Reviewer’s report

Title: Effectiveness of Community-Based HIV/AIDS Service Delivery Models Used to Reach Female Sex Workers along Malaba-Kampala Highway, Uganda, 2017

Version: 0 Date: 06 May 2019

Reviewer: Mostafa Shokoohi

Reviewer's report:

Hope the authors find these comments helpful for their submitted manuscript:

Abstract:

* In abstract and throughout the text, the authors should ensure that they use "female sex workers (FSW)" rather than "sex workers (SW)", as the latter one can refer to both male and female sex workers. However, female sex workers are the target population in this study.

* In the definition of sex workers, did the authors consider a specific time period? For example, a women who sold sex for money or other items/benefits in what time period? Currently? Recently (time)?...

* HCT should be spelled out in the abstract; "HIV counselling and treatment"

* In abstract, the conclusion says that "All the three service delivery models were being utilized by the SWs", while it is a little bit vague based on what presented in the findings section.

* Both "HIV testing" and "link to care" are the main keywords of this research that should be considered as the key words. "Key population" can be removed as "female sex workers" inherently imply this concept. The study also reported some qualitative findings, therefore, adding something related to it can be considered (e.g., "Qualitative research", or "Mixed methods").

* What is/are "logistics and unfriendly services"? The authors need to be more specific and in line with their own findings.

Text (body):

* In Introduction section, the authors when addressing the 90-90-90 targets, I recommend adding the corresponding statistics in Uganda from where this study came. The readers may need to know how far Uganda is behind this global target in each of these three targets.

* In the second paragraph, when the authors say "Sixty seven percent of the adults were on treatment", they should specify whether this if for the adults living with HIV. ALSO, when they say "HIV prevalence among sex workers (SW) was estimated to be 37%", it should be specified whether they are female sex workers.
I have problems with the flow of the text from one paragraph to another. For example, the second paragraph in the Introduction focuses on the estimates/statistics in Uganda and also among FSW, while the third paragraph talks about services. I believe the authors should talk about FSW in this third and discuss the context in which the study target people live, work, and face challenges. Then, discuss these challenges including HCT and their role in controlling HIV infection among these people.

This sentence in the introduction, "Despite the efforts, HIV prevalence in the general population and the SWs has not significantly reduced" is a little bit hard to understand. No reduction in HIV prevalence in spite of lots of efforts does not indicate no impact of the efforts. Instead, no reduction in "prevalence" can imply a better life expectancy or improved survival of the affected individuals.

A better support is required on why only Malaba-Kampala highway was chosen. What does "a lot of sex work occurs" mean? Please provide better support by statistics and rationale.

I do not also understand this "At the district level we engaged the technical and political leadership for concurrence." It seems to be something extra.

The study relied on two indicators: "the proportion of SWs who had an HIV test in the last 12 months" and "the proportion of SWs who were positive and linked into care" to display the effectiveness of the care delivery model. How these tow indicators were assessed?

The authors should avoid using such vague statements "some SWs are selected." This is the method section; therefore, they should be able to provide the procedure clearly and perfectly.

The method section also has the problem of weak flow in the text. For example, the paragraph under the "Service providers, Uganda MoH, and IPs:..." is unclear and we do not know what is this paragraph for.

The qualitative part should be distinctly (in a different paragraph) reported. How many participants were selected; who were interviewed? Who were the individuals at the facility level or respondent level? What kind of questions they were asked for; how the information/data were obtained (talk more about FGDs and KII).

How the HIV status was confirmed?

Table 2, age variable: does the category "38+" mean "35+"? AND, "Residence" means "housing status"?

Total N (denominators) should be specified in each indicator reported in Table 3.

I am wondering why the authors did not report which groups of the target population benefited most or did not benefited most from the model based on the two main indicators of the study? For example, by education categories, which category reported higher HIV testing and, if positive, which education category reported higher linkage.

The authors did not address the type of linked into care (i.e., immediate and delayed) in the method section. Any reference to define more than 30 days can be considered as delayed linkage to care.
This study aimed to report the "effectiveness" of the community-based HIV/AIDS services delivery models. To attribute an effect to this intervention/model, we need to have either a comparison group to compare the results with, or, if there is only one study group, we need to have statistics before implementing the interventions and then compare them with after intervention. This study is now evaluating the effectiveness of this care model 10 years after its implementation (2009-2019). To show the effectiveness of this model, the readers need to know how these statistics had changed over time (at least before and after the implementation). For example, while 86% is a good estimate for an HIV test, such estimate is required to be reported to see how the intervention/model be called "effective". This needs to be clearly discussed in the Discussion section.

* What are the "unfriendly services" or "friendly services"?

* I strongly encourage the authors to have a structure for their discussion section as recommended here: https://www.bmj.com/content/318/7193/1224; especially the implications of the study should be clearly described.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

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

No

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

No

**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

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Needs some language corrections before being published

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