

# First Line Antiretroviral Treatment Failure among Patients on Highly Active Antiretroviral Therapy

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## ABOUT THE STUDY

Highly Active Antiretroviral Therapy (HAART) has substantially declined morbidity and mortality related to Human immunodeficiency virus/Acquired immunodeficiency syndrome (HIV/AIDS). Despite this fact, first-line ART failure has emerged as a growing concern. However, factors associated with first-line ART failure are not well empathized and studied. Hence, we aimed to identify the determinants of first-line ART failure among patients attending ART in Public Hospitals. A case control study was conducted in March 2018 on a sample of 384(288 controls and 96 cases) adult people living with HIV/AIDS (PLWHA). The case was an HIV patient aged 15 years or older treated with first-line ART therapy with documented treatment failure. The control was an HIV patient over the age of 15 who received first-line ART, but there was no evidence of treatment failure. The data was extracted from an electronic database and supplemented with data collected through interviewer-led surveys. Bivariate and multivariate logistic regression analysis was used. Using adjusted odds ratios and 95% confidence intervals, we reported independently related factors.

ART failure is a major challenge in managing HIV / AIDS in resource-constrained environments, where diagnosis and management of ART failure is an important issue. The documented findings showed that Virology and Immunologic failure was 23% and 21.6% respectively among PLWHA who were on ART as reported from Vietnam and India. In SSA countries, rates of first-line ART failure vary between 11.1% and 24%. Studies showed that East Africa has faced a high prevalence of immunologic failure which ranges from 8% to 57%; studies from South Africa indicated that 19% of PLWHA had developed virology and immunologic failure.

The present study has some limitations; this study has made use of secondary data where measuring the adherence status of the patients is based on health care providers' assessment, which is inadequate to detect poor adherence even though this method is often in clinical practice. Again, virology, immunologic, or clinical methods were used for the diagnosis of first-line ART treatment failure; however, measuring treatment failure with immunologic or clinical have poor sensitivity and specificity to detect first-line ART treatment failure. Finally, as a case control study, this study might face recall bias regarding the information given by the study participants

Health workers need to dedicate time with every patient to provide enhanced adherence counseling to improve adherence of patients towards ARV medication particularly for PLWHA who are urban residents, smokers, and those who stayed on HAART for a longer duration. The focus should be given to early screening and management of tuberculosis and other opportunistic infection among PLWHA. Monitoring and follow-up of adherence and ensuring proper use of ARVs is important to reduce failure of the first-line ART among the PLWHA who take ARVs for PEP. Physicians and other health workers should have strengthened monitoring and evaluating the adverse effects of ARVs and decide to change medications when it is mandatory. The findings of this study indicate the need for more dedication and effort from both health care providers and clients to act on the determinants so as to sustain the long-term efficacy of HAART and hence, achieve the ambitious target of 2030.

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