PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Older adults with pre-existing noncommunicable conditions and their healthcare access amid COVID-19 pandemic: a cross-sectional study in eastern Nepal
AUTHORS	Yadav, Uday; Ghimire, Saruna; Shrestha, Aman; Mistry, Sabuj Kanti; Chapadia, Bunsi; Yadav, Om Prakash; Ali, ARM Mehrab; Rawal, Lal; Yadav, Priyanka; Mehata, Suresh; Harris, Mark

VERSION 1 – REVIEW

REVIEWER	Saurav Basu Maulana Azad Medical College
REVIEW RETURNED	30-Oct-2021

GENERAL COMMENTS	This article addresses an important research question on difficulty in access to medications during the Covid-19 pandemic. However, the study instruments were not suited for sufficiently answering the research question. The study also seems to have been conducted as an add-on study rather than a dedicated research necessary to qualify as a original article in an international journal. Introduction 1. Reference 6 is for global or Nepalese data 2. Define vertical health equity and explain the relevance to the problem statement of your study Methods 3. Justify your sample size estimation from context of primary outcome. Also explain your sampling strategy 4. Why did you not use a previously validated scale to assess difficulty in access to medication. Difficulty in access to medication could signify inability to obtain any medications at all for a prolonged period, short period, or inability to obtainin some medications, etc. The consequent implications on patient health outcomes would vary considerably depending on the outcome-type which unfortunately would not have been adequately captured by this subjective scale used in this study whose validity and reliabilty have not been reported. 5. Why was self-report not corroborated with medical records for assessment of pre-existing medical conditions. 6. A mixed methods approach including qualitative assessment was highly warranted for this study. Results 6. WHat was the survey response rate

	7. Why were minorities the largest proportion of participants? THis significantly reduces the generalizability of your study findings to the general population. 8. Difficulty in access to medications does not explain whether the participants were unable to obtain the medications at all for a significant period, or not at all. 9. What were patient health outcomes during the same period - blood pressure, blood glucose, Hba1c, etc. If the patients were unable to access these essential health services, these should also have been reported. Discussion 10. This section should also focus on the health system interventions by the government to promote accessibility to medications for this vulnerable population

REVIEWER	Ratna Devi Dakshayani and Amaravati Health & Education, Board
REVIEW RETURNED	13-Nov-2021

GENERAL COMMENTS	The rationale for the three districts needs to be included with an explanation as to whether there are any major variations or differences from the rest of Nepal

VERSION 1 – AUTHOR RESPONSE

Reviewer 1 Comments to the Author:	**Authors' responses:**
This article addresses an important research question on difficulty in access to medications during the Covid-19 pandemic. However, the study instruments were not suited for sufficiently answering the research question. The study also seems to have been conducted as an add-on study rather than a dedicated research necessary to qualify as a original article in an international journal.	Thank you. The data was collected by our research team to study the impacts of COVID-19 among Nepali older adults. Using the same data set in a previously published study, we explored the fear of COVID-19 among the participants [1]. This is a second study planned using the same dataset. Secondary data analyses are very common in public health literature and are preferred as it saves time and resources needed for data collection. Given that we did not have any funding for this study, it was resourceful for us to plan another study with a unique research question using the same dataset. Such practice is common as ample papers have been published through secondary analysis of original studies such as Health and Retirement Study, National Health and Nutrition Examination, Global AGEing and Adult Health (SAGE) survey, the Demographic and Health Surveys. Upon quick search, we found that BMJ Open has published multiple studies that are add-on using NHANES, DHS, and China Health and Retirement Study. In line with past practice of BMJ Open and based on the grounds of the novelty of the research question, we believe that BMJ Open will consider this study as an original study paper. Regarding your comment on study instruments, please see our response to your comment #4.
1. Reference 6 is for global or Nepalese data	Thank you for pointing it out. We have added "in Nepal" at the end of the sentence to specify that the data is specific to Nepal. The sentence now reads as:

	'Among older age groups (50 and older), in 2017, NCDs contributed to 55.3% of the disease burden in Nepal [6].'
2. Define vertical health equity and explain the relevance to the problem statement of your study	Thank you for your suggestion. We have added the following statements on pages 3-4 to address your suggestion. *'Horizontal health equity advocates for equal access to health care. In contrast, vertical health equity is defined as the principle that advocates for access to healthcare based on an individual's needs, i.e., those with greater needs should have greater access to healthcare [15]. Since those with one or more health problems have greater health needs than those without a health condition, they should have greater access to healthcare. Moreover, the needs are even greater for those with multimorbidity. In the context of our study, the principle of vertical health equity is violated if those with one or more pre-existing NCDs experience greater challenges to access health care.'*
3. Justify your sample size estimation from context of primary outcome. Also explain your sampling strategy	Thank you for your suggestion. We have added the following details on sample size and sampling strategy on pages 4-5 in the revised manuscript. *'Using an unknown prevalence of 50%, 5% precision, a design effect of 2, and a non-response rate of 5.0%, the minimum required sample size was calculated to be 847. Multi-stage cluster sampling was used for selecting participants. In the first stage, the three districts of Province 1 in eastern Nepal, namely Morang, Pachthar, and Terathum (Figure 1), were randomly selected. While Morang lies in the southern plains, Pachthar and Terathum are hilly districts. The population and key infrastructure indicators for these districts are provided in Supplemental Table 2. Briefly, the three study districts have a higher literacy rate and access to sanitary toilets than the national average. While Morang district is above the national average in terms of urbanization and access to electricity and improved drinking water sources, the other two districts, Pachthar and Terathum, are below the national average (Supplemental Table 2). In the second stage, one urban and one rural municipality were randomly selected in each district. Next, from each municipality, three wards (lowest administrative units in Nepal) were randomly selected, and in the final stage, participants were randomly selected from each ward.'*
4. Why did you not use a previously validated scale to	Thank you for the suggestion. We agree with you that accessibility varies by patient health outcome in normal scenarios. However, during

assess difficulty in access to medication. Difficulty in access to medication could signify inability to obtain any medications at all for a prolonged period, short period, or inability to obtainin some medications, etc. The consequent implications on patient health outcomes would vary considerably depending on the outcome-type which unfortunately would not have been adequately captured by this subjective scale used in this study whose validity and reliabilty have not been reported.	a pandemic, when there is a nationwide lockdown, cease of the primary means of commute, disruptions in health services, closure of health facilities etc., health care access is primarily determined by macro-determinants than micro-determinants. Hence, we believe that the inaccessibility conceptualized in our study during the time of pandemic is more specifically related to restricted movements than individuals' socio-economic status or health outcome. In the first paragraph on page 4, we have provided a rationale for pandemic-specific challenges impacting health care access. Regarding the time period, the inaccessibility captured in our study is not long-term. As indicated in the definition of our outcome variable on page 5, we are interested in understanding the difficulty due to the COVID-19 pandemic. We are not sure if we fully understood and explained your concern, but if there are lingering questions, please let us know, and we would be happy to make further revisions.
5. Why was self-report not corroborated with medical records for assessment of pre-existing medical conditions.	Thank you for the suggestion. We would have preferred to corroborate self-report with medical records on pre-existing medical conditions. However, there were several logistic challenges to that. We attempted to seek medical records when available, but only a small number of our participants had readily available medical records. Medical records are not readily available in LMICs, including Nepal. In the absence of electronic health records, retrieving past information is challenging. Additionally, we did not have funding to measure the medical conditions clinically and thus had to rely on self-report. We also wanted to bring your attention to the fact that many prestigious international studies such as Health and Retirement Study, Global AGEing and Adult Health (SAGE), and Longitudinal Aging Study in India have relied on self-report. We are aware of the limitations due to self-reported measures and have acknowledged them in the limitation section of our manuscript. The following statements are provided on page 8. *'The information on pre-existing conditions was self-reported, and we believe it to be underestimated because, in the Nepali context, it is common to access healthcare only when the symptoms are obvious and severe. Hence, many of our participants may not be aware of their sub-clinical conditions, which may have introduced misclassification bias in the measurements, thereby underestimating the true burden of pre-existing conditions.'*
6. A mixed methods approach including qualitative assessment was	Thank you for your suggestion. We agree that a mixed-methods approach would be an appropriate design to understand the underlying reasons for accessibility better. This is a study limitation that cannot be

highly warranted for this study.	addressed by our study. Hence, we added the following statement on page 8, recommending a future study using a mixed-method design. *'Our study did not assess reasons for access problems, and future studies, employing a mixed-method approach, should explore the underlying reasons for inaccessibility'.*
6. WHat was the survey response rate	Thank you for your suggestion. On page 6, under the sub-section 'Participants' characteristics', we have added the following sentence to indicate that the response rate for the study was 99.5%. *'Data were collected from 843 of the approached 847 participants (a response rate of 99.5%)'.*
7. Why were minorities the largest proportion of participants? This significantly reduces the generalizability of your study findings to the general population.	Thank you for your question. The inclusion of the largest proportion of minorities participants was not intentional and could be related to the demography of included study areas. Although we are glad that we were able to capture a significant proportion of minorities participants, we agree with you that it reduces the generalizability of our study findings to the general population. Since this is a limitation that our study cannot address, we acknowledged this as a study limitation on page 8. The sentence reads as: '*The study includes a large proportion of participants from a minority background and does not represent the general Nepali population, thus limiting the generalizability of study findings.'*
8. Difficulty in access to medications does not explain whether the participants were unable to obtain the medications at all for a significant period, or not at all.	Please refer to our response to your comment #4.
9. What were patient health outcomes during the same period - blood pressure, blood glucose, Hba1c, etc. If the patients were unable to access these essential health services, these should also have been	Thank you for your question. Unfortunately, we do not have information on these patient health outcomes. We were limited logistically and financially to include these measurements in our study. Given the nationwide restriction on movement and cease of public transport, our main concern and underlying rationale were that people might not be able to reach a health facility. Hence, our approach was more generic than specific to certain patient health outcomes. We believe that if they could access health services, they would obtain the required specific care but accessing health services during nationwide

reported.	lockdown was our concern.
10. This section should also focus on the health system interventions by the government to promote accessibility to medications for this vulnerable population	Thank you for your suggestion. We agree with you that the Government of Nepal has provisions for medications and health care for the vulnerable population. However, we wanted the focus of our study to be on emergency preparedness and not during regular times. To address your concern, we have added the following sentences on page 8. *'Acknowledging that Nepal Government has provisions to provide universal health care and essential medicines, at the policy level, Nepal's COVID-19 response plan has no specific prioritization and provisions for either older adults and/or people with NCDs [34].'*

Reviewer 2 Comments to the Author:	**Authors' response**
The rationale for the three districts needs to be included with an explanation as to whether there are any major variations or differences from the rest of Nepal	Thank you very much for your suggestion. To address your comment, we have added the following statements on pages 4-5 that provide the rationale for the three districts (i.e., random selection) and any major variations between the study districts and the nation. Supplemental Table 2 provides key statistics comparing the three districts with national indicators. If there are any particular indicators you would like us to include, please specify them, and we would be happy to include them in future revisions. *'In the first stage, the three districts of Province 1 in eastern Nepal, namely Morang, Pachthar, and Terathum (Figure 1), were randomly selected. While Morang lies in the southern plains, Pachthar and Terathum are hilly districts. The population and key infrastructure indicators for these districts are provided in Supplemental Table 2. Briefly, the three study districts have a higher literacy rate and access to sanitary toilets than the national average. While Morang district is above the national average in terms of urbanization and access to electricity and improved drinking water sources, the other two districts, Pachthar and Terathum, are below the national average (Supplemental Table 2).'*