

## **1 MANUSCRIPT REVISION DEADLINE**

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## **3 SCIENTIFIC QUALITY**

Please resolve all issues in the manuscript based on the peer review report and make a point-by-point response to each of the issues raised in the peer review report. Note, authors must resolve all issues in the manuscript that are raised in the peer-review report(s) and make point-by-point responses to each of the issues raised in the peer-review report(s), which are listed below:

Reviewer #1:

**Scientific Quality:** Grade B (Very good)

**Language Quality:** Grade A (Priority publishing)

**Conclusion:** Minor revision

**Specific Comments to Authors:** This paper investigates the decline of mental health among people in England during the nationwide lockdown period implemented by the UK government in facing the Covid-19 pandemic. The findings in this research are very interesting and informative, and worth to be published. The authors may further discuss how to alleviate the anxiety and distress caused by COVID-19 pandemic in this manuscript.

People become anxious and stressful when they experience great uncertainty in facing the SARS-CoV-2 viral infection and the COVID-19 disease. If they understand what is really happening and how to handle the situations to protect themselves, the anxiety and distress will be greatly relieved. Basically, just as most other viral and bacterial infections in humans, SARS-CoV-2 viral infection is self-limiting [1,2].

Yet, nutritional disorders like obesity and diabetes may impair human immunity, causing autoimmune disorder which lead to hyperinflammation (an overload of cytokines) in severe COVID-19 patients [2]. Restrictive eating may be adopted to

alleviate the hyperinflammation, as autophagy triggered by restrictive eating [3] might be an efficient approach in preventing COVID-19-related complications.

Our Response: We agree with the comments and have incorporated the comments in the discussion and conclusion section as follows:

In conclusion, evidence is building on the differential psychological impact of the pandemic, resultant restrictions and policies, based on socio demographic variables, pre-existing vulnerabilities and health care worker status that will help future planning and policies. Such evidence when used collectively should inform future planning for pandemics and develop collective and individual physical and mental resilience.

Careless errors:

1. Page 3, line 6, "Further details of the methodology is documented" should be "Further details of the methodology are documented".

Our Response: Thank you; we have amended this accordingly. Please see the second sentence of Data sub-section under Methods section.

The following references may be included:

1. Levin BR, Antia R. Why we don't get sick: the within-host population dynamics of bacterial infections. *Science*. 2001;292:1112-1115.

2. Troisi J, Venutolo G, Pujolassos Tanyà M, Delli Carri M, Landolfi A, Fasano A. COVID-19 and the gastrointestinal tract: Source of infection or merely a target of the inflammatory process following SARS-CoV-2 infection? *World J Gastroenterol* 2021; 27(14): 1406-1418. DOI: 10.3748/wjg.v27.i14.1406

3. van Niekerk G, du Toit A, Loos B, Engelbrecht AM (2018) Nutrient excess and autophagic deficiency: explaining metabolic diseases in obesity. *Metabolism* 82:14–21. <https://doi.org/10.1016/j.metabol.2017.12.007>.

Our Response: Thank you for your suggestion. All three references are cited in the discussion and conclusion section. The reference list has been amended accordingly.

Reviewer #2:

**Scientific Quality:** Grade B (Very good)

**Language Quality:** Grade B (Minor language polishing)

**Conclusion:** Accept (High priority)

**Specific Comments to Authors:** Thank you for the opportunity to review the manuscript titled "Impact of lockdown on mental health: Regression Discontinuity Design approach." The manuscript is generally well-written; Only a handful of minor revisions are recommended before publication. Kindly, find my specific comments as well as minor edits below.

Specific comments to authors:

1. The title does not clearly reflect the hypothesis and the main aim of the manuscript. I highly suggest refining the title to reflect the following: --The impact of lockdown relaxation and/or the implementation of the face-covering policy on mental health --Ensure that the title clarifies that the study is conducted in the UK

Our Response: Thank you for your suggestion; we have amended the title as follows:

The Impact of Lockdown Relaxation and the Implementation of the Face-covering Policy on Mental Health – A UK COVID-19 Pandemic Study.

2. An introductory sentence is needed in the background section of the abstract. I highly suggest adding a general opening to encapsulate the subject before immediately jumping into the lack of research on the topic. If the word limit was a concern, I suggest simply replacing the first sentence in the abstract with a general opening to briefly introduce the topic to the reader. Additionally, in the results section of the abstract I suggest clarify whether the "introduction of face-covering in public places had" a positive or a negative association.

Our Response: At the beginning of background of the abstract, we have added the following sentences:

Pandemic mitigation policies, such as lockdown, are known to impact on mental health of individuals. Compulsory face-covering under relaxed lockdown restrictions gives assurance of less transmission of airborne infection and has the potential to improve mental health of individuals affected by restrictions.

To ensure clarity about the relation of face-covering with mental health, we have revised the last sentence in the abstract under the results section as follows:

*Corresponding reductions in IES-R were 2.620 (95% CI: 4.279, 0.961) and 3.449 (95% CI: 5.725, 1.172). These imply that both lockdown relaxation and compulsory face-covering have a positive association with mental health scores (GAD-7 and IESR-).*

3. More details are needed to adequately describe the background section, including:  
--Other than lockdowns and face coverings, clarify what other restrictions were imposed by the UK government Briefly describe some of the economic, health, and public mental health impacts of the pandemic including relevant statistics to further empathize the significance of your research --"To the best of our knowledge, currently there is no research on the impact of face-covering policy on the mental health of the general public" is this statement applicable to the UK? Or worldwide? Please clarify this in the manuscript. --Further explain why face coverings can impact mental health (are you hypothesizing that it is reassuring to the public in protection from the spread of covid?) " It is important to understand whether such intervention provides mental health improvements" -----

Our Response: There were several restrictions (e.g., work from home, 2-meter distance, limited number of people in a shop, closing schools, etc.) but all of them were under the collective lockdown measures. Although each has its own effect on its most related outcome (e.g., school closing on education outcomes, work from home on economic outcomes, etc.), all kinds of restrictions under lockdown have common effects on mental health. It is not easy to separate out each restriction's effects on its relevant outcomes when all restrictions occurred at the same time. We have cited a reference of Pierce et al. (2020), which mentions the effects of lockdown on health, economic and social welfare. We have added more literature that examines other effects of lockdown. We have added the following sentences after Pierce et al. (2020)'s reference in the 'Background section' - second paragraph-second sentence.

*Lockdown reduced educational performance and nutrition of UK children caused by junk food intake (Baranjuk, 2020). Although it made improvement in improved roadside air quality in the UK because of the reduction of vehicles (Ropkins and Tate, 2021), there was a £370 billion loss to the UK economy (Jessop, 2020) in addition to the loss of human lives and health (Miles, Stedman and Heald, 2021).* The following references cited above are also added to the reference list:

Baraniuk, C., 2020. Fears grow of nutritional crisis in lockdown UK. *bmj*, 370.

Jessop, J., 2020. The UK lockdown and the economic value of human life. *Economic Affairs*, 40(2), p.138.

Miles, D.K., Stedman, M. and Heald, A.H., 2021. "Stay at Home, Protect the National Health Service, Save Lives": a cost benefit analysis of the lockdown in the United Kingdom. *International Journal of Clinical Practice*, 75(3), p.e13674.

Ropkins, K. and Tate, J.E., 2021. Early observations on the impact of the COVID-19 lockdown on air quality trends across the UK. *Science of the Total Environment*, 754, p.142374.

We have added:

*Altschul et al. and colleagues (2021) captured associations of face-covering with the mental health of UK adults using the logit model and concluded that wearing face coverings more often does not negatively impact mental health.,*

Altschul et al. (2021) reference is added to the list.

Altschul, D., Fawns-Ritchie, C., Kwong, A., Hartley, L., Nangle, C., Edwards, R., Dawson, R., Levein, C., Campbell, A., Flaig, R. and McIntosh, A., 2021. Face covering adherence is positively associated with better mental health and wellbeing: a longitudinal analysis of the CovidLife surveys. *Wellcome Open Research*, 6(62), p.62.

We have hypothesized the effects of face-covering on mental health as highlighted by the sentence below:

*Mental health impact of face covering may be due to the confidence people have gained, particularly those vulnerable, with regard to the protection it might offer from infection of Covid-19.*

#### Minor edits

- Some abbreviations are not spelled out when they first appear in the text such as:
  - o RDD (on page 2), UK
- The word "However" on page 11 is missing a comma afterwards

Our Response: Thank you, this now been amended accordingly: Regression Discontinuity Design (RDD) in page 2.

## 4 LANGUAGE QUALITY

Please resolve all language issues in the manuscript based on the peer review report. Please be sure to have a native-English speaker edit the manuscript for grammar, sentence structure, word usage, spelling, capitalization, punctuation, format, and general readability, so that the manuscript's language will meet our direct publishing needs.

This has been completed

## 5 ABBREVIATIONS

In general, do not use non-standard abbreviations, unless they appear at least two times in the text preceding the first usage/definition. Certain commonly used abbreviations, such as DNA, RNA, HIV, LD50, PCR, HBV, ECG, WBC, RBC, CT, ESR, CSF, IgG, ELISA, PBS, ATP, EDTA, and mAb, do not need to be defined and can be used directly. Now we list the abbreviations rules as follows.

**(1) Title:** Please spell out any abbreviation in the title. Abbreviations are not permitted.

**(2) Running title:** Please shorten the running title to no more than 6 words. Abbreviations are permitted.

**(3) Abstract:** Abbreviations must be defined upon first appearance in the Abstract. Examples: Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*).

**(4) Key words:** Abbreviations must be defined upon first appearance in the Key words.

**(5) Core tip:** Abbreviations must be defined upon first appearance in the Core tip. Examples: Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*)

**(6) Main Text:** Abbreviations must be defined upon first appearance in the Main Text. Examples: Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*)

**(7) Article Highlights:** Abbreviations must be defined upon first appearance in the Article Highlights. Examples: Example 1: Hepatocellular carcinoma (HCC).

Example 2: *Helicobacter pylori* (*H. pylori*)

**(8) Figures:** Please verify the abbreviations used in figures and define them (separated by semicolons) at the end of the figure legend or table; for example, BMI: Body mass index; CT: Computed tomography.

**(9) Tables:** Please verify the abbreviations used in tables and define them (separated by semicolons) at the end of the figure legend or table; for example, BMI: Body mass index; CT: Computed tomography.

## **6 EDITORIAL OFFICE'S COMMENTS**

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

### **(1) Science editor:**

1 Scientific quality: The manuscript describes an observational study of the impact of lockdown on mental health. The topic is within the scope of the WJP. (1) Classification: Two Grades B;

(2) Summary of the Peer-Review Report: This paper investigates the decline of mental health among people in England during the nationwide lockdown period implemented by the UK government in facing the Covid-19 pandemic. The findings in this research are very interesting and informative. The questions raised by the reviewers should be answered;

(3) Format: There are 4 tables and 2 figures;

(4) References: A total of 30 references are cited, including 22 references published in the last 3 years;

(5) Self-cited references: There is 1 self-cited reference. The self-referencing rates should be less than 10%. Please keep the reasonable self-citations (i.e. those that are most closely related to the topic of the manuscript) and remove all other improper self-citations. If the authors fail to address the critical issue of self-citation, the editing process of this manuscript will be terminated;

and

(6) References recommendations: The authors have the right to refuse to cite improper references recommended by the peer reviewer(s), especially references published by the peer reviewer(s) him/herself (themselves). If the authors find the peer reviewer(s) request for the authors to cite improper references published by him/herself (themselves), please send the peer reviewer's ID number to [editorialoffice@wjgnet.com](mailto:editorialoffice@wjgnet.com). The Editorial Office will close and remove the peer reviewer from the F6Publishing system immediately.

Our Response: We have cited two papers, the first one which was funded by the same funding body. Although our focus was slightly different in that cited study that was relevant. The second paper is a systematic review and meta-analysis.

There is no issue of improper citation request from peer reviewers.

2 Language evaluation: Classification: Grade A and Grade B.

3 Academic norms and rules: The authors provided the Biostatistics Review Certificate, the Institutional Review Board Approval Form, and the written informed consent. No academic misconduct was found in the Bing search.

4 Supplementary comments: This is an invited manuscript. The study was supported by MRC Global Health Research program. The topic has not previously been published in the WJP.

5 Issues raised:

(1) The key word "COVID-19" is missing in the title. Please add it;

Our Response: COVID-19 is now added in the title. Based on second reviewer's comments, the title has been changed as follows:

The Impact of Lockdown Relaxation and the Implementation of the Face-covering Policy on Mental Health – A UK COVID-19 Pandemic Study.

(2) The "Author Contributions" section is missing. Please provide the author contributions;

This has now been included in the manuscript: SR, PR and PP developed the study protocol and questionnaire. SR, PP, SS, MR, contributed to the manuscript development. MR conducted the analysis and all authors reviewed and approved the final manuscript.

(3) The authors did not provide the approved grant application form(s). Please upload the approved grant application form(s) or funding agency copy of any approval document(s);

Our Response:

The study was funded as part of an existing MRC grant and the email that was submitted from MRC confirmed the funding support to the study.

(4) The authors did not provide original pictures. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor;

Our Response: the revised image file has been prepared using powerpoint for figures 1,2, and 3.

(5) PMID and DOI numbers are missing in the reference list. Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references. Please revise throughout;

Our Response: this has been amended and all references checked through auto-analyzer.

and (6) The "Article Highlights" section is missing. Please add the "Article Highlights" section at the end of the main text.

Our Response: Thank you, this has now been added to the manuscript at the end of the text as requested.

**Highlights:**

## **Research background:**

The global pandemic caused by COVID-19 has led to wide spread changes in people's day to day lives.

## **Research motivation:**

The changes in people's lives and livelihoods due to the global pandemic, associated lockdowns and Government guidance is anticipated to have a great impact on people's emotional and social wellbeing.

## **Research objectives:**

Positive association of lockdown relaxation and face covering policies on the Mental Health of various population sub-groups is reported.

## **Research methods:**

A Regression Discontinuity Design was used to analyse data gathered on people's health and wellbeing during different time periods and restrictions via online survey platform.

## **Research results:**

- In comparison to other key workers and non-key workers during lock down, professional groups and health workers had lower GAD-7 scores indicating lower anxiety levels.
- Similar findings were noted for the IES-R scores with health workers, indicating lower levels of distress.
- During the compulsory face covering phase, there were improvements in mental health scores for all three professional groups assessed by GAD-7 and IES-R .
- Greater improvements in mental health scores were found among non-key workers than key workers.
- Gender was associated with different mental health outcomes during the lockdown, with females scoring higher on the GAD-7 and IES-R scales in comparison to males. However, both groups showed a significant improvement in mental health status during the period of face covering, with slightly higher improvements noted in males.

## **Research conclusions:**

An impact on people's wellbeing was found, with anxiety and depression levels improving when relaxations in restrictions happened.

### Research perspectives:

Further investigation into pandemic preparedness for those with pre-existing conditions such as anxiety, depression or obsessive-compulsive disorders and modifying psychological interventions in this population is warranted.

6 Re-Review: Not required.

7 Recommendation: Conditional acceptance.

**(2) Company editor-in-chief:** I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Psychiatry, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors.

Our response: Thank you for your review and comments. We have incorporated all the comments made by the reviewers and the editor. .

## 7 STEPS FOR SUBMITTING THE REVISED MANUSCRIPT

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Please click and download the [Format for authorship, institution, and corresponding author guidelines](#), and further check if the authors names and institutions meet the requirements of the journal.

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Please revise the references according to the [Format for references guidelines](#), and be sure to edit the reference using the reference auto-analyser.

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