

# Age-disparate partnerships and HSV-2 among adolescent girls and young women in South Africa: implications for HIV infection risk

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**Objective** There is an urgent need to understand high HIV-infection rates among young women in sub-Saharan Africa. While age-disparate partnerships have been characterised with high-risk sexual behaviours, the mechanisms through which these partnerships may increase HIV-risk are not fully understood. This study assessed the association between age-disparate partnerships and herpes simplex virus type-2 (HSV-2) infection, a factor known to increase HIV-infection risk.

**Methods** Cross-sectional face-to-face questionnaire data, and laboratory HSV-2 and HIV antibody data were collected among a representative sample in the 2014/2015 household survey of the HIV Incidence Provincial Surveillance System in KwaZulu-Natal, South Africa. Among 15–24-year-old women who reported having ever had sex (n=1550), the association between age-disparate partnerships (ie, male partner  $\geq 5$  years older) and HSV-2 antibody status was assessed using multivariable Poisson regression models with robust variance. Analyses were repeated among HIV-negative women.

**Results** HSV-2 prevalence was 55% among 15–24-year-old women. Women who reported an age-disparate partnership with their most recent partner were more likely to test HSV-2 positive compared with women with age-similar partners (64% vs 51%; adjusted prevalence ratio (aPR):1.19 (95% CI 1.07 to 1.32,  $p < 0.01$ )). HSV-2 prevalence was also significantly higher among HIV-negative women who reported age-disparate partnerships (51% vs 40 %; aPR:1.25 (95% CI 1.05 to 1.50,  $p = 0.014$ )).

**Conclusions** Results indicate that age-disparate partnerships are associated with a greater risk of HSV-2 among young women. These findings point towards an additional mechanism through which age-disparate partnerships could increase HIV-infection risk. Importantly, by increasing the HSV-2 risk, age-disparate partnerships have the potential to increase the HIV-infection risk within subsequent partnerships, regardless of the partner age-difference in those relationships.