



# 5th Conference on HIV Pathogenesis, Treatment and Prevention

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## Poster Exhibition

### B4 - Disease burden - morbidity/mortality

#### TUPEB105 - Low haemoglobin predicts mortality among adults starting antiretroviral therapy in an HIV care programme in South Africa

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**Background:** Primary care and NGO clinics across South Africa have become antiretroviral therapy (ART) providers through a standardized programme implemented by Aurum Institute, using South African ART guidelines. This study describes risk factors for mortality among adult patients after the start of ART.

**Methods:** Cohort study involving 27 clinics. Kaplan-Meier survival estimates were used to describe overall mortality. Shared frailty Cox regression was used to identify important baseline risk factors for death.

**Results:** Among 1350 patients (median age 35.5 years, 60% female, median CD4 83/ $\mu$ L [IQR (27 - 147)], median follow-up 13.4 months), there were 185 deaths, overall mortality rate 13/100 pyrs; for 0-3, 3-9 and >9 months mortality rates were 24, 13 and 6/100 pyrs respectively. 43% of the deaths were in the first 3 months of treatment. Overall mortality rate in patients with < 50/ $\mu$ L CD4 at baseline was 24/100 pyrs, decreasing to 8.4, 6.5 and 5/100 pyrs for those with 50-100/ $\mu$ L, 100-200/ $\mu$ L and over 200/ $\mu$ L respectively. Overall mortality rates in haemoglobin categories < 8, 8.1-9.9, 10-11.9 (f) /13.9(m), >11.9 (f)/13.9 (m) were 40.5, 25.6, 13 and 4.6/100 pyrs respectively. Risk factors for mortality in univariate analysis were CD4, body mass index, viral load, and haemoglobin; in multivariate analysis adjusting for age and gender, only CD4 and haemoglobin remained independently associated. Adjusted hazard ratios (AHRs) for patients with < 8, 8.1-9.9g/mL, >12.9(f)/13.9 (m) were 3.00, 1.95 and 0.44 respectively comparing to 10-12.9 (f) /13.9 (m)g/mL. AHRs for CD4 were 0.4, 0.38 and 0.34 for 50-100, 100-200 and >200/ $\mu$ L comparing to < 50/ $\mu$ L.

**Conclusions:** The high mortality rate in the first 3 months underlines the need for earlier HIV diagnosis so that ART can be initiated earlier. Low haemoglobin was a strong predictor of mortality; patients with low CD4 or low haemoglobin need intensified care because of their very high risk of death.

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