Reviewer's report

Title: Syphilis epidemiology in Norway, 1992-2008: resurgence among men who have sex with men

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Reviewer: Asuncion Diaz

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Title: Syphilis epidemiology in Norway, 1992-2008: resurgence among men who have sex with men

This manuscript provides a description of syphilis cases notified to the surveillance system in Norway during 17 years. It provides some interesting data about incidence trends during the study period, and documents the re-emergence of syphilis among men who have sex with men (MSM)

1. Is the question posed by the authors well defined?
Yes. The authors explain the objective of the manuscript in the final paragraph of the background section.

2. Are the methods appropriate and well described?
Yes, although some information is missing. For instance the Norwegian surveillance system needs better description.

3. Are the data sound?
Yes

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data?
Yes. Nevertheless, some aspects needs to be reviewed (see comments below).

6. Are limitations of the work clearly stated?
Yes

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes.

8. Do the title and abstract accurately convey what has been found?
Yes, but there are a few points that I recommend to review (see below).
9. Is the writing acceptable?
In my opinion, yes. However, I am not a native English speaker myself.

Major Compulsory Revisions:

1. Background:

I would suggest reducing the first two paragraphs since the main clinical features of syphilis are well-known to the potential readers. On the other hand, the authors should include some data on syphilis epidemiology in Europe: recent trends, resurgence among MSM in other countries etc. to help the reader to understand the reasons for writing this paper.

Final paragraph of the introduction (page 5): please, re-write the purpose of the manuscript. Stratification variables should be described in the Methods section.

2. Methods:

Please, re-order this section. My suggestion would be to put the first paragraph at the end, together with the data analysis. Also, in the last paragraph it should be mentioned that the 95% confidence intervals for incidence rates are presented.

Some more information about the syphilis surveillance system in Norway is needed: is it voluntary or mandatory?. Is it mandatory only for the laboratories or also for the clinicians?

Please provide a syphilis case definition.

Second paragraph: “Clinicians fill out the clinical report with data about partner of index case”. Is partner notification compulsory in Norway?

Second paragraph: Is HIV testing mandatory for all syphilis cases?

Third paragraph: MSM co-infected with HIV are compared with those not co-infected. Why the same is not done for heterosexual people?

3. Results:

Page 7, line 3: “but in 1999, a marked increase with 40 cases occurred (75% of all cases)...” Please, clarify this percentage: is 75% of all cases in 1999 or 75% of all cases in the study period?.

Page 7, line 7: “The proportion of HIV co-infected increase (p<0.001) and reached 39% in 2008 (Fig. 2). Please, provide information about the first year of the comparison period.

Why data about HIV/syphilis co-infection from 1992 to 1997 are not presented?. Is this because no HIV- infected syphilis cases were found or because not all syphilis cases were HIV tested during the study period?
Page 7, line 11: “being diagnosed with syphilis in later stages (p=0.006)…” What does “later stages” mean?

Page 8, line 5: “Symptoms were the cause of testing in 27% cases and pregnancy in 23%”. However, in table 1 it is clear that most women were diagnosed due to contact tracing (30%); I think it is important to underline this fact.

Table 1. Some categories in several variables have very few cases. I wonder whether the Fisher’s exact test would not be preferable to the chi-square test in these instances.

4. Discussion:

First paragraph: “Since 1999, there has been resurgence among MSM, including HIV positive”. Has there been any syphilis outbreak among MSM during the study period?. Because if this were the case, it is possible that the increasing incidence was due to the outbreaks.

Second paragraph: The authors comment that a strength of this study is the high coverage of the surveillance system. Could they provide information on coverage in the Methods section?

Page 12, First paragraph: “Several cases reported being infected in Russia or Pakistan…”. How many cases were infected in Pakistan? . This figure doesn’t appear in the tables.

A total of 30% of syphilis cases in women had been diagnosed by contact tracing versus only 7.9% and 8.3% respectively in heterosexual and homosexual men. What do the authors think about these differences?

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Overall

To be consistent with the title, I would suggest writing “men who have sex with men” instead of “men infected by another man (MSM)” along the whole paper.

1. Abstract:

-Background: Stratification variables should be presented in the methods section
-Methods: Some information about the analysis should be presented
-Results:

In the sentence “The proportion of MSM increased from 0 (1992-1994) to 88% (2007)”, why data of the last year (2008) are not included?

I suggest replacing “The majority obtained syphilis…” with “The majority was infected by a casual partner”
Some information about congenital syphilis should be provided in the results section (congenital syphilis is mentioned Methods but afterwards no data appears in the Results section, which is a bit confusing).

2. Results:
Page 6, paragraph 2:
Consider removing “observed” in the sentence “The incidence rate in the observed study period…”

Page 7, line 15:
Consider replacing “During our study period” with “During the study period”

3. Table 1:
Please present median and percentiles for quantitative variables

What does “Indications for testing: Own request” mean?. Do patients seek testing without having symptoms?

4. Figure 2:
It is difficult to distinguish between lines “other STI” and “no reported STI”

Discretionary Revisions:
I would suggest re-ordering the discussion. Sometimes it is difficult to read because the issues are mixed (5th paragraph is about MSM, 6th about heterosexual, 8th about MSM…..)

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

Quality of written English: Acceptable

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