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Title: [Monitoring of HIV-Infected Cohort Receiving Antiretroviral Therapy in Houston/Harris County, Texas: Clinical Outcome and Treatment Response](#)

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Background: The clinical outcome and treatment response of HIV patients is helpful in determining when to initiate therapy and in providing prognostic information on HIV disease progression and response to therapy. The CD4 count and HIV viral load are two outcome values often used in HIV care to monitor disease progression. Finding disparities between groups with different demographics or clinical characteristics may help determine where additional resources may be needed in HIV care. This study determines clinical outcome and treatment response of HIV-infected patients who are receiving antiretroviral therapy (ART) and the effect of demographic characteristics and provider visits on clinical outcome and treatment response of an HIV-infected cohort in Houston/Harris County, Texas.

Methods: Data from a population-based behavioral surveillance project conducted in 2009 was used for this study. The data comprised of medical record abstractions of 398 HIV+ patients (≥ 18 years of age) receiving medical care in Houston/Harris County. CD4 cell count was described using median values over a 12-month period, while viral load was based on viral load suppression levels (detectable or undetectable). Outcome variables were compared between demographic characteristics (gender, age, and race/ethnicity) and clinical variables (number of healthcare visits, case management services, AIDS opportunistic infections, and depression). Data was subjected to statistical analysis using SAS 9.2 (SAS Institute Inc., Cary, NC, USA) procedures for complex survey data.

Results: Findings indicate that about 76% (95% CI: 69.7-82.0) of the study population were on antiretroviral therapy, 17.52% were at AIDS-defining stage (below 200 cells/ μ L), and 44% of patients receiving ART had undetectable viral loads. Females recorded significantly ($p < 0.05$) higher mean CD4 cell counts than males (461.44 cells/ μ L vs. 418.53 cells/ μ L). About 37% of the patients had undetectable viral loads with a male-female ratio of 3:1. Age category of patients was not significantly ($p > 0.05$) associated with viral load suppression. The race/ethnicity had no significant ($p > 0.05$) effects on CD4 cell count but was significantly associated ($p < 0.05$) with viral load suppression. Number of healthcare visits had no significant ($p > 0.05$) effects on CD4 cell count or viral load, and 73% of patients with detectable viral load counts did not receive case management services ($p < 0.01$).

Conclusion: This study concludes that the number of healthcare visits by patients beyond the standard four times a year had no positive effect on their clinical outcomes. The fact that a high proportion of patients who lacked case management services and also had detectable viral load suggests that effective case management may assist in improving the health outcomes of these patients.

Keywords: Antiretroviral therapy, CD4 count, viral load, demographics, Medical Monitoring Project, HIV/AIDS, Houston, Texas