PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Intimate Partner Violence during Pregnancy in Relation to Non-Psychotic Mental Health Disorders in Rwanda: A Cross-Sectional Population-Based Study
AUTHORS	Rurangirwa, Andrew; Mogren, Ingrid; Ntaganira, Joseph; Govender, Kaymarlin; Krantz, Gunilla

VERSION 1 – REVIEW

REVIEWER	Flávia Gomes-Sponholz University of São Paulo, College of Nursing at Ribeirão Preto Brazil
REVIEW RETURNED	15-Feb-2018

GENERAL COMMENTS	This is a well-written and interesting paper on an issue of high importance and relevance for public health and health professional. There are some issues that need addressing to strengthen the paper: Aims of the study need reworking: the first one “aimed to assess the prevalence of non-psychotic MHDs in women who gave (missing word – maybe birth?) 1-13 months...” and the second I supposed that “MHDs” should be non-psychotic MHDs. Sampling needs to be more clearly described. Please provide more justification of the use of hypertensive disorders instead of one of the four non-psychotic mental disorder (e.g.: depression)? I am not convinced with the statement on page 6, lines 17-19. Similarly, details of data collection instruments need to be more clearly described. How was the MINI modified for use in the Rwandan setting? The pre-test of the translated version was enough to guarantee accuracy and all psichometric properties? Currently the description of suicide ideation instrument is poorly described. Data were obtained by male or female interviewers? Given that Rwandan women are necessarily not a group that will be relevant to all areas of the world, the authors need to make a statement about the transferability and application of their findings. There is only brief information on how the elegible women were selected/recruited - I would like to see this expanded. Page 5 - line 9 – First sentence should include that also moderated hundus died as victims of the genocide. Not clear why the age groups are so huge (15-30) (31-46) for women. Same for the partner. What further screening would be needed to better identify women at risks? What community health interventions might be useful?

REVIEWER	Vibeke Rasch

	Dept of Obs & Gyn, Odense University Hospital
REVIEW RETURNED	01-Mar-2018

GENERAL COMMENTS	Reviewer: Vibeke Rasch (MMed, PhD, DMSci) General Comment This is a well-written and well-conceived piece of research. The paper concerns a significant social and public health concern. It assesses the association between Intimate Partner Violence during Pregnancy and Non-Psychotic Mental Health Disorders in Rwanda. Few studies have focused on controlling behavior and mental health, in that aspect the findings are novel and interesting. However, it may be questioned whether controlling behavior should be classified as a fourth type of IPV or rather described as part of a dysfunctional partner relationship. I have some few specific comments as detailed below. Introduction Page 7, line 49-50: The authors are writing *"little is known about the relationship between violence against pregnant women in low-income countries (LICs) and MHDs during the perinatal period"*. Lately, many studies on IPV, postpartum depression and the role of social support have been published from neighboring Tanzania, the authors may consider referring to some of those papers. Methods Were the tools back translated to English and were they validated after the translation? In the statistical analyses, were stratified analyses performed to assess effect modification? Discussion Page 19, line 10-15: The authors are writing *"Studies investigating the prevalence of MHDs during pregnancy and after childbirth are extremely rare in LICs. The few related publications showed discrepant results".* This is not entirely true - I believe there is a growing number of studies focusing on depression both during pregnancy and postpartum and I am not so sure that the findings are that contradicting. I will suggest the authors take a more critical look at the published literature in neighboring countries and sum up what

	we know about the association between IPV and mental health so far. Tables Table 1 and 2: There are a number of missing values, the authors may consider including a footnote under the tables to specify this.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1
General
This is a well-written and interesting paper on an issue of high importance and relevance for public health and health professional. There are some issues that need addressing to strengthen the paper.
Response: We thank the reviewer for the comments. Our specific responses are given below
Comment 1
Aims of the study need reworking: the first one "aimed to assess the prevalence of non-psychotic MHDs in women who gave (missing word – maybe birth?) 1-13 months..." and the second I supposed that "MHDs" should be non-psychotic MHDs.
Response: We have rewritten the aims of the study: Therefore, this study aimed to assess the prevalence of non-psychotic MHDs in women who gave birth 1-13 months before the interview. A further aim was to study the association between different forms of IPV exposure during pregnancy and non-psychotic MHDs. (Page 2, lines 18-20)
Comment 2
Sampling needs to be more clearly described. Please provide more justification of the use of hypertensive disorders instead of one of the four non-psychotic mental disorder (e.g.: depression)? I am not convinced with the statement on page 6, lines 17-19. :
Response: We understand the reviewer's concern regarding the use of prevalence of pregnancy hypertensive disorders instead of one of the non-psychotic mental health disorders for sample size calculation. However, this study is part of a wider population-based study programme investigating pregnancy hypertensive disorders, quality and care of antenatal care services, delivery services and costs of health services. No outcome was given any particular importance to the other. We decided to use pregnancy hypertensive disorders during pregnancy to calculate the sample size for the whole study programme because the prevalence rates of pregnancy hypertensive disorders were the least prevalent among the outcomes that were to be studied, including prevalence rates of non-psychotic mental health disorders. We therefore, consider the sample size appropriate for non-psychotic mental health disorders investigations since using depression for example, would have required a much smaller sample size than 921 women.
Comment 3
Similarly, details of data collection instruments need to be more clearly described. How was the MINI modified for use in the Rwandan setting? The pre-test of the translated version was enough to guarantee accuracy and all psichometric properties?
Response: The MINI has been shown to be cross-culturally reliable, valid and had previously been used in Rwanda in similar studies.1 The questionnaire was well understood by respondents during the pre-test. We have rewritten the following sentences in the methods section of the manuscript: It does not necessarily require clinical staff to use, has been shown to be a reliable and valid instrument and has previously been successfully used for similar studies in Rwanda. (Page 5, lines 2-4)

1. Umubyeyi A, Mogren I, Ntaganira J, Krantz G.: Intimate partner violence and its contribution to mental disorders in men and women in the post genocide Rwanda: findings from a population based study. BMC Psychiatry. 2014 Nov 18;14:315. doi: 10.1186/s12888-014-0315-7.

Comment 4

Currently the description of suicide ideation instrument is poorly described.

Response: We have added the following sentences in the methods section of the manuscript: Suicide ideation section of the MINI had six questions, all with yes/no options i.e. did you think that you would be better off dead or wish you were dead, want to harm yourself, think about suicide, have a suicide plan, attempt suicide, ever make a suicide attempt? Diagnosis was reached when at least one question had a yes answer. (Page 5, lines 10-14)

Comment 5

Data were obtained by male or female interviewers?

Response: All interviewers were female and of similar age as participating women. We have rewritten the following sentences in the data collection section of the manuscript: Twelve well-trained interviewers, who were all female, clinical psychologists, nurses or midwives belonging to a pool of interviewers at the School of Public Health (SPH), UR, carried out face-to-face interviews with the participating women. (Page 4, lines 10-12). And in the methodological considerations section of the manuscript: Nevertheless, data collection was conducted with utmost care by a team of experienced medical personnel who were of the same sex and of similar age as the participants. This has been shown to improve the accuracy of reporting in interviews. (Page 18, lines 5-8)

Comment 6

Given that Rwandan women are necessarily not a group that will be relevant to all areas of the world, the authors need to make a statement about the transferability and application of their findings.

Response: We agree with the reviewer regarding the generalizability of our findings. We have added the following sentences in the methodological consideration section of the manuscript: Moreover, pregnant women´s health and life circumstances vary considerably between nations. Our findings may therefore not be generalizable to women from other countries. (Page 18, lines 9-11)

Comment 7

There is only brief information on how the elegible women were selected/recruited - I would like to see this expanded.

Response: We have expanded the selection process section of the methodology in the manuscript: Finally, with the help of community health workers (CHWs) who keep maternal records, the list of all eligible women from each village was compiled. From the list, the women to be interviewed were randomly selected and thereafter visited in their households for the interview. Random selection was used if more than one eligible woman was present in the household. If an eligible woman was not present at the time of interview, the team waited for her to come or went back later to do the interview at the earliest possible time. In case of fewer eligible women in the village than envisaged in the study, the closest village was approached and the same data collection procedures were used to obtain the remaining number of eligible women. The supervisors ensured that all selected women were contacted and reviewed the filled-in questionnaires before the team left the village. (Page 3, lines 16-24 and page 4, lines 1-2)

Comment 8

Page 5 - line 9 – First sentence should include that also moderated hundus died as victims of the genocide.

Response: We agree with the reviewer that Hutus and others died during Tutsi genocide. However, the genocide was committed with intent to destroy the Tutsi population in the first place. To avoid ambiguity, we have used Genocide against Tutsi in the manuscript because it is the internationally recognized and used term.2

2. http://www.un.org/en/preventgenocide/rwanda/commemoration/annualcommemoration.shtml.

Comment 9

Not clear why the age groups are so huge (15-30) (31-46) for women. Same for the partner.

Response: We have described age as a three-category variable in Tables 1 and 2. For the analyses in Table 3 in the manuscript focused on association between women's exposure to intimate partner violence during pregnancy and mental health disorders, age was entered into the models as a continuous variable.

Comment 10

What further screening would be needed to better identify women at risks? What community health interventions might be useful?

Response: Several screening measures such as use of Kessler Psychological Distress Scale, Distress Questionnaire-5 (DQ5) and Self-Report Questionnaire in identifying people at early risk of mental health disorder in a community have shown positive results as regards to which screening measures are useful. However these have mostly been used in different setting and it is not known if they would be as effective in Rwanda. We have rewritten the following sentences in the conclusion section of the manuscript: Community discussions on non-psychotic MHDs should be instituted and scaled up in all villages to reduce the stigma. Further research is needed to fully understand what screening tools and measures that could be used to identify MHDs early through ANC services and CHWs. (Page 19, lines 3-6)

Reviewer 2

General Comment

This is a well-written and well-conceived piece of research. The paper concerns a significant social and public health concern. It assesses the association between Intimate Partner Violence during Pregnancy and Non-Psychotic Mental Health Disorders in Rwanda. Few studies have focused on controlling behavior and mental health, in that aspect the findings are novel and interesting. However, it may be questioned whether controlling behavior should be classified as a fourth type of IPV or rather described as part of a dysfunctional partner relationship.

Response: We thank the reviewer for the comment. There has been a growing body of evidence suggesting that if intimate partner violence is to be understood and effective policy decisions are to be taken, we must make distinctions of different forms of violence including controlling behavior in our research, 3 hence the classification in this article

3. Michael P. Johnson: Conflict and Control Gender Symmetry and Asymmetry in domestic violence: Violence against women 12.11 (2006): 1019-1025.

Introduction

Comment 1

Page 7, line 49-50: The authors are writing "little is known about the relationship between violence against pregnant women in low-income countries (LICs) and MHDs during the perinatal period". Lately, many studies on IPV, postpartum depression and the role of social support have been published from neighboring Tanzania, the authors may consider referring to some of those papers.

Response: We agree with the reviewer that studies on the relationship between IPV, social support and mental health disorders have been published in the region including in Tanzania. However, all these studies investigated the prevalence rates and associations in different target populations or did not include all forms of IPV (i.e. physical violence, psychological violence, sexual violence and controlling behavior). Additionally, they did study the associations in a few non-psychotic mental health disorders. We have made the following textual changes to the manuscript:

Introduction: Most previous studies about the relationship between violence against pregnant women and MHDs in low-income countries (LICs) have investigated the prevalence rates and associations in general population samples and included a few forms of IPV and non-psychotic MHDs. (Page 2, lines 12-15)

References

26. Mahenge B, Likindikoki S, Stockl H, et al. Intimate partner violence during pregnancy and associated mental health symptoms among pregnant women in Tanzania: a cross-sectional study. BJOG 2013;120(8):940-6. doi: 10.1111/1471-0528.1218 (Page 23, lines 23-24 and page 24 lines 1)

27.Seth P, Kidder D, Pals S, et al. Psychosocial functioning and depressive symptoms

among HIV-positive persons receiving care and treatment in Kenya, Namibia, and Tanzania. Prev Sci 2014;15(3):318-28. doi: 10.1007/s11121-013-0420-8. (Page 24, lines 2-4)

Methods

Comment 1

Were the tools back translated to English and were they validated after the translation?

Response: The tools were designed and translated in such a way that they retained the non-translated original English version, just below the Kinyarwanda version. Most official documents in Rwanda are in both Kinyarwanda and English as these are official national languages. The tools were tested in a pilot study and the pilot data was entered into spreadsheet to check for accuracy. The same data collection tools had been successfully used for similar investigations in Rwanda. Please see our response at comment 3 of the first reviewer above for further details.

Comment 2

In the statistical analyses, were stratified analyses performed to assess effect modification?

Response: We tested for potential interactions between different forms of IPV and different socio-demographic and psychosocial properties of the participating women including age, socio-economic status, social support and marital status for the analyses focused on all mental health disorders but no significant interactions were present. We have added the following sentences in the statistical analysis section of the manuscript: Potential interactions between variables in the final models were tested but no statistically significant interactions were present. (Page 7 lines 19-20)

Discussion

Comment 1

Page 19, line 10-15: The authors are writing “Studies investigating the prevalence of MHDs during pregnancy and after childbirth are extremely rare in LICs. The few related publications showed discrepant results”. This is not entirely true - I believe there is a growing number of studies focusing on depression both during pregnancy and postpartum and I am not so sure that the findings are that contradicting. I will suggest the authors take a more critical look at the published literature in neighboring countries and sum up what we know about the association between IPV and mental health so far.

Response: We agree with the reviewer that there is a growing number of studies in the region on mental health disorders during pregnancy and postpartum period. The available studies however have focused on only one or two non-psychotic mental health disorders or assessed the prevalence rates in a specific group of women e.g. those living with HIV.4, 5 Unsurprisingly, results from these studies differ with ours. Comparability of prevalence rates of non-psychotic MHDs from a sample of pregnant women living with HIV with our findings could be especially problematic. We have made the following textual changes to the manuscript:

Introduction: Most previous studies about the relationship between violence against pregnant women and MHDs in low-income countries (LICs) have investigated the prevalence rates and associations in general population samples and included a few forms of IPV and non-psychotic MHDs. (Page 2, lines 12-15)

Discussion: Studies simultaneously investigating the prevalence of all types of MHDs during pregnancy and after childbirth are rare in LICs. Nevertheless, the available publications have shown the presence of depressive disorders, PTSD and anxiety symptoms with varying prevalence rates.26 36-38 A study that included 1180 pregnant antenatal care patients in Tanzania demonstrated that the prevalence rate for depression was 55%, 23% for anxiety and 13% for PTSD.26 These estimates are higher than ours, but this is expected considering that the study used a different sample and did not make any distinction between depressive disorders during different time periods. (Page 16, lines 4-11)

References: 26. Mahenge B, Likindikoki S, Stockl H, et al. Intimate partner violence during pregnancy and associated mental health symptoms among pregnant women in Tanzania: a cross-sectional study. BJOG 2013;120(8):940-6. doi: 10.1111/1471-0528.1218 (Page 23 lines, 23-24 and page 24 line1)

27.Seth P, Kidder D, Pals S, et al. Psychosocial functioning and depressive symptoms among HIV-positive persons receiving care and treatment in Kenya, Namibia, and Tanzania. Prev Sci 2014;15(3):318-28. doi: 10.1007/s11121-013-0420-8. (Page 24, lines 2-4)
4. Mahenge B, Likindikoki S, Stockl H, et al. Intimate partner violence during pregnancy and associated mental health symptoms among pregnant women in Tanzania: a cross-sectional study. BJOG 2013;120(8):940-6. doi: 10.1111/1471-0528.121
5. Angela Kaida et al: Depression During Pregnancy and the Postpartum Among HIV-Infected Women on Antiretroviral Therapy in Uganda: J Acquir Immune Defic Syndr. 2014 Dec 1;67 Suppl 4:S179-87. doi: 10.1097/QAI.0000000000000370.

Tables

Comment 1

Table 1 and 2: There are a number of missing values, the authors may consider including a footnote under the tables to specify this.

We agree with the reviewer and have added a footnote to Tables 1 and 2

VERSION 2 – REVIEW

REVIEWER	Flávia Gomes-Sponholz University of São Paulo - Brazil
REVIEW RETURNED	19-Apr-2018

GENERAL COMMENTS	I am satisfied with the answers the authors gave me. I believe that all possible changes have been made. The others were justified to their satisfaction. Thankful.