and it is possible that the social impact of HIV may contribute further to the onset of psychiatric disorders. Confirming results from a previous study,[15] we found that women with alcohol abuse have a higher risk of nonadherence to HAART, and there is a significant linear trend ($P < 10^{-3}$) when men who abuse alcohol (OR [95% CI] = 2.1 [1.5–2.9]) or women who abuse alcohol (OR [95% CI] = 3.7 [2.0–7.1]) are compared with individuals who do not. Interventions to improve adherence in HIV-infected patients should be tailored according to gender; for HIV-infected women receiving HAART, such interventions should include women-oriented psychosocial counseling and improved screening and appropriate care for anxiety symptoms and alcohol abuse.

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