Partner age difference and sociodemographic correlates of herpes simplex virus type 2 seropositivity: A community-based study in South India

Sir,

Herpes simplex virus 2 (HSV-2) is one of the most prevalent sexually transmitted infections worldwide and is the leading cause of genital herpes and genital ulcer disease.[1] Studies have found that the seroprevalence of HSV-2 is lowest in Asia.[2] Age-disparate relationships (partner age difference of at least 5 years) have been shown to increase the risk of HIV and HSV-2 infections in sub-Saharan Africa in rural Zimbabwe and Uganda, where the prevalence of HIV/HSV-2 has been shown to be higher among women in age-disparate relationships.[3-5] Although past studies have explored numerous predisposing factors for HSV-2 infection, there is a paucity of data that explores the age difference between partners as a risk factor for HSV-2 infection in India. This study examined the role of age-disparate relationships in HSV-2 infection in South India.

The study was conducted in Mysore by the Public Health Research Institute of India (PHRII) in collaboration

with partners from Florida International University. A type-specific enzyme-linked immunosorbent assay (ELISA) test was used to detect HSV-2 (Focus Diagnostics HerpeSelect® 2 ELISA Immunoglobulin G [IgG], Focus Technologies, Cypress, CA, USA) antibodies according to manufacturer's instructions. The laboratory where the HSV-2 testing was being conducted was overseen by a National Accreditation Board for Testing and Calibration Laboratories-accredited laboratory in Mysore to ensure that all the standard laboratory procedures were followed. Out of 351 individuals enrolled, 176 were women (50.14%), aged at least 25 years (77.8%), educated (≥1 year of schooling) (90.6%), married (96.3%), Hindu by religion (94.9%), and lived in urban areas (62.7%). Of the 351 individuals, 9.4% (95% confidence interval [CI]: 6.3%, 12.5%) had HSV-2 IgG antibodies. This study highlights an overlooked predictor of HSV-2 infection, i.e., age difference between partners.

The average age difference of the study participants with their sexual partner was 5.8 years (range: 0–25 years). The prevalence of HSV-2 infection was highest among individuals who had an age difference of 11–25 years (17.9%), followed by those with 6–10 years (13.9%) and 1–5 years (4.4%) with their sexual partner. The odds of HSV-2 infection increased among the study participants with an increase in the age difference with their sexual partner (odds ratio [OR]: 1.07, 95% CI: 1.02, 1.12). These odds remained significant after adjusting for sociodemographic variables, risky sexual behaviors, history of stress, and use of birth control (adjusted OR [aOR]: 1.22, 95% CI: 1.06, 1.40). The odds of HSV-2 infection was significantly lower among Hindus (9%) as compared to nonHindus (16.7%) (aOR: 0.19, 95% CI: 0.04, 0.84). Increasing age difference between sexual partners was associated with factors such as lower levels of condom use, increased frequency of sex, and long-lasting relationships.[6] These behavioral characteristics may be associated with higher rates of HIV transmission.[6] It is plausible that the same mechanism and factors can explain the increased odds of HSV-2 with increasing age difference between sexual partners. More research is needed to investigate the mechanisms seen in HIV transmission with respect to HSV-2 infection.

Despite several limitations (potential information bias and misclassification of HSV2 status, cross-sectional analysis, and nonprobability sampling), this study presents the first data (to our knowledge) which suggests that an increasing age difference between partners can predict HSV2 infection in South India, a phenomenon which is commonly observed with HIV. It is necessary to further explore the findings of this study in a larger population to ascertain the possible adverse effects of an increasing age difference between partners associated with HSV-2 infection and the potential social and medical implications.

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Conflicts of interest

There are no conflicts of interest.

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