Reviewer’s report

Title: HIV epidemiology among female sex workers and their clients in the Middle East and North Africa: Systematic review, meta-analyses, and meta-regressions

Version: 0 Date: 10 Mar 2019

Reviewer: George Rutherford

Reviewer's report:

This is an extremely well done and exhaustive review of the epidemiology of HIV among FSW in the Middle East and North African region. I had some small comments, as outlined below. Several of my comments revolve around what exactly does the MENA region comprise and which countries are in which geographical subsets.

<table>
<thead>
<tr>
<th>Page</th>
<th>Line</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>22</td>
<td>Was there an assessment made of the quality of the estimates? If so, how?</td>
</tr>
<tr>
<td>2</td>
<td>28</td>
<td>Rather than &quot;on&quot;, the sentence might read better if you used &quot;in&quot;: &quot;… studies in 287,719 FSWs, and 69 in 29,531 clients...&quot;</td>
</tr>
<tr>
<td>2</td>
<td>48-50</td>
<td>I'd suggest inserting &quot;the&quot; in front of &quot;Fertile Crescent&quot; and &quot;Horn of Africa&quot;.</td>
</tr>
<tr>
<td>2</td>
<td>50-52</td>
<td>An AOR of 1.15 does not translate to the increasing rate of 15%. Do you mean that the prevalence (which is not a rate) has increased an average of 15% per year or that there were 15% higher adjusted odds of increasing prevalence annually?</td>
</tr>
<tr>
<td>3</td>
<td>5-7</td>
<td>What do you mean by &quot;established phase&quot;. Are you referring to the WHO definition of a concentrated epidemic as having a prevalence in one key population of &gt;5%? It might be good to change this wording a little.</td>
</tr>
<tr>
<td>4</td>
<td>23</td>
<td>Instead of &quot;much data is…&quot;, I'd suggest &quot;many of these data are …&quot;</td>
</tr>
<tr>
<td>5</td>
<td>38</td>
<td>Instead of &quot;MENA definition covers…&quot;, I'd suggest something like &quot;MENA includes …&quot; You also may want to add a footnote that spells out which countries, exactly, are in MENA, for instance, I'm not sure if Mauritania, Chad, South Sudan or Cyprus are part of the region.</td>
</tr>
<tr>
<td>6</td>
<td>43</td>
<td>Does &quot;engaged in sex work&quot; mean exchange of sex for money or is transactional sex included? Does it mean they are currently engaged or does a lifetime history count?</td>
</tr>
<tr>
<td>9</td>
<td>43-45</td>
<td>See second comment above.</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>What is the denominator of the median population proportion? Is it everyone, everyone over 15, all females, all females over 15? Is there an upper age limit?</td>
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<td>12</td>
<td>41-43</td>
<td>Why wasn't study quality included in the model?</td>
</tr>
<tr>
<td>12</td>
<td>56</td>
<td>Please define these regional classifications: Eastern MENA, Horn of Africa, Fertile Crescent.</td>
</tr>
</tbody>
</table>
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Not applicable

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

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