

Predictors of mortality in HIV-1 infected children on antiretroviral therapy in Kenya: a prospective cohort.

[Wamalwa DC](#), [Obimbo EM](#), [Farquhar C](#), [Richardson BA](#), [Mbori-Ngacha DA](#), [Inwani I](#), [Benki-Nugent S](#), [John-Stewart G](#).

Abstract

BACKGROUND:

Among children, early mortality following highly active antiretroviral therapy (HAART) remains high. It is important to define correlates of mortality in order to improve outcome.

METHODS:

HIV-1-infected children aged 18 months-12 years were followed up at Kenyatta National Hospital, Nairobi after initiating NNRTI-based HAART. Cofactors for mortality were determined using multivariate Cox regression models.

RESULTS:

Between August 2004 and November 2008, 149 children were initiated on HAART of whom 135 were followed for a total of 238 child-years (median 21 months) after HAART initiation. Baseline median CD4% was 6.8% and median HIV-1-RNA was 5.98-log₁₀ copies/ml. Twenty children (13.4%) died at a median of 35 days post-HAART initiation. Mortality during the entire follow-up period was 8.4 deaths per 100 child-years (46 deaths/100 child-years in first 4 months and 1.0 deaths/100 child-years after 4 months post-HAART initiation). On univariate Cox regression, baseline hemoglobin (Hb) <9 g/dl, weight-for-height z-score (WHZ) < -2, and WHO clinical stage 4 were associated with increased risk of death (Hb <9 g/dl HR 3.00 [95% C.I. 1.21-7.39], $p = 0.02$, WHZ < -2 HR 3.41 [95% C.I. 1.28-9.08], $p = 0.01$, and WHO clinical stage 4, HR 3.08 [1.17-8.12], $p = 0.02$). On multivariate analysis Hb < 9 g/dl remained predictive of mortality after controlling for age, baseline CD4%, WHO clinical stage and weight-for-height z-score (HR 2.95 (95% C.I. 1.04-8.35) $p = 0.04$).

CONCLUSION:

High early mortality was observed in this cohort of Kenyan children receiving HAART, and low baseline hemoglobin was an independent risk factor for death.