Reviewer's report

Title: No gender differences in Chlamydia infection prevalence in the general population: a systematic review

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Reviewer: Dyani Lewis

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This paper provides a systematic review of the differences (or lack thereof) in population-based estimates of Chlamydia trachomatis infection between men and women. Drawing together the literature around this specific topic into a single review is useful for researchers as well as policy-makers, whom this article appears to be targeting.

Discretionary Revisions

1. The Background provides a reasonable introduction to why the study is being conducted, but could be better supported by references. In the third paragraph in particular, the veracity of the claims are undermined by a lack of references and phrases like “seem to have the most to lose” (do they, or don’t they? What’s the evidence?), and “are considered” (are they or aren’t they?), and “seen as” (by who?). This paragraph should be re-written to clarify what is known about the reasons that women are the focus of chlamydia control measures. As it stands, the paragraph reads as mere speculation that has no grounding in scientific evidence. It is also not clear what certain terms refer to – what does it mean to be more psychosocially susceptible to infection? Do you mean more susceptible to the psychosocial consequences of infection (stigma, depression, etc)?

2. I would not describe chlamydia infection as an “epidemic” (p4). Perhaps “…play an important role in sustaining transmission of chlamydia in the population.”

3. Discussion: One implication pointed out by the authors is that GPs should talk more about sex with their patients, however, studies have shown that patients (and GPs) do not welcome discussions about their sex lives. Improving rates of opportunistic screening for chlamydia does not require a detailed knowledge of a patient’s sexual behaviour or their sexual history. (see, for example Pavlin et al 2008 “Take the sex out of STI screening”). Young age is the single best determinant of risk of infection, so simple age-based approaches to opportunistic screening can capture a majority of the high-risk population (ie young people) without needing to put patients through the discomfort of detailing their sexual history to their GP. A decision to screen after giving a sexual history could be seen as the GP having judged them as being high risk for their behaviour, when age alone could have been enough to determine that they should be tested regularly for chlamydia infection.

Minor Essential Revisions
4. Italics should be used when referring to *Chlamydia trachomatis*.
5. Population-based should be with hyphen throughout.
6. “statistically significant difference” throughout.
7. Background, first sentence, “sexually transmitted infections (STIs) globally” (word order and plural).
8. Background, final sentence: “…on the prevalence of *Chlamydia trachomatis* infection in the general population in studies that directly compare men and women.”
9. Methods, line 3: remove extra space in “*Chlamydia trachomatis*”
10. Results, line 2: sentence wording could be improved, eg “The full text of 37 articles was read and 14 were excluded.”
11. Results, paragraph 3, final sentence: “the age groups chosen varied considerably, including individuals…”
12. Prevalence of *Chlamydia* infection by sex, second sentence: “…significant difference in *Chlamydia*…”
13. Third sentence: “after weighting”
14. Fifth sentence: “Only three studies found a statistically significant difference in…”
15. Sixth sentence: “In all three of these studies…” (word order)
16. p8, line 1: “in women and first…”
17. p8, line 6: “diverse”
18. Discussion, strengths and weaknesses, line 5: “whole populations”
19. Line7: “non-participation”; “bias influences the results”
20. Second paragraph, first sentence: “in our opinion”
21. Implications, line 8–9: “it is more common to screen women for *Chlamydia* at the population level” (awkward wording)
22. Line 9: “fewer men are diagnosed”
23. Line 11–12: “based upon symptoms such as urethritis or being a contact of a woman with a *Chlamydia* infection.”
24. Line 12: “Higher notification rates for women probably reflect…” This statement should be backed up by a reference about relative testing rates for men and women in primary care.
25. Implications, paragraph 2, first sentence: “Biological predisposition and certain gender-specific behaviours may place women at increased risk of infection by *Chlamydia* and other STIs than men.” (wording)
26. Implications, paragraphs 3–5: These paragraphs are grammatically awkward and should be revised for clarity, preferably by a native English speaker.
27. Table 1: FVU should be included in abbreviation list
28. Table 2: “prevalences after weighting”; CI, SE in abbreviation list.
Major Compulsory Revisions: None identified.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:
I declare that I have no competing interests