Reviewer’s report

Title: Exposure to HIV prevention programmes associated with improved condom use and uptake of HIV testing by female sex workers in Nagaland, Northeast India

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Reviewer: Marie Ng

Reviewer’s report:

This paper utilized the IBBA data from 2006 and 2009 to examine the effectiveness of HIV prevention effort in Dimapur, Nagaland. The research questions were well defined. Overall, the manuscript was very nicely written and easy to follow.

Major Compulsory Revisions

- Could the authors also include an analysis regarding program exposure among subgroups in 2006? It would be interesting to see whether the pattern differ between 2006 and 2009.

- The IBBA data sets offered a great opportunity to conduct evaluations of the HIV prevention program by comparing two time points. The authors have definitely made use of this strength of the data. However, I feel that the comparisons between the results of 2006 and 2009 can be emphasize and delve into further. For example, in Table 4, the differences in the adjusted OR between 2006 and 2009 were very small in several cases. For instance, the difference in adjusted OR between 2006 and 2009 for “condom used every time with occasional clients” was only 0.16. Could this be interpreted as -- despite 3 years of NSACS and Avahan effort, the odds of condom use among the exposed and unexposed remained stagnant (i.e. program didn't improve outcomes)?

- A truly remarkable difference was observed in HIV testing, yet it happened under the circumstance where most program service utilization and intensity did not increase substantially. It will be helpful if the authors could further discuss this result and the finding that there was significant increase in condom use under little increase in program coverage? One would expect that the increase in condom use and HIV testing are outcomes of increased program coverage and intensity. However, the results suggested that only two aspects of the program have increased significantly over the years. Does that mean that other services in the program were ineffective?

Minor Essential Revisions

- Prior to describing the main results, perhaps could first provide some overall descriptive statistics. For example, were the sample sizes in rounds 1 and 2 both 400. Any data discarded? What was the distribution by age, caste, religion, literacy, duration in sex work?
- Table 4: consistency of labeling, first two rows were labeled as exposed and unexposed others were no/yes.

Discretionary Revisions
- If I understood correctly, separate logistic regression was used for 2006 and 2009 in Table 4. The authors may consider putting them together and use a dummy year to test for year difference. Can add a product term to examine whether the odds of condom use among exposed and unexposed differ between the years.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.