Cardiovascular risk among people accessing differentiated HIV care in South Africa

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BACKGROUND

Sub-Saharan Africa has a growing burden of cardiovascular disease (CVD) among people living with HIV. Differentiated antiretroviral therapy (ART) services are being scaled up but do not always integrate management of CVD comorbidities. Our objective was to (1) describe the burden of CVD risk within a randomized trial of community- and facility-based HIV care in South Africa [the DO ART Study], (2) evaluate if viral suppression is associated with CVD risk, and (3) determine whether this association differs by mode of HIV service delivery.

METHODS

We assessed CVD lifestyle risk factors (tobacco use, exercise, diet) and clinical measures (blood pressure, BMI, hemoglobin A1c, total cholesterol) at 12 months after ART initiation. To compare CVD risk by service delivery mode and viral suppression status, we estimated relative risks of hypertension, obesity/overweight, pre-diabetes/diabetes, hypercholesterolemia (defined using ACC/AHA thresholds), and tobacco use, and differences in underlying continuous measures, using generalized estimating equations for Poisson and linear regression, respectively. We assessed whether the relationship between viral suppression and CVD risk was modified by whether clients received community- or facility-based care.

DESCRIPTIVE RESULTS

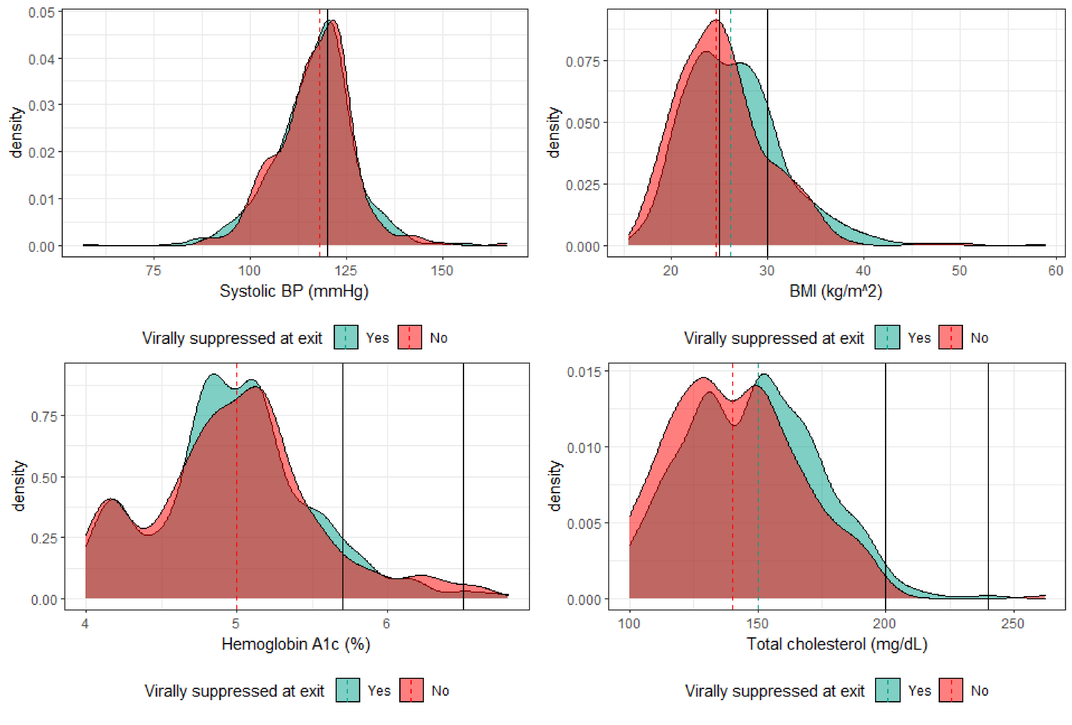
Among 1010 eligible participants accessing community- and facility-based HIV care in KwaZulu-Natal, South Africa:

- The median age was 32 years
- 505 (50%) were men
- 245 (24%) were smokers [43% of men and 6% of women]
- 468 (46%) exercised ≤2 days/week
- 280 (28%) rarely ate vegetables
- 14 (1%) had prior stroke/heart attack
- 450 (45%) had elevated blood pressure including 229 (23%) with hypertension
- 502 (50%) had BMI ≥25 including 183 (18%) with BMI ≥30
- 62 (6%) had prediabetes or diabetes
- 12 (1%) had hypercholesterolemia
- 0 participants scored greater than 10% in 10-year CVD risk

Relatively young clients accessing differentiated and facility-based HIV care in South Africa have substantial burden of elevated blood pressure, BMI, and smoking

DESCRIPTIVE RESULTS, continued

Figure: Distribution of clinical measures of cardiovascular risk, by viral suppression status at exit [dashed lines are group medians]



REGRESSION RESULTS

- CVD risk did not significantly differ for community-based care compared with facility-based care.
- Virally suppressed persons had on average 5.75 mg/dL higher cholesterol (p = 0.001), 0.95 kg/m2 higher BMI (p = 0.003), and 16% higher risk of being overweight (p = 0.03) compared with clients who were not virally suppressed. Other clinical measures did not significantly vary by viral suppression status.
- Associations between viral suppression and CVD risk were stronger for community-based care and null for facility-based care.

CONCLUSIONS

- In a relatively young population, clients accessing HIV care had substantial burden of hypertension and overweight but not overall 10-year CVD risk.
- Gender differences in CVD risk were observed, including greater prevalence of smoking among men and greater prevalence of high BMI among women.
- Among clients accessing community-based care, virally suppressed persons had higher cholesterol and BMI compared with persons not virally suppressed.
- As differentiated services including community-based ART are scaled up, programs should consider integrated care to manage other chronic diseases.

ADDITIONAL INFORMATION

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Acknowledgements: We would like to thank the study participants and the DO ART Study Team.