

## Peer Review Report

# Review Report on Self-reported mental health and lifestyle behaviour during the COVID-19 pandemic in the Czech population: Evidence from two cross-sectional surveys

Original Article, Int J Public Health

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### EVALUATION

#### **Q 1** Please summarize the main findings of the study.

The study studies mental health consequences and lifestyle behaviour changes associated with COVID-19 pandemics in the Czech population, using two cross-sectional questionnaires. Similar results as in some previously published studies are presented: young people, females, people with increased work demands and those with decreased income are at risk of worsened mental health. Negative impact on healthy and addictive behavioural lifestyle characteristics was also found in part of respondents, mainly decrease of physical activity, worsened quality of sleeping and increase of screen time.

The authors conclude that similar findings can help to improve targeted health promotion and preventive strategies for populations at risk.

#### **Q 2** Please highlight the limitations and strengths.

The main strength is sufficient number of respondents (even if there is a big difference in number of respondents in the first and second study).

The main objection is, that the group of respondents is not a representative sample of the inhabitants of the Czech Republic and in some of the characteristics differ. This may have impact on interpretation and generalizability of the findings.

#### **Q 3** Please provide your detailed review report to the authors. The editors prefer to receive your review structured in major and minor comments. Please consider in your review the methods (statistical methods valid and correctly applied (e.g. sample size, choice of test), is the study replicable based on the method description?), results, data interpretation and references. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

As the current pandemic is unexperienced and unprecedented complex disaster, it is important to study all possible consequences on public health including mental health related changes. The topic of the paper is important.

The method should be more precisely described, especially what was the definition of „worsened mental health“ or the causes for reporting of this worsening. The recruitment of respondents and type of the questionnaire doesn't ensure all age and social groups even if the number of respondents is sufficient. The interpretation of the findings must be very careful and all possible biases addressed in the discussion.

The statistical analysis seems appropriate.

Major comments:

- What were the questions about mental health? Were some of the standardized questionnaires used? Which symptoms of worsened mental health changes were studied? (page 3, lines 113–114)
- The two groups of respondents are not a representative sample, which the authors state in the „Strength and Limitations“ section, but to my opinion some of the differences compared with general population should be more clarified and addressed in discussion as they may influence the interpretation of the presented data.
- Namely:
  - o gender imbalance (76,8 % female respondents during spring 2020 and 66,5 % female respondents in the autumn 2020) (table 1)

- o University/Tertiary education has approximately 20 % of Czechs (Czech Statistical Office 2019) (table 1)
  - o marital status (according to data of the Czech Statistical Office 2019 there are only 46,5 % of inhabitants of the Czech Republic over 15 year of age married) (table 1)
  - o the difference in reporting alcohol use - 39,3 % of respondents refer that alcohol use is not relevant while data of National Institute of Public Health data from 2020 refer 13-15 % people who do not drink alcohol (Table 2)
  - The online accesibility of the questionnaire could exclude some age and social groups of inhabitants.
- Minor comments:
- The authors present the findings of two cross-sectional studies so they should avoid the term „follow-up survey“ which implies the same group of respondents.
  - Page 2 lines 72-75 - are there some data supporting the statement that „social isolation and stress during the COVID-19 pandemic might... decrease the compliance with the the mitigating measures“?
  - Page 4, lines 150-151: What is authors´ explanation for the huge difference in number of respondents between Spring 2020 and Autumn 2020 (9168 versus 1042)?
  - Page 4 lines 166-168, page 6, lines 230-232: The main causes for worsened mental health are named here (lack of meaningfull acitivties, isolation from relatives and friends, concerns about uncertain future) - is this based on open questions in the questionnaire of were the answers predefined anf if yes, how?

**PLEASE COMMENT**

**Q 4** Is the title appropriate, concise, attractive?

Yes.

**Q 5** Are the keywords appropriate?

Yes.

**Q 6** Is the English language of sufficient quality?

Yes.

**Q 7** Is the quality of the figures and tables satisfactory?

Yes.

**Q 8** Does the reference list cover the relevant literature adequately and in an unbiased manner?)

Yes.

**QUALITY ASSESSMENT**

**Q 9** Originality



**Q 10** Rigor



**Q 11** Significance to the field



**Q 12** Interest to a general audience



**Q 13** Quality of the writing



**Q 14** Overall scientific quality of the study



REVISION LEVEL

**Q 15** Please make a recommendation based on your comments:

Minor revisions.