**Table 10. Prospective associations between hormonal contraceptive use and *T. vaginalis* (TV) (N=9).**

| **Study** | **N, study sample** | **Length of follow-up; frequency STI assessment** | **STI diagnostic test** | **Covariates** | **Reference group** | **OCP**a | **Injectable** | **Implant or combined HC** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Balkus, 2014 [34] | 2920, HIV-negative women ages 18+ with no-drug use in past 12M in Blantyre, Lilongwe Malawi; Durban, Hlabisa, South Africa; Philadelphia USA; Lusaka Zambia; Harare, Chitungwiza, Zimbabwe, Detection at *N=400 of 16,259 visitsd* | 12 to 30 M; 0M, 12M, 30M (or study exit) | Vaginal wet mount via saline microscopy | Age, marital status, unprotected sex in the last week, T. vaginalis at baseline, intermediate Nugent score, BV at prior visit | Non-pregnant non-hormonal user | OCP aHR: 0.64 (0.47, 0.89)\* | Injectable (type not specified) aHR: 0.60 (0.47, 0.78)\* | Implant (type not specified) aHR: 0.57 (0.20, 1.60) |
| Baeten, 2001 [21] | 948, HIV-1 negative sex workers in Mombasa, Kenya ages 16-48; N=435 incident cases (26.4/100 PY) | Range 15 to 2366 days (median: 421 days); median time b/w visits: 35 days | Vaginal wet mount | Age, years of education, years of prostitution, parity, number of sexual partners, place of work (ie, bar vs. nightclub), number of sexual contacts per week, and condom usage | Non-hormonal user or tubal ligation | OCP aHR: 0.90 (0.70, 1.30) | DMPA aHR: 0.60 (0.40 1.0)\* | NA |
| Barbone [24] | 818, U.S. women ages 19 to 29 attending a STI clinic in Birmingham Alabama; *N=171 incident casese* | 6M; Monthly | Vaginal wet mount | Spermicide use, sexualactivity, age, race | Tubal ligation or IUD user | OCP: aHR 0.56 (0.39, 0.81)\* | NA | NA |
| Borgdorff, 2015 [37] | 381, HIV-negative sex workers in Kigali, Rwanda ages 18 to 49, *N=89 incident casesb* | 24M; 0M, 6M, 12M, 24M | Vaginal swab via culture kit (InPouch, BioMed Diagnostics) and Gram stain (presence of >20% clue cells and Nugent criteria). Considered positive if tested positive on either test. | Age, education, years worked as sex worker, breast-feeding, consistent condom use, antibiotic use past 14 d, ever used antibiotics, time duration between assessments | Non-pregnant non-hormonal user  | OCP aOR: 0.61 (0.20, 1.84) | Injectable (type not specifiedf) aOR: 0.44 (0.17, 1.10) | NA |
| Brahmbhatt, 2014 [46] | 2374, HIV+ (304) and HIV- (2070) women ages 15 to 49 in rural Rakai, Ugandac; N=96/2374 cases; 2.4/100 PY | 12M; 0M, 12M | Self-collected vaginal swab via culture kit (InPouch, TV, BioMed Diagnostics) | 10-year age group, marital status, education, # sex partners past 12M, SES (home building materials), Nugent score for BV, condom use, syphilis result, HIV statusFinal model (empirical and theory informed): age, marital status, education, SES, condom use and other STIs, interaction b/w HC use and HIV status | No method (neither hormonal or condom)  | COC past 12M aIRR: 1.02 (0.40, 2.59); Consistently used COC (at baseline and follow-up) aIRR: 1.07 (0.25, 4.56) | DMPA past 12M aIRR: 0.54 (0.30, 0.98)\*; Consistently used DMPA only (at baseline and follow-up) aIRR: 0.59 (0.28, 1.26) | Norplant past 12M aIRR: 3.01 (1.07, 8.49)\*; Consistently used Norplant only (at baseline and follow-up) aIRR: 3.13 (1.08, 9.07)\* |
| Kapiga, 2009 [47] | 958, HIV negative women ages 16 to 62 in Lusaka, Zambia (ZA), Moshi Tanzania (TZ) and Durban/Hlabisa, South Africa (SA), Incidence rate: 31.9/100 PY (all sites) | 12M; every 3M | Vaginal swab via Gram stain using Nugent criteria | Age, site, partner earns income, # sex partners, frequency vaginal sex in past 1W, anal sex in past 3M, other STIs, bacterial vaginosis, candida, abnormal vaginal discharge on exam, abnormal cervical discharge on exam, incident HIV infectionFinal model (empirical selection): site and incident HIV infection included in SA model and only age in TZ/ZA model | Not specified | OCP All sites aOR: 0.6 (0.3, 1.0) | All sites DMPA aOR: 0.7 (0.5, 1.0) | All sites Norplant aOR: NR (ns) |
| Pettifor, 2009 [48] | 567, HIV-negative women ages 18 to 40 recruited from family planning clinics in Orange Farm, South Africa; *N=47 incident infectionsb, incident rate: 10.2 per 100 PY* | 1Y; 0M, 2M, 6M, 8M and 12M (NET-EN users) or 0M, 3M, 6M, 9M and12M (DMPA users and controls)  | Vaginal swabs via culture in Diamond’s media  | Age, relationship status, education, frequency of sex past 3M, # partners in past 3M, condom use in past 3M, vagina douching past 3M, age of first sex Final model (empirical and theoretical selection): Age, education, condom consistency in past 3M | Non-pregnant non-hormonal user | NA | DMPA aIRR: 0.35 (0.12, 1.01); NET-EN aIRR: 0.63 (0.30, 1.29) | NA |
| Pintye, 2017 [49] | 1271, HIV-negative women enrolled during pregnancy and followed until 9M postpartum in western Kenya, median age 22 (IQR: 19-27), N=112 incident infectionsb; 10.4 per 100 PY | ~14M; 20, 24, 32 and 36 weeks gestation and postpartum (2, 6, 10 and 14 weeks; 6 and 9 months) | Self-collected vaginal swabs treated with metronidazole, detection via wet mount microscopy | Final model (empirical selection): employment, male partner circumcision status, pregnancy status and other non-TV curable STIs (CT, NG, *T. pallidum*, BV or candidas) detected at enrolment. | Non-hormonal user  | OCP aHR: NR (ns) | Injectable (type not specified) aHR: NR (ns) | Implant (type not specified) aHR: NR (ns) |
| Romer, 2013 [50] | 342, adolescent girls ages 14-17 attending clinics in inner-city areas of Indianapolis, USA; *N=80 incident casesb* | Originally 27M, extended to 5Y for some participants; every 3M | Detection of Tvaginalis DNA was performed using a modification of the AmplicorCT/NG PCR assay that included primers and probes specific for T vaginalis. | Age, positive STI test at start of period, # of partners in past 3M, # of lifetime partners, # of sexual events in last 3M (diary period), # of unprotected sexual events in last 3M (diary period) | Non-hormonal user | NA | DMPA use in current 3M period aOR: OR: 0.66 (0.32, 1.36); DMPA use in prior 3M aOR: 1.04 (0.52, 2.08) | NA |

Notes:PY: person-years at risk. \* Statistically significant at p<0.05.

a OCP type was unspecified unless COC (combined oral contraception) ) or POP (progestin-only pill) is noted.

bMultiple incident cases per woman were allowed, i.e., incident cases defined as a positive test following a negative test.

c All women tested negative for T. vaginalis at baseline. Incident cases were number of T. vaginalis positive women at follow-up (only 1 follow-up).

d Women censored after first T. vaginalis incident, or if became pregnant, acquired HIV or tested positive for CT or NG. N=211 women who tested positive for T. vaginalis at baseline were included and prescribed treatment; N=39 [18%] of these women were also infected at the subsequent visit.

e Women censored after first T. vaginalis incident.

f Injectable type not reported but authors note most commonly DMPA in setting with occasional norethisterone enanthate use.