PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Response Strategies for Promoting Gender Equality in Public Health Emergencies: A Rapid Scoping Review
AUTHORS	Steinert, Janina; Alacevich, Caterina; Steele, Bridget; Hennegan, Julie; Yakubovich, Alexa

VERSION 1 – REVIEW

REVIEWER	Pinho-gomes, Ana The George Institute for Global Health
REVIEW RETURNED	15-Feb-2021

GENERAL COMMENTS	Overall, this is a very interesting review on interviews that can be used to tackle the disproportionate impact of public health emergencies on women. It included 12 studies that evaluated very different interventions and in diverse settings, populations and contexts. It suggested that economic empowerment programmes and focused sexual and reproductive health promotion programmes can reduce the gendered impact of public health emergencies. There was, though, too much heterogeneity to combine evidence from different studies and conduct a meta-analysis. The authors described the findings of each study in detail and discussed in detail the strengths, weaknesses and implications of each study, including potential for unintentional harm. Arguably, the main finding of this review is the lack of evidence on key outcomes related to gender inequalities, such as prevention of harmful practices, adequate water, sanitation and hygiene management, women's time use and care burden, workplace and other discrimination, and access to technologies and economic resources. The introduction contextualises this review and provides a good overview of the subject, including why this review is timely and relevant. The aims are stated clearly and concisely. The methods are described in great detail and provide reassurance about the validity and reliability of the findings. The results/discussion are comprehensive, albeit the narrative description of each study can be difficult to follow on occasions. I do like the way the authors divided the studies in 3 groups, as this helps understanding the evidence. Is there any way of making this information clearer and easier to digest and apprehend? Maybe with a picture, such as a map of the world with a vignette for the intervention placed over the country and a brief description? This would give a broad overview of the representativeness of the studies in terms of geographical cover, emergencies, interventions, etc. Quality appraisal seems appropriate.

	The conclusion summarises the key points discussed in the study. However, I think that some additional points could add value to the review. First, I suggest that the authors emphasise the lack of evidence on important outcomes. To me this is the main finding of this review, as evidence on the other interventions is based on studies of modest quality. Second, I propose that the authors consider widening the discussion on the geographical distribution of the studies. COVID-19 had a devastating impact on HIC and there's plenty of evidence that women have borne the brunt of the pandemic, even in societies that have made substantial progress in narrowing the gender gap over the past decades (e.g., Western European countries). What can those countries do to tackle gender inequalities that are likely to have aggravated during the pandemic and recrudesce with unprecedented force as we emerge from it. The authors could discuss how interventions need to be tailored to the setting, population and context, and it's unlikely that a one-size-fits-all approach to gender inequality will be appropriate. The problems faced by women in LMIC are dramatically different from those experienced by women in HIC. However, women in HIC may still see hard-won gains being lost, which can be very detrimental to their health and wellbeing as well as to their personal and professional aspirations. Third, I would like to see a discussion on how this problem can be conceptualised from a global health perspective. I mean, what is the role of international organisations in driving gender equality as we emerge from the pandemic? Should philanthropic organisations privilege funding for programmes that address gender inequalities? Should HIC provided financial support and other resources to LMIC to tackle this problem? Should international legislation be enacted to strengthen commitment to gender equality? Of course, I understand that this is a complex issue that cannot be covered in its entirety in single paper, so I leave it to the authors to decide on whether to accept these suggestions. Minor points: Abstract PHE – please define in full before using for the first time Page 17, line 58 – promote gender equality rather than inequality

REVIEWER	Ryan, Nessa New York University, Global Pubic Health
REVIEW RETURNED	17-Apr-2021

GENERAL COMMENTS	Abstract • The design (i.e. rapid review) is reported in the objective, move to methods • There are results reported in the methods section • Avoid use of 'systematic' if this was not a systematic review • Results could include summary of where interventions were implemented (suggestion) • In research objective you state you are reporting uptake (i.e. adoption) and effects of these interventions—specify which effects you were interested in (or if not enough room, provide summary) • 'PHE' used but not defined • As you mention COVID-19 in your intro, you could include implications for that in your conclusions? (suggestion)

	• A rapid review is different from a systematic review, which is different from a comprehensive review; yet all of these terms are used to describe this study. Please clarify in the abstract and strengths/limitations • For the included studies, many of the designs do not allow you to draw causal inference (for example, half are cross-sectional); there should be some language around the lack of methodological rigor which can limit the confidence of the findings. Language like 'impact' is inherently causative. Intro • Well written, well researched—my comments from the abstract section regarding type of review apply here as well • You might consider citing this relevant article in your introduction or discussion https://www.tandfonline.com/doi/full/10.1080/17441692.2020.1791214 Methods • You mention this is a rapid review but it has been almost one year since your search was carried out. I can understand this was probably related to the breath of screening required. You may consider doing a quick search to see if any additional interventions have been reported? To me it seems more like you completed a scoping review? • Thank you for including the search strategy appendix. I can see that this was a complex search. I think the reader would benefit from you summarizing in the body of the text the domains of the outcomes of interest • Section 2.2: Can you explain what you mean by 'different mechanisms of impact'—will help us understand the generalizability of your findings. 'uptake of and engagement with'—by engagement are you referring to the degree of uptake? This was confusing • Section 2.4: A meta-analysis would only be warranted if a systematic review had been carried out, so I don't think you have to mention this. • Was the positive, negative, neutral categorization applied to the cross-sectional studies? I am not sure that would be appropriate as from those findings you cannot infer causality • The reason provided does not justify exclusion of risk of bias assessment—there are different tools which can be applied for different study designs. For example, there is the CASP checklist. https://casp-uk.net/casp-tools-checklists/ However, for a rapid review, I don't believe a risk of bias assessment is required. • I didn't see any supplementary reporting of a review checklist. I am not sure if one exists for a rapid review, but there are PRISMA extensions for a scoping review which may be helpful. http://prisma-statement.org/Extensions/ScopingReviews Results • 3.1: Could provide a summary of publication dates • 3.2.1: 'in the wake of' does this mean assessment occurred during the emergency phase or recovery phase? I thought that all assessment occurred during the acute phase • 3.2.2: could identify the three types in the first sentence • Should integrate identification of the study design of each study mentioned throughout the results, so the reader can readily understand how outcomes were assessed. Perhaps measurement methodologies are in part shaping reported outcomes. This could be discussed.

	• When reporting the confidence interval for an odds ratio, please also include the OR statistic (For example, for the Doocy et al. results pg 13 line 30) • Page 15 line 21—'all health promotion interventions that we identified were focused on the domain of sexual and reproductive health' please insert the # identified • Page 15 line 32: 'at baseline and followup., whereby the latter' –please remove the erroneous '.' • Please indicate throughout when there is statistical significance. For example, page 15 lines 42-53 • Page 16 line 45 'based on random or purposive sampling procedures'—purposive sampling is more similar to convenience sampling than to random sampling, so this grouping doesn't make sense to me. Please identify the number of each. • Page 16 line 50' Five studies provided detailed descriptions on the survey instruments' Indicate what the denominator is here, that is how many total studies used survey instruments. • Cite the studies that you are referring to in the results. Page 16 in the last two lines, for example, as you are indicating the bias in each study Conclusion • Page 17—line 22 'evidence-based strategies'—this has a certain meaning—i.e., that there has been a rigorous evaluation of the effectiveness of the intervention. If you are including interventions that have been assessed using cross-sectional studies, then I am not convinced that these are truly evidence-based interventions • Line 24--Again I think you have to be careful with causal language. 'positively affected' means that there is a cause-and-effect relationship. More appropriate language might be: 'there is a positive association'. We can clearly see the need for improving the rigor of the evidence base, though! • Your point about confounders is an important one • I think your point on qualitative and mixed methods analyses weakens/contradicts your decision not to include these types of designs in your review. Qual doesn't provide us with causal inference more than non-experimental quantitative designs, so this sentence could be improved. • A systematic review does not require that the gray literature be searched. It does require that screening/extraction be done in duplicate. Based on the size of your search results, I can understand why systematic review would not be feasible. I wonder if you had considered scoping review as to me that seems to be what is presented here.

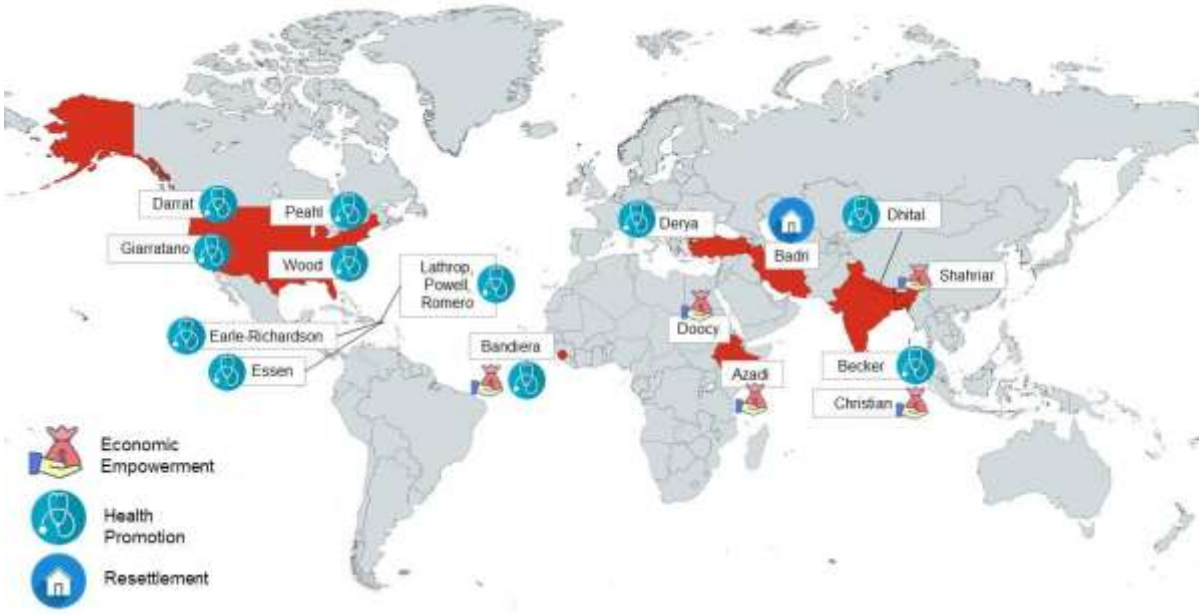
VERSION 1 – AUTHOR RESPONSE

Reviewer 1

1. **The results/discussion are comprehensive, albeit the narrative description of each study can be difficult to follow on occasions. I do like the way the authors divided the studies in 3 groups, as this helps understanding the evidence. Is there any way of making this information clearer and easier to digest and apprehend? Maybe with a picture, such as a map of the world with a vignette for the intervention placed over the country and a brief**

description? This would give a broad overview of the representativeness of the studies in terms of geographical cover, emergencies, interventions, etc.

Thank you for this excellent comment. We really liked your idea and have created a figure as suggested, visually summarising the key information of the included studies, their geographic settings, and their intervention approaches. The figure is pasted below and uploaded as new "Figure 2".



2. **First, I suggest that the authors emphasise the lack of evidence on important outcomes. To me this is the main finding of this review, as evidence on the other interventions is based on studies of modest quality**.

Thank you and we agree that this is the most important key message of our review. Therefore, we have followed your suggestion and have restructured the conclusion section in which we now first point to the lack of evidence on several important gender equality outcomes prior to synthesising the impacts on the few indicators that were addressed by our included studies:

"In this rapid scoping review, we sought to identify scientific evidence on strategies for promoting gender equality during PHEs. In view of the multi-dimensional detrimental impacts that PHEs can have on female empowerment and on women's societal status, this rapid scoping review reveals important evidence gaps. Notably, none of our included studies examined interventions that targeted sanitation and hygiene management, harmful practices (e.g., child marriage), workplace or other forms of discrimination, or unpaid (care) work. More research on how to promote gender equity in these domains during PHEs is urgently needed, especially in light of the ongoing COVID-19 pandemic and its devastating socioeconomic consequences worldwide. In addition, although the search string was set up to move beyond the gender binary, none of the identified studies specifically targeted gender diverse or sexual minority participants. Hence, there is a dearth of evidence on how to effectively protect LGBTQIA populations in the context of PHEs. The studies that we have identified in this rapid scoping review highlighted positive associations between these interventions and women's and girls' sexual and reproductive health,[31,52–54,60] educational opportunities,[31] economic welfare,[31] and health equity in terms of (mal)nutrition.[56]" (see p. 21,, lines 1-18)*

3. **Second, I propose that the authors consider widening the discussion on the geographical distribution of the studies. COVID-19 had a devastating impact on HIC and there's plenty of**

evidence that women have borne the brunt of the pandemic, even in societies that have made substantial progress in narrowing the gender gap over the past decades (e.g., Western European countries). What can those countries do to tackle gender inequalities that are likely to have aggravated during the pandemic and recrudesce with unprecedented force as we emerge from it. The authors could discuss how interventions need to be tailored to the setting, population and context, and it's unlikely that a one-size-fits-all approach to gender inequality will be appropriate. The problems faced by women in LMIC are dramatically different from those experienced by women in HIC. However, women in HIC may still see hard-won gains being lost, which can be very detrimental to their health and wellbeing as well as to their personal and professional aspirations.

Thank you very much for this important comment – we agree that there is also considerable detrimental impact on women and gender equality in high-income countries and that evidencebased strategies on how to promote gender equality in high-income countries in times of public health emergencies are also urgently needed. We also fully agree with you that there is no onesize-fits-all approach and that cultural, political, and economic aspects need to be carefully considered. We have now more explicitly elaborated on these issues in our discussion section:

"It is important to note that the gendered impacts of PHEs can vary substantially between cultural, political, and economic contexts, and thus between high and low-income countries. However, the COVID-19 pandemic has jeopardised gender equality worldwide and has also put a high burden on women in high-income countries that have successfully narrowed their gender gap in recent years [4]. Based on the evidence discussed in this rapid scoping review, there are important learnings to transport from low- and middle- to high-income countries. A first key lesson is the prioritisation of equitable access to services, including sexual and reproductive healthcare.[52–54] A second is the emphasis on women's economic empowerment, which, in higher-income settings, may focus mostly on extended access to childcare services, uninterrupted income flows, and higher flexibility in working hours and project deadlines.[75] However, it needs to be cautioned that a "one-size-fits-all" approach does not and exist and that more research on how to protect women's and girls' integrity and rights in the context of PHEs in both high- and low-income countries is urgently needed." (see p. 22, line 24- p. 23, line 11)

4. **Third, I would like to see a discussion on how this problem can be conceptualised from a global health perspective. I mean, what is the role of international organisations in driving gender equality as we emerge from the pandemic? Should philanthropic organisations privilege funding for programmes that address gender inequalities? Should HIC provided financial support and other resources to LMIC to tackle this problem? Should international legislation be enacted to strengthen commitment to gender equality?**

Thank you very much and these are certainly important questions to tackle, although we feel that the specific role of international and philanthropic organisations is somewhat beyond the scope of the paper – also considering that the available evidence does not provide specific answers to these questions. However, to highlight existing knowledge gaps and speak to these policy questions that you raise, we have added the following paragraph to our discussion section:

"It is also important that rigorous monitoring and evaluation is applied to gender equality programmes delivered by different policy agents – including philanthropic organisations, larger international organisations, as well as national governments – so as to better understand which actors can most effectively intervene, and at which level." (p. 23, lines 17-21)

5. **Minor points: Abstract - PHE – please define in full before using for the first time**

Thank you and we have adjusted this.

6. **Page 17, line 58 – promote gender equality rather than inequality**

Thank you for catching this and changed accordingly.

Reviewer 2

1. **Abstract - The design (i.e. rapid review) is reported in the objective, move to methods**

Thank you and we have followed your suggestion (see revised abstract copied below).

2. **There are results reported in the methods section**

Thank you – you are totally right. This has been corrected.

3. **Avoid use of 'systematic' if this was not a systematic review**

Thank you. We have only kept "*systematic searches of MEDLINE, Global Health, and Web of Science"* as we followed state-of-the art systematic review methods for setting up and refining the search string and conducted a more sophisticated and rigorous search as compared to a simple literature search.

4. **Results could include summary of where interventions were implemented (suggestion)**

Thank you. We have included the following sentence: *"Six studies were implemented in Asia, seven in North/Central America, and three in Africa." (see p. 2, lines 20-21).* Further, we have added a map (Figure 2), which depicts the countries in which the included interventions were implemented.

5. **In research objective you state you are reporting uptake (i.e. adoption) and effects of these interventions—specify which effects you were interested in (or if not enough room, provide summary)**

Thank you, we were not able to include more information on this in the objectives but hope that this becomes clear with the summary of results.

We have now included more specific information on the framework of eligible outcomes (and effects), both in the abstract and main text:

"We used the Sustainable Development Goals as a guiding framework to identify eligible outcomes of gender (in)equality." (Abstract)

"…(ii) outcomes related to gender (in)equality (covering search terms for the following SDG aspects: women's and girls' discrimination, violence, harmful practices, unpaid work, equal opportunities, economic participation, water, sanitation and hygiene, and sexual and reproductive health)…" (p. 7, lines 8-10)

6. **'PHE' used but not defined**

Thank you, corrected.

7. **As you mention COVID-19 in your intro, you could include implications for that in your conclusions? (suggestion)**

Thank you but in view of the maximum word count, we did not include this in the abstract. However, we have added a more specific reference to the COVID-19 pandemic and to policy lessons that are relevant for the current pandemic in the discussion section of the main text:

"It is important to note that the gendered impacts of PHEs can vary substantially between cultural, political, and economic contexts, and thus between high and low-income countries. However, the COVID-19 pandemic has jeopardised gender equality worldwide and has also put a high burden on women in high-income countries that have successfully narrowed their gender gap in recent years.[4] Based on the evidence discussed in this rapid scoping review, there are important learnings to transport from low- and middle- to high-income countries. A first key lesson is the prioritisation of equitable access to services, including sexual and reproductive healthcare.[52–54] A second is the emphasis on women's economic empowerment, which, in higher-income settings, may focus mostly on extended access to childcare services, uninterrupted income flows, and higher flexibility in working hours and project deadlines.[75]" (see p. 22, line 24- p. 23, line 11)

8. **A rapid review is different from a systematic review, which is different from a comprehensive review; yet all of these terms are used to describe this study. Please clarify in the abstract and strengths/limitations.**

Thank you and you are right that this was too ambiguous. We have clarified both in the abstract and strengths/limitations that we are presenting a rapid scoping review.

9. **For the included studies, many of the designs do not allow you to draw causal inference (for example, half are cross-sectional); there should be some language around the lack of methodological rigor which can limit the confidence of the findings. Language like 'impact' is inherently causative.**

Thank you. We have followed your suggestion and have removed causal language throughout the paper wherever it was not justified by the study design (exceptions three experimental studies).

In response to our replies from above, we copy the updated abstract below:

"Objectives: *The COVID-19 pandemic threatens to widen existing gender inequities worldwide. A growing body of literature assesses the harmful consequences of public health emergencies (PHEs) for women and girls; however, evidence of what works to alleviate such impacts is limited. To inform viable mitigation strategies, we reviewed the evidence on genderbased uptake and effects of interventions implemented in public health emergencies, including disease outbreaks and natural disasters.*

Methods: *We conducted a rapid scoping review to identify eligible studies. 13,920 records were retrieved through systematic searches of MEDLINE, Global Health, and Web of Science between 28 April and 7 May 2020, and on 28 May 2021 for a search update prior to publication.*

***Results**: 16 studies met our eligibility criteria. These included experimental (2), cohort (2), case-control (3), and cross-sectional (9) studies conducted in the context of natural disasters (earthquakes, droughts, storms) or pandemics (Zika, Ebola). Six studies were implemented in Asia, seven in North/Central America, and three in Africa. Interventions included economic empowerment programmes (5), health promotion, largely focused on reproductive health (10), and a post-earthquake resettlement programme (1). Included studies assessed gender-based outcomes in the domains of sexual and reproductive health, equal opportunities, access to economic resources, violence, and health. There was a dearth of evidence for other outcome domains relevant to gender equity such as harmful practices, sanitation and hygiene management, workplace discrimination, and unpaid work. Economic empowerment interventions showed promise in promoting women's and girls' economic and educational opportunities as well as their sexual and reproductive health during public health emergencies. However, some programme beneficiaries may be at risk of experiencing unintended harms such as an increase in domestic violence. Focused reproductive health promotion may also be an effective strategy for supporting women's sexual and reproductive health, although additional experimental evidence is needed.*

***Conclusions:** This study identified critical evidence gaps to guide future research on approaches to alleviating gender inequities during PHEs. We further highlight that interventions to promote gender equity in PHEs should take into account possible harmful side effects such as increased gender-based violence.*

***Review Registration:** DOI 10.17605/OSF.IO/8HKFD." (see p. 2, lines 1-36)*

10. **Intro- Well written, well researched—my comments from the abstract section regarding type of review apply here as well**

Thank you and this is a really important comment. We have now clearly specified our review as a "rapid scoping review". We now consistently use this term throughout the paper and have also adjusted the title of the paper accordingly.

11. **You might consider citing this relevant article in your introduction or discussion: https://www.tandfonline.com/doi/full/10.1080/17441692.2020.1791214**

Thank you – this is an excellent and very related paper. We have included a citation in our introduction chapter:
"In light of this evidence, it is clear that PHEs - including the ongoing COVID-19 pandemic - are not gender-neutral.[44] Applying a gender lens to interventions and policies implemented in the wake of PHEs is therefore crucial." (see p. 6, lines 9-10)

12. **Methods: You mention this is a rapid review but it has been almost one year since your search was carried out. I can understand this was probably related to the breath of screening required. You may consider doing a quick search to see if any additional interventions have been reported? To me it seems more like you completed a scoping review?**

Thank you for this important comment. Our manuscript was with the journal waiting review for over five months, and there have been multiple studies published within that time. Following your suggestion, we updated our search on 28 May 2021, using the same search terms and same three databases. This has been included in the methods section and new identified studies incorporated into results:

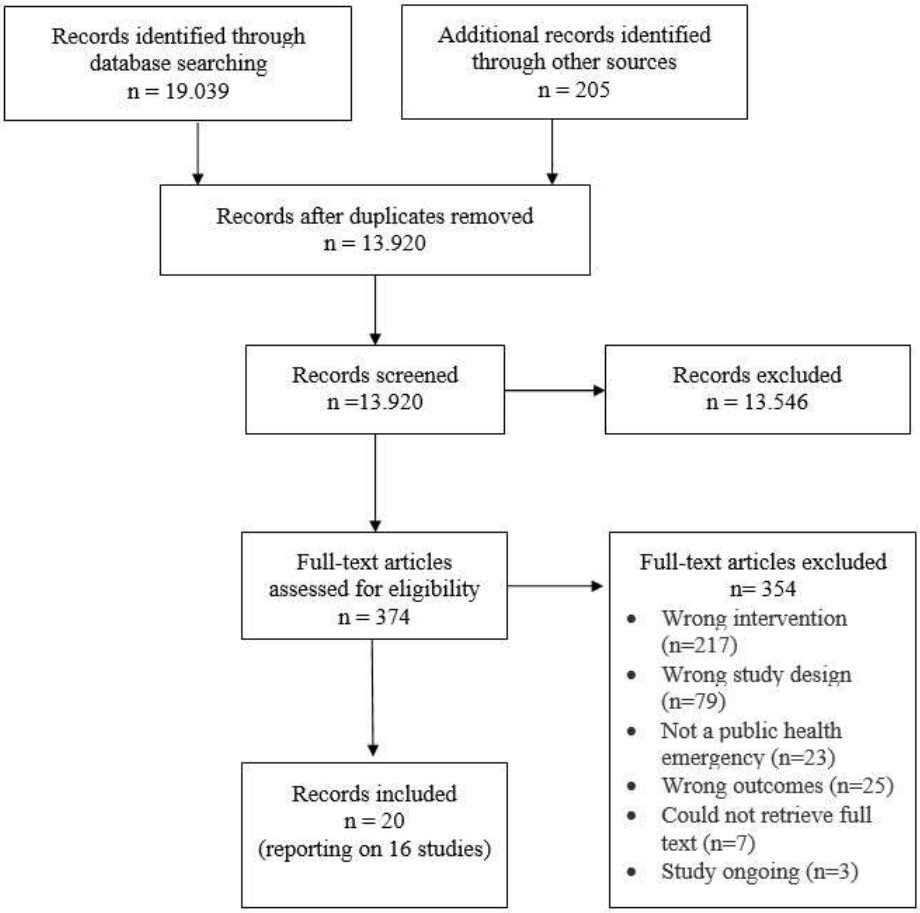
"We searched MEDLINE, Global Health, and Web of Science between 28 April and 7 May 2020 and update the search on 28 May 2021." (see p. 7, lines 5-6)

Our search yielded 3345 new studies to screen, of which we also double screened a subset of 10%. The update of the search resulted in five additional studies to include, which have now been summarised and synthesised in the results and discussion section of the paper. As you will see, we have also updated the corresponding figures 1-4. While this updating made our revision of the manuscript more substantial, we believe that being able to present an up-to-date rapid scoping review increases the value and importance of our paper.

We have also updated the section on the search results as well as the flow chart accordingly:

"The database search returned 13,920 unique articles after deduplication (see Figure 1). We excluded 13,546 studies after screening titles and abstracts. After screening 374 full texts, we excluded 353 because they reported on ineligible interventions (61%), were qualitative (22%), were not implemented in the context of a PHE (7%), did not include gender-related outcomes (7%), could not be retrieved in full text (2%), or were currently ongoing (1%). Twenty papers met the inclusion criteria, of which four reported on the same intervention, thus resulting in sixteen stand-alone studies." (see p. 11, lines 4-10)

Updated Figure 1: Flow Chart



13. **Thank you for including the search strategy appendix. I can see that this was a complex search. I think the reader would benefit from you summarizing in the body of the text the domains of the outcomes of interest**

Thank you and we have now added the following details:

"… (ii) outcomes related to gender (in)equality (covering search terms for the following SDG aspects: women's and girls' discrimination, violence, harmful practices, unpaid work, equal opportunities, economic participation, water, sanitation and hygiene, and sexual and reproductive health)…" (see p. 7, lines 8-10)

14. **Section 2.2: Can you explain what you mean by 'different mechanisms of impact'—will help to understand the generalizability of your findings. 'uptake of and engagement with'—by engagement are you referring to the degree of uptake? This was confusing**

Thank you, and we agree that this was not sufficiently clear. We have now added a more detailed justification on which settings we decided to exclude:

"We excluded the HIV/AIDS pandemic, endemic diseases (e.g., malaria) rather than rapid and acute emergencies, and human-made rather than exogeneous events (e.g., the opioid crisis, humanitarian conflicts, terrorism), as we understood these to involve different mechanisms of impact and because we hypothesised that response strategies would by their nature need to be different. We also excluded vaccination and immunisation programmes as these interventions cannot be adequately transferred to the context of other PHEs." (p. 7, lines 19-26)

With regards to your comment on the difference between uptake and engagement, we acknowledge that this was not clearly specified. Uptake looks at how gender-based factors may determine access to a certain intervention, while engagement examines how gender-based factors predict the extent to which individuals participate in and use an intervention. To improve the explanation of these terms, we have added the following description:

"Our inclusion criteria required that studies reported on either gendered predictors of uptake of and engagement with (e.g., use of and participation in) an active intervention or assessed programme effects on an outcome related to gender (in)equality." (p. 8, lines 1-3)

15. **Section 2.4: A meta-analysis would only be warranted if a systematic review had been carried out, so I don't think you have to mention this.**

Thank you and we have deleted the sentence as suggested.

16. **Was the positive, negative, neutral categorization applied to the cross-sectional studies? I am not sure that would be appropriate as from those findings you cannot infer causality**

Thank you for raising this important point. Yes, we did classify estimates of associations using the positive, negative, and neutral categorisation. We felt that this would help to visually summarise the key findings of the included studies and would therefore like to keep this simplified categorisation in Figure 3. However, we fully agree that causality cannot be inferred for most of the included study design and have therefore added a cautionary note on this in our limitation section:

"Third, while we categorise reported coefficients for any of the intervention-outcome association as positive (+), negative (-), and neutral (0), they should not be interpreted as causal. Essentially, thirteen out of sixteen included studies were based on research designs that did not allow for causal inference on the intervention impacts." (see p. 24, lines 15-18)

We have also revised this throughout the abstract and manuscript, now avoiding reference to expressions that may suggest causality.

(e.g. in the Abstract: "*Focused reproductive health promotion may also be an effective strategy for supporting women's sexual and reproductive health, although additional experimental evidence is needed.* ")

17. **The reason provided does not justify exclusion of risk of bias assessment—there are different tools which can be applied for different study designs. For example, there is the CASP checklist. https://casp-uk.net/casp-tools-checklists/ However, for a rapid review, I don't believe a risk of bias assessment is required.**

Thank you and we agree. We have omitted the respective statement (see p. 9).

18. **I didn't see any supplementary reporting of a review checklist. I am not sure if one exists for a rapid review, but there are PRISMA extensions for a scoping review which may be helpful. http://prisma-statement.org/Extensions/ScopingReviews**

Thanks a lot for sharing this – a really helpful comment. We have now filled out the PRISMA checklist for Scoping Reviews (uploaded separately).

19. **Results - 3.1: Could provide a summary of publication dates**

Thank you and we have added a note on this: *"Table 1 and Figure 2 present an overview of the 16 included studies published between 2005 and 2021." (see p. 11, lines 15-16)*

20. **3.2.1: 'in the wake of' does this mean assessment occurred during the emergency phase or recovery phase? I thought that all assessment occurred during the acute phase**

Thank you. We agree that this was unclear and have replaced "*in the wake of*" with "*during"* or *"in the context of".* All included programmes were implemented during or shortly after (in the case of natural disaster events) PHEs.

21. **3.2.2: could identify the three types in the first sentence**

Thanks and done (see p. 11).

22. **Should integrate identification of the study design of each study mentioned throughout the results, so the reader can readily understand how outcomes were assessed. Perhaps measurement methodologies are in part shaping reported outcomes. This could be discussed.**

Thank you and we agree that this is important information for contextualising study findings and results. We have added information on the study designs throughout the results section (see p. 12ff).

23. **When reporting the confidence interval for an odds ratio, please also include the OR statistic (For example, for the Doocy et al. results pg 13 line 30)**

Thank you for noticing and we have corrected this.

24. **Page 15 line 21- 'all health promotion interventions that we identified were focused on the domain of sexual and reproductive health' please insert the # identified**

Thank you, inserted now.

25. **Page 15 line 32: 'at baseline and followup., whereby the latter' –please remove the erroneous '.'**

Thanks a lot for catching this. This has now been corrected.

26. **Please indicate throughout when there is statistical significance. For example, page 15 lines 42-53.**

Thank you and this has now been added wherever included studies reported on statistical significance (this does not apply to studies that exclusively assess uptake of interventions).

27. **Page 16 line 45 'based on random or purposive sampling procedures'—purposive sampling is more similar to convenience sampling than to random sampling, so this grouping doesn't make sense to me. Please identify the number of each.**

Thank you for catching this and apologies for the mistake. We have deleted the purposive sampling procedures to align the text with the details reported in Figure 4 and have added the number of studies for each sampling procedure:

"In five studies, participants were recruited based on random sampling procedures, four studies relied on convenience sampling and three studies did not provide sufficient information on the sampling procedure." (see p. 20, lines 9-12)

28. **Page 16 line 50' Five studies provided detailed descriptions on the survey instruments' Indicate what the denominator is here, that is how many total studies used survey instruments.**

Thank you and we have added the denominator as suggested (see p. 20, lines 12-13). In fact, all included studies relied on survey data.

29. **Cite the studies that you are referring to in the results. Page 16 in the last two lines, for example, as you are indicating the bias in each study.**

Apologies that this was missing and thank you for catching it. We have now included the respective citations (see p. 20).

30. **Conclusion Page 17—line 22 'evidence-based strategies'—this has a certain meaning—i.e., that there has been a rigorous evaluation of the effectiveness of the intervention. If you are including interventions that have been assessed using cross-sectional studies, then I am not convinced that these are truly evidence-based interventions.**

Thank you for highlighting this important point. We agree that we should be more cautious with this term and have rephrased this as:

"In this review, we sought to identify scientific evidence on strategies for promoting gender equality during PHEs." (see p. 21, lines 3-4)

31. **Line 24--Again I think you have to be careful with causal language. 'positively affected' means that there is a cause-and-effect relationship. More appropriate language might be: 'there is a positive association'. We can clearly see the need for improving the rigor of the evidence base, though!**

Thank you and we agree. We have rephrased the statement as suggested:

"The studies that we have identified in this rapid scoping review highlighted positive associations between these interventions and women's and girls' sexual and reproductive health, educational opportunities, economic welfare, and health equity in terms of (mal)nutrition." (see p. 21, lines 15-18)

32. **I think your point on qualitative and mixed methods analyses weakens/contradicts your decision not to include these types of designs in your review. Qual doesn't provide us with causal inference more than non-experimental quantitative designs, so this sentence could be improved.**

Thank you and we have rephrased this point:

"Lastly, we did not include qualitative data in this rapid scoping review in order to prioritise evidence with conclusions on intervention effectiveness. However, this is a valuable direction for future inquiry, to generate further insights into the mechanisms of change underlying effective programmes or into the facilitating and inhibiting factors that explain interventions' success or failure." *(see p. 24, lines 19-23)*

33. **A systematic review does not require that the gray literature be searched. It does require that screening/extraction be done in duplicate. Based on the size of your search results, I can understand why systematic review would not be feasible. I wonder if you had considered scoping review as to me that seems to be what is presented here.**

Thank you and we fully agree, apologies that this was not clearly specified in the original version of the manuscript. As highlighted above, we have now made explicit that we are presenting a rapid scoping review. This has been adjusted throughout the paper and has also been added to the title.

VERSION 2 – REVIEW

REVIEWER	Pinho-gomes, Ana The George Institute for Global Health
REVIEW RETURNED	28-Jun-2021

GENERAL COMMENTS	Thank you for thoroughly addressing my comments. You have written a very interesting paper.