Clinical reviews

Our panel of GPs review recent research papers in their specialist areas that may influence the way you practise

Reviewers

Addiction
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Sexual health

Self-taken swabs can detect bacterial vaginosis and candidiasis

Lower vaginal swabs (LVS) taken by patients are as reliable as high vaginal swabs (HVS) taken by clinicians for the detection of vulvovaginal candidiasis or bacterial vaginosis, a UK study has shown.

Women, aged 16-65 years, presenting to a sexual health clinic, with symptoms of vaginal discharge, genital irritation or offensive genital smell were recruited into the case-control study. Exclusion criteria included women already diagnosed with vulvovaginal candidiasis or bacterial vaginosis and those with established immunodeficiency.

Each patient was taught how to take her own LVS and then had an HVS collected by the examining clinician. Both LVS and HVS were sent to microbiology for diagnosis of candida and bacterial vaginosis. Patients were treated for the condition diagnosed.

A total of 104 patients, aged 17-49, median 26 years, were enrolled in the study; 97 had laboratory results for bacterial vaginosis and 99 for vulvovaginal candidiasis.

With the clinician-taken HVS as reference, the prevalence of vulvovaginal candidiasis was 45.5% (n = 45) and bacterial vaginosis 26.8% (n = 26). Five women had both vulvovaginal candidiasis and bacterial vaginosis; 31 had neither; eight patients were diagnosed with chlamydia, two with both chlamydia and gonorrhoea, and two with herpes. Four patients had false-positive and two false-negative results for vulvovaginal candidiasis. Three patients had false-positive and three false-negative results for bacterial vaginosis.

Using clinician-taken HVS as the reference standard, sensitivities of LVS for bacterial vaginosis and vulvovaginal candidiasis were 88.5% and 95.5% respectively, see table 1 below.

Specificity of LVS for bacterial vaginosis and vulvovaginal candidiasis was 95.8% and 92.6% respectively, giving a positive predictive value (PPV) of 88.5% for bacterial vaginosis and 91.5% for vulvovaginal candidiasis.

The kappa agreement between clinician-taken HVS and patient-taken LVS was 0.84 for bacterial vaginosis and 0.88 for vulvovaginal candidiasis, suggesting 'almost perfect agreement' for both diagnoses.

Based on symptoms alone for syndromic management of symptomatic vaginal discharge, vulval itching had a sensitivity and specificity of 0.533 and 0.745 respectively for vulvovaginal candidiasis, with a PPV of 0.631.

Offensive discharge had a sensitivity and specificity of 0.73 and 0.733 for bacterial vaginosis, with a PPV of 0.5.

Self-taken LVS are as good as clinician-taken HVS for diagnosis of vulvovaginal candidiasis and bacterial vaginosis. This is important as symptoms alone appear to be poor predictors for bacterial vaginosis and vulvovaginal candidiasis so syndromic management might not be sufficient.

Vaginal discharge is common in primary care and can be a symptom of non-sexually transmitted vaginal conditions such as vulvovaginal candidiasis and bacterial vaginosis. The former might present with vulval itching with curdy white discharge, the latter with thin, non-irritant and foul-smelling (often fishy) discharge.

Symptoms alone are not enough for diagnosis; vaginal examination and HVS are required for definitive clinical and microbiological diagnosis. However, time pressure, embarrassment on the part of the patient and lack of chaperones could be reasons why clinicians do not perform examinations or take vaginal specimens, leading to syndromic treatment for vaginal discharge.

As well as being acceptable to patients and saving time during a consultation, without the need for intimate examination, LVS could also be used to test for chlamydia, gonorrhoea and trichomonas. This is not a substitute for vaginal and speculum examinations which should be conducted where clinically indicated, such as vaginal discharge in a patient at high risk of sexually transmitted infections, or in cases of abnormal vaginal bleeding.

Table 1

Performance measures for self-taken low vulvovaginal swabs (clinician-taken high vaginal swabs as the reference standard)

Infection	Sensitivity % (95% CI)	Specificity % (95% CI)	PPV %	NPV %	Cohen's kappa κ (95%CI)
BV	88.5 (68.7-97.0)	95.8 (87.3-99.0)	88.5	95.8	0.84 (0.72-0.96)
VC	95.5 (83.6-99.2)	92.6 (81.3-97.6)	91.5	96.2	0.88 (0.78-0.97)

BV = Bacterial vaginosis VC = Vulvovaginal candidiasis PPV = Positive predictive value NPV = Negative predictive value

DR RICHARD MA
Barnes P, Vieira R, Harwood J, Chauhan M. Self-taken vaginal swabs versus clinician-taken for detection of candida and bacterial vaginosis: a case-control study in primary care. *Br J Gen Pract* 2017;67 (665):e824-e829