PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Knowledge and Perceptions of COVID-19, Prevalence of Pre-Existing Conditions, and Access to Essential Resources in Somali IDP Camps: a Cross Sectional Study
AUTHORS	Alawa, Jude; Al-Ali, Samir; Walz, Lucas; Wiles, Eleanor; Harle, Nikhil; Awale, Mohamed; Mohamed, Deqo; Khoshnood, Kaveh

VERSION 1 – REVIEW

REVIEWER	Ahmed, Haroon COMSATS University Islamabad
REVIEW RETURNED	13-Oct-2020

GENERAL COMMENTS	Title: "Knowledge and Perceptions of COVID-19, Prevalence of Pre-Existing Conditions, and Access to Essential Resources and Health Services in Somali IDP Camps" (Manuscript ID bmjopen-2020-044411) submitted BMJ Open. Comments: The manuscript is well written. It provides a comprehensive and interesting information of COVID-19 in Somali IDP Camps. It is strongly recommended for publication in BMJ open.

REVIEWER	Nepogodiev, Dmitri University of Birmingham
REVIEW RETURNED	18-Dec-2020

GENERAL COMMENTS	This study addresses the needs of a vulnerable under-served population whose needs during the COVID-19 pandemic have been rarely explored. This study identifies clear needs for increased support for people in Somali IDP camps. However, the study does not go beyond identifying problems because participants were not asked anything about their ideas for what interventions might work and what the barriers to their success might be. Moreover, the study did not include input from other stakeholders such as community health workers and community leaders who might have offered additional insight (particularly if this had been done as semi-structured interviews rather than multiple choice questions. Overall, the authors could improve the manuscript by using information from existing literature to discuss specific interventions that might be considered in light of their findings. I am not sure what the purpose of the multivariable model is. Predicting the outcome of whether individuals are concerned about COVID-19 does not seem particularly helpful. The sample size is small (n=344) increasing risk of type 2 error. Unclear how factors were selected for inclusion in the model. I would take it out.

	The whole manuscript could be significantly condensed, particularly the introduction. The discussion does not need to repeat the findings in so much detail – needs to focus on the implications of this research. Authorship – I note the US authors did not collect the data and only two Somali collaborators are co-authors (in the middle of the authorship). The other Somali collaborators are relegated to acknowledgements. Is this equitable? I am not sure I have ever seen joint second authors? Were they meant to be joint first?

REVIEWER	Ramsden, Vivian University of Saskatchewan, Department of Academic Family Medicine
REVIEW RETURNED	27-Dec-2020

GENERAL COMMENTS	The Abstract states the objectives as being to examine knowledge of COVID-19, self-reported prevalence of pre-existing conditions, and access to essential health services among residents of internally displaced persons (IDP) camps in Somalia, where overcrowded settlements with weakened infrastructure, inadequate water, sanitation, and hygiene facilities, and inaccessible health services make this (these) vulnerable populations particularly susceptible to a COVID-19 outbreak. Thus, the Abstract and the introduction to the study within the manuscript are not congruent. The manuscript refers to the “aim” of the article which is usually the language used when engaged in quality improvement which in this case indicates that the study aims to explore knowledge and perceptions of the symptoms, transmission, prevention and treatment of COVID-19 among persons living in IDP camps (in Somalia but not named in the sentence) and to understand the unique structural barriers that inhibit a comprehensive public health response in this setting. Thus, given this information, I expected to read a qualitative study as the language used was qualitative in nature e.g. explore and understand. However, this is a quantitative study that used a descriptive, cross-sectional survey with the data being collected orally. Not that this is inappropriate in a community-based approach but the methods need to be clearly delineated given that it would appear all of the people collecting the data were male and the majority of the participants were female. Although I have never been in Somalia, my global health experience would suggest that the women would be expected to participate. How was this power imbalance mitigated? How was recruitment within each of the 12 IDP camps broken down? The information of the people that agreed to participate were not broken down by IDP camp. I would expect that each of the IDP camps had a unique context so this may be important if the authors were looking to explore and understand. Given the number of women that participated in the survey, it would seem appropriate to have undertaken a gender analysis. As the reader, most of the important aspects of the data were not in the Tables but in the text of the manuscript. From my perspectives, the number of tables could be reduced and some of the data that is important for next steps be highlighted. I would encourage you to rework the analysis of the manuscript and highlight the important results rather than referring to a number of Tables which is followed with (not shown in the Table) e.g. page 9 “only 4% of the respondents stated that they would go to health information

	providers in IDP camps if they suspected they had contracted the virus". Why is this? What can be done to support the "people" given that trust seems to have been eroded? I am not sure that the data provides strong evidence for immense gaps in knowledge and perceptions of COVID-19 and access to treatment and preventative services among individuals living in Somali IDP camps. It may be in the results that are in the text but are unclear in the Tables. I would encourage you to consider ways to engage people living in the IDP camps to co-create/co-design ways to address the COVID-19 knowledge gaps once clearly delineated so that trust can be re-established.

VERSION 1 – AUTHOR RESPONSE

Reviewer comments:

Reviewer: 1

Comment 4: The manuscript is well written. It provides a comprehensive and interesting information of COVID-19 in Somali IDP Camps. It is strongly recommended for publication in BMJ open.

Response 4: Thank you very much for your support of our manuscript. We hope that our work will be a valuable contribution to BMJ Open and will inform future interventions to support IDPs in Somalia.

Reviewer: 2

Comment 5: This study addresses the needs of a vulnerable under-served population whose needs during the COVID-19 pandemic have been rarely explored. This study identifies clear needs for increased support for people in Somali IDP camps. However, the study does not go beyond identifying problems because participants were not asked anything about their ideas for what interventions might work and what the barriers to their success might be. Moreover, the study did not include input from other stakeholders such as community health workers and community leaders who might have offered additional insight (particularly if this had been done as semi-structured interviews rather than multiple choice questions. Overall, the authors could improve the manuscript by using information from existing literature to discuss specific interventions that might be considered in light of their findings.

Response 5: Thank you for your review of our paper. We agree that your suggestion is a crucial consideration. Unfortunately, we found the existing literature surrounding relevant COVID-related interventions in limited-resource contexts, including IDP camps, to be very sparse. In the Discussion section, we contextualize our findings and recommendations with those found in other relevant studies. Per your suggestion, we have further consulted the existing literature, though limited, to highlight specific interventions that might be considered in light of our findings and the findings of similar studies.

Moreover, though the aim of this investigation was to assess knowledge and perceptions of COVID-19, prevalence of pre-existing conditions, and access to essential resources among Somali IDPs, we agree that future investigations should evaluate participants' ideas for what interventions may be effective. We also believe the other stakeholders' perceptions are essential considerations. While we were not able to collect the depth of responses that would be offered with a semi-structured interview concerning IDPs' perceptions of COVID-19 and current living conditions, we believe this study is a

valuable addition to the current literature as this is one of the first examining COVID-19's impact on IDPs and the first to be conducted with Somali IDPs. Though these factors were outside the scope of this study, we have highlighted them in the manuscript as essential future research priorities. We hope our work will encourage further engagement with these topics. In fact, we have recently conducted a subsequent study assessing a similar topic with Somali healthcare workers.

Comment 6: I am not sure what the purpose of the multivariable model is. Predicting the outcome of whether individuals are concerned about COVID-19 does not seem particularly helpful. The sample size is small (n=344) increasing risk of type 2 error. Unclear how factors were selected for inclusion in the model. I would take it out.

Response 6: Thank you for your suggestion. We agree that the multivariate model is not necessary. We have removed Table 8 from the manuscript, as well as any mention of the model.

Comment 7: The whole manuscript could be significantly condensed, particularly the introduction. The discussion does not need to repeat the findings in so much detail – needs to focus on the implications of this research.

Response 7: Thank you for drawing our attention to this. We have edited and condensed the manuscript per your suggestion.

Comment 8: Authorship – I note the US authors did not collect the data and only two Somali collaborators are co-authors (in the middle of the authorship). The other Somali collaborators are relegated to acknowledgements. Is this equitable? I am not sure I have ever seen joint second authors? Were they meant to be joint first?

Response 8: We appreciate your important note on the authorship of this study. We can assure the reviewer that author contributions to this study are accurately reflected in the Declarations sections, and that the authorship of the study was discussed thoroughly and agreed upon by the entirety of the research team. We did intend to have two joint second authors, as this also accurately reflects their equal contributions. We are also deeply grateful to our Somali collaborators mentioned in the acknowledgements for their valuable input and support of our work.

Reviewer: 3

Comment 9: The Abstract states the objectives as being to examine knowledge of COVID-19, self-reported prevalence of pre-existing conditions, and access to essential health services among residents of internally displaced persons (IDP) camps in Somalia, where overcrowded settlements with weakened infrastructure, inadequate water, sanitation, and hygiene facilities, and inaccessible health services make this (these) vulnerable populations particularly susceptible to a COVID-19 outbreak. Thus, the Abstract and the introduction to the study within the manuscript are not congruent.

Response 9: We thank the reviewer for their valuable observation. We have corrected the penultimate sentence of the introduction to address this incongruence and to more accurately reflect the objectives of our study. The sentence now reads, "This study examined knowledge of COVID-19, prevalence of preexisting conditions, and access to essential health services among residents of internally displaced persons (IDP) camps in Somalia."

Comment 10: The manuscript refers to the "aim" of the article which is usually the language used when engaged in quality improvement which in this case indicates that the study aims to explore knowledge and perceptions of the symptoms, transmission, prevention and treatment of COVID-19

among persons living in IDP camps (in Somalia but not named in the sentence) and to understand the unique structural barriers that inhibit a comprehensive public health response in this setting. Thus, given this information, I expected to read a qualitative study as the language used was qualitative in nature e.g. explore and understand. However, this is a quantitative study that used a descriptive, cross-sectional survey with the data being collected orally. Not that this is inappropriate in a community-based approach but the methods need to be clearly delineated given that it would appear all of the people collecting the data were male and the majority of the participants were female. Although I have never been in Somalia, my global health experience would suggest that the women would be expected to participate. How was this power imbalance mitigated?

Response 10: Thank you for bringing these important points to our attention. We have edited the language used when discussing the objectives of our study in both the Abstract and Introduction. In the Introduction, the study objectives now reads, “This study examined knowledge of COVID-19, prevalence of preexisting conditions, and access to essential health services among residents of internally displaced persons (IDP) camps in Somalia.” Furthermore, we consider power imbalances, especially among vulnerable populations, to be extremely important ethical and research considerations. We have revised our methodology section to include additional details and have outlined the steps we took to mitigate any form of power imbalance. Firstly, both male and female staff were trained to administer the survey, strongly taking into consideration the sociocultural and demographic context of the target population. Second, all participants received a brief presentation of the purpose, procedure, and requirements for participation in this study, and this presentation was given in private. Third, verbal consent was obtained from each participant. Fourth, participants were informed that they had the right to withdraw at any time, that there would be no consequences for withdrawal, and that all information collected was kept confidential and anonymized by removing all identifiable information. By taking these steps, we strived to mitigate any power imbalances and to preserve the integrity of our study methodology.

Comment 11: How was recruitment within each of the 12 IDP camps broken down? The information of the people that agreed to participate were not broken down by IDP camp. I would expect that each of the IDP camps had a unique context so this may be important if the authors were looking to explore and understand. Given the number of women that participated in the survey, it would seem appropriate to have undertaken a gender analysis.

Response 11: Thank you for your valuable suggestions. A convenience sample of Somali IDP participants was collected across 12 IDP camps spanning six areas (Ceelasha, Lafoole, Xaawo Cabdi, Carbiska, and Afgooye) of the Lower Shabelle region in Somalia. Given that the IDP camps surveyed in the Lower Shabelle region were expected to be facing similar circumstances and contexts, we did not disaggregate the data by IDP camp. That being said, from a methodological perspective, we recognize that valuable insight could be provided by breaking down the data by IDP camp. As such, we hope to incorporate this into the methodology of our future work, as well as to encourage similar efforts in the field. We have made note of the lack of disaggregated data in our Limitations section. We write, “Similarly, our analysis did not disaggregate data by IDP camp. Future studies should not only identify the challenges faced by IDP communities outside of the Lower Shabelle region but should also explore circumstances unique to each camp setting, such that tailored interventions can be effectively designed.”

Regarding the proposed gender analysis, through our bivariate model, which we ultimately decided to remove from the study per the suggestion of a reviewer (Comment 6), we discovered that the female respondents had 0.98 the odds (95% CI; 0.51 – 1.90) of being concerned of contracting COVID-19, when compared to male respondents. With only 55 males completed the survey, we found the male sample size too small to conduct any thorough gender analysis. Ultimately, while we believe a gender analysis would have benefitted the study, we did not feel as if we had a sufficient sample to conduct

one.

Comment 12: As the reader, most of the important aspects of the data were not in the Tables but in the text of the manuscript. From my perspectives, the number of tables could be reduced and some of the data that is important for next steps be highlighted. I would encourage you to rework the analysis of the manuscript and highlight the important results rather than referring to a number of Tables which is followed with (not shown in the Table) e.g. page 9 “only 4% of the respondents stated that they would go to health information providers in IDP camps if they suspected they had contracted the virus”. Why is this? What can be done to support the “people” given that trust seems to have been eroded?

Response 12: We thank the reviewer for their important suggestions. Unfortunately, there was no validated survey tool available for the aims of this investigation with this population. As such, a unique survey tool was developed. This novel questionnaire covered many different topics and required our selectivity while consolidating various questions into collapsable tables. While there are several instances of the manuscript not presenting stated data in tables, the majority of these instances are due to discordant survey responses or narrow topics that, we felt, could not be displayed neatly in a table. Chiefly, in the “Access to Treatment and Preventative Services” section, many pieces of data labelled “not shown in tables” were offered by respondents freely through open-ended questions. While we agree that presentation of this data in table format would improve the manuscript at the expense of a smaller table (such as Table 6), we are currently unable to do so due to discordant question stems or responses being derived from open-ended questions. That being said, we have edited the results section to better organize the presentation of data from the tables, as well as to highlight the results that are most important to identifying next steps. Finally, while we agree with the assessment of the essential nature of supporting IDPs whose trust may have eroded and provide recommendations concerning novel uses and roles of trusted media and professionals, we recognize that the nature of this erosion was beyond the scope of our study. We believe that understanding the limited trust in IDP health information providers should be addressed by future qualitative research, which we have highlighted in our manuscript. In addition, in our Discussion section, we have emphasized how trusted sources should be mobilized to support IDPs given uncertainty surrounding an erosion of trust within the camps.

Comment 13: I am not sure that the data provides strong evidence for immense gaps in knowledge and perceptions of COVID-19 and access to treatment and preventative services among individuals living in Somali IDP camps. It may be in the results that are in the text but are unclear in the Tables. I would encourage you to consider ways to engage people living in the IDP camps to co-create/co-design ways to address the COVID-19 knowledge gaps once clearly delineated so that trust can be re-established.

Response 13: Thank you for bringing out attention to this. As expressed in Response 12, some of our evidence to signal immense gaps in knowledge and perceptions of COVID-19 and access to treatment and preventative services among individuals living in Somali IDP camps was not displayed in the tables and instead was descriptively presented in the Results section. We felt that some of our relevant data was not suitable to display in tabular format because of discordant survey stems, questions addressing highly specific topics, and input from open-ended questions. We agree with the reviewer’s observation that engaging individuals living in IDP camps is crucial to closing the COVID-19 knowledge gap we observed in this study. In the Discussion section of our manuscript, we have further emphasized the importance of engaging with individuals living or working in IDP camps to promote COVID-19 awareness and reduce the spread of COVID-19. Specifically, drawing from our observations that a large proportion of respondents used news and media outlets and trusted radio sources, health officials, and religious officials to access COVID-19 information, we recommend addressing knowledge gaps by co-designing and implementing educational programs through these

platforms. We hope that the findings reported in this study will inform such community-oriented interventions in the future.

VERSION 2 – REVIEW

REVIEWER	Ramsden, Vivian University of Saskatchewan, Department of Academic Family Medicine
REVIEW RETURNED	27-Apr-2021

GENERAL COMMENTS	I will begin by saying that the manuscript has greatly improved. However, the Abstract and the introduction to the study within the manuscript are still not congruent. The Abstract refers to "objectives" and the Introduction which I would now consider consistent with the manuscript highlight's the fact the study examined knowledge but there is no mention of perceptions. Please review the manuscript once again and ensure that when speaking of knowledge and perceptions the words perceptions is added in at least the following sections: Introduction on Line 16; in the Discussion on Line 6; and in the Conclusion on Line 5. Usually the Ethics Statement goes at the end of the Methods Section not in the Sample and Setting of the Methods Section.

VERSION 2 – AUTHOR RESPONSE

Reviewer comments:

Reviewer 3:

Comment 1: I will begin by saying that the manuscript has greatly improved. However, the Abstract and the introduction to the study within the manuscript are still not congruent. The Abstract refers to "objectives" and the Introduction which I would now consider consistent with the manuscript highlight's the fact the study examined knowledge but there is no mention of perceptions. Please review the manuscript once again and ensure that when speaking of knowledge and perceptions the words perceptions is added in at least the following sections: Introduction on Line 16; in the Discussion on Line 6; and in the Conclusion on Line 5.

Response 1: Thank you very much for your valuable suggestions and comments. We are glad that our revisions have greatly improved the manuscript. We have reviewed the manuscript to ensure that when speaking of knowledge and perceptions that the word, “perceptions,” is added where relevant, including in the aforementioned sections above.

Comment 2: Usually the Ethics Statement goes at the end of the Methods Section not in the Sample and Setting of the Methods Section.

Response 2: Thank you for drawing our attention to this. We have moved the Ethics Statement to the end of the Methods Section per your suggestion.