Attrition and associated factors among children diagnosed with HIV and enrolled in antiretroviral therapy in Ethiopia: a prospective cohort study

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Abstract

Introduction: Attrition from antiretroviral therapy (ART) programmes is a critical challenge among children receiving care in resource-limited settings. Our objective was to determine the rates and predictors of attrition among children on ART in Ethiopia.

Methods: Between December 2014 and September 2016, we conducted a prospective cohort study in eight health facilities in Ethiopia. Eligibility criteria included age 3 months–14 years; being on ART for not more than a month. Outcome was attrition due to death and/or loss to follow-up. Predictor variables were child clinical and socio-demographic characteristics, and caregiver socio-demographic characteristics. We used Cox Regression analyses to examine the association between predictors and outcome.

Results: Of 309 children, 304 were included, 52% were male. Their median age was 9 years (Inter-quartile range, IQR, 6–12). At ART initiation, their median CD4 was 362 cells/mm^3 (IQR 231–499); and 74.3% had WHO stage 1 or 2 disease. During 287.7 person-years of observation (PYO), 24 attritions were recorded, yielding an attrition rate of 8.3 per 100 PYO (95% CI 5.4–12.1). Of these, six children were reported dead, leading to a mortality rate of 2.1 per 100 PYO (95% CI 0.8–4.3). Eighteen were lost to follow-up (LTFU) leading to LTFU rate of 6.26 per 100 PYO (95% CI: 3.83–9.70). The majority, 14 (58%) of attrition occurred during the first six months of treatment. Age below three years [aHR]=5.14 (95% CI: 2.07–12.96), rural residence (aHR=3.97, 95% CI: 1.34–11.78) and baseline Hgb in g/dl<10 g/dl [aHR]=5.68 (95% CI: 2.03–6.23) predicted higher risk of attrition. Baseline Hgb<10 g/dl (aHR=16.63, 95% CI: 1.64–168.4) and WHO stage III or IV (aHR=12.25, 95% CI: 1.26–119.05) predicted the death of the child. Higher attrition was documented among children of both biological parents alive and biologically related close family caregivers.

Conclusion: Younger children, those from rural areas, and children with anaemia were at higher risk of attrition, especially during the early months of treatment, and therefore should be prioritized during treatment follow-up. Further studies should examine underlying reasons for higher attrition.

Biography

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