

Assessing the Effect of HIV Counseling and Testing on HIV Acquisition among South African Youth

Abstract

Objective: Youth 15-24 years in sub-Saharan Africa are at high risk for HIV acquisition and urgently need HIV prevention interventions. HIV counseling and testing (HCT) is designed to promote HIV prevention. However the impact of HCT on HIV acquisition has never been assessed among youth. We assess the impact of HCT on HIV acquisition among South African youth.

Design: Data came from an annual HIV survey for persons 15 years and over, nested within a socio-demographic household surveillance in a geographically defined area of KwaZulu-Natal. Within this population, we used data from 2006 to 2011 to construct a cohort of HIV-uninfected youth 15-24 years.

Methods: We compared youth who reported knowing their HIV status from HCT to those who reported not knowing their HIV status for time to HIV seroconversion using time-varying marginal structural Cox proportional hazards models.

Results: The cohort included 3959 HIV-uninfected youth, of whom 1167 (29%) reported HCT at baseline and an additional 1064 (27%) reported HCT during follow up. Youth experienced 248 seroconversions over 8536 person-years, an incidence rate of 2.91 per 100 person-years [95% confidence interval (CI): 2.56, 3.28]. In crude analysis, HCT was not associated with HIV incidence [HR: 1.02, 95% CI: 0.79, 1.31], but in marginal structural models weighted for risk factors, HCT was protective [HR: 0.59, 95% CI: 0.45, 0.78].

Conclusions: In this high risk population, after accounting for differences in underlying HIV acquisition risk, HCT was associated with lower HIV incidence. HCT scale-up may have prevention benefits for HIV-uninfected youth.

Keywords: HIV; counseling and testing; prevention; Africa; adolescent