Peer-Review Report

Peer Review of “The Psychological Impact of Hypertension During COVID-19 Restrictions: Retrospective Case-Control Study”

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KEYWORDS
public health; global health; COVID-19; hypertension; risk; strategy; mental health; behavior; response; anxiety; vaccine; retrospective; perception; prevention; intention

This is a peer review submitted for the paper “The Psychological Impact of Hypertension During COVID-19 Restrictions: Retrospective Case-Control Study.”

Round 1 Review

General Comments
This study [1] aimed to investigate whether Australians with hypertension have higher risk perceptions, anxiety, and prevention intentions than Australians without hypertension during COVID-19 restrictions in April and June 2020. The authors used a national survey subsample (those who reported hypertension and not other comorbidities). They matched them with controls using age, gender, education, and health literacy. This is a nationally representative sample that includes several dimensions of an individual’s mental health. The question is relevant for future public health interventions.

Overall, the study has several weaknesses and does not appropriately answer the study aim because the reported results are not consistent with the proposed methods. The authors also failed to address alternative explanations to their findings. Please see my detailed feedback after the minor comments.

Specific Comments

Major Comments
1. There is a major disconnect between the proposed methods and the results. Moreover, the authors need to clarify the assumptions that led to the selection of their methods.
2. The overall organization can improve. Some methods are presented in the Results or Discussion section, and some discussion points are introduced in the Results section.
3. The authors need to rewrite the Introduction section to better contextualize the potential mediators between exposure and outcome with relevant literature.
4. The authors need to rewrite the discussion emphasizing their findings and addressing their limitations and alternative explanations to their study results.

Minor Comments
1. The tables need to be reworked to not confuse multiple regression and marginal mean difference (MMD).
2. Tables are stand-alone pieces. Some of the methodologies need to be incorporated as a footnote.
3. Some typos need to be fixed across the manuscript.
4. Ethics need to be clarified (not a main concern as this is a secondary analysis).

Detailed Feedback:

Title/Abstract and References
1. Ideally, the title needs to include the study design, the population (Australia), and the study’s specific outcomes. Please consider changing it to better reflect your primary exposure: hypertension (eg, “The Impact of Hypertension on Adults’ Anxiety During COVID-19 Restrictions”).

Introduction
1. The introduction is just one paragraph long. It discusses why hypertensive people could experience increased levels of COVID-19–related anxiety. However, it misses critical points at the center of this debate during the pandemic’s early stages (time of the survey). For instance, the role of antihypertensive medication as a potential risk factor on those infected by SARS-CoV-2:

https://xmed.jmir.org/2021/1/e28714
Results

1. Tables are supposed to be stand-alone. Please add a footnote to Table 1 indicating your matching methodology. Consider adding the standardized mean difference to check the balance between cases and controls. Please tell the reader what you meant by the social distancing score scale. Please explain what is meant by patient activation. Please indicate whether the prescription is specific to hypertension.

2. Consider adding a supplementary table with the results from the follow-up period.

3. Table 2 results are not consistent with the proposed methods nor with the title of the table. Regression models result in exponentiated coefficients presented as odds ratios. In contrast, Table 2 shows MMD (or “MDD” for the social distancing score). Please present your MMD distributions in a separate table (or in the text) and introduce the appropriate methods in the previous section. Consider reporting IQR instead of 95% CI.

4. Please review the following numbers as they do not add up to 1005: “On average the hypertension sample thought that 7% of people who get COVID-19 would die as a result, and 63% would only experience mild symptoms.”

5. “On average the mean STAI was 1.90 units higher (95% CI 0.19-3.61, P=.03, Cohen d=0.13) for those with hypertension (40.75) than matched controls (38.85), with both groups higher than normal range, but below clinical levels.” The interpretation should be moved to the Discussion section. Please explain what you mean by “below clinical levels” as well as your reference scale.

6. Please clarify whether you adjusted for baseline characteristics in these analyses: “At follow-up, there was no longer a significant difference between the hypertension and control groups for influenza vaccination.”

Discussion and Conclusions

1. The discussion does not start by stating the study’s main findings (the influence of hypertension in the selected outcomes). Instead, it starts by comparing the overall sample with previous results in the same reference population.

2. The results are not discussed from multiple angles. For instance, the authors write, “Those with hypertension were more likely to take up the influenza vaccine during lockdown compared to healthy controls.” Could this be an effect of requiring care more often than healthy individuals? Patient activation is different from patient engagement.

3. The authors do not differentiate between willingness to get a vaccine and those who have already gotten a vaccine. Were there active vaccination campaigns between the two survey waves?

4. The authors mention several limitations of the study without detailing why they are limitations and how they were addressed. For instance, the authors write, “The sample was recruited via the health literacy single-item screener and the Consumer Health Activation Index patient activation measure. I understand these are validated tools. Please add a line about what these tools measure and why they are relevant to the current analysis.

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you do something to address such a shortcoming? Also, what are other implications?

5. Are people online more likely to be exposed to news generating anxiety or promoting vaccination? While this is just an example, most limitations lack this broader consideration.

6. Finally, conclusions are overextended and assume a causal effect: “Anxiety was above normal levels for all groups during the COVID-19 lockdown. This was higher in the hypertension group and appeared to translate to higher influenza vaccination intentions”; this is not consistent with the variable measured (intentions + uptake).

Round 2 Review

Specific Comments

The authors have addressed most if not all of the comments. I think the paper needs some proofreading, but that should not prevent its acceptance.

Conflicts of Interest

None declared.

Reference

1. Bonner C, Cvejic E, Ayre J, Isautier J, Semsarian C, Nickel B, et al. The Psychological Impact of Hypertension During COVID-19 Restrictions: Retrospective Case-Control Study. JMIRx Med 2021 Mar 30;2(1):e25610 [FREE Full text] [doi: 10.2196/25610]