Trends in and factors associated with having bacterial vaginosis and vulvovaginal candidiasis among women attending the Melbourne Sexual Health Centre, 2012-2021

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Background:
Bacterial vaginosis (BV) and vulvovaginal candidiasis (VVC) are the most common vaginal infections and significantly impact women's health. Current treatments are inadequate for preventing recurrence. We aimed to determine the factors associated with BV and VVC to inform clinical care.

Methods:
This was a retrospective audit of BV and VVC positivity and recurrence among Melbourne Sexual Health Centre attendees between 1-Jan-2012 and 31-Dec-2021. The proportions of women with BV and VVC at their first-test during the study period were calculated with 95% confidence intervals(CI). Factors associated with BV or VVC infection at first-test were determined using logistic regression, and factors associated with recurrence (defined as >1 positive result within 12-months) were assessed using Poisson regression, accounting for multiple visits. Factors associated with infection positivity/recurrence in univariable analyses were included in multivariable models.

Results:
Of 50,245 attendees, 6,975/22,769 (31%) had BV and 6,587/22,987 (29%) had VVC detected at their first-test. Hormonal contraceptive-users (excluding intrauterine-device use) were less likely to have BV than women not using hormonal contraception (adjusted-odds-ratio[AOR]=0.73, 95%CI:0.68-0.82, p<0.0001). Women reporting ≥2 male or ≥1 female partners had higher odds of BV (AOR=1.33, 95%CI:1.23-1.42, p<0.0001; AOR=1.86, 95%CI:1.50-2.30, p<0.0001, respectively). Younger women (AOR=1.02, 95%CI:1.02-1.03, p<0.0001) and those with ≥2 male partners (AOR=1.17, 95%CI:1.09-1.27, p=0.001) had higher odds of VVC. 1,406 women experienced recurrent BV; risk of recurrence was higher among women with a regular sexual partner (adjusted-incidence-rate-ratio[AIRR]=1.32,95%CI:1.16-1.50, p<0.0001) and intrauterine-device users (AIRR=1.29, 95%CI:1.07-1.56, p=0.007). 1,169 women experienced recurrent VVC; sex workers (AIRR=1.87,95%CI:1.52-2.30, p<0.0001) and those with concurrent BV (AIRR=1.23,95%CI:1.04-1.45,p=0.016) had a higher risk of recurrent VVC.

Conclusion:
Both BV and VVC were commonly detected. BV had a risk profile similar to other STIs, with stronger associations observed between BV and sexual practices

compared to VVC. Understanding the different drivers behind these vaginal conditions is integral to promoting their long-term cure.

Disclosure of Interest Statement: