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Background We conducted a systematic review and meta-analysis of published data to examine the association between hormonal contraception (HC) and bacterial vaginosis (BV).

Methods Three databases (Medline, Web of Science and Embase) were searched until the end of January 2013 and duplicate references removed. Inclusion criteria were (1) > 20 BV cases; (2) data available to derive the association between HC and BV; (3) > 10% of participants used HC; (4) accepted BV diagnostic method. Data extracted included: type of HC, BV diagnostic method, and BV outcome (prevalent, incident, recurrent). Meta-analyses were conducted to calculate overall and pooled odds/risk ratios (OR/RR), stratified by HC-type and BV outcome. This systematic review is registered with PROSPERO (CRD42013003699).

Results Of 1710 unique references identified, 328 were assessed for eligibility and 48 studies met inclusion criteria. Overall, 36 reported BV-prevalence, 12 BV-incidence and 3 BV-recurrence. Twenty three studies reported data for combined-HC, 9 for progesterone-only HC and 23 did not specify HC-type. Diagnostic methods included: Nugent's (n = 31), Amsel's (n = 15), Spiegel's (n = 1) and Ison-Hay (n = 1). Pooled BV prevalence was 30.7% (95% CI: 26.7–34.7%) and ranged from 4.7%–66.7%, with > 99% of the observed variance of prevalent BV explained by heterogeneity (I^2 = 99.6%). The pooled effect of any HC-use on the composite-BV outcome (prevalent/incident/recurrent) was OR = 0.67 (95% CI: 0.62–0.71). When stratified by BV outcome, any HC-use was associated with decreased risk of prevalent (OR = 0.63; 0.58–0.68), incident (RR = 0.78; 0.68–0.87) and recurrent (RR = 0.61; 0.49–0.73) BV. When prevalent BV was stratified by HC-type, combined-HC (OR = 0.68; 0.62–0.74), unspecified HC-type (OR = 0.60; 0.53–0.67), and progesterone-only methods (OR = 0.67; 0.46–0.88) were all associated with decreased risk of prevalent BV.

Conclusion HC-use is associated with a significant and consistent decreased risk of all BV outcomes, with a greater reduction in risk for prevalent than incident BV. Surprisingly, both combined and progesterone-only contraceptive methods were associated with reduced risk of prevalent BV.

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Background *Trichomonas vaginalis* is associated with adverse reproductive health outcomes, including HIV. Despite marked racial disparities, few studies have reported factors related to incident *T. vaginalis* infection exclusively among young African-American women. The objective was to identify correlates of incident *T. vaginalis* infections among African-American adolescent females.

Methods Data were collected via audio computer self-interviews at baseline and every 6 months for 18 months from 701 African-American females (14–20 years) enrolled in an HIV prevention trial. Vaginal swabs were self-collected at each assessment and assayed for *T. vaginalis*, *Chlamydia trachomatis* and *Neisseria gonorrhoeae* using DNA amplification. Generalized estimating equations assessed associations between incident *T. vaginalis* infection, defined as a positive test result subsequent to a negative result or documented treatment, and sociodemographic characteristics, partner-level factors, HIV/STI-associated behaviours and STIs. Factors significant at p < 0.1 in bivariate analyses were entered into a multivariable model, adjusting for age and trial condition. The final model was obtained using backward selection procedures.

Results Of 606 (86.4%) participants who completed ≥ 1 follow-up assessment, an incident *T. vaginalis* infection was detected among 20.0% (n = 121). Trial condition was not independently associated with incident infection (p = 0.21). Significant correlates included: receipt of an increasing number of forms of government assistance (AOR: 1.20, 95% CI: 1.01, 1.42), cigarette smoking (AOR: 1.70, 95% CI: 1.08, 2.67), smoking marijuana an increasing number of days in the past 3 months (AOR: 1.02, 95% CI: 1.00, 1.04), concurrent *C. trachomatis* (AOR: 2.28, 95% CI: 1.43, 3.66) and *N. gonorrhoeae* (AOR: 5.99, 95% CI: 3.10, 11.57) infection and testing positive for *T. vaginalis* at the previous assessment (AOR: 4.56, 95% CI: 2.99, 6.96).

Conclusions Incident *T. vaginalis* infections were common. Strategies to reduce infection rates among this population may include improving partner notification and treatment services and addressing the role of substance use on sexual risk.

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Background Herpes simplex virus types 1 and 2 (HSV-1 and HSV-2) are common infections with serious sequelae. HSV-1 is an increasingly important cause of genital herpes in industrialised countries, potentially due to less acquisition of HSV-1 during childhood or to changes in sexual behaviour.

Methods Using nationally representative data from the National Health and Nutrition Examination Surveys (NHANES), we examined change in seroprevalence of HSV-1 and HSV-2 among 14–49 year olds in the United States. We compared seroprevalence in 1999–2004 with 2005–2010, and examined seroprevalence among 14–19 and 20–29 year-olds stratified by socio-demographic characteristics and sexual behaviours. We also reviewed HSV-1 and HSV-2 seroprevalence from 1976–1980 to 2005–2010.

Results In 2005–2010, the seroprevalence of HSV-1 was 53.9%, and the seroprevalence of HSV-2 was 15.7%. From 1999–2004 to 2005–2010, HSV-1 seroprevalence declined by nearly 7% (P < 0.01), but HSV-2 seroprevalence did not change significantly. The largest decline in HSV-1 seroprevalence from 1999–2004 to 2005–2010 was observed among 14–19 year olds, among whom seroprevalence declined by nearly 23%, from 39.0% to 30.1% (P < 0.01). In this age group, HSV-1 seroprevalence declined among young men and women, non-Hispanic blacks and whites, and those living above and below the federal poverty level. Overall, HSV-1 seroprevalence declined more than 10% from 60.1% in 1976–1980 to 53.9% in 2005–2010 (P < 0.01). Among 14–19 year olds, HSV-1 seroprevalence declined more than 29%, from 42.6% to 30.1% (P < 0.01). Overall, HSV-2 seroprevalence increased slightly from 13.4% in 1976–1980 to 15.7% in 2005–2010 (P = 0.02).

Conclusions An increasing number of adolescents lack HSV-1 antibodies at sexual debut and are susceptible to genital HSV-1 infection. In the absence of declines in HSV-2 infections, the prevalence of genital herpes may increase.