PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Physical and verbal abuse amid COVID-19: a nationwide cross-sectional survey in Japan
AUTHORS	Bhandari, Divya; Ozaki, Akihiko; Suzuki, Tomoya; Kotera, Yasuhiro; Shrestha, Sunil; Horiuchi, Sayaka; Takashi, Miyachi; Tabuchi, Takahiro

VERSION 1 – REVIEW

REVIEWER	Zeinab Kasemy Menoufia University Faculty of Medicine, Public Health and Community Medicine
REVIEW RETURNED	11-Aug-2021

| GENERAL COMMENTS | Physical and verbal abuse amid COVID-19: a nationwide cross-sectional survey in Japan
Thanks so much for your efforts. The article is so interesting but I have some comments if you wouldn't mind:
Sample size: how did you calculate the sample size of 28,000 participants? Also please explain more how you apply simple random sampling in a web based study?
Methods:
- For age it was better to classify <18 as a documented age for childhood then >18-40 and so on
- Number of people living together should be accompanied with number of rooms occupied and hence the crowding index. As according to what you classify one, 2-5 and >5 ?
- For income, it must be accompanied with expenses, you may have constant income but the expenses have increased.
- More symptoms of COVID-19, more severe the problem: Reference please, e.g. one has loss of smell, loss of taste and diarrhea, another one has Dyspnea, cough and high fever, which of them has the severe COVID-19? Please explain this is illogic.
- For Personal Behaviors: you should have assessed the change in behavior pre and during COVID-19.
- Have you validated the questionnaire?
Results:
Table1:
- How could you compare 965 with 24517? Also how to compare 1941 versus 23541? This is illogic, it is better to randomly select 4 times the verbally abused or physically abused participants and make the comparison as 1:4. Please re-analyze this table
- It is better to make some combination e.g. level of education (University + others) to make some sense of chi-square test. The same for income, you can say increased, constant, decreased as has income increased by a constant percent and vice versa?. This is illogic, please modify
- Again "Number of people living together" not every >5 or 2-5 have been verbally abused look at the house is it big or small house, this |

is so important.
- Perceived Health status: Likert scale here is so subjective, you can just use 3 likert scale, to be simple and more expressive: good, usual, poor
- Type of work : how could you compare 9 categories with just Chi-square, please classify the jobs as skilled , non skilled, professional just 3 items. As according to your categories , I cannot see engineers, aviation, drivers etc.,
- Relationship with spouse" Not applicable" HOW?, You can just separate those who are married from those who are not. Not good analysis
- Use of mask while visiting public places????
- Practice of substance abuse, alcohol, symptoms>? I don't agree with this kind of analysis at all. You must ask about changes, for symptoms you may write about need for hospitalization, extra care and so on.
- Table 2: Revise based on table 1, it will be clearer and applicable. As Logistic regression here is not well applied.
Discussion:
- Please clarify whether there is an increase in the abuse than pre-COVID-19.
- You said "The incidence of abuse reported in our study should be interpreted cautiously. Our study was a web-based study that might have limited the accessibility of the survey to actual victims." How can you say that and you mentioned that the samples were chosen randomly? Obviously this is a convenience sample.
- I need to see the effect of COVID-19 as the main cause of abuse here in this study by comparing the incidence with the previous year. Every country has its own circumstances. So please provide me with the previous year data of abuse to make it clearer.
Conclusion: it needs to be re-written

REVIEWER	Yukiko Washio RTI International
REVIEW RETURNED	11-Aug-2021

GENERAL COMMENTS	The study reported a nation wide survey on COVID 19 and physical and verbal abuse in Japan. The study adds a significant amount of knowledge to understanding the adverse impact of the pandemic. Introduction -The authors are encouraged to use English experts on editing. -The first paragraph does not include any prevalence or statistics on Japan nor specify the country that each report was created. -Sexual abuse is not being defined. -Citations of 6-10 are not from Japan. Should include citations from Japan. Method -Should state the reason of excluding sexual abuse. -Should state the validation of the abuse questions used in the survey. Discussion -Interpretations and recommendations are not evidence based. -Widows had a higher rate of abuse experiences and so did 20-40 age range; however, these two categories usually do not overlap, meaning that not many 20-40 are widowed. Discussion should address such discrepancies in demographics.

VERSION 1 – AUTHOR RESPONSE

Response to Reviewer #1's Comments:

Comments to the Author:
Physical and verbal abuse amid COVID-19: a nationwide cross-sectional survey in Japan
Thanks so much for your efforts. The article is so interesting, but I have some comments if you wouldn't mind:

Authors' response: Thank you so much. We highly appreciate your valuable time and effort to review our manuscript and are grateful for the insightful comments on our paper. Please find below point-by-point responses to the comments. Please kindly refer to the "Manuscript with track change" to easily locate the changes made in the manuscript.

01. Sample size: how did you calculate the sample size of 28,000 participants? Also please explain more how you apply simple random sampling in a web-based study?

Authors' response: As per your comment, we have expanded our method section adding further clarification on the sampling method and sample size. Please kindly review lines 119-128 of the revised manuscript.

Extracted from the revised manuscript for your quick review

JACSIS study was designed to recruit a "nationally representative sample" to calculate national estimates. Therefore, a large sample size of 28000 was determined in advance according to the population distribution of Japan in 2019 and a response rate of 12.5% (28000/224389). Regarding the sampling method, out of 2.2 million registered panelists, 224389 panelists were invited using stratified random sampling by sex, age, and prefectures. The random selection was done using computer algorithms and then email invitations were sent to selected participants. The survey was terminated once the target number of respondents was reached for each category. Questionnaires were distributed from August 25, 2020, and were completed on September 30, 2020, after reaching a total target sample size of 28,000 participants from all 47 prefectures.

Methods:
02. For age it was better to classify <18 as a documented age for childhood than>18-40 and so on.

Authors' Response: As per your suggestion, we have changed the categorization of age from "below 20" to "below 18" to represent the documented age for childhood. Please kindly refer to the revised tables (Table 1 and Table 2) in the manuscript.

03. Number of people living together should be accompanied with number of rooms occupied and hence the crowding index. As according to what you classify one, 2-5 and >5 ?

Authors' Response: Thank you so much for your suggestion. Concurring with your suggestion, we have changed the variable "number of people living together" to "crowding index" in the revised analysis.

1. For income, it must be accompanied by expenses, you may have constant income, but the expenses have increased.

Authors' Response: We agree with your advice on including expenses too. Unfortunately, questionnaires on the expenses were not included in the survey. So, we could not include such in this analysis.

2. More symptoms of COVID-19, more severe the problem: Reference please, e.g. one has loss of smell, loss of taste and diarrhea, another one has Dyspnea, cough and high fever, which of them has the severe COVID-19? Please explain this is illogical.

Authors' Response: Thank you for the thoughtful comment. Kindly excuse for the "irrational way of considering the symptoms". In the revised manuscript, we have categorized such into just two categories: 1) Presence or 2) Absence of symptoms related to COVID-19 infection.

3. For Personal Behaviors: you should have assessed the change in behavior pre and during COVID-19.

Authors' Response: Thank you for the suggestion. We have revised the personal behaviors variables such as alcohol intake based on the change in behavior pre and during COVID-19. Please kindly refer to lines 180-188 and Table 1 of the revised manuscript.

4. Have you validated the questionnaire?

Authors' Response: Yes, questionnaire used in this survey was validated. Please kindly refer to lines 129-130 of the revised manuscript.

Results:
Table1:

5. How could you compare 965 with 24517? Also, how to compare 1941 versus 23541? This is illogic, it is better to randomly select 4 times the verbally abused or physically abused participants and make the comparison as 1:4. Please re-analyze this table.

Authors' Response: It was explicitly mentioned in the footnote of Table 1 that the demographic data presented in this table were for simple description only and did not account for multiple comparisons in the presentation of the p-values. As some of the readers would like to see the p-values in the demographic data too, therefore, such were presented there. However, in line with your comment, in this revised version, we have removed the p-values and only presented the demographic data to avoid any confusion.

6. It is better to make some combination e.g., level of education (University + others) to make some sense of chi-square test.

Authors' Response: Concurring with your suggestion, we have combined the level of education categories (University + others). Kindly refer to Table 1 of the revised manuscript.

7. The same for income, you can say increased, constant, decreased as has income increased by a constant percent and vice versa? This is illogic, please modify.

Authors' Response: Concurring with your suggestions we have modified this variable. In fact, paying attention to your other comments and due to lack of variables capturing the change in the expenses etc., this variable has been now removed. Instead, we focused our investigation on the variable "average annual household income" only. Please refer to lines 158-160 and Table 1 of the revised manuscript.

8. Again "Number of people living together" not every >5 or 2-5 have been verbally abused look at the house is it big or small house, this is so important.

Authors' Response: Thank you for your suggestion. We have replaced the variable "number of people living together" with "crowding index". Please refer to lines 155-158 and Table 1 of the revised manuscript.

9. Perceived Health status: Likert scale here is so subjective, you can just use 3 Likert scale, to be simple and more expressive: good, usual, poor.

Authors' Response: Thank you for your suggestion to make it simpler and more expressive. Although it is not considered good to collapse the Likert scale, we ran the test and did not find any significant difference in association before and after the collapse. Therefore, as per your suggestion, we have collapsed the 5-point scale to just 3.

10. Type of work: how could you compare 9 categories with just Chi-square, please classify the jobs as skilled, non-skilled, professional just 3 items. As according to your categories, I cannot see engineers, aviation, drivers etc.

Authors' Response: Thank you for your suggestion.

- As it was mentioned in the footnote of Table 1, the demographic data presented in Table 1 were for simple description only and did not account for multiple comparisons in the presentation of the p-values.

- Sorry we should have mentioned employment sector to avoid confusion, which has been revised now. Survey questionnaire does not include jobs such as skilled, non-skilled, or professional, nor it was possible to classify them in such categories. Therefore, we have used the "employment sector" in the analysis as we intended to assess the impact through the viewpoint of each sector rather than individual occupation (which would be a large number of categories).

11. Relationship with spouse" Not applicable" HOW? You can just separate those who are married from those who are not. Not good analysis.

Authors' Response: Kindly excuse us as we are not able to understand your remark of "Not good analysis". For those who were unmarried or living single etc, the relationship with a spouse is "Not

applicable" and we believe such shall not create any confusion. Regarding separation of marital status, we have already separated such in different categories i.e. married, unmarried, divorcees, widow, etc. However, following the DEI principle, our study aims to investigate for all general populations irrespective of marital status or relationship status. During the multivariable logistic regression, if we ignore the "Not applicable" category from the analysis, we will lose all the data of unmarried women which we do not want to do. We agree it may not be necessary to show in Table 1 (demographics). However, we would like to keep our Table 1 to be consistent with Table 2 (the result of weightage multivariable logistic regression) for easier understanding of readers.

12. Use of mask while visiting public places?

Authors' Response: We meant to say "wearing a face mask while out in public" and we have revised accordingly. Kindly excuse us as we are not able to properly understand your comment.

13. Practice of substance abuse, alcohol, symptoms? I do not agree with this kind of analysis at all. You must ask about changes, for symptoms you may write about need for hospitalization, extra care and so on.

Authors' Response: Thank you for your suggestion. We agree with you. We do not have detailed information on all variables as mentioned by you. For a few variables like alcohol intake, etc, we have revised as per your suggestion as "alcohol intake pre and during covid" etc. Please kindly refer to Table 1 of the revised manuscript.

Table 2: Revise based on table 1, it will be clearer and applicable. As Logistic regression here is not well applied.

Authors' Response: Thank you for the suggested improvements. We have revised "Table 2" as per concurred revisions of "Table 1" based on your suggestions. Due to the binary nature of the outcome variable (Dependent variable) and multiple independent variables and confounders, we have employed weightage multivariable logistic regression in our analysis. Sorry, we could not understand your comments about "logistic regression here is not well applied" and the reasons for such remarks.

Discussion:

14. Please clarify whether there is an increase in the abuse than pre-COVID-19.

Authors' Response: Thank you for your suggestion. Please kindly refer to lines 268-273 of the revised manuscript. To the best of our knowledge, there is no earlier evidence or past research paper on physical and verbal abuse among the "general population" in Japan. Therefore, this is the "first study" on such. So, we could not make exact comparisons. We are simply investigating this abuse during 2020 amid Covid-19. Recently, the JACSIS study has been updated as a longitudinal study, hence, data is being collected for the same variables too. In future papers, we plan to make comparisons and study trends. This paper is a baseline study only.

15. You said "The incidence of abuse reported in our study should be interpreted cautiously. Our study was a web-based study that might have limited the accessibility of the survey to actual victims." How can you say that, and you mentioned that the samples were chosen randomly? Obviously, this is a convenience sample.

Authors' Response: Please refer to the updated method section lines 120-131 of the revised manuscript which further clarifies on sampling method of the JACSIS study.

Several papers out of this JACSIS study have been already published in international journals and all have also clarified the sampling method as "stratified random sampling". Out of 2.2 million registered panelists, 224389 panelists were invited by a computer-generated algorithm using stratified random sampling by sex, age, and prefectures. The survey was stopped when we reached a targeted sample size of 28000 covering all categories.

Regarding the above statement, this was a web-based study, therefore, the response of populations without access to the internet might not have been reflected. Therefore, we, the authors, have included the above statement in our manuscript to clarify to readers and future interpreters. However, to minimize such, we have also employed the inverse probability weighting approach (inverse of propensity scores) throughout the analyses to account for the possibility that those who participated and responded to the web-based study may differ from the general population.

16. I need to see the effect of COVID-19 as the main cause of abuse here in this study by comparing the incidence with the previous year. Every country has its own circumstances. So please provide me with the previous year data of abuse to make it clearer.

Authors' Response: Response copied from comment 17:

Thank you for your suggestion. Please kindly refer to lines 268-273 of the revised manuscript. To the best of our knowledge, there is no earlier evidence or past research paper on physical and verbal abuse among the "general population" in Japan. Therefore, this is the "first study" on such. So, we could not make concrete comparisons. We are simply investigating this abuse during 2020 amid Covid-19. Recently, the JACSIS study has been updated as a longitudinal study, hence, data is being collected for the same variables too. In future papers, we plan to make comparisons and study trends. This paper is a baseline study only.

17. Conclusion: it needs to be re-written

Authors' response: We have modified the conclusion. Please kindly refer to lines 353-363 of the revised manuscript.

Response to Reviewer 2's Comments:

General: The study reported a nationwide survey on COVID 19 and physical and verbal abuse in Japan. The study adds a significant amount of knowledge to understanding the adverse impact of the pandemic.
Author response: Thank you for your motivation. We highly appreciate your valuable time and effort to review our manuscript and for the insightful comments on our paper. Please find below point-by-point responses to the comments. Please kindly refer to the "Manuscript with track change" to easily locate the changes made in the manuscript.

Introduction

1. The authors are encouraged to use English experts on editing.
Author response: Thank you for your suggestion. The revised manuscript has been proofread by a native English speaker.

2. The first paragraph does not include any prevalence or statistics on Japan nor specify the country that each report was created.
Author response: Thank you for your suggestion.
In the first paragraph, we have mentioned the global incidence of abuse. The available prevalence/statistics of Japan are mentioned in the 4th paragraph line number 105-108.

3. Sexual abuse is not being defined.

Author response: We aimed to assess physical and verbal abuse only. Therefore, we intentionally limited ourselves from discussing sexual abuse. However, as per your suggestion, we have defined sexual abuse as well. Please kindly refer to lines 77-78 of the revised manuscript.

4. Citations of 6-10 are not from Japan. Should include citations from Japan.
Author response: Thank you for your suggestion. We have now included the citation from Japan as well.
References added includes:

- Yoshioka T, Okubo R, Tabuchi T, Odani S, Shinozaki T, Tsugawa Y. Factors associated with serious psychological distress during the COVID-19 pandemic in Japan: a nationwide cross-sectional internet-based study. BMJ Open [Internet]. 2021 Jul 1 [cited 2021 Dec 16];11(7):e051115. Available from: https://bmjopen.bmj.com/content/11/7/e051115

- Murayama H, Okubo R, Tabuchi T. Increase in Social Isolation during the COVID-19 Pandemic and Its Association with Mental Health: Findings from the JACSIS 2020 Study. Int J Environ Res Public Heal 2021, Vol 18, Page 8238 [Internet]. 2021 Aug 4 [cited 2021 Dec 11];18(16):8238. Available from: https://www.mdpi.com/1660-4601/18/16/8238/htm

- Ikeda T, Igarashi A, Odani S, Murakami M, Tabuchi T. Health-Related Quality of Life during COVID-19 Pandemic: Assessing Impacts of Job Loss and Financial Support Programs in Japan. Appl Res Qual Life [Internet]. 2021 Jan 30 [cited 2021 Dec 11];1–17. Available from: https://link.springer.com/article/10.1007/s11482-021-09918-6

- Suga T. Response to Domestic Violence During the COVID-19 Outbreak in Japan. Voilence Gend [Internet]. 2021 Aug 25 [cited 2021 Dec 16];8(3):129–32. Available from: https://www.liebertpub.com/doi/abs/10.1089/vio.2020.0043

Method

5. Should state the reason of excluding sexual abuse.

Authors' Response: In this study, to maintain simplicity, brevity, and coherence, we only investigated physical and verbal abuse. The in-depth investigation of "sexual abuse" requires a separate discussion. Authors felt that rather than mixing up all kinds of abuses in one single publication, each abuse must be investigated in detail and disseminated separately. Moreover, studies focusing on physical and verbal abuse among the "general population" are also limited globally and we believe that these areas also need to be explored a bit more.

6. Should state the validation of the abuse questions used in the survey.

Authors' Response: Yes, abuse questionnaire used in this survey was validated. Please kindly refer to lines 129-130 of the revised manuscript.

Extracted from the manuscript for your quick review:

The questionnaire used in this study was adopted from a previously validated questionnaire developed by Koga et al.[33,34]

> 33. Koga C, Hanazato M, Tsuji T, Suzuki N, Kondo K. Elder Abuse and Social Capital in Older Adults: The Japan Gerontological Evaluation Study. Gerontology [Internet]. 2020 [cited 2021 Dec 16];66(2):149–59.
>
> 34. Koga C, Tsuji T, Hanazato M, Suzuki N, Kondo K. Elder Abuse and Depressive Symptoms: Which is Cause and Effect? Bidirectional Longitudinal Studies From the JAGES. J Interpers Violence [Internet]. 2020 Dec 7 [cited 2021 Dec 16];886260520967135.

Discussion

7. Interpretations and recommendations are not evidence-based.

Author response: Thank you. We have revisited and revised accordingly. Interpretations and discussions are now solely derived from the findings of the study. Please refer to the manuscript with track change to easily locate the changes made.

8. Widows had a higher rate of abuse experiences and so did 20-40 age range; however, these two categories usually do not overlap, meaning that few 20-40 are widowed. Discussion should address such discrepancies in demographics.

Authors' response: Thank you so much for your critical insight. Table 1 in the manuscript presents the weightage demographics, not the actual data collected in the survey. The actual demography table in the survey was presented in the supplementary information. To further clarify, such discrepancies in the demographics seemed to be magnified due to two reasons – 1) the use of weightage (inverse of propensity scores) to account for the possibility that those who participated and responded to the web-based survey may differ from the general population (for example participation

of young widow groups in the internet survey had to be adjusted using weightage to match general population) and 2) due to size of each category in age range (i.e. 18 years to 40 years).

VERSION 2 – REVIEW

REVIEWER	Zeinab Kasemy Menoufia University Faculty of Medicine, Public Health and Community Medicine
REVIEW RETURNED	17-Dec-2021

GENERAL COMMENTS	when I told you that regression analysis was not applicable, it was because How could you compare 965 with 24517? Also, how to compare 1941 versus 23541? This is illogic, But generally your study is good and it showed great efforts Thanks

REVIEWER	Yukiko Washio RTI International
REVIEW RETURNED	18-Dec-2021

GENERAL COMMENTS	Comments are addressed adequately.