Author's response to reviews

Title: Early Antenatal Care and Knowledge of Partner HIV Status are Associated with Facility Delivery among HIV-infected Women in Western Kenya; A Community-Based Assessment

Authors:

John Kinuthia (kinuthia@u.washington.edu)
Pamela Kohler (pkohler2@u.washington.edu)
John Okanda (JOkanda@kemricdc.org)
George Oliolo (golilo@kemricdc.org)
Frank Odhiambo (fodhiambo@kemricdc.org)
Grace John-Stewart (gjohn@u.washington.edu)

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Author's response to reviews: see over
Dear Reviewers,

We greatly appreciate and thank you for your insightful comments that will help to improve the quality of this manuscript.

As advised, we have revised the title of the manuscript, made clarification on the sampling of the study participants and improved on presentation of the results.

Attached, please find detailed responses to reviewer’s comments and description of corrections made.

Sincerely

John Kinuthia MBChB, MMed, MPH
Consultant Obstetrician and Gynaecologist
Kenyatta National Hospital
Reviewer no 1

Title: Early Antenatal Care and Knowledge of Partner HIV Status are Associated with Facility Delivery among HIV-infected Women in Western Kenya; A Community-Based Assessment

Major Compulsory revisions:

Title:
From the title of the research, it is hinted that the authors found an association between Early Antenatal Care and Knowledge of partner HIV status and the choice for a facility based delivery. This has not come out clearly with what the study was aimed at, as the objectives of the study do not come out clearly.

Response: We agree with the reviewer that the title is too narrow in focus and does not align well with the manuscript. We have revised the title.

Background: The point of focus of this paper from the background, to the methods to the results and discussion should be early antenatal care and knowledge of partner HIV status. This is not well presented in the background as there are many ideas which are not linked together to reflect the title as well as the objective of the study.

What is mentioned as the aim of the study (lines 117-118; rates and correlates of facility delivery) and the focus of the analysis (line 160; facility delivery and use of ARVs) seem also to disconnect with the title of the study

Response: We agree and have revised the title as noted.

Results and Analysis:
The presentation of the results does not flow. For example, since there is a component of comparison between the HIV infected and uninfected, the presentation should be consolidated such that it is clear how the comparison is arrived at.

Response: We have revised the results to make this section more clear.

In the analysis other factors other than antenatal care and knowledge of partner status have been presented and discussed at length rather than those two which should be the backbone of this paper. It would be advisable to either revise the title to include other factors excluded from it for example the stigma, perceptions, use of ARVs or to rewrite the results with a focus on antenatal care and partner HIV status.

Response: As previously, we agree with the reviewer’s comment that the manuscript encompasses more than the cofactors noted in the title. Accordingly, we have revised the title of the manuscript to reflect all correlates of facility delivery. The new title of the manuscript is “A Community-Based Assessment of correlates of Facility Delivery among HIV-infected Women in Western Kenya”

Minor Essential Revisions:
Grammatical checks on the whole document to make it coherent. Main focus should be on the results section. It should be a continuous flow of information with not so values in bullets
Response: We have reviewed the grammar and tried to make the sequence of ideas clearer as advised.

Sample size determination and selection:

Response: This has been included.

The numbers presented need to be clarified. Response: we have clarified the numbers presented when possible.

What was the actual population sampled?

Response: we used the HDSS database to enroll 652 women, including a random sample of 405 women and a sample of 247 HIV-infected women.

From the calculations, (total no sampled = 798...enrolled = 652 where are the remaining 146?) (HIV+ = 275, reported 216, where are the 59?) Was the 275 number from the database sampled randomly? The 523 random from non-HBCT areas what was the purpose of this?

Response: We agree that this was confusing. We have rewritten the introductory section of the results to be clearer

“Between February and June 2011, we enrolled 652 women, 247 from the KEMRI-CDC HDSS area where HBCT had been conducted and 405 women randomly selected from areas where HBCT had not been conducted. Overall, 216 women self-reported they were HIV positive (173 from the HIV-positive HBCT sample and 43 from the random sample), 378 were HIV negative (318 from the random sample and 60 from HBCT sample) and 58 reported they did not know their HIV status”. (Line 179-185).

From the title, the population of focus was HIV infected women, why the comparison that emerges later? What were the actual numbers used for comparisons?

Response: Although the focus of this analysis was correlates of facility delivery among HIV-infected women, we believe it is important to understand whether HIV-infected women had determinants of facility delivery that were distinct from HIV-uninfected women.

There were 216 women who were HIV positive. The analysis of correlates of facility delivery among HIV uninfected has been restricted to the 318 women enrolled from the random sample in non HBCT areas.

The outcome of interest, (Line 147), on self-reporting on place of delivery, what purpose does it serve in the study? The mothers also did a self-report on HIV status. Did it tally with what the researcher knew ahead of the study?

Response: The study assessed correlates of facility delivery. Use of term “self-reporting” on place of delivery was meant to clarify that we did not verify with hospital records place of delivery stated by women reporting facility delivery.
We did not know the HIV status of all women enrolled in the study. The purpose of enrolling from the area where HBCT had been conducted was to purposively over sample HIV positive women to ensure we had adequate power assess uptake of PMTCT interventions (that is use of maternal and infant antiretrovirals, facility delivery, exclusive breastfeeding etc. Of 247 women in the HBCT areas, only 175 self-reported they were HIV positive. The remainder did not confirm their HIV positive status, and we could not then ask them about PMTCT interventions because they had denied their status.

Data for value and morality of stigma is not reported/present (also no explanation of how they were carried out or any background on why they were carried out…..either add that or remove this section)

Response: Data for the stigma indicators had previously been described and a reference was provided (Line 153-156). We did not present results that had previously been presented to avoid overlap. We included discussion regarding the importance of the stigma indicators (Discussion Line 354-361)

From the results, there is a mention of comparison between HIV infected women and uninfected women. How was this done as it is not clear from the sample size determination? What value addition did it bring to the objective of this study?

Response: This is a good comment – we debated the merits of focusing on HIV-infected women or evaluating them in the context of HIV-uninfected women. We opted for the latter approach, because we felt it was important to contextualize findings important to readers. We were interested in knowing if these were general cofactors for facility delivery, regardless of HIV or specific to HIV. We have added the following sentence” Overall, 227 (42.5%) women delivered at health facilities. Overall, 227 (42.5%) women delivered at health facilities. The proportion women who delivered in health facility did not differ by HIV status (46.8% among HIV-infected vs 39.6% among HIV-uninfected, p=0.102) (Line 205-207).

Although the focus of this analysis was correlates of facility delivery among HIV-infected women, we believe it is important to understand whether HIV-infected women had determinants of facility delivery distinct from HIV-uninfected women (Line 246-259).

It would also be enlightening to understand what ‘early antenatal attendance’ is and how does it compare to ‘late attendance’ in defining the outcome

Response: The median gestation at initiation of ANC care was in the fifth month. In multivariate analysis we found lower gestation (months) at 1st ANC visit was associated with higher odds of facility delivery OR= 1.24, 95% CI: 1.01-1.52. We found that women who initiated antenatal care earlier were more likely to deliver at health facilities, consistent with some previous studies.

How was the community perception brought out in the respondent mothers’ responses? From line 154, only mothers who were unwilling to report on themselves why they had non-facility delivery were eligible to answer that question. How many were they and would they really represent the community perceptions on the same?

Response: To determine community perceptions about reasons for not delivering at health facilities we asked the women “In your opinion, what are some of the reasons
women in this area do not deliver their babies in a facility” [Line 156-160]. All women who participated in the study were asked the question. Asking the question to all women participating in the study gave us an opportunity learn reasons that women may be unwilling to report themselves about reasons for non-facility delivery and thus get a better sense of factors that prevent women from delivering in health facilities.

Check the coherence of Paragraph 11 Lines 151-153

Response: We have revised this to read:
“Standardized questions were used to quantitatively measure HIV-1-related stigma and discrimination (21). We evaluated two domains of HIV-1 stigma, namely: value- and morality-related attitudes of blame, judgment and shame for those living with HIV/AIDS and enacted stigma or discrimination (line 153-156)”.

Response: We have added reference to two studies that reported lower facility delivery rates among HIV-infected women when compared to HIV-uninfected women

Discretionary Revisions:
Line 288, what are the PMTCT Option B regimen?

Response: In Option B, all pregnant and lactating women with HIV were offered antiretroviral treatment (ART) with three drugs (typically tenofovir, lamivudine and efavirenz), beginning in the antenatal period and continued throughout the duration of breastfeeding. At the end of breastfeeding those women who did not require ART for their own health discontinued the prophylaxis and continued to monitor their CD4 count, eventually re-starting ART when the CD4 fell below 350 cells/mm³

We have rephrased to read

“For women who do not deliver at facilities, dispensing intrapartum antiretroviral doses antenatally or using PMTCT Option B regimens where pregnant and breastfeeding women are offered antiretroviral therapy irrespective of CD4 counts, may decrease MTCT” (line 302-305).

Reviewer 2
Goal: Stated differently in the abstract (lines 43, 44) and in the main text (lines 117-119). Please be consistent.

Response: We made the correction:

“A community-based survey was conducted to determine correlates of facility delivery among HIV-infected women in rural western Kenya.” - abstract

“The aim of this nested study was to determine correlates of facility delivery among HIV-infected women in a rural community in Nyanza Province, western Kenya.” – main text.

2. Abstract:
2.1 Line 51, 52 – Multivariate logistic regression were performed to compare which groups?

Response: We have revised this to read
“Chi-square tests of proportions and multivariate logistic regression were performed to assess correlates of facility delivery”.

3. Main text
3.1 Background:
3.1.1 Lines 80 – 81: …reduces the risk of HIV transmission to <5% (in whom?).

Response: This has been rephrased to read “Optimal use of antiretroviral drugs (ARVs) reduces the risk of vertical HIV transmission to <5%”

(Discretionary revisions)
In the background or in the study population section, consider providing some basic information on health care facilities in this area of 385 villages: number of facilities with ANC and delivery services.

Response: We have added:

“There are 36 health facilities in the HDSS, including one district hospital, two privately owned hospitals, 11 health centres and 22 dispensaries. (Line 127-129)”

3.2 Methods:
3.2.1 Line 141: It might help to state that the 523 randomly selected women were HIV negative.

(Discretionary revisions)
Response: We have added the following:

“…a second list of 523 randomly selected women from the areas where HBCT had not been conducted and were either HIV positive, negative or unknown. We ascertained the HIV status of mothers in the random sample by self-report”

3.2.2 Data analysis: Please state clearly which groups were compared. Not having that framework provided in the analysis, it was confusing reading the results.

Response: We have clarified groups as recommended.

3.2.3 Line 160 – Strictly speaking, there were no rates calculated. Please re-word.

(Discretionary revisions)
Response: We have omitted the term ‘rate’ as suggested.

3.3 Results:
3.3.1 Lines 176-177: Might be more clear to say that you enrolled 216 HIV positive and 436 HIV negative women in this study, rather than giving the total and n (%) of HIV positive, since the two groups were sampled independently.

Response: We have changed the wording as suggested.

Between February and June 2011, we enrolled 652 women, 247 from the KEMRI-CDC HDSS area where HBCT had been conducted and 405 women randomly selected from areas where HBCT had not been conducted. Overall, 216 women self-reported they were HIV positive (173 from the HIV-positive HBCT sample and 43 from the random sample),
378 were HIV negative (318 from the random sample and 60 from HBCT sample) and 58 reported they did not know their HIV status”. (Line 179-188).

3.3.2 In the methods, you state that you had a list of 275 HIV positive and 523 HIV negative women. You enrolled 216 and 436 of HIV positive and negative women, respectively. Did the others not consent or not located? Please include this in text if possible. (Discretionary revisions)

Response: The others did not know their status.

3.3.3 Characteristics of study population (and Table 1): it would be informative to see the baseline characteristics of the HIV-negative women too.

Response: We agree. The baseline characteristics of the entire study population had previously been described and we have referenced this (22)

3.3.4 Line 204 (and Table 2): Gestation at 1st ANC visit is indented under Prior pregnancy loss in Table 2. Please correct this (and same with ANC attendance in Table 2).

Response: The correction has been made

3.3.5 Line 224: Regarding distance from health facility – if you have access to the geo-location of health facilities in this community, can you calculate distance for each of your study participant and incorporate that into your analysis? (Discretionary revisions)

Response: We agree that this is interesting. We plan to include a geoanalysis in another manuscript focused on spatial analyses.

3.3.6 Line 233: Based on numbers in line 176, are there not 436 HIV-negative women? In line 233 and in table 3, you say 378.

Response: As previously, this has been amended to say: “Overall, 216 women self-reported they were HIV positive (173 from the HIV-positive HBCT sample and 43 from the random sample), 378 were HIV negative (318 from the random sample and 60 from HBCT sample) and 58 reported they did not know their HIV status”. (Line 181-183).

3.4 Discussion:
Line 267: I understand what you are saying here but it comes across as though HIV-infected women do not have any concerns that might prevent them from accessing facility delivery. What you are trying to say is they do have concerns; their concerns are no different from non-HIV infected women. Please consider re-wording. (Discretionary revisions)

Response: Thanks for the helpful comment. We have reworded as suggested. “Cofactors of facility delivery were similar between HIV infected and uninfected women suggesting that HIV-infected women may not have specific concerns that prevent them from accessing facility delivery”