Author's response to reviews

Title: The Effect of Sexually Transmitted co-Infections on HIV Viral Load amongst Individuals on Antiretroviral Therapy: A Systematic Review and Meta-Analysis

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

Thank you for the comments on our manuscript. We revised the text accordingly and below is a point-by-point answer.

Best regards,
David Champredon

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**Reviewer:** Ruanne V Barnabas

**Reviewer's report:**
This is an interesting and important systematic review and meta-analysis looking at the impact of STIs on viral load with the use of ART. While there was a paucity of data, the change in viral load with STIs was small. The paper is well written and the analysis was rigorous.

**Major points:**
1. Were there any papers looking at changes in viral load in the first 3 months of ART initiation i.e. prior to viral load suppression. What are the authors thoughts about this early period - seems like the time when STI co-infection could have the largest impact on viral load.

**Response:**
We searched for all studies investigating variations in HIV viral load, irrespective of when ART was initiated. None specifically reported the effect of STIs prior to HIV viral suppression. We added a paragraph in the Discussion to address this question.

2. Please report briefly how study quality was assessed?

**Response:**
We assessed study quality using the summaries in Tables 1-2, and Figures 2-4. We now state this explicitly in the Methods.

**Reviewer:** Nico Nagelkerke

**Reviewer's report:**
I only have Discretionary Revisions
This is a well written ms about a rather narrow subject. The analyses appear to be well done and carefully presented. However, the ms would gain in strength if a section - rather informally written - on Bayesian hierarchical models would be included. If so, the reason why this approach was chosen (what were the alternatives) should also be discussed.

**Response:**
We included a paragraph in the Methods section (Statistical Analysis sub-section) attempting to explain and motivate our use of Bayesian hierarchical models.