ART treatment outcomes in a private or public HIV clinic in Johannesburg, South Africa

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BACKGROUND
Despite the widely documented success of antiretroviral therapy (ART) expansion in resource limited settings, stakeholders continue to face challenges of poor HIV treatment outcomes. These include mortality, loss to follow up (LTFU) and failure to suppress viral load. The potential causes of poor treatment outcomes can be patient or health system related. While many studies have investigated patient level causes of poor treatment outcomes, data on the effect of health systems on ART outcomes is scarce.

We compare treatment outcomes amongst ART naïve patients initiating ART at a public or private HIV clinic in Johannesburg South Africa.

METHODS
Study design and population
A retrospective cohort analysis was conducted on ART naïve patients (≥18 years) initiating ART at a public (Thembela Lethu Clinic) or private HIV clinic in Johannesburg between 01 July 2007 and 31 December 2012. Ethics approval was obtained from the Human Research Ethics Committee of the University of the Witwatersrand (clearance certificate number M120863).

Eligibility criteria
• Study data was restricted to records of HIV positive adult (≥18 years) patients who were ART naïve defined as:
  • Initiated treatment at either clinic without prior exposure to ART
  • Baseline viral load > 400 copies/µL and CD4 ≤ 350 cells/mm³ or WHO stage 3 or 4 regardless of CD4 count
  • The study included patients initiated on ART between 01 July 2007 and 31 December 2012. Data was censored on loss to follow up or death at the end of the follow up period i.e. 31 December 2013.
  • Patients that were pregnant at baseline were excluded.

RESULTS

Study outcomes
• Mortality: (all cause): death between 01 July 2007 and 31 December 2012. Ascertained via South Africa’s National vital registration systems
• Loss to follow up (LTFU): defined as having missed a visit by more than 3 months since last scheduled visit during the study period
• Failure to suppress viral load: Referred to patients having a viral load of > 400 copies/ml at 12 months on treatment
• CD4 count change: difference in CD4 count from baseline until 6 months or from baseline until 12 months on treatment

Data management
Medical record review at each site using TherapyEdge-HIV™, an electronic patient medical record database. Variables of interest included: clinic type, age, gender, time on ART, body mass index (BMI), kg/m², haemoglobin, baseline CD4 count and baseline viral load.

Statistical analysis
Demographic and clinical characteristics of patients were described using means (or medians if skewed) and proportions, where appropriate. Survival analysis was performed using Kaplan Meier curves. Multivariate Cox proportional hazards models were used to assess predictors of mortality and LTFU. Generalized estimation equations were used to determine predictors of failure to suppress viral load while absolute change in CD4 count was analysed using the Wilcoxon rank sum test. Data was analysed in SAS 9.1 (SAS Institute, Cary, NC, USA) and STATA 12.0.

CONCLUSION
We identified differences and similarities between private and public HIV clinics. Public-private collaborations are thus encouraged to address challenges of either sector. However, further studies involving several clinics are encouraged to provide more conclusive evidence.

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