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Measurement of and factors affecting patients' adherence to anti-retroviral therapy in Helen Joseph Hospital, Johannesburg

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ABSTRACT

***Introduction**:* A study of adherence was conducted at the HIV Clinic of Helen Joseph Hospital, Johannesburg between June and September 2004. First it measured the level of adherence of patients (referred to as participants in this report) to antiretroviral medications. The relationship between adherence results and the viral load of the participants was explored. Factors such as treatment regimens, patient-provider relationship, patients' knowledge of HIV treatment, disclosure of HIV status and support for HIV positive individuals were also studied with regard to adherence to antiretroviral therapy.

***Methods**:* Out of a total eligible pool of 198 patients, 184 patients were included in the study, representing 92.9% response rate. Participants were interviewed using a questionnaire and their HIV RNA concentrations (viral loads) ascertained. Adherence was defined as >= 95% (higher adherence) if a participant missed 0-2 medication doses and < 95% (lower adherence) if >2 doses were missed over a 23-day recall period.

***Results*:** Reported missed medication doses = 0 for 82.6% (152/184), 1 for 9.6% (14/184), 2 for 2.2% (4/184), 3 for 3.8% (7/184), 4 for 2.2% (4/184), 5 for 1.1% (2/184) and 11 for 0.5% (1/184) of the sample. The adherence level of 92.4% (170/184) of the sample was >= 95% and that of 7.6% (14/184) was < 95% of expected doses. A total of 116 participants had undetectable HIV RNA concentrations (i.e. viral load <50 copies/ml) and 64 had detectable viral load. Among the higher adherence category of participants 67.7% (113/167) had undetectable viral load compared with 23.1% (3/13) of the lower adherence category (χ^2 = 10.46; p = 0.002). Participants who reported lower adherence had a mean $\log_{10}$ viral load of 2.90 compared to the higher adherence category with a mean $\log_{10}$ viral load of 0.81 (p<0.001). The mean duration of treatment for lower adherence category of participants was

7.2 months compared with 13.3 months for the higher adherent participants ($p = 0.025$). Overall, participants with higher adherence were over six times more likely than those with lower adherence of achieving undetectable plasma HIV RNA (OR = 6.98; $p = 0.004$). Inadequate knowledge about HIV treatment where participants never heard of treatment adherence ($p = 0.001$), viral load ($p = 0.001$), or Cd4 cell count ($p < 0.001$); where participants believed that drugs cure HIV ($p = 0.026$), that one can stop treatment if one feels better ($p < 0.001$); and participants not knowing that HIV treatment is for life ($p < 0.001$) were associated with lower adherence. Other factors which predicted lower adherence were dietary restrictions ($p = 0.007$), drug side effects ($p < 0.001$), forgetting medication doses ($p = 0.001$) and missing clinic appointments ($p = 0.001$). Higher adherence was more likely to be reported where provider could speak patients' preferred language ($p = 0.035$), assist patients with treatment difficulties ($p = 0.002$) and where provider was seen to be not too busy to listen to patients ($p = 0.044$). The method by which patients received information about HIV and its treatment did not affect reported adherence levels ($p = 0.805$). Disclosure of HIV status to both partner and family member ($p < 0.001$), and receiving social support from family members ($p = 0.007$) were found to be associated with reported higher adherence. Socio-demographic characteristics such as age ($p = 0.174$), gender ($p = 0.159$), level of formal education (0.107) as well as economic characteristics such as earning money ($p = 0.104$) and having a telephone ($p = 0.124$) were not associated with adherence to antiretroviral medications.

Conclusion: This study suggests that the HIV-positive patients in the HIV clinic of Helen Joseph Hospital can maintain a high level of adherence to regimen of antiretroviral treatment. However, there is a need to develop strategies to enhance educational

programmes and strengthen knowledge of HIV treatment among lower adherence category of patients, and to improve patients' self-management and care for mediation pills. Further research is recommended to assess broader psychosocial factors predicting adherence in this population, and to ascertain what really happens to ARV pills dispensed to patients.