

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Quality of life and associated factors of university students during the COVID-19 pandemic: a cross-sectional study
<b>AUTHORS</b>	Leong Bin Abdullah, Mohammad Farris Iman; Mansor, Nor; Mohamad, Mohd Afifuddin; Teoh, Soo Huat

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Ahmed Abousheishaa, Aya University of Malaya
<b>REVIEW RETURNED</b>	12-Feb-2021

<b>GENERAL COMMENTS</b>	<p><b>Manuscript:</b> Quality of life of university students during the COVID-19 pandemic: Assessing the level of quality of life and the associated factors after the end of movement lockdown in a cross-sectional study</p> <p>I would like to thank the authors for their submission. This paper sheds light on the quality of life of university students post COVID-19 lockdown. Publishing on this topic is essential to guide higher education institutions and policymakers in designing programs to enhance university students' quality of life in the post-COVID-19 era. However, please consider the following;</p> <ul style="list-style-type: none"><li>– The English in the present manuscript requires improvement, kindly carefully proof-read and spell-check its content.</li><li>– The title is informative; however, it could be less wordy.</li><li>– Page 4, the rationale for the study not well articulated.</li><li>– Page 6, data was collected using the Malay versions of the questionnaires, kindly address the potential selection bias (if relevant).</li><li>– Page 7, kindly use the full name of the scales used in the methodology section.</li></ul>
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<b>REVIEWER</b>	Bhaskar, Sonu South Western Sydney Local Health District, Liverpool Hospital, Department of Neurology & Neurophysiology
<b>REVIEW RETURNED</b>	

**GENERAL COMMENTS**

This cross-sectional study by Abdullah et al from Malaysia looked at the quality of life of university students during the COVID-19 pandemic. Although this is an interesting and well-conceived study with relevance to COVID and understanding its impact on university students; I have a few suggestions/comments for authors to consider;

1. Lines 47-49: Authors state, "Those who presented with psychotic disorders, bipolar mood disorder or a history of illicit drug use were excluded from the study". Why the clinical depression or those with previously diagnosed clinical depression were not excluded?

2. Lines 55-57: Authors state that "We excluded 65 participants who took less than 60% of the median time to complete the questionnaires in this study (median time= 15 minutes) to avoid any response bias" - Why were the participants excluded based on the median time? It is not clear why authors would presume that those who took less than 60% median time to complete the questionnaire would accrue response bias? Moreover, authors don't specify what were the numbers of those who were excluded based on these criteria? This could have been avoided as this may cause selection bias.

3. In Statistical analysis, it is not clear if the authors performed the Area Under the ROC curve analysis? If applicable, authors should include this for the regression model.

4. In the Discussion, authors should add a brief discussion on the impact of COVID-19 on medical education due to lock-down - which forced several medical schools to transition from in-person to remote/tele education (see <https://pubmed.ncbi.nlm.nih.gov/33330333/>). The transition is likely to also have impacted the QoL and stressors due to adapting to a new mode of learning.

5. In the discussion and the results, authors don't report on the impact of the lockdown on the students from the lower socio-economic backgrounds (see: <https://pubmed.ncbi.nlm.nih.gov/33330333/> and <https://pubmed.ncbi.nlm.nih.gov/33343410/>). If the data is not available or measured, could the authors comment on this in the context of Malaysia - possibly in the Discussion section? The subgroup analysis may provide additional insights.

6. It is early but relevant if the stressors due to COVID-19 also had an impact on the academic performance of the participants? Could the authors comment on this aspect?

7. Since the study sample included both undergraduate and postgraduate medical students - were any differential impact observed in these subgroups?

## VERSION 1 – AUTHOR RESPONSE

Reviewer 1:

(1) The English in the present manuscript requires improvement, kindly carefully proof-read and spell-check its content.

Response to comment #1: Thank you for your comment. He sent the manuscript for editing and proofreading by professional English editing service.

(2) The title is informative; however, it could be less wordy.

Response to comment #2: Thank you for your suggestion. We have shortened the title as suggested by the reviewer (please refer to page 1).

(3) Page 4, the rationale for the study not well articulated.

Response to comment #3: Thank you for your comment. It has been reported that as movement lockdown and social distancing became the new norm in the daily life of university students during the height of the COVID-19 pandemic, this contributed to significant reduction of the students' activities which was positively correlated with considerable deterioration of the overall QoL. Hence, it is pivotal to investigate how the COVID-19 pandemic and the movement restriction that followed affect the QoL of university students as deterioration of QoL can contribute to diminish academic performance. In the Malaysian context, despite the MCO was lifted in June 2020, all academic activities were still confined, in which all classes are still conducted online since April 2020 and university students were not permitted to access the university's facilities. These new norms in the academic setting in Malaysia disrupt the usual daily routine and academic progress among university students, who are the main stakeholder of higher education. This inevitable consequence of the COVID-19 pandemic may induce considerable impact on the QoL of university students. To the best of our knowledge, to date, data on QoL assessment in university students in response to the COVID-19 pandemic are lacking, particularly after the end of movement lockdown. Moreover, data regarding the association between COVID-19 related stressors, psychological complications (such as depression, anxiety, and stress), social support, and QoL among university students during the COVID-19 pandemic is scarce. Hence, our study aimed to fill the research gap by (1) evaluating the QoL of university students and (2) assessing the association between various psychological factors, social support, and QoL to identify significant predictors of QoL among university students during the uncertain time of the COVID-19 pandemic and after the movement lockdown was lifted (please refer to the 2nd paragraph of the Introduction section in pages 4 and 5).

(4) Page 6, data was collected using the Malay versions of the questionnaires, kindly address the potential selection bias (if relevant).

Response to comment #4: Thank you for your comment. We added this limitation under the Discussion section. However, majority of the international students in Malaysia enrolled in private higher education institution rather than in public universities. Nevertheless, our study focused on public university students (please refer to the last paragraph of the Discussion section in page 15).

(5) Page 7, kindly use the full name of the scales used in the methodology section.

Response to comment #5: Thank you for your suggestion. We wrote the full name of the scales used in pages 7 and 8 as suggested.

Reviewer 2:

1. Lines 47-49: Authors state, "Those who presented with psychotic disorders, bipolar mood disorder or a history of illicit drug use were excluded from the study". Why the clinical depression or those with previously diagnosed clinical depression were not excluded?

Response to comment #1: Thank you for your comment. We excluded subjects with psychotic disorders, bipolar mood disorder or a history of illicit drug use as these illnesses may lead to impaired mental capacity to answer questionnaires, such as they may present with psychotic symptoms, manic features, and cognitive deficit. Furthermore, those with previously diagnosed clinical depression were included in the study as it may be an important factor associated with decrease in QoL (please refer to the subsection of Study settings and participants in page 6).

2. Lines 55-57: Authors state that "We excluded 65 participants who took less than 60% of the median time to complete the questionnaires in this study (median time= 15 minutes) to avoid any response bias" - Why were the participants excluded based on the median time? It is not clear why authors would presume that those who took less than 60% median time to complete the questionnaire would accrue response bias? Moreover, authors don't specify what were the numbers of those who were excluded based on these criteria? This could have been avoided as this may cause selection bias.

Response to comment #2: Thank you for your comment. We agreed with the reviewer and hence, we added this as one of the limitations of this study in the Discussion section (please refer to the last paragraph of the Discussion section in page 15).

3. In Statistical analysis, it is not clear if the authors performed the Area Under the ROC curve analysis? If applicable, authors should include this for the regression model.

Response to comment #3: Thank you for your comment. There was a typo error. We did not perform the ROC curve analysis in our data analysis. We have omitted the statement from the Statistical analysis subsection.

4. In the Discussion, authors should add a brief discussion on the impact of COVID-19 on medical education due to lock-down - which forced several medical schools to transition from in-person to remote/tele education (see <https://pubmed.ncbi.nlm.nih.gov/33330333/>). The transition is likely to also have impacted the QoL and stressors due to adapting to a new mode of learning.

Response to comment #4: Thank you for your suggestion. We agreed with your opinion and we have included this reasoning and the reference in the Discussion section (please refer to the Discussion section in page 12).

5. In the discussion and the results, authors don't report on the impact of the lockdown on the students from the lower socio-economic backgrounds (see: <https://pubmed.ncbi.nlm.nih.gov/33330333/> and <https://pubmed.ncbi.nlm.nih.gov/33343410/>). If the data is not available or measured, could the authors comment on this in the context of Malaysia - possibly in the Discussion section? The subgroup analysis may provide additional insights.

Response to comment #5: Thank you for your comment. We did not assess socioeconomic background of the respondents in this study. Hence, we added this as a limitation of the study and discussed this (please refer to the last paragraph in the Discussion section in page 15).

6. It is early but relevant if the stressors due to COVID-19 also had an impact on the academic performance of the participants? Could the authors comment on this aspect?

Response to comment #6: Thank you for your suggestion. We have added comments on COVID-19 related stressors on academic performance of university students in the 7th paragraph in the Discussion section in page 15).

7. Since the study sample included both undergraduate and postgraduate medical students - were any differential impact observed in these subgroups?

Response to comment #7: Thank you for your suggestion. We have included the level of study of the respondents into the multiple linear regression models and found that there were no differential impact on QoL observed in these subgroups. Its inclusion into the model also did not significantly altered the findings of the study (please refer to Tables 1 to 5).

#### **VERSION 2 – REVIEW**

<b>REVIEWER</b>	Bhaskar, Sonu South Western Sydney Local Health District, Liverpool Hospital, Department of Neurology & Neurophysiology
<b>REVIEW RETURNED</b>	07-Jun-2021
<b>GENERAL COMMENTS</b>	The authors have addressed the concerns/suggestions made.