

Validity of Self-reported CD4 Cell Count and HIV Viral Load among HIV-infected Patients in Houston/Harris County

Adebowale Awosika-Olumo, MD, MS, MPH; Salma Khuwaja MD, MPH, Dr.PH; Osaro Mgbere, PhD; Taiwo Fasantanti, MD; Brian Goldberg, BA; James Gomez, BS; Lydwina Anderson, BS and Karen Miller, MS

Background

The CD4 T-cell count and plasma HIV RNA (viral load) are two surrogate markers that are routinely used to determine indications for treatment and monitoring of the efficacy of therapy in HIV-infected persons. Therefore the most recent information on these two biomarkers is the strongest predictor of subsequent disease progression and survival among infected persons. The objective of this evaluation was to determine the level of validity of self-reported CD4 Cell count and HIV viral Load among HIV-infected Patients.

Methods

Pilot data from a population-based behavioral and clinical outcome cohort surveillance project conducted between December 2005 and March 2006 was used for this study. Data were obtained through in-person interviews and medical record abstractions of 46 patients (18 years and above) infected with HIV and receiving out-patient care in Houston/Harris County. The most recent CD4 count and viral load of patients during the last 12 months obtained from interview record was used. The latest available information for these markers in the medical record during last surveillance period was obtained. The overall validity was assessed using measure of agreement between self-reported and documented information from patients medical record, and further analyzed by patients characteristics using Kappa Statistics.

Results

The overall measure of agreement between self-reported and medical record abstraction record gave a significant ($P < 0.001$) Kappa value of 0.48 for Viral load, while a non-significant ($P > 0.05$) and low Kappa value of 0.043 was observed for CD4 count. Better levels of agreement were obtained when the patients' demographics and behavioral characteristics were considered.

Conclusion

The results indicate that some level of agreement exist between self-reported interview and medical record abstraction data. Improved sample size may reveal a different level of agreement between the two sources of data. However, information obtained from this type of evaluation could be useful in highlighting possible sources of biases in using self-reported CD4 cell counts and HIV viral loads for treatment and monitoring of therapy among HIV infected patients.