

Multilevel of Factors Affected Optimal Adherence to Antiretroviral Therapy and Viral Suppression amongst HIV-Infected Prisoners in South Ethiopia: A Prospective Cohort Study

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Abstract : Objectives: Maintaining optimal adherence and viral suppression in people living with HIV (PLWHA) is essential to ensure both preventative and therapeutic benefits of antiretroviral therapy (ART). Prisoners bear a particularly high burden of HIV infection and are highly likely to transmit to others during and after incarceration. However, the level of adherence and viral suppression, as well as its associated factors in incarcerated populations in low-income countries is unknown. This study aimed to determine the prevalence of non-adherence and viral failure, and contributing factors to this amongst prisoners in South Ethiopia. Methods: A prospective cohort study was conducted between June 1, 2019 and July 31, 2020 to compare the level of adherence and viral suppression between incarcerated and non-incarcerated PLWHA. The study involved 74 inmates living with HIV (ILWHA) and 296 non-incarcerated PLWHA. Background information including sociodemographic, socioeconomic, psychosocial, behavioural, and incarceration-related characteristics was collected using a structured questionnaire. Adherence was determined based on participants' self-report and pharmacy refill records, and plasma viral load measurements which were undertaken within the study period were prospectively extracted to determine viral suppression. Various univariate and multivariate regression models were used to analyse data. Results: Self-reported dose adherence was approximately similar between ILWHA and non-incarcerated PLWHA (81% and 83% respectively), but ILWHA had a significantly higher medication possession ratio (MPR) (89% vs 75%). The prevalence of viral failure (VF) was slightly higher (6%) in ILWHA compared to non-incarcerated PLWHA (4.4%). The overall dose non-adherence (NA) was significantly associated with missing ART appointments, level of satisfaction with ART services, patient's ability to comply with a specified medication schedule and types of methods used to monitor the schedule. In ILWHA specifically, accessing ART services from a hospital compared to a health centre, an inability to always attend clinic appointments, experience of depression and a lack of social support predicted NA. VF was significantly higher in males, people of age 31-35 years and in those who experienced social stigma, regardless of their incarceration status. Conclusions: This study revealed that HIV-infected prisoners in South Ethiopia were more likely to be non-adherent to doses and so to develop viral failure compared to their non-incarcerated counterparts. A multitude of factors was found to be responsible for this requiring multilevel intervention strategies focusing on the specific needs of prisoners.

Keywords : Adherence , Antiretroviral therapy, Incarceration, South Ethiopia, Viral suppression

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