

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	A prevalence survey of acute self-reported infections in pregnancy
<b>AUTHORS</b>	Lain, Samantha; Roberts, Christine; Warning, Julia; Vivian-Taylor, Josephine; Ford, Jane

### VERSION 1 - REVIEW

<b>REVIEWER</b>	<b><i>Siranda Torvaldsen</i></b> Co-Director, Public Health Officer Training Program School of Public Health and Community Medicine University of New South Wales, NSW, 2052 Australia
<b>REVIEW RETURNED</b>	07-Feb-2011

<b>GENERAL COMMENTS</b>	This is a well conducted and important study. It is clearly written and was a pleasure to review.
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<b>REVIEWER</b>	<b><i>Tonia Carter</i></b> Postdoctoral Fellow National Institutes of Health United States  There are no conflicts of interests to declare.
<b>REVIEW RETURNED</b>	17-Feb-2011

<b>THE STUDY</b>	<p>1. It seems that the investigators were primarily interested in new infections that arose within the 7-day period yet they use the term "prevalence" throughout the manuscript. Prevalence is the number of new and existing cases of disease among a population at risk during a particular period. Therefore the investigators should clarify in the Methods whether they are reporting on new, existing, or both types of infections. They perform a cross-sectional study but don't explicitly state this in the Abstract or the Methods section of the text. Although cross-sectional studies most often determine prevalence, it is acceptable for the investigators to state in the Methods that the study had a cross-sectional design but queried specifically about new infections that arose within a specified period of time. This would prevent confusion about the study design and main outcome of interest on the part of the reader.</p> <p>2. Did the investigators seek to estimate the prevalence of only acute infections? If so, they should state clearly in the Methods that the questionnaire sought to identify acute infections and provide their definition of an acute infection. Among women who completed the survey more than once, did any report a recurrence of the same infection? Urinary and genital tract infections sometimes linger or recur during pregnancy and recurrence could indicate chronic</p>
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	<p>infection. Recurrence after fourteen or more days is not necessarily independent of a previous episode of a similar infection. The Discussion should note that at least for some infections, the study could not distinguish between acute and chronic conditions. This is relevant to the use of the infection exposure in a case-crossover study, the type of future study that the investigators intend to perform. In the case-crossover design the exposure should be brief and should have little carryover effect. A chronic infection would not be a suitable exposure to be investigated using this design.</p> <p>3. In the Discussion, the investigators stated that it was necessary to estimate weekly rates of infection in other studies for purposes of comparison. How were the rates in these other studies estimated when they were not provided in the published report?</p> <p>4. The limited generalisability of the results is mentioned in the Discussion. Age and education were not associated with prevalence of infection, possibly because all infections were grouped together. Age and education have been consistently associated with individual infections such as Chlamydia.</p>
<b>RESULTS &amp; CONCLUSIONS</b>	<p>5. The study found that women having twins/triplets and those with medical conditions had a greater prevalence of infection. Women having multiple births and those with medical conditions can have more prenatal clinic visits and be monitored more closely than other pregnant women. Therefore, they might be more likely to complete the survey more than once and report infections. The proportions of these groups of women that completed more than one survey, compared with other women in the study, should be checked.</p> <p>6. The increased prevalence of infections among women with a hypertensive disorder of pregnancy is mentioned in the Discussion. A statement should be added noting that this prevalence estimate is based on a small number of observations and is likely to be unstable.</p>

### VERSION 1 – AUTHOR RESPONSE

#### Reviewer Comments and responses:

1. It seems that the investigators were primarily interested in new infections that arose within the 7-day period yet they use the term “prevalence” throughout the manuscript. Prevalence is the number of new and existing cases of disease among a population at risk during a particular period. Therefore the investigators should clarify in the Methods whether they are reporting on new, existing, or both types of infections. They perform a cross-sectional study but don’t explicitly state this in the Abstract or the Methods section of the text. Although cross-sectional studies most often determine prevalence, it is acceptable for the investigators to state in the Methods that the study had a cross-sectional design but queried specifically about new infections that arose within a specified period of time. This would prevent confusion about the study design and main outcome of interest on the part of the reader.

Response: The reviewer is correct, for infections our interest was in new acute (incident) infections. Other conditions collected in the survey were prevalent conditions [16]. We have revised the text accordingly, clarified the methods and noted the cross-sectional design in the abstract and methods.

2. Did the investigators seek to estimate the prevalence of only acute infections? If so, they should state clearly in the Methods that the questionnaire sought to identify acute infections and provide their

definition of an acute infection. Among women who completed the survey more than once, did any report a recurrence of the same infection? Urinary and genital tract infections sometimes linger or recur during pregnancy and recurrence could indicate chronic infection. Recurrence after fourteen or more days is not necessarily independent of a previous episode of a similar infection. The Discussion should note that at least for some infections, the study could not distinguish between acute and chronic conditions. This is relevant to the use of the infection exposure in a case-crossover study, the type of future study that the investigators intend to perform. In the case-crossover design the exposure should be brief and should have little carryover effect. A chronic infection would not be a suitable exposure to be investigated using this design.

Response: Infection is defined in the methods on page 4, paragraph 1. We could not ascertain whether the women who completed the questionnaire more than once had a recurrence of the same infection because our ethics approval did not cover collection of personal information that would allow us to identify and link individuals. However the questionnaire did ask participants if they had completed the questionnaire before. We have added to the limitations our inability to identify recurrent infections, and that for some infections we may not be able to differentiate chronic and acute infections (page 10, paragraph 2).

3. In the Discussion, the investigators stated that it was necessary to estimate weekly rates of infection in other studies for purposes of comparison. How were the rates in these other studies estimated when they were not provided in the published report?

Response: Weekly rates could only be estimated by averaging over the pregnancy. This has been added to the discussion (page 10, paragraph 2).

4. The limited generalisability of the results is mentioned in the Discussion. Age and education were not associated with prevalence of infection, possibly because all infections were grouped together. Age and education have been consistently associated with individual infections such as Chlamydia.

Response: The discussion has been revised to specifically make this point about age and education and sexually transmitted infections

5. The study found that women having twins/triplets and those with medical conditions had a greater prevalence of infection. Women having multiple births and those with medical conditions can have more prenatal clinic visits and be monitored more closely than other pregnant women. Therefore, they might be more likely to complete the survey more than once and report infections. The proportions of these groups of women that completed more than one survey, compared with other women in the study, should be checked

Response: Women with multiple pregnancies did complete the survey more than once and this has been added to the results section (page 8) and we have mentioned in the discussion that increased surveillance for women with multiple pregnancies may lead to an increase in the reporting of infections (page 10).

6. The increased prevalence of infections among women with a hypertensive disorder of pregnancy is mentioned in the Discussion. A statement should be added noting that this prevalence estimate is based on a small number of observations and is likely to be unstable.

Response: We have added a sentence to the discussion that this estimate has been based on small numbers and has wide confidence intervals around it (page 11, paragraph 1).

## VERSION 2 - REVIEW

REVIEWER	<i>Tonia Carter</i>
REVIEW RETURNED	27-Mar-2011

THE STUDY	Although the authors' interest was in new infections that occurred over the last 7 days, the cross-sectional design of the study means that the appropriate measure of disease frequency is period prevalence and not incidence. Cumulative incidence is the proportion of people who become diseased during a specified period of time however it assumes that the population at risk at the beginning of the study period has been followed for the specified time to ascertain development of the disease. Subjects were not followed-up in this study but rather serial cross-sectional surveys were conducted asking different groups of individuals about infections they had acquired in the last 7 days. Therefore, the term "incidence" should be removed from the manuscript and replaced by "prevalence"; data to calculate measures of incidence were not collected in this study. It would be more accurate to say that the study ascertained the period prevalence of self-reported, recently-acquired infections (in the last 7 days) among women at least 20 weeks pregnant.
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## VERSION 2 – AUTHOR RESPONSE

Dear Mr Sands,

RE: Manuscript bmjopen-2011-000083 entitled "A prevalence survey of acute self-reported infections in pregnancy"

Thank you for the opportunity once again to respond to the reviewers comments on our manuscript. We have addressed the Reviewer's comment below and have highlighted changes using track changes in the manuscript.

Reviewer 1:

- We have changed the term 'incidence' to 'prevalence' in the manuscript as suggested by the reviewer. We have also changed the objective of the study to "estimate the weekly prevalence of self-reported recently-acquired infections in women at least 20 weeks pregnant."

If you have any queries regarding the manuscript please do not hesitate to contact us.

Yours sincerely  
Samantha Lain