

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	A Participatory Qualitative Study on the Barriers to COVID-19 Vaccine Acceptance to Improve Messages for Vaccine Uptake in Indigenous Populations in the Central Highlands of Guatemala
AUTHORS	Skinner, Nadine; Sanders, Kelly; Lopez, Emily; Sotz Mux, Magda; Abascal Miguel, Lucía; Vosburg, Kathryn; Johnston, Jamie; Diamond-Smith, Nadia; Kraemer Diaz, Anne

VERSION 1 – REVIEW

REVIEWER	ayenew mose Wolkite University, Midwifery
REVIEW RETURNED	07-Sep-2022

GENERAL COMMENTS	<p>Dear author's thank you for your nice work entitled " But the Vaccine Might Harm Me: Understanding Vaccine Acceptance and Messaging in Indigenous Populations in the Central Highlands of Guatemala". The title is novel which addresses the barriers and facilitators of COVID-19 Vaccine acceptance to tackle the current pandemic. Your study is very important. However, I would prefer if you modify your title in to 'Barriers and facilitators of COVID-19 vaccine acceptance...' Think over it.</p> <p>My comments are as follow.</p> <ol style="list-style-type: none"> 1. In the abstract section and introduction sub section it is better to use scientific reports rather than activists. Revise it. 2. In the methodology section what type of qualitative study design do the authors used. It is not explained. Similarly, during FGD and IDIs how many themes and subthemes emerged, not explained? 3. Your conclusion is shallow. Better to elaborate it. <p>In the introduction section</p> <ol style="list-style-type: none"> 1. Better to add the overall vaccine acceptance globally and then locally. 2. Line 51, While previous research has indicated that vaccine acceptance, which vaccine, it is better for the reader if you the vaccine specifically. <p>Results</p> <ol style="list-style-type: none"> 1. It would be good if you add the socio demographic characters of all included study participants including the educational status, their occupation their age etc. 2. What are the major/overreached themes, subthemes, better to use table for this one and describe it accordingly. <p>Discussion</p> <p>There were several literatures in the area of COVID-19 vaccine acceptance; however, the authors were not written the discussion section extensively. Thus, I would recommend authors to review literatures and modify the discussion section.</p>
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REVIEWER	Festus Victor Bekun Istanbul Gelisim Universitesi
REVIEW RETURNED	24-Sep-2022

GENERAL COMMENTS	<p>The topic is interesting, and the author has done a great job in realizing the subject. However, there are few areas on the paper that is still lagging and should be addressed properly.</p> <p>Abstract</p> <ol style="list-style-type: none"> 1. The authors should motivate the choice of variables with theory and empirical backing on the subject 2. Keywords should be revised to match key element of title 3. Rewrite the title to be more catchy <p>4. Introduction</p> <ol style="list-style-type: none"> 1. The objective of the paper presented need more clarifications to suit reader to understand the main idea of the paper especially for the study case is needed 2. Literature review The literature is well written. However, there is need for more recent studies ranging from 2018-2022 to motivate the study properly. The entire study is too scanty and the related literature is not exhausted <p>Methodology</p> <ol style="list-style-type: none"> 1. This section is generally well motivated, Kindly take note of the following minor additions 2. More benefit of the various techniques utilized should be stated 3. The authors should avoid much mathematical expressions or take some to appendix and make the study reader friendly for other practitioner other than academic with out compromise for study intend and quality. <p>Discussion</p> <ol style="list-style-type: none"> 1. The discussion is well written, but the authors should like their findings to the previous studies in the literature. 2. There is need for professional proofreading or consult English native support <p>3. Conclusion</p> <ol style="list-style-type: none"> 1. The sub-title should be conclusion and policy recommendation but not only conclusion 2. The policy which is the engine of the study is weak and small. I therefore encourage the authors to elaborate more on the policy recommendations to policy makers for the investigated bloc 3. The authors should add limitation of the study and future recommendation
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REVIEWER	Mochamad Nurmansyah Universitas Islam Negeri Syarif Hidayatullah Jakarta
REVIEW RETURNED	24-Sep-2022

GENERAL COMMENTS	<p>An interesting and novel study to explore challenges and possible solutions related to COVID-19 vaccination in special groups.</p> <p>Introduction: Author should add the reference related to the significance of COVID-19 vaccine as one of the most effective interventions in preventing COVID-19 for increasing the significance of this study</p> <p>Moreover, the context of COVID-19 morbidity and mortality also should be added in the introduction section.</p>
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	<p>Methods: Since the international readers might not know the condition of the division of territory in Guatemala, the authors should mention it in order to make readers understand especially related to the selection and scope of territory selected in the study.</p> <p>Any considerations for selecting the research' respondents (why one has been chosen instead of another) should be added in the patient and public involvement sub-section.</p> <p>Is there any tool or software used in the data analysis? Should be explained.</p> <p>Results: Characteristics of the community members and healthcare workers involved in the study should be described before showing the results of the study.</p> <p>The results tend to be not easy to read; the author can write down the main findings for each sub-objective in the results section. For example, in the barrier section, the author can write down the meaning of the barrier and its main findings, then further explanation related to the research results. Moreover, the author can make one table containing main theme, code and sub code generated in the study in order to make reader easily read the result of the study.</p> <p>In the religious faith it was stated that "While religious concerns led some Indigenous community members to believe that being vaccinated was going against the will of God", does this mean that religious faith was one of the barriers for vaccination?</p> <p>For trusted sources of health messaging, commonly every community group has a trusted figure in which the figure can differ from one group to another. did this not happen in your study?</p> <p>Previously it was mentioned that some people believe in religious leader, is this not considered to be a trusted source of messaging for the community?</p> <p>Discussion: The author comments a lot on the educational media used (which do not use language or do not match the existing culture). If possible, in this case the author could show posters that are already available at the research location and provide a narration (as already mentioned) and discussion to be able to make educational media that is more appropriate.</p> <p>This study highlighted that there is a incompatibility of the educational media provided regarding vaccines so that it affects public acceptance, is there an issue of lack of ability of health workers to make such media? what can be done to solve the problem in the long term? It is interesting to be discussed</p> <p>The discussion is still lacking in depth, especially in exploring religious and political issues (government trust) according to the research results.</p> <p>The author can also provide main recommendations based on the results of the study to increase the coverage of COVID-19 vaccination and vaccination coverage in other programs.</p>
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REVIEWER	Md. Emran Hossain Bangladesh Agricultural University
REVIEW RETURNED	24-Sep-2022

GENERAL COMMENTS	<p>The following comments need to be addressed:</p> <ol style="list-style-type: none"> 1. Current abstract is inadequate, the research motivation needs to be explored in the first section of the Abstract. Main findings should be included as well as the future research direction concisely. 2. Keywords need to revise. 3. The objective of the paper presented need more clarifications to suit the reader to understand the main idea of the paper especially for the study case is needed. 4. The motivation of the study is not well explained. 5. What is the contribution of this study? 6. How is this study differs from the existing studies on the topic? 7. Please rewrite the introduction section. It is not adequate in its present form. 8. In the analysis section, researchers only describe how they conduct the analysis but what method did they apply to fulfill the research objective is entirely absent. This section needs a better explanation of the research method, software, and way to conduct the analysis. This is one of the major concerns of this paper. How the authors can be certain about the generalization of research findings by only collecting data through the FGD? Did you have not any scope to collect primary data through face-to-face interviews, if yes, then it would better reflect the findings of the study? If the answer is no then why? Details explanation is mandatory. 9. Discussion section is informative but not adequate in the current form, needs to revise strongly revised based on the previous literature from the host country and as well as other countries and how it can be applied in the future. Please compare your research findings to the previous literature. Authors can consider the recent studies on COVID-19 vaccines while revising the discussion (https://doi.org/10.1080/21645515.2021.1968215; https://doi.org/10.1080/21645515.2021.2010426; https://doi.org/10.1080/21645515.2021.2022920). 10. Conclusion section must be needed to reform stating the main findings of this study and also the policy direction. 11. Please add a separate limitation section of this study and also the future research directions.
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VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Mr. Ayenew Mose, Wolkite University

Comments to the Author: Dear author's thank you for your nice work entitled " But the Vaccine Might Harm Me: Understanding Vaccine Acceptance and Messaging in Indigenous Populations in the Central Highlands of Guatemala". The title is novel which addresses the barriers and facilitators of COVID-19 Vaccine acceptance to tackle the current pandemic. Your study is very important.

However, I would prefer if you modify your title in to 'Barriers and facilitators of COVID-19 vaccine acceptance...' Think over it.

Thank you for your kind words and your comments on our title. Based on your comments and that of Reviewer # 2, we have retitled the paper as "But the Vaccine Might Harm Me: A Participatory Qualitative Study on the Barriers to COVID-19 Vaccine Acceptance to Improve Messages for Vaccine Uptake in Indigenous Populations in the Central Highlands of Guatemala."

My comments are as follow. 1. In the abstract section and introduction sub section it is better to use scientific reports rather than activists. Revise it. 2. In the methodology section what type of qualitative study design do the authors used. It is not explained. Similarly, during FGD and IDIs how many themes and subthemes emerged, not explained? 3. Your conclusion is shallow. Better to elaborate it.

Thank you very much for your suggestions regarding our abstract. We have revised our abstract to include a discussion of the dearth of literature on COVID-19 vaccination uptake in Indigenous Maya populations. We have added more information about our methodology (including the use of constant comparative methods and inductive and deductive themes) and participatory design approach, clarified our three primary barrier themes, and expanded our conclusion to include recommendations about how to create vaccine uptake campaigns for Indigenous Maya populations.

In the introduction section. 1. Better to add the overall vaccine acceptance globally and then locally. 2. Line 51, While previous research has indicated that vaccine acceptance, which vaccine, it is better for the reader if you the vaccine specifically.

We have revised our introduction to begin with the literature on global vaccine acceptance before discussing the limited literature on the acceptance of the COVID-19 vaccine in Guatemala. We clarified throughout the paper that we are focused on the COVID-19 vaccine specifically.

Results. 1. It would be good if you add the socio demographic characters of all included study participants including the educational status, their occupation their age etc. 2. What are the major/overreached themes, subthemes, better to use table for this one and describe it accordingly.

In consideration of your suggestions, we have added a table with the demographic characteristics of the study participants in our methods section to help clarify the findings in the results section. In the results section, we have added an overview explanation of the major themes, which includes the three barriers to COVID-19 vaccines, the six types of message preferences, and the three types of preferred message modalities identified in our analysis.

Discussion. There were several literatures in the area of COVID-19 vaccine acceptance; however, the authors were not written the discussion section extensively. Thus, I would recommend authors to review literatures and modify the discussion section.

Thank you for your suggestions. We have extended our review of the literature in the introduction by including several scoping and systemic reviews which explore the extent of global research into

COVID-19 vaccine acceptance and uptake. We return to this literature in our discussion section, where we are able to set our discussion within the context of the global literature.

Reviewer 2: Festus Victor Bekun, Istanbul Gelisim Universitesi

Comments to the Author: The topic is interesting, and the author has done a great job in realizing the subject. However, there are few areas on the paper that is still lagging and should be addressed properly.

Thank you for your kind words and review of our manuscript, we have made several revisions to the manuscript based on your comments.

Abstract: The authors should motivate the choice of variables with theory and empirical backing on the subject

Thank you very much for your suggestions regarding our abstract. We revised our abstract to emphasize the need for the study, which includes a discussion of the meager amount of published literature on COVID-19 vaccine uptake in Indigenous Maya populations. We also clarified our methodology and defined our theoretical participatory design approach. We added to the results section of the abstract by clarifying our findings on the three primary barrier themes to vaccine uptake in the Indigenous Maya population of the Central Highlands of Guatemala. Finally, we expanded on the conclusion in our abstract by indicating our main recommendations for improving vaccine messaging to these communities.

Keywords should be revised to match key element of title

We revised the keywords.

Rewrite the title to be more catchy

Based on your comment and that of Reviewer # 1, we retitled the paper as "But the Vaccine Might Harm Me: A Participatory Qualitative Study on the Barriers to COVID-19 Vaccine Acceptance to Improve Messages for Vaccine Uptake in Indigenous Populations in the Central Highlands of Guatemala."

Introduction: The objective of the paper presented need more clarifications to suit reader to understand the main idea of the paper especially for the study case is needed. Literature review: The literature is well written. However, there is need for more recent studies ranging from 2018-2022 to motivate the study properly. The entire study is too scanty and the related literature is not exhausted

We revised our manuscript by introducing the literature on global vaccine acceptance conducted from 2018-2022. We included several of the leading scoping and systemic reviews (e.g. - Biswas et al. 2021; Joshi et al. 2021; Ochieng et al. 2021; Sallam et al. 2021; Wang et al. 2022; Majid et al. 2022;

Norhayati et al. 2022; Guzman-Holst et al. 2020; Alarcón-Braga et al. 2022) which explore the extent of the leading global research into COVID-19 vaccine acceptance and uptake. We also emphasized in our review the paucity of literature on vaccine acceptance in Indigenous Maya populations, and specifically on COVID-19 vaccine acceptance in order to clarify the need for the case study.

Methodology. 1. This section is generally well motivated, Kindly take note of the following minor additions. 2. More benefit of the various techniques utilized should be stated. 3. The authors should avoid much mathematical expressions or take some to appendix and make the study reader friendly for other practitioner other than academic with out compromise for study intend and quality.

We revised the methodology section to make the study more reader-friendly and to clarify our analysis techniques for practitioner audiences. Some of the changes we made to improve clarity for these audiences include adding a table of demographic characteristics of the sample research population, clarifying the participation of the patient population in the study, and improving our discussion of our analysis protocol.

Discussion. 1. The discussion is well written, but the authors should like their findings to the previous studies in the literature. 2. There is need for professional proofreading or consult English native support

We extended our review of the global literature in our introduction by including the most highly-cited scoping and systemic reviews exploring the extent of global research into COVID-19 vaccine acceptance and uptake. We return to this literature in our discussion section, which allows us to frame our discussion within the context of the global literature. The manuscript has received a thorough copy edit review.

Conclusion. 1. The sub-title should be conclusion and policy recommendation but not only conclusion. 2. The policy which is the engine of the study is weak and small. I therefore encourage the authors to elaborate more on the policy recommendations to policy makers for the investigated bloc. 3. The authors should add limitation of the study and future recommendation.

We revised the manuscript to include a section subtitled “Conclusions.” This new section includes a discussion of the study’s limitations, particularly that the study is not generalizable beyond the specific population being studied, the Indigenous Maya of the Central Highlands of Guatemala. This section also includes our specific recommendations for vaccine promotion campaigns for these Indigenous Maya populations and for future research in this area.

Reviewer 3: Dr. Mochamad Nurmansyah, Universitas Islam Negeri Syarif Hidayatullah Jakarta

Comments to the Author: An interesting and novel study to explore challenges and possible solutions related to COVID-19 vaccination in special groups.

Thank you.

Introduction: Author should add the reference related to the significance of COVID-19 vaccine as one of the most effective interventions in preventing COVID-19 for increasing the significance of this study. Moreover, the context of COVID-19 morbidity and mortality also should be added in the introduction section.

Thank you for your suggestions. We revised our introduction to include a review of the most highly-cited scoping and systemic reviews exploring the extent of global research into COVID-19 vaccine. We also emphasized in our review the paucity of research or tracking of the COVID-19 vaccine in the Indigenous Maya populations in Guatemala.

Methods: Since the international readers might not know the condition of the division of territory in Guatemala, the authors should mention it in order to make readers understand especially related to the selection and scope of territory selected in the study. Any considerations for selecting the research' respondents (why one has been chosen instead of another) should be added in the patient and public involvement sub-section. Is there any tool or software used in the data analysis? Should be explained.

Thank you for the suggestions on our methods section. We sought to clarify the size of the departments and the scope of the location. We also provided more information about the participants' characteristics by including two tables, one on our in-depth-interviews and one on our focus group participants. Finally, we included information about the data analysis software (Dedoose) we used.

Results: Characteristics of the community members and healthcare workers involved in the study should be described before showing the results of the study. The results tend to be not easy to read; the author can write down the main findings for each sub-objective in the results section. For example, in the barrier section, the author can write down the meaning of the barrier and its main findings, then further explanation related to the research results. Moreover, the author can make one table containing main theme, code and sub code generated in the study in order to make reader easily read the result of the study. In the religious faith it was stated that "While religious concerns led some Indigenous community members to believe that being vaccinated was going against the will of God", does this mean that religious faith was one of the barriers for vaccination? For trusted sources of health messaging, commonly every community group has a trusted figure in which the figure can differ from one group to another. did this not happen in your study? Previously it was mentioned that some people believe in religious leader, is this not considered to be a trusted source of messaging for the community?

Based on your helpful suggestions, we added two tables with the demographic characteristics of the study participants in our methods section. We believe that these tables will help clarify the context of our findings in our results section. In the results section, we provide a brief overview of the major themes that emerged from our analysis. This overview includes the three barriers to COVID-19 vaccines, the six types of message preferences, and the three preferred message modalities that we identified in our analysis. We also attempted to clarify who the Indigenous Maya populations preferred to receive the in-person modality of health message delivery from. Specifically, we clarified the role of local leaders in addition to local health workers, based on your suggestions.

Discussion: The author comments a lot on the educational media used (which do not use language or do not match the existing culture). If possible, in this case the author could show posters that are already available at the research location and provide a narration (as already mentioned) and discussion to be able to make educational media that is more appropriate. This study highlighted that there is a incompatibility of the educational media provided regarding vaccines so that it affects public

acceptance, is there an issue of lack of ability of health workers to make such media? what can be done to solve the problem in the long term? It is interesting to be discussed. The discussion is still lacking in depth, especially in exploring religious and political issues (government trust) according to the research results. The author can also provide main recommendations based on the results of the study to increase the coverage of COVID-19 vaccination and vaccination coverage in other programs.

Based on your helpful suggestions, we reorganized the results section. We believe this will help clarify our discussion of the challenges the Indigenous Maya communities face with accessing health information. We sought to clarify the data from the interviews and focus groups which share that the main COVID-19 health materials provided by the government are in Spanish. Our data indicated that the local health workers faced challenges translating materials into the Mayan languages for the low-literacy populations. We believe this will support our suggestions for how to improve communications about the COVID-19 vaccine and for the use of various modalities. We also expanded our discussion to refer back to the global research into the COVID-19 vaccine acceptance and uptake, as well as the research exploring issues of mistrust. We also revised the manuscript to include a new section subtitled "Conclusions." This section specifically includes our main recommendations for vaccine promotion campaigns for Indigenous Maya populations based on the study's findings. As part of our future research recommendations, we specifically indicate that efforts should be made to understand how to support health organizations to develop linguistically and culturally appropriate materials.

Reviewer 4: Dr. Md. Emran Hossain, Bangladesh Agricultural University

Comments to the Author: The following comments need to be addressed: 1. Current abstract is inadequate, the research motivation needs to be explored in the first section of the Abstract. Main findings should be included as well as the future research direction concisely.

Thank you very much for your suggestions regarding our abstract. We revised our abstract to emphasize the need and motivation for the study. We include a discussion of the meager amount of published literature and official tracking of COVID-19 vaccine uptake in Indigenous Maya populations. We added to the results section of the abstract by clarifying our findings on the three primary barrier themes to vaccine uptake in the Indigenous Maya population of the Central Highlands of Guatemala. Finally, we elaborated on the conclusion in our abstract by indicating our main recommendations for improving vaccine messaging to these communities.

2. Keywords need to revise.

We revised the keywords.

3. The objective of the paper presented need more clarifications to suit the reader to understand the main idea of the paper especially for the study case is needed.

We revised the manuscript at several key points to emphasize the motivation and need for the case study. We also emphasized the key findings. We revised the abstract to emphasize the need and motivation for the study by including a discussion of the limited literature and poor tracking of COVID-19 vaccine uptake in Indigenous Maya populations. In the abstract, we also elaborated our main findings to explain the three primary barrier themes. We clarified our conclusion by including our recommendations based on the study's findings. We emphasized in our introduction the paucity of literature on vaccine acceptance in Indigenous Maya populations, and specifically on COVID-19

vaccine acceptance. This supported our claim for the need for the case study. In the results section, we added an overview of the major themes of the analysis. The overview includes the three barriers to COVID-19 vaccines, six preferred message types, and three preferred message modalities identified in our findings. Finally, we revised the manuscript to include a section subtitled "Conclusions." This new section includes the primary findings and specifically includes the main recommendations for vaccine promotion campaigns for Indigenous Maya populations.

4. The motivation of the study is not well explained.

We clarified at several points throughout the manuscript that given a lack of attention to their health concerns and a long history of mistrust of the government, the Indigenous Maya populations may be especially vulnerable to myths and misinformation, which may impact vaccine uptake, specifically COVID-19 vaccine acceptance. We also clarified that due to a paucity of research on vaccine uptake in this population, there has been little understanding of potential barriers or facilitators to vaccine uptake.

5. What is the contribution of this study?

We revised the manuscript in several areas, including the abstract, introduction, and discussion, to emphasize how this study is one of the first to describe factors that influence COVID-19 vaccine acceptance in Indigenous populations in the Central Highlands of Guatemala. We also included a new section subtitled "Conclusions." In this section we have clarified the main findings of the study and provided recommendations for vaccine promotion campaigns for Indigenous Maya populations.

6. How is this study differs from the existing studies on the topic?

As one of the first studies to describe factors that influence COVID-19 vaccine acceptance in Indigenous populations in the Central Highlands of Guatemala, we revised the manuscript to emphasize the paucity of research and the lack of attention to the health concerns of Indigenous Maya populations. In our discussion and conclusion sections, we emphasized how critical it is to conduct research with these vulnerable communities in order to ensure they are protected from serious COVID-19.

7. Please rewrite the introduction section. It is not adequate in its present form.

We extended our review of the global literature in our introduction by including the most highly-cited scoping and systemic reviews exploring the extent of global research into COVID-19 vaccine acceptance and uptake. We then emphasized in our introduction the paucity of literature on vaccine acceptance in Indigenous Maya populations, and specifically on COVID-19 vaccine acceptance, in order to clarify the need for the case study.

8. In the analysis section, researchers only describe how they conduct the analysis but what method did they apply to fulfill the research objective is entirely absent. This section needs a better explanation of the research method, software, and way to conduct the analysis. This is one of the major concerns of this paper. How the authors can be certain about the generalization of research findings by only collecting data through the FGD? Did you have not any scope to collect primary data

through face-to-face interviews, if yes, then it would better reflect the findings of the study? If the answer is no then why? Details explanation is mandatory.

We revised the methodology section to make the study more reader-friendly and to clarify our analysis techniques for practitioner audiences. We provided more information about the participants' characteristics by including two tables, one on our in-depth-interviews and one on our focus group participants. We also clarified the participation of the patient population in the study, and improved our discussion of our analysis protocol. To clarify we collected data through both interviews and focus groups, as is culturally appropriate in our populations. In our new conclusion section, we clarify that qualitative data is not generalizable beyond our specific populations, which was anticipated given the wide diversity in Indigenous populations in Guatemala. Finally, we indicated which data analysis software program we used (Dedoose).

9. Discussion section is informative but not adequate in the current form, needs to revise strongly revised based on the previous literature from the host country and as well as other countries and how it can be applied in the future. Please compare your research findings to the previous literature. Authors can consider the recent studies on COVID-19 vaccines while revising the discussion (<https://doi.org/10.1080/21645515.2021.1968215>; <https://doi.org/10.1080/21645515.2021.2010426>; <https://doi.org/10.1080/21645515.2021.2022920>).

We revised our introduction to include a review of the most highly-cited scoping and systemic reviews exploring the extent of global research into COVID-19 vaccine (e.g.- Biswas et al. 2021; Joshi et al. 2021; Ochieng et al. 2021; Sallam et al. 2021; Wang et al. 2022; Majid et al. 2022; Norhayati et al. 2022; Guzman-Holst et al. 2020; Alarcón-Braga et al. 2022). We also emphasized in our review the paucity of research or tracking of the COVID-19 vaccine in the Indigenous Maya populations in Guatemala given there are no studies on this topic regarding this population from the country to date. We returned to this literature, as well as other country case studies (e.g.- Mose 2021; Hossain et al. 2021) in the discussion section, which allows us to frame our discussion within the context of the global literature.

10. Conclusion section must be needed to reform stating the main findings of this study and also the policy direction.

Thank you for your suggestions. We revised the manuscript to include a section subtitled "Conclusions." In this new section we clarified the main findings of the study and provided recommendations for vaccine promotion campaigns for Indigenous Maya populations based on the study's findings.

11. Please add a separate limitation section of this study and also the future research directions.

In the new section, subtitled "Conclusions," we included the study limitations. Specifically, we clarify that our findings are not generalizable beyond our specific populations. Additionally, this section includes recommendations for vaccine promotion campaigns for Indigenous Maya populations and for future research based on the study's findings.

VERSION 2 – REVIEW

REVIEWER	ayenew mose Wolkite University, Midwifery
REVIEW RETURNED	30-Nov-2022

GENERAL COMMENTS	The manuscript is now improved and my comments were addressed. please find minor comments below. <ul style="list-style-type: none"> • the title is to long try to shorten it. STRENGTHS AND LIMITATIONS OF THIS STUDY <ul style="list-style-type: none"> • There are repetition of words such as strength of the study and limitation of study. it is better to rephrase it.
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REVIEWER	Festus Victor Bekun Istanbul Gelisim Universitesi
REVIEW RETURNED	24-Nov-2022

GENERAL COMMENTS	current version reads well and suitable for journal audience
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REVIEWER	Mochamad Nurmansyah Universitas Islam Negeri Syarif Hidayatullah Jakarta
REVIEW RETURNED	14-Dec-2022

GENERAL COMMENTS	the total number of participants and the number of each group of participants in tables 1 and 2 need to be added. The basic identity of the participant whose statement is cited is need to be written, for example by writing down (age, region, profession).
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VERSION 2 – AUTHOR RESPONSE

Reviewer 1: Mr. Ayenew Mose, Wolkite University

The manuscript is now improved and my comments were addressed. Please find minor comments below. The title is too long, try to shorten it.

Based on your comment and the request of the editor, we have retitled the manuscript “A Participatory Qualitative Study on the Barriers to COVID-19 Vaccine Acceptance to Improve Messages for Vaccine Uptake in Indigenous Populations in the Central Highlands of Guatemala”.

STRENGTHS AND LIMITATIONS OF THIS STUDY

There are repetition of words such as “strength of the study” and “limitation of study”. It is better to rephrase it.

Thank you for this suggestion. We have revised this section so that there is less word repetition.

Reviewer 2: Festus Victor Bekun, Istanbul Gelisim Universitesi

Comments to the Author: Current version reads well and suitable for journal audience.

Thank you for your comments on our manuscript.

Reviewer 3: Dr. Mochamad Nurmansyah, Universitas Islam Negeri Syarif Hidayatullah Jakarta

Comments to the Author: The total number of participants and the number of each group of participants in tables 1 and 2 need to be added. The basic identity of the participant whose statement is cited needs to be written, for example by writing down (age, region, profession).

Thank you for your suggestion. Due to *BMJ Open's* policy on identifying subjects and our study protocols approved by the Institutional Review Boards at the University of California, San Francisco (Study # 21-35160) and Stanford University (Protocol # 63193), and a private IRB through Wuqu' Kawoq (Protocol # WK 2021 005), we are not able to provide any private identifiable information.