

## PEER REVIEW HISTORY

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### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Respiratory patient experience of measures to reduce risk of COVID-19: findings from a descriptive cross-sectional UK wide survey
<b>AUTHORS</b>	Philip, Keir; Cumella, Andrew; Farrington-Douglas, Joe; Laffan, Michael; Hopkinson, Nicholas

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Roger Ho National University of Singapore Singapore
<b>REVIEW RETURNED</b>	24-Jun-2020

<b>GENERAL COMMENTS</b>	<p>I have the following comments and need to review again.</p> <p>1) Under the Introduction, the authors stated "Measures to reduce the immediate impact of COVID-19 are likely to have some adverse consequences for the population's health and wellbeing<sup>6 7</sup>" I realize that reference 6 was published in 2013. It cannot reflect COVID-19. I suggest to quote a landmark study that measures the immediate impact of COVID-19 as follows:</p> <p>Wang C, Pan R, Wan X, et al. (2020) Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. <i>Int J Environ Res Public Health</i>. 2020;17(5):1729. Published 2020 Mar 6. doi:10.3390/ijerph17051729</p> <p>2) I recommend the authors to have a more balanced view on the impact of COVID-19 and benefits of precautionary measures. Please add the following statement:</p> <p>... consequences for the population's health and wellbeing(Wang et al 2020, 7). In contrast, certain precautionary measures were found to protect mental health and well-being during the COVID-19 pandemic (Tan et al 2020).</p> <p>Reference Tan W, Hao F, McIntyre RS, et al. Is Returning to Work during the COVID-19 Pandemic Stressful? A Study on Immediate Mental Health Status and Psychoneuroimmunity Prevention Measures of Chinese Workforce [published online ahead of print, 2020 Apr 23]. <i>Brain Behav Immun</i>. 2020;S0889-1591(20)30603-6. doi:10.1016/j.bbi.2020.04.055</p> <p>3) Under the Introduction, the authors stated "Data on the</p>
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	<p>experience of people with long term respiratory conditions regarding the impact of COVID-19 prevention measures is currently lacking". This statement needs a reference to support this area is a research gap. Please cite the following study:</p> <p>.... measures is currently lacking and this is a COVID-19 research gap (Tran et al 2020).</p> <p>Reference: Tran, B.X.; Ha, G.H.; Nguyen, L.H. et al. Studies of Novel Coronavirus Disease 19 (COVID-19) Pandemic: A Global Analysis of Literature. Int. J. Environ. Res. Public Health 2020, 17, 4095.</p> <p>4) Under discussion, the authors should add two limitations. They did not explore the effect of face mask-wearing and underlying psychiatric comorbidity. Please state the following limitation.</p> <p>The study was online so results may not be representative for digitally excluded individuals. In addition, this study did not assess the views on the use of face mask which was found to safeguard mental health in Asians (Wang et al 2020) but this required further study among the British. Finally, this study could not identify the longitudinal change of level of psychiatric comorbidity of patients with respiratory disorders which were known to have high prevalence of psychiatric comorbidity and impaired quality of life) before the COVID-19 pandemic (Zhang et al 2010, Vu et al 2020).</p> <p>Reference: Zhang MW, Ho RC, Cheung MW, et al. Prevalence of depressive symptoms in patients with chronic obstructive pulmonary disease: a systematic review, meta-analysis and meta-regression. Gen Hosp Psychiatry. 2011;33(3):217-223. doi:10.1016/j.genhosppsy.2011.03.009</p> <p>Reference: Wang C, Pan R, Wan X, et al. (2020) A Longitudinal Study on the Mental Health of General Population during the COVID-19 Epidemic in China [published online ahead of print, 2020 Apr 13]. Brain Behav Immun. 2020; S0889-1591(20)30511-0. doi:10.1016/j.bbi.2020.04.028</p> <p>Vu GV, Ha GH, Nguyen CT, et al. Interventions to Improve the Quality of Life of Patients with Chronic Obstructive Pulmonary Disease: A Global Mapping During 1990-2018. Int J Environ Res Public Health. 2020;17(9):3089. Published 2020 Apr 29. doi:10.3390/ijerph17093089</p>
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<b>REVIEWER</b>	Sharon Andrew Victoria University, Australia
<b>REVIEW RETURNED</b>	17-Jul-2020

<b>GENERAL COMMENTS</b>	<p>Dear Authors,</p> <p>Thank you for your manuscript on this important area of the impact of COVID-19 risk reduction strategies on people with long-term respiratory conditions. The manuscript is concise; the description of the methods is very brief. The reported study was conducted in the UK study and there are some terms that need explanation for the international reader. The study data is descriptive with some comparisons made among some variables. At times, the</p>
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	<p>comparisons in the results make statements that go beyond the descriptive without statistical analysis to support the statement. I have made comments about suggested revisions according to sections of the manuscript.</p> <p>Abstract: In participants, please remove the word 'old'. The outcome measures implies some instrument scores will be presented in the manuscript for the listed areas: practical, psychological and social consequences. Consider using these groupings in the presentation of the abstract results.</p> <p>Introduction: Please define third wave.</p> <p>Methods: Please give more details about the study methods. How did clients complete the survey; was it online or paper-based? Were reminders sent to clients? What scales were used? Were they adapted? It is stated that the scales are out of ten; is one low and ten high? Is there a zero? Please give details about the statistical data analysis in this section. Please introduce the groupings of the respiratory conditions used in the manuscript (table 1 asthma/non-asthma). Page 6 Line 54 indicates the data is routine information. This does not seem consistent with the collection of Covid-19 information; can you please clarify. In the methods, it seems that a combined survey was sent for AUK-BLF, however, in the results section it seems that the surveys were sent separately and the results were combined; please clarify. Page 7 Line 3- what is GDPR?</p> <p>Patient &amp; Public Involvement: page 7 line 16- is there a missing word in the sentence beginning 'However...'</p> <p>Results: The flow of the results information about the sample (page 7 lines 27-49) needs to be revised to enhance readership. Consider moving the last two sentences to come earlier in the paragraph. Give the full name for ILD for readers who may be unfamiliar with this abbreviation. In the following sub-sections, emphasis should be on key findings that link to your study aim. In the subsections 'Impacts on Healthcare provision'; it is not necessary to list all the physical activities from highest to lowest as this information is in the table; perhaps only give the highest gardening, housework and the lowest. Give the percentage for the 648 respondents for 'other'. Social and psychological responses': it is difficult for the reader to interpret the anxiety scores without the necessary information in the methods. Results presented in this sub-section extend, at times, beyond description to indicate the strength of comparisons among variables. Terms such as 'broadly similar' and 'no substantial difference' in relation to age or disease type and gender, age or diagnosis need to be defined. The type of comparisons among variables presented in this subsection indicate a need for statistical analysis. Figure 1 reports the results for Kruskal-Wallis analysis of anxiety and it is unclear why these statistics not reported in the data analysis and the results.</p> <p>'Sources of support and information': please explain the NHS111 online for the international reader. Whom do you define as the 'older group'? Page 9 Line 51-53: there is mention of no substantial differences without supporting statistical analysis.</p> <p>The discussion section is concise and informative. The information from the survey is important for describing how client's lives and health are being impacted by COVID-19.</p>
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## VERSION 1 – AUTHOR RESPONSE

Reviewers' Comments to Author:

Reviewer: 1

Reviewer Name: Roger Ho

Institution and Country: National University of Singapore, Singapore Please state any competing interests or state 'None declared': None

I have the following comments and need to review again.

1) Under the Introduction, the authors stated "Measures to reduce the immediate impact of COVID-19 are likely to have some adverse consequences for the population's health and wellbeing<sup>6 7</sup>" I realize that reference 6 was published in 2013. It cannot reflect COVID-19. I suggest to quote a landmark study that measures the immediate impact of COVID-19 as follows:

Wang C, Pan R, Wan X, et al. (2020) Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *Int J Environ Res Public Health*. 2020;17(5):1729. Published 2020 Mar 6. doi:10.3390/ijerph17051729

- Many thanks. We have added the reference that you have suggested and agree that it is highly relevant. However, although the other reference you mention is from 2013, it is relevant to the current study as it focuses on the relationships between social isolation, loneliness and health, which are important considerations in the context of the physical distancing and shielding measures that were in place at the time of the current studies data collection. As such we would like to keep that reference as it provides broader context regarding the issues raised, beyond that of the developing research base regarding COVID-19 specifically.

2) I recommend the authors to have a more balanced view on the impact of COVID-19 and benefits of precautionary measures. Please add the following statement:

... consequences for the population's health and wellbeing(Wang et al 2020, 7). In contrast, certain precautionary measures were found to protect mental health and well-being during the COVID-19 pandemic (Tan et al 2020).

Reference

Tan W, Hao F, McIntyre RS, et al. Is Returning to Work during the COVID-19 Pandemic Stressful? A Study on Immediate Mental Health Status and Psychoneuroimmunity Prevention Measures of Chinese Workforce [published online ahead of print, 2020 Apr 23]. *Brain Behav Immun*. 2020;S0889-1591(20)30603-6. doi:10.1016/j.bbi.2020.04.055

- Thank you for this suggestion, we agree that it would be useful to highlight the potential for interventions to mitigate impacts so have included the following 'Identification of health and wellbeing impacts is required to facilitate mitigation interventions, of which examples of successful approaches are being reported<sup>15</sup>.'

3) Under the Introduction, the authors stated "Data on the experience of people with long term respiratory conditions regarding the impact of COVID-19 prevention measures is currently lacking". This statement needs a reference to support this area is a research gap. Please cite the following study:

.... measures is currently lacking and this is a COVID-19 research gap (Tran et al 2020).

Reference:

Tran, B.X.; Ha, G.H.; Nguyen, L.H. et al. Studies of Novel Coronavirus Disease 19 (COVID-19) Pandemic: A Global Analysis of Literature. *Int. J. Environ. Res. Public Health* 2020, 17, 4095.

- We have added the reference to your study.

4) Under discussion, the authors should add two limitations. They did not explore the effect of face mask-wearing and underlying psychiatric comorbidity. Please state the following limitation.

The study was online so results may not be representative for digitally excluded individuals. In addition, this study did not assess the views on the use of face mask which was found to safeguard mental health in Asians (Wang et al 2020) but this required further study among the British. Finally, this study could not identify the longitudinal change of level of psychiatric comorbidity of patients with respiratory disorders which were known to have high prevalence of psychiatric comorbidity and impaired quality of life) before the COVID-19 pandemic (Zhang et al 2010, Vu et al 2020).

Reference:

Zhang MW, Ho RC, Cheung MW, et al. Prevalence of depressive symptoms in patients with chronic obstructive pulmonary disease: a systematic review, meta-analysis and meta-regression. *Gen Hosp Psychiatry*. 2011;33(3):217-223. doi:10.1016/j.genhosppsy.2011.03.009

Reference:

Wang C, Pan R, Wan X, et al. (2020) A Longitudinal Study on the Mental Health of General Population during the COVID-19 Epidemic in China [published online ahead of print, 2020 Apr 13]. *Brain Behav Immun*. 2020; S0889-1591(20)30511-0. doi:10.1016/j.bbi.2020.04.028

Vu GV, Ha GH, Nguyen CT, et al. Interventions to Improve the Quality of Life of Patients with Chronic Obstructive Pulmonary Disease: A Global Mapping During 1990-2018. *Int J Environ Res Public Health*. 2020;17(9):3089. Published 2020 Apr 29. doi:10.3390/ijerph17093089

- Many thanks for the suggested additional limitations. We have updated the limitations taking into account your suggestion and added references.

Reviewer: 2

Reviewer Name: Sharon Andrew

Institution and Country: Victoria University, Australia Please state any competing interests or state 'None declared': None declared

Dear Authors,

Thank you for your manuscript on this important area of the impact of COVID-19 risk reduction strategies on people with long-term respiratory conditions. The manuscript is concise; the description of the methods is very brief. The reported study was conducted in the UK study and there are some terms that need explanation for the international reader. The study data is descriptive with some comparisons made among some variables. At times, the comparisons in the results make statements that go beyond the descriptive without statistical analysis to support the statement. I have made comments about suggested revisions according to sections of the manuscript.

Abstract:

In participants, please remove the word move 'old'.

- Removed (also from the main body of the text).

The outcome measures implies some instrument scores will be presented in the manuscript for the listed areas: practical, psychological and social consequences. Consider using these groupings in the presentation of the abstract results.

- We have added the groupings to the results as suggested.

Introduction: Please define third wave.

- We have added the following to clarify this term 'leading to a so called 'third wave' of COVID-19 related morbidity and mortality in which detrimental health impacts for people with long-term conditions result from interruptions to care provision and health seeking behaviours'.

Methods: Please give more details about the study methods. How did clients complete the survey; was it online or paper-based?

- The survey was online, so we have added this to the abstract. In the main body of the text we feel the online deliver is clear as this was stated on line 3 of the methods, referred to in the discussion, and further highlighted as a potential limitation due to exclusion of people who were not computer literate.

Were reminders sent to clients? What scales were used? Were they adapted? It is stated that the scales are out of ten; is one low and ten high? Is there a zero?

- We have added further text to clarify the points raised 'Rating scales are from zero (lowest) to ten (highest) unless otherwise specified. The survey questions and response options are provided in the Online Supplement.'

Please give details about the statistical data analysis in this section.

- We have clarified that data are presented descriptively, and that further statistical analysis has only be used for relationships between groups that may be of clinical relevance. Further information has been added to the main manuscript methods section as described below.

Please introduce the groupings of the respiratory conditions used in the manuscript (table 1 asthma/non-asthma).

- We have added 'Data were grouped into 'Asthma' and Chronic respiratory disease (non-asthma) in table 1 so that the composition of the sample was clearer for readers.'

Page 6 Line 54 indicates the data is routine information. This does not seem consistent with the collection of Covid-19 information; can you please clarify.

- Apologies that this was not clear, it is routine for AUK/BLF to collect data regarding topical issues for people with respiratory conditions. We have added the following for clarification 'who often relate to topical issues for people with respiratory conditions, in this case COVID-19.'

In the methods, it seems that a combined survey was sent for AUK-BLF, however, in the results section it seems that the surveys were sent separately, and the results were combined; please clarify.

- We have clarified this with the addition of the following 'The core survey was developed by both AUK and the BLF in partnership, with each adding a couple of questions specific to their patient group. In the Online Supplement the questions that only feature in the AUK or BLF are highlighted. The survey results for the core questions were then combined. Any single survey question responses are highlighted as such.'

Page7 Line 3- what is GDPR?

- We have added clarification 'The General Data Protection Regulation (GDPR, the primary legislation regarding data protection and privacy in the European Union)'

Patient & Public Involvement: page 7 line 16- is there a missing word in the sentence beginning 'However...'

- Thank you, we have updated to clarify.

Results: The flow of the results information about the sample (page 7 lines 27-49) needs to be revised to enhance readership. Consider moving the last two sentences to come earlier in the paragraph.

- We have revised this section and improved its readability as suggested.

Give the full name for ILD for readers who may be unfamiliar with this abbreviation.

- Provided.

In the following sub-sections, emphasis should be on key findings that link to your study aim. In the subsections 'Impacts on Healthcare provision'; it is not necessary to list all the physical activities from highest to lowest as this information is in the table; perhaps only give the highest gardening, housework and the lowest. Give the percentage for the 648 respondents for 'other'.

- We have reduced this to the first 3 then referred to table 2. Percentage given for respondents doing 'other' activities.

Social and psychological responses': it is difficult for the reader to interpret the anxiety scores without the necessary information in the methods.

- We have clarified the scales used in the methods, and highlighted that this refers to level of anxiety experienced by respondent.

Results presented in this sub-section extend, at times, beyond description to indicate the strength of comparisons among variables. Terms such as 'broadly similar' and 'no substantial difference' in relation to age or disease type and gender, age or diagnosis need to be defined.

- We have added to the analysis here to include t-tests and Kruskal-Wallis tests where appropriate and added this to the methods. We have also clarified that although these tests suggest statistical significance regarding differences between groups, this is largely due to the sample size, and differences between the absolute values remain small and of questionable significance.

The type of comparisons among variables presented in this subsection indicate a need for statistical analysis. Figure 1 reports the results for Kruskal-Wallis analysis of anxiety and it is unclear why these statistics not reported in the data analysis and the results.

- As per comment above, we hope this is clearer now.

'Sources of support and information': please explain the NHS111 online for the international reader.

- We have added the following '(an interactive website for the National Health Service that provides information, guidance and self-management support)'

Whom do you define as the 'older group'? Page 9 Line 51-53: there is mention of no substantial differences without supporting statistical analysis.

- We have added clarification that we are referring to the over 60's.

The discussion section is concise and informative. The information from the survey is important for describing how client's lives and health are being impacted by COVID-19.

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Roger Ho National University of Singapore Singapore
<b>REVIEW RETURNED</b>	07-Aug-2020

<b>GENERAL COMMENTS</b>	I recommend publication.
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<b>REVIEWER</b>	Sharon Andrew Victoria University, Australia
<b>REVIEW RETURNED</b>	21-Aug-2020

<b>GENERAL COMMENTS</b>	Dear Authors, Thank you for the revisions that were made and have enhanced the manuscript on this important topic. There are two suggestions for revisions: Page 7 Line 37. The revised sentence could be expressed clearer- Respiratory conditions were grouped into 'Asthma' or 'Chronic Respiratory disease' (non-Asthma). The 3 item UCL Loneliness scale with accompanying reference needs to be introduced in the methods section. Thank you for the opportunity to review this manuscript.
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