Reviewer's report

Title: Highly-cited estimates of the cumulative incidence and recurrence of vulvovaginal candidiasis are inadequately documented

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Reviewer: Betsy Foxman

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The authors purport to trace the origin of commonly cited estimates of the cumulative incidence of vulvovaginal candidiasis in the literature. After tracing them to clinical opinion of two clinicians, they suggest that the existing population-based studies (which they suggest but do not state are not commonly cited) are fatally flawed because these studies depend on self-report of medical history. They further assert that the cumulative incidence cannot be estimated accurately from the existing population-based studies. They do not cite any studies that estimated the incidence based on self-reported physician diagnosis in a short time period (e.g., Sex Transm Dis. 2000 Apr;27(4):230-5.) where effects of recall are likely to be low.

While listed as a ‘debate,’ I was unclear as to what were the terms of the debate, and what the issues of interest are. Yes, physician diagnosis of VVC is a problem - most US physicians do not have laboratory capability in their offices to confirm diagnosis using a wet mount, and culture for VVC is not definitive as Candida is a common inhabitant of the vaginal microbiota. However, the totality of all the studies they reviewed suggest that VVC occurs and recurs frequently. The estimates are undoubtedly imprecise, but they present no evidence to suggest they are off by an order of magnitude.

On page 6 the authors state that women inappropriate diagnosis VVC, as do their clinicians, because the literature cites erroneous estimates. However, the estimates from a random digit dialing survey conducted shortly after treatment was made available over the counter (in 2000) are essentially the same as from a similar study published in 2013. This does not support their assertion that women are over diagnosing as are physicians because of an erroneous literature.

On page 7 the authors state “the commonly cited incidence and recurrence figures were not derived from empiric investigation.” This is an issue not limited to VVC, but why this is important is entirely unclear. There are empiric investigations, such as those by Geiger et al., and Foxman et al., in the literature. These the authors dismiss these as estimates are based on self-reported history of physician diagnosis. One can argue that self-reported history of physician diagnosis either over- or under- estimates the burden of VVC, as treatment is available without prescription over the counter. However, the authors do not make either of these arguments.
The proposed solution seems quite naïve: why would anyone fund such as study unless there was already as suggestion of significant burden? How will they obtain a representative population for study that is compliant for follow-up that has a better response rate than the studies they dismiss? Further, why are more accurate incidence and recurrence estimates required?

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have consulted on the epidemiology of VVC for two companies engaged in developing a VVC vaccine.