Reviewer’s report

Title: Gestational mid-upper arm circumference and birth or early infancy anthropometrics in HIV-exposed and unexposed infants: a prospective cohort

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Reviewer: Mathurin Tejiokem

Reviewer’s report:

This paper describes a very interesting aspect of prevention of poor fetal and infant growth. It attempted to characterize a point of care tool which can be used easily by health workers in remote areas to detect infants at risk of poor growth. This topic is of high interest as it is related to infant early morbidity and mortality. It has several strengths; as the study design is concerned (cohort) the collection and evaluation of infant and maternal clinical and socioeconomic characteristics, the authors also tried to contact those who were lost to follow-up in order to reintegrate them back to the study. And lastly the paper is well-organized.

The major comments

Methods:

Study population.

1) It will be important to know more about the setting. This will help clarify the population where the authors selected the 114 women during the eight months of this study. This will throw more light to the moment mothers were included in this study.

2) Among the eligibility criteria, there was “singleton birth”. Normally, it should be singleton pregnancy. If not, were there any morphological analysis apart from clinical exams to confirm singleton pregnancy? Was there a pre-inclusion phase? Did the authors pre-include during pregnancy and confirm after birth?

3) The total sample size in each of the two groups involved in this analysis was not justified.

4) Line 103: “For every HIV-positive woman enrolled, the recruitment goal included two HIV-negative women.” Were there any procedures to match these women? If yes, on which criteria? Please could you give precision on how HIV-negative women were selected?

Data collection:

5) Lines 146-149: breastfeeding variable: difficult to understand the relevance of this because difference between partial and predominant breastfeeding is not clarify and the authors did not define these terms.

Discussion

6) One third of pregnancies end up as premature deliveries. This seems to be too much. What could explain this? This has not been discussed. Could this have an
impact on the result? The same observation with skin folds parameters which were finally not discuss

General comment
I agree with the authors’ conclusion but I have one question in mind concerning the use of gestational MUAC as point of care test. Considering the fact that appropriate reference values are not yet established and that some authors reported that anthropometric measures for infants born to HIV-infected mothers are significantly lower than those for infants born to HIV-negative mothers because of direct HIV effect or concurrent illnesses or triple therapy effect, should we not directly consider HIV positive mothers as a risk group?

Minor comments

Abstract:
1) The study period and setting are not indicated,. The process of selection of mother-infant pair is not mentioned.
2) Line 30: It is noted that “Data was obtained by questionnaire”. Data here is plural so should read “Data were obtained”?

Background:
3) Line 70: “While these indicators identify severe problems, they pregnant women”. This sentence is not clear, something is missing here. Please correct.

Methods:
4) Line 106: Could you please present the infant vaccination schedule in Tanzania? Which infant vaccine is planned at 6 months of age?
5) Lines 104-105: Could you please give more precision concerning the rhythm of follow up.
6) Lines 116-117: was AZT+3TC+EFV the first line regimen in Tanzania? Were there any restrictions of this regimen in first three months of pregnancy?
7) Line 121: How many infants were tested? Were there any miscarriages, any deaths before testing or any lost to follow up?

Data collection:
8) Lines 123-124: “Self reporting” and then “questionnaires administered by the…” a bit ambiguous to me. Was it a guided self reporting?
9) The authors indicated how measures were done but nothing is stated concerning the person who conducted them. Was this carried out by the research nurse?
10) When were the data collected in pregnant women?

Results
11) Lines 179-180: This should be checked. Does not correspond with what is on the tables.
12) Line 189: “…may have been due infrequent severe …” something is missing
13) Line 194: “Among who began ART…”: not clear, please complete
14) Table 2: correct please the unit of birth weight: not cm. the same observation in Table 3
15) Figure 1: considering the details presented before the 3 monthss follow up synthesis, the number of infants analysed should be 92/100 giving 92%.
Acknowledgements
16) Line 341: correct the term “cohort”

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.

Declaration of competing interests:
I declare that I have no competing interests