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# Gender differences in adherence and response to antiretroviral treatment in the Stratall trial in rural district hospitals in Cameroon

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## Résumé

**Background:** Evidence of gender differences in antiretroviral treatment (ART) outcomes in sub-Saharan Africa is conflicting. Our objective was to assess gender differences in 1) adherence to ART and 2) virologic failure, immune reconstitution, mortality, and disease progression adjusting for adherence.

**Methods:** Cohort study among 459 ART-naïve patients followed-up 24 months after initiation in 2006-2010 in nine rural district hospitals. Adherence to ART was assessed using 1) a validated tool based on multiple patient self-reports and 2) antiretroviral plasma concentrations. The associations between gender and the outcomes were assessed using multivariate mixed models or accelerated time failure models.

**Results:** One hundred thirty-five patients (29.4 %) were men. At baseline, men were older, had higher BMI and hemoglobin level, and received more frequently efavirenz than women. Gender was not associated with self-reported adherence ( $P=0.872$ , 0.169 and 0.867 for moderate adherence, low adherence and treatment interruption, respectively) or with antiretroviral plasma concentrations ( $P=0.549$  for nevirapine/efavirenz). By contrast, male gender was associated with virologic failure (odds ratio 2.18, 95 %CI 1.31-3.62,  $P=0.003$ ), lower immunologic reconstitution (coefficient -58.7 at month 24, 95 %CI -100.8;-16.6,  $P=0.006$ ), and faster progression to death (time ratio [TR] 0.30, 95 %CI 0.12-0.78,  $P=0.014$ ) and/or to WHO stage 4 event (TR 0.27, 95 %CI 0.09-0.79,  $P=0.017$ ).

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\*Intervenant

Conclusions: Our study provides important evidence that African men are more vulnerable to ART failure than women and that the male vulnerability extends beyond adherence issues. Additional studies are needed to determine the causes for this vulnerability in order to optimize HIV care. However, personalized adherence support remains crucial.

**Mots-Clés:** gender, antiretroviral therapy, adherence, antiretroviral plasma concentrations