

Abstract:

Background: Most couples affected by HIV/AIDS in sub-Saharan Africa live in discordant relationships. Men are thought to be the index case in most relationships, and most social marketing and awareness campaigns are focused on men. We investigated serodiscordance in stable relationships to establish the gender balance of index-case infections. **Methods:** We did a systematic review, random-effects meta-analysis, and meta-regression of published and unpublished studies enrolling discordant couples and assessed the proportion of men and women that were index cases. We repeated the analysis with data from demographic and health surveys (DHS) from the 14 countries that have documented the HIV status of couples. Our primary outcome was the total number of HIV discordant couples, including the proportion of HIV-positive women. **Findings:** We included data from 27 cohorts of 13 061 couples and DHS data from 14 countries of 1145 couples. The proportion of HIV-positive women in stable heterosexual serodiscordant relationships was 47% (95% CI 43–52), which shows that women are as likely as men to be the index partner in a discordant couple. DHS data (46%, 41–51) and our sensitivity analysis (47%, 43–52) showed similar findings. Meta-regression showed that urban versus rural residence (odds ratio 0·31, 95% CI 0·22–0·39), latitude (β coefficient 0·02, 0·023–0·034), gender equality (β coefficient –0·42, –0·56 to –0·27), HIV prevalence (β coefficient –0·037, –0·04 to –0·030), and older age (β coefficient 0·20, 0·08–0·32) were associated with the proportion of female index cases. **Interpretation:** Our study shows the need to focus on both sexes in HIV prevention strategies, such as promotion of condom use and mitigation of risk behaviours.