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Time Trends in Demographic and Clinical Characteristics of Patients Starting ART in Lower-income Countries: the ART-LINC collaboration of leDEA

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Background

The scale-up of antiretroviral therapy (ART) in low-income countries is changing the demographic and clinical characteristics of patients starting ART in these settings. We examined time-trends in the characteristics of patients starting ART in programs of the ART in Lower Income Countries (ART-LINC) collaboration of the International epidemiological Databases to Evaluate AIDS (leDEA).

Methods

ART-LINC of leDEA is a large network of ART programs in resource-limited settings in sub-Saharan (SS) Africa, South (S) America and Asia. Patients aged ≥ 16 years with complete socio-demographic data and documented date of combined ART (cART) were included. Demographic and clinical variables were analysed by calculating medians and percentages by region and time period of starting cART (1996 to 2006). Trends over time were evaluated in logistic and linear regression models.

Results

A total of 37,841 patients from 20 sites (14 in SS Africa, 3 in S America, 3 in Asia) were included in the analysis. The mean number of patients increased from 126 in 2001 to 1300 in 2006. Overall 59% of patients were women and this proportion increased over time in SS-Africa and Asia ($p < 0.001$), but not in S-America. The median age at start of therapy was 35 years with little variation over time or regions. The median CD4 count at start of therapy was 115 cells/ μ l with substantial heterogeneity across regions and time: in SS-Africa the CD4 cell count was lowest in the year 2002 (80 cells/ μ l, IQR 24-166) and increased to 122 cells/ μ l in the years 2005/06 (IQR 53-194) (p value for trend < 0.001). In S-America CD4 cell counts were consistently higher and reached 197 (IQR 61-277) in 2005/06 (test for trend $p = 0.003$). The number of patients with plasma viral load documented at the start of ART and at 6 months decreased. The latter is related to an increase in patient numbers in scale-up cohorts with less viral load monitoring. In contrast, the availability of a baseline CD4 cell count at the start of ART increased since the year 2001/02 in SS-Africa and Asia ($p < 0.001$).

Conclusions

Most patients starting ART within the ART-LINC of leDEA network start ART well below the recommended thresholds, but this has improved somewhat in SS-Africa and S-America over time. Future analyses should assess the impact on early mortality and long-term clinical

outcomes of the increase in CD4 counts at baseline and the decrease in the monitoring of HIV-1 RNA.

Key words: scale-up, time trends, laboratory monitoring