PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Identification of the most vulnerable populations in the psycho-social sphere: a cross-sectional study conducted in Catalonia during the strict lockdown imposed against the Covid-19 pandemic.
AUTHORS	Farrés, Judith; Ruiz, Jose Luis; Mas, Jose Manuel; Arias, Lilibeth; Sarrias, Maria-Rosa; Armengol, Carolina; Cardona, Pere-Joan; Munoz-Moreno, Jose A; Vilaplana, Miriam; Arranz, Belen; Usall, Judith; Serrano-Blanco, Antoni; Vilaplana, Cristina

VERSION 1 – REVIEW

REVIEWER	Lee, Allen Chinese University of Hong Kong, Department of Psychiatry, Faculty of Medicine
REVIEW RETURNED	07-May-2021

GENERAL COMMENTS	This large online cross-sectional study aims to study the psychosocial impact of COVID-19 pandemic to general population and health care workers. The topic is of great public health significance. However, major revision is recommended in view of the following reasons. Major concerns: 1. While the objective is clear, it would be helpful for the authors to identify the uniqueness of their study, especially since there is an increasing number of similar studies conducted and published worldwide. 2. Study hypotheses, outcomes, and sample size calculation did not seem to be described in the manuscript, despite the authors stated they did so in the STROBE checklist. 3. Although online survey can help reach many people quickly, sampling bias exists, which makes this study sample not necessarily representative of the general population or healthcare workers. It would be important for the authors to clarify the inclusion or exclusion criteria of the subjects in the Methods. If the authors aimed at examining the psychosocial impact of COVID-19 in Spain, it would appear to me that only participants who reside in Spain rather than in other countries should be included. 4. The online questionnaire consists of a lengthy list of 74 questions. How long does it take to finish the whole questionnaire? One might wonder if the respondents would soon become fatigue. On the other hand, was there any mechanism incorporated to ensure the participants completed or answered all the questions before they submitted? Also, the authors pointed out that validated

	questionnaires were not used in this online survey, so who and how were the questionnaires designed? 5. How was the age cutoff for different subgroups defined? Based on the existing literature, teenagers and younger adults are at greater risk of mental health problems than older adults during the pandemic. Have the authors tried to compare the younger generations with the older ones? It might be helpful for the authors to describe the age characteristics of their cohort, so that the readers can have a better idea of the nature of their study sample. 6. Only 9% of the cohort were healthcare workers. I wonder if they were recruited in the same way as the other respondents (i.e. through social media). Have the authors considered recruiting healthcare workers through hospital / healthcare networks instead, so as to have a better representation? Minor concerns: 1. Multiple typos throughout the text and the tables (e.g. "12,88%"), making it difficult to read. 2. Many references, including those published a few years ago, are incompletely cited.

REVIEWER	Kok, Gerjo Maastricht University, Work and Social Psychology
REVIEW RETURNED	12-May-2021

GENERAL COMMENTS	This is an interesting study describing characteristics of a huge sample in terms of psychosocial impact of COVID-19 during April 2020. There are strengths and weaknesses, but the information is useful, partly for current times, but probably also for future times. Some issues could improve the paper. (1) The numbers are high but that does not necessarily mean that they represent the population. In cases like this it would help if there are any numbers about the population that could serve as comparison, for example data on gender x age in that area. The more of these demographic data, the better our understanding of the representativeness of this sample. (2) With these numbers, percentages about subgroups are misleading. It would help if the authors provide the total and sub N for the tables that only present percentages, e.g. with 55.000 participants, even 1% represents a substantial number. (3) Table 4 only describes associations [there is a typo on lines 50-51]. With this huge number, it is almost surprising that there are no more significant effects. I find this table not helpful without information the scores. It would help the reader when the authors ad more text to the 3.4 section, describing the major differences between those groups, but also between the instruments. In the Discussion, there is much attention for the place of these data in the larger research community. However, there is almost nothing about interventions that might help people dealing with this situation. I would prefer to read less about the first, and more about the second.

REVIEWER	Mechili, Enkeleint Faculty of Public Health, University of Vlora, Vlora, Albania, Department of Healthcare
REVIEW RETURNED	13-May-2021

GENERAL COMMENTS	Thank you very much for having the opportunity to review this article that aimed to analyze the impact of first peak of Covid-19

	pandemic. The article in general is presented that according to my view many changes and improvements are needed. Abstract: • Page 3, row 4: You are saying setting but are presenting the questionnaire. Please correct. • Page 3, row 6: You are saying "the Project" but not clear what the project is. Do you mean the study? Please check in the whole text. • Please add place of the study. • Page 3 and 4 about strengths and limitations: It is not clear what authors consider strength and what limitation. • If I understand well, authors consider the high number of questions to the instrument used as a strength? If yes, this should be interpreted with caution, Introduction: • Page 5, row 11: Please add reference to that statement. • Page 5, row 16: You are saying "two months after..." but not very clear which month and weeks. I suggest to have a look in the entire text about things not very clear. Something that most probably is clear to the authors must be presented in a way that the reader understand that. • Page 5 rows 23-24: You are making a statement here about making mandatory phycological assessment. To my view, introduction is not the right place to make this statement. Additionally, is recommended to transfer to discussion section and to provide the needed reasons for this recommendation. • Page 6, row 2. Reference is needed. • Introduction part should be rewritten. Is very confusing and not clear what authors want to present. Material and methods: • Remove ethics part to the M&M section. • Page 6. Please give more information about instrument development. • Please give reasons why you developed a new instrument and didn't use an existing with known reliability and validity. • Did you check the reliability and validity of the instrument. • How many people rejected to participate. • It is not clear which is the setting. • Do to the high number of questions, how many people started to complete the questionnaire and didn't complete. • How did you reached the population. This should be a separate section. • In the abstract is mentioned that the snowball method was used. This is an approach that is usually used in qualitative analysis. • In general the M&M part should be rewritten. It is not presenting the needed information. Results: • I don't understand why in table 1, 2, 3 are presented only percentages and not the number of participant for each category. Please re-present the tables with frequencies and percentages. • Is not clear how you calculated the score for stress, depression, anxiety and PTSD. How did you control that the categories were ok? Discussion: • To my view the problem with the article is that is not very clear what authors aimed to study. This is clearly presented at page 12

	row 6. You say at several levels and that the issue. Is very general and broad. • Second paragraph of discussion should be part of strengths and limitations part. Please remove. • Page 12 rows 21-24. Add reference which is missing. • I suggest English editing of all the text. • Please do not use so many times the phrases “our results”, “our study” etc. • Page 14 rows 8-9 you say several studies but are presenting only one reference. Please correct. • Please shorten discussion part. • Your conclusion section is recommended not to include references. Remove strengths and limitations part before the conclusion section

REVIEWER	Ye, Jiancheng Northwestern University Feinberg School of Medicine
REVIEW RETURNED	27-May-2021

GENERAL COMMENTS	It's a very important study and well written with key points made easy to find through the structured format. This study analyzed the impact of first peak of Covid-19 pandemic on a wide range of dimensions of health of general population and health care workers. The authors concluded that active implementation of specific strategies to increase resilience prepare an adequate organizational response should be encouraged. My considerations are indicated below: 1. Page 4 line 10. Please define PSTD, is that PTSD? There is mixed-use of PTSD and PSTD in the paper. 2. Please specify the platform of the social media. What is the general population who use this social media? In Spain, Europe, or globally? 3. The discussion section may be shortened and focused on the most recent situation of the pandemic. 4. Although this study just included participants who were older than 16, the impact on mental health in the children population is still a big problem. Any implications from this study to support children and their family, especially HCW’s family? Authors may consider discussing the different/similar evidence and findings from: Davico, C., Ghiggia, A., Marcotulli, D., et al. (2021). Psychological impact of the COVID-19 pandemic on adults and their children in Italy. Frontiers in psychiatry, 12, 239. Ye J. Pediatric Mental and Behavioral Health in the Period of Quarantine and Social Distancing With COVID-19. JMIR Pediatr Parent. 2020;3(2):e19867.

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
Mr. Allen Lee, Chinese University of Hong Kong
Comments to the Author:
This large online cross-sectional study aims to study the psychosocial impact of COVID-19 pandemic to general population and health care workers. The topic is of great public health significance.

However, major revision is recommended in view of the following reasons.
Major concerns:
1.While the objective is clear, it would be helpful for the authors to identify the uniqueness of their study, especially since there is an increasing number of similar studies conducted and published worldwide.
We have modified the Strengths and Limitations section following the reviewer's suggestions:
"Strengths

- The current study originated on the suggestions of citizens and aimed to identify the impacts of the Covid-19 pandemia on a wide range of dimensions of health status using a 74-questions questionnaire.
- It was conducted two weeks after starting strict confinement and while it was still in force.
- The survey was disseminated through social media, a successful strategy to rapidly reach a large number of people without exposing interviewers to infection.
- It is one of the most extensive surveys never published with a total of 56,656 survey questionnaires analysed, which encompasses a 0.85% of the Catalan population of >16 years old.

Limitations

- The survey was long, allowing to collect a high amount of data but might have generated fatigue and a high drop out.
- The snowball strategy through social media does not allow the population studied to be controlled and is not a representative survey of a specific population.
- No validated scales were used.
- Since there were no specific criteria for stratification of some of the categories we divided these categories in the cohort into groups containing a similar sample size".

2. Study hypotheses, outcomes, and sample size calculation did not seem to be described in the manuscript, despite the authors stated they did so in the STROBE checklist.
Thank you for pointing this out. In order to fulfil this requirement we have:

- Added the hypothesis at the end of Introduction section: "Following the suggestions of members of the public society and HCW that claimed that the outbreak and confinement were impacting on people's lives and the need of assessing the nature of this effect, we designed the present study in a week with the hypothesis that the impact of the pandemic was important at several health dimensions".
- Added an "Objectives" section: To evaluate the impact of Covid-19 on psycho-social sphere on both the general population and HCW.
- Included in the M&M section, Outcome measures (Section 3.3.) information on the n size: "Initially we estimated an n of 2,000 completed questionnaires within 6 months (April-September 2020) would allow to extract valid results. As we received a high number of completed questionnaires in few weeks we analysed all completed questionnaires obtained from the 3rd to 19th April 2020".

3. Although online survey can help reach many people quickly, sampling bias exists, which makes this study sample not necessarily representative of the general population or healthcare workers. It would be important for the authors to clarify the inclusion or exclusion criteria of the subjects in the Methods. If the authors aimed at examining the psychosocial impact of COVID-19 in Spain, it would appear to me that only participants who reside in Spain rather than in other countries should be included.
We thank the reviewer for this comment and agree with the limitations of the online survey. Accordingly, we have:

- stressed this in the limitation section by adding "The snowball strategy through social media does not allow the population studied to be controlled and is not a representative survey of a specific population.
- We have included a new section (3.2. Participants) with the inclusion criteria: "All people >16 years old willing to participate in the study. Before starting the survey participants were

informed about the aim of the study, the compliance with their rights and the existence of the IRB approval (PI-20-114, from Ethics Committee of the Germans Trias i Pujol Hospital), and gave consent by starting the questionnaire. They were also informed about their right of access, rectification, limitation and erasure of their personal data and to withdraw consent, as well as how to exercise any of these rights."

- Regarding the participants included: The 95.6% of the respondents were from Catalonia region. We decided to include the other responses even if they only represent 4.37% because we never considered this as an exclusion criteria. However, in order to address the reviewer's comment we have included the following:
  - We have changed the title of the manuscript to the following: "Identification of most vulnerable populations at psycho-social sphere: a cross-sectional study conducted in Catalonia during the strict confinement in the context of Covid-19 pandemic".
  - In M&M we have included a subsection: 3.1.Design and setting: "This is a cross-sectional study, conducted in Catalonia, Spain in April 2020, during the first wave of Covid-19 outbreak, after two weeks of starting the strict confinement and while still in force."
  - In Results, subsection 4.1. Characteristics of the cohort: "The majority of respondents were females (70.4%), and from Catalonia (95.63%, from which 27.7% from Barcelona city), which encompasses a 0.85% of the Catalan population of >16 years old"
- We have rewritten the limitations section in the discussion in order to include all this information, and now it is:

"The current study originated on the suggestions of citizens and aimed to identify the impacts of the covid-19 pandemia on a wide range of dimensions of health status in Catalonia while confinement was in force. It is one of the most extensive surveys never published with a total of 56,656 questionnaires analysed, and yet it has limitations that must be considered in interpreting the data. Even if our survey has the value to provide the information about how people of different range of age and specifically woman and healthcare workers has faced the pandemic at several spheres, it was not designed to be representative for a specific population. No validated scales were used. However, as the survey included 41 questions related to depression, anxiety, stress and PTSD symptoms we could explore the impact on mental health dimension. The survey was long, which might have generated a high drop out even if this allowed to collect a high amount of data; and it was shared through social media, thus the sample of population studied could not be controlled. However, even if not ensuring representability, the snowball was a successful strategy to rapidly reach a large number of people mainly froSpain, hit by the pandemic in different ways, without exposing interviewers to infection. Another limitation is that the criteria used to establish ranges for some of the variables were statistical, in order to obtain balanced groups in terms of number of responses. This provides rigor but can be confusing because this segmentation is unusual and can lead to a certain bias".

4. The online questionnaire consists of a lengthy list of 74 questions. How long does it take to finish the whole questionnaire? One might wonder if the respondents would soon become fatigue. On the other hand, was there any mechanism incorporated to ensure the participants completed or answered all the questions before they submitted? Also, the authors pointed out that validated questionnaires were not used in this online survey, so who and how were the questionnaires designed?

We thank the reviewer for this comment, as this information was clearly missing. The completion of the whole questionnaire took approximately 10 minutes. Answers of participants that didn't reach the end of the questionnaire were considered not completed and a drop out. Only finished questionnaires were saved and taken into account for the analysis. Individuals reaching the questionnaire's end could leave questions unanswered. For individual questions only the answers for that variable were considered. When computing any score out of several questions, the score was only computed if all answers for the score where present. We have included this information in:

- the Analysis and Statistics section: "All data was processed anonymously. Answers of participants that didn't reach the end of the questionnaire were considered not completed and a drop out. Only finished questionnaires were saved and taken into account for the analysis"

- and also in the Discussion section: “The survey was long, which might have generated fatigue and a high drop out, even if this allowed to collect a high amount of data”

5. How was the age cutoff for different subgroups defined? Based on the existing literature, teenagers and younger adults are at greater risk of mental health problems than older adults during the pandemic. Have the authors tried to compare the younger generations with the older ones? It might be helpful for the authors to describe the age characteristics of their cohort, so that the readers can have a better idea of the nature of their study sample.

The age cutoff was set by the inclusion criteria, which were “All people >16 years old willing to participate in the study”. We have included this in a new section: “3.2: Participants”. As the relevance of the grouping by age could be different depending on the variable measured, we decided that the best course of action was not introducing and additional bias due to different sample sizes between the age groups. Thus, we divided the whole sample in 4 groups with similar sample size resulting in the following age groups <42, 42-52, 52-61, >61.

6. Only 9% of the cohort were healthcare workers. I wonder if they were recruited in the same way as the other respondents (i.e. through social media). Have the authors considered recruiting healthcare workers through hospital / healthcare networks instead, so as to have a better representation?

Yes they were. In order to reach HCW we used HCW WhatsApp groups and Telegram channels, as well as Hospital institutional websites and we obtained 5104 completed questionnaires from HCW. We have included this information in the manuscript, Section 3.3.: “The survey was shared in 5 different languages (Catalan, Spanish, English, Italian, and French) through social media (Twitter, WhatsApp, Telegram channels, institutional websites) using snowball sampling. In order to reach HCW we used HCW Whatsapp groups and Telegram channels, as well as hospital institutional websites.”

Minor concerns:

1. Multiple typos throughout the text and the tables (e.g. "12,88%"), making it difficult to read.
2. Many references, including those published a few years ago, are incompletely cited.

We have reviewed thoroughly the text in order to correct typos and complete and format the references.

Reviewer: 2

Prof. Gerjo Kok, Maastricht University, Maastricht University

Comments to the Author:

This is an interesting study describing characteristics of a huge sample in terms of psychosocial impact of COVID-19 during April 2020. There are strengths and weaknesses, but the information is useful, partly for current times, but probably also for future times.

Some issues could improve the paper.

(1) The numbers are high but that does not necessarily mean that they represent the population. In cases like this it would help if there are any numbers about the population that could serve as comparison, for example data on gender x age in that area. The more of these demographic data, the better our understanding of the representativeness of this sample.

We thank the reviewer for this comment. We have better defined the setting and included this information in the manuscript. The 95.6% of the respondents were from Catalonia region, from which a 27.7% was from Barcelona city. in order to address the reviewer’s comment we have included the following:

- We have changed the title of the manuscript to the following: “Identification of most vulnerable populations at psycho-social sphere: a cross-sectional study conducted in Catalonia during the strict confinement in the context of Covid-19 pandemic”.
- In M&M we have included a subsection: 3.1.Design and setting: “This is a cross-sectional study, conducted in Catalonia, Spain in April 2020, during the first wave of Covid-19 outbreak, after two weeks of starting the strict confinement and while still in force.”

- In Results, subsection 4.1. Characteristics of the cohort: “The majority of respondents were females (70.4%), and from Catalonia (95.63%, from which 27.7% from Barcelona city), which encompasses a 0.85% of the Catalan population of >16 years old”, and we have included 2 references for this, both the Catalan and the Spanish Statistical Institutes.

(2) With these numbers, percentages about subgroups are misleading. It would help if the authors provide the total and sub N for the tables that only present percentages, e.g. with 55.000 participants, even 1% represents a substantial number.

We thank the reviewer for this comment. Following the suggestions from this reviewer and others we have included in tables 1, 2 and 3 and for all the categories the number of responses per answer together with the percentages. This has been done for all the questions excepting for those categories in which the responses were distributed in ranges in order to have the same volume of responses in each range (age, indexes and population density).

(3) Table 4 only describes associations [there is a typo on lines 50-51]. With this huge number, it is almost surprising that there are no more significant effects. I find this table not helpful without information the scores. It would help the reader when the authors ad more text to the 3.4 section, describing the major differences between those groups, but also between the instruments.

We agree with the reviewer. We have included information on the scores in the Analysis and Statistics section, as well as in the Table S1 (details on how we calculated the scores): “The questions were grouped into indexes (socioeconomic precariousness index, depression index, anxiety index, stress index, or PTSD) following the calculation detailed in Table S1. When computing any score out of several questions, the score was only computed if all answers for the score where present”.

In the Discussion, there is much attention for the place of these data in the larger research community. However, there is almost nothing about interventions that might help people dealing with this situation. I would prefer to read less about the first, and more about the second.

Following the reviewer’s suggestions, we have rewritten the last part of the discussion and conclusion, and have included information on the interventions that could be implemented:

“Some of the strategies at individual
and organizational level which could be actively implemented in the identified vulnerable populations are:

1) To spot the individuals which a) might may be more vulnerable to mental health difficulties or b) are part of the populations identified as more vulnerable within each group/team/staff members, and to deliver them an appropriate attention.
2) To provide education on mental higiene, self-reflection and emotion-
focused therapy using different tools (storytelling, music, meditation, etc.).
3) To train in building resilience and foster a culture of resilience.
4) To promote mental health services and make them accessible to all. To plan
a structured schedule to communicate the existing resilience measures and upport programs availabl
e and how to access them.
5) To draft and implement a systematic communication plan in order to provide timely, accurate, regular and evidence-
based information on the situation and the response planned (including all scenarios). To do training and inform about the tools available to ensure its implementation if they are involved in this response. This can
be applied to all levels, including companies, health departments and hospitals, public health systems and at local and national governmental level.
6) To provide people structured opportunities to debrief and talk after critical events,
to hear about their real-time concerns, and
to engage them into collaborative approaches to the decision-making and problem-solving.”

Reviewer: 3

Dr. Enkeleint Mechili, Faculty of Public Health, University of Vlora, Vlora, Albania, University of Crete School of Medicine

Comments to the Author:

Thank you very much for having the opportunity to review this article that aimed to analyze the impact of first peak of Covid-19 pandemic. The article in general is presented that according to my view many changes and improvements are needed.

We would like to thank the reviewer for their comments, please find our point-by point reply below in red colour.

Abstract:

- Page 3, row 4: You are saying setting but are presenting the questionnaire. Please correct.

We agree the reviewer for pointing this. We have rewritten the abstract according to the guidelines of the journal and include the setting, correcting this mistake:

"Abstract

Objectives: To evaluate the impact of Covid-19 on psycho-social sphere on both the general population and HCW.

Design: Cross-sectional study.

Setting: It was conducted in Catalonia, Spain during the first wave of Covid-19 outbreak and when confinement was in force.

Participants: The study population was all people >16 years old consenting to participate in the study and completing the survey. 56,656 completed survey questionnaires were obtained from the 3rd to 19th April 2020.

Interventions: a 74-question survey questionnaire was developed and shared through social media through using snowball sampling.

Primary and secondary outcome measures: descriptive statistics for the non-psychological questions and psychological impact of the outbreak as depression, anxiety, stress and PTSD questions scores. Results showed an early and important negative impact on family finances, fear of working with Covid-19 patients and ethical issues related to Covid-19 care among healthcare workers (HCW). 7 target groups at higher risk of impaired mental health and susceptible to benefiting from an intervention were identified: women, under 42 years of age, people with care burden, socio-economically deprived groups, people with unskilled or unqualified jobs, Covid-19 patients, and HCW working with Covid-19 patients.

Conclusions: Active implementation of specific strategies to increase resilience and to prepare an adequate organizational response should be encouraged for the 7 groups identified as high risk and susceptible to benefit from an intervention.

Study registration: ClinicalTrials.gov identifier (NCT number) NCT04378452."

- Page 3, row 6: You are saying "the Project" but not clear what the project is. Do you mean the study? Please check in the whole text.

We have checked this in the whole text and corrected it.

- Please add place of the study.

We have added the place of the study.

- Page 3 and 4 about strengths and limitations: It is not clear what authors consider strength and what limitation.

In order to improve clarity we have separated the section in Strengths and Limitations separately.

- If I understand well, authors consider the high number of questions to the instrument used as a strength? If yes, this should be interpreted with caution,

Indeed it should, we totally agree with the reviewer. We do consider the high number of questions to the instrument is a strength, as allowed us to collect information on several health dimensions. However you are right that at the same time it is also a limitation, as it was long (it took 10 minutes to complete it) and thus the percentage of drop out might have been high. However, in order to mitigate this we only took into account those questionnaires in which the participant reached the end of the questionnaire. According to the suggestions of both reviewers 3 and 1 we have included all this information, both on the strengths and limitations, in M&M and in the discussion section.

Introduction:

- Page 5, row 11: Please add reference to that statement.

We have included the reference for the statement: “Van Bortel T, Basnayake A, Wurie F, et al. Psychosocial effects of an Ebola outbreak at individual, community and international levels. Bull World Health Organ 2016;94:210–4. doi:10.2471/blt.15.158543”

- Page 5, row 16: You are saying "two months after..." but not very clear which month and weeks. I suggest to have a look in the entire text about things not very clear. Something that most probably is clear to the authors must be presented in a way that the reader understand that.

Following the reviewer’s suggestions, we have suppressed this sentence and rewritten the paragraph in order to improve the clarity of the text.

- Page 5 rows 23-24: You are making a statement here about making mandatory phycological assessment. To my view, introduction is not the right place to make this statement. Additionally, is recommended to transfer to discussion section and to provide the needed reasons for this recommendation.

We totally agree. We have suppressed this sentence as the statement was too strong and wrongly placed.

- Page 6, row 2. Reference is needed.

We have provided a reference for this, a document issued by the Government of Catalonia: “Health Department of the Catalan Government (Institution). Comunicat del Departament de Salut, 30 de març de 2020. 2020.https://govern.cat/salapremsa/notes-premsa/383715/comunicat-del-departament-salut”

- Introduction part should be rewritten. Is very confusing and not clear what authors want to present.

According to the reviewers’ suggestion we have rewritten the introduction in order to improve its clarity.

Material and methods:

- Remove ethics part to the M&M section.

We suppressed the ethics paragraph from M&M. However, we didn’t found any other place in instructions for authors to include the Ethics, so we have maintained part of this information: the existence of IRB approval and regarding participants consent, as was required by the editor, in a very short statement in section 3.2. (Participants).

- Page 6. Please give more information about instrument development. Please give reasons why you developed a new instrument and didn’t use an existing with known reliability and validity. Did you check the reliability and validity of the instrument.

Following the reviewers’ suggestions, we have included more information about instrument development on Outcome measures section (3.3).

- How many people rejected to participate.

We do not know the exact amount of people that rejected to participate. Before starting the survey participants were informed about the aim of the study, the compliance with their rights and the existence of the IRB approval, and gave consent by starting the questionnaire. They were also informed about their right of access, rectification, limitation and erasure of their personal data and to withdraw consent, as well as how to exercise any of these rights. We have added this information in section 3.2. Participants. Moreover, only finished questionnaires were analysed. We have added this in 3.4. Analysis and Statistics: “All data was processed anonymously. Answers of participants that didn’t reach the end of the questionnaire were considered not completed and a drop out. Only finished questionnaires were saved and taken into account for the analysis”.

- It is not clear which is the setting.

We have included a new subsection in M&M: 3.1. Design and setting: “This is a cross-sectional study, conducted in Catalonia, Spain in April 2020, during the first wave of Covid-19 outbreak, after two weeks of starting the strict confinement and while still in force”.

- Do to the high number of questions, how many people started to complete the questionnaire and didn’t complete.

Unfortunately, we do not have this information. However, answers of participants that didn't reach the end of the questionnaire were considered not completed and a drop out. Only finished questionnaires were saved and taken into account for the analysis. We have included this information in section 3.4. Analysis and Statistics as explained above.

- How did you reached the population. This should be a separate section.

The survey was shared in 5 different languages (Catalan, Spanish, English, Italian, and French) through social media (twitter, Whatsapp, Telegram channels, institutional websites) using snowball sampling. In order to reach HCW we used HCW Whatsapp groups and Telegram channels, as well as hospital institutional websites. Following the reviewers's suggestions, we have included this information and other information on the survey questionnaire in a new section (3.3. Outcome measures).

- In the abstract is mentioned that the snowball method was used. This is an approach that is usually used in qualitative analysis.

This study was planned and launched in a week, the second week of the hard confinement was in force. The snowball method had been previously used for Covid-19 and other outbreaks in Asia and we considered it was worthy to try to use it in order to reach as many participants as possible without exposing interviewers to infection.

- In general the M&M part should be rewritten. It is not presenting the needed information.

We do agree with the reviewer. Following this suggestion, we have rewritten the M&M part following the guidelines of the journal.

Results:

- I don't understand why in table 1, 2, 3 are presented only percentages and not the number of participant for each category. Please re-present the tables with frequencies and percentages.

Following the comments and suggestions of several of the reviewers we have included in tables 1, 2 and 3 and for all the categories the number of responses per answer together with the percentages. This has been done for all the questions excepting for those categories in which the responses were distributed in ranges in order to have the same volume of responses in each range (age, indexes and population density).

- Is not clear how you calculated the score for stress, depression, anxiety and PTSD. How did you control that the categories were ok?

All the questions as well as the calculation method for the scores and indexes resulting from the aggregation of the answers to several questions were detailed in Table S1. We have included this in the Analysis and Statistics section.

Discussion:

- To my view the problem with the article is that is not very clear what authors aimed to study. This is clearly presented at page 12 row 6. You say at several levels and that the issue. Is very general and broad.

You are right, and other reviewers also pointed this out. In order to fulfil this requirement we have:

- Added the hypothesis at the end of Introduction section: "Following the suggestions of members of the public society and HCW that claimed that the outbreak and confinement were impacting on people's lives and the need of assessing the nature of this effect, we designed the present study in a week with the hypothesis that the impact of the pandemic was important at several health dimensions".
- Added an "Objectives" section: To evaluate the impact of Covid-19 on psycho-social sphere on both the general population and HCW.

- Second paragraph of discussion should be part of strengths and limitations part. Please remove.

We are sorry but we have not done this. We have maintained it because the Editor required us to ensure to fully discuss the limitations of the study in the discussion section of the main text.

- Page 12 rows 21-24. Add reference which is missing.

Following the reviewers' suggestions to shorten the discussion and this reference is no longer needed.

- I suggest English editing of all the text.

An native English editor review the text in order to improve the English language. We have included her name (Harvey Evans) in the acknowledgements.

- Please do not use so many times the phrases “our results”, “our study” etc.

We have reviewed the text and suppressed many times “our results”, “our study” etc. as suggested by the reviewer.

- Page 14 rows 8-9 you say several studies but are presenting only one reference. Please correct.

We have corrected this.

- Please shorten discussion part.

We have shorten the discussion as suggested and we fully believe it has much improved the clarity of the text.

- Your conclusion section is recommended not to include references. Remove strengths and limitations part before the conclusion section.

Following the reviewer’s suggestions, we have rewritten the last part of the discussion and conclusion and now this does not longer includes references.

Reviewer: 4
Dr. Jiancheng Ye, Northwestern University Feinberg School of Medicine
Comments to the Author:
It's a very important study and well written with key points made easy to find through the structured format. This study analyzed the impact of first peak of Covid-19 pandemic on a wide range of dimensions of health of general population and health care workers. The authors concluded that active implementation of specific strategies to increase resilience prepare an adequate organizational response should be encouraged.
My considerations are indicated below:

1. Page 4 line 10. Please define PSTD, is that PTSD? There is mixed-use of PTSD and PSTD in the paper.

Thank you for pointing this out for us, we have reviewed the manuscript and corrected all the times it was wrong.

2. Please specify the platform of the social media. What is the general population who use this social media? In Spain, Europe, or globally?

We shared it through social media (Twitter, WhatsApp, Telegram channels, institutional websites) using snowball sampling. In order to reach HCW we used HCW WhatsApp groups and Telegram channels, as well as hospital institutional websites. We have included this information in the text.

3. The discussion section may be shortened and focused on the most recent situation of the pandemic.

According to the reviewers’ suggestions, we have shorten and rewritten the discussion section, and we fully believe it has much improved the clarity of the text.

4. Although this study just included participants who were older than 16, the impact on mental health in the children population is still a big problem. Any implications from this study to support children and their family, especially HCW’s family? Authors may consider discussing the different/similar evidence and findings from:

Davico, C., Ghiggia, A., Marcotulli, D., et al. (2021). Psychological impact of the COVID-19 pandemic on adults and their children in Italy. Frontiers in psychiatry, 12, 239.
Ye J. Pediatric Mental and Behavioral Health in the Period of Quarantine and Social Distancing With COVID-19. JMIR Pediatr Parent. 2020;3(2):e19867.
Thank you for providing us these 2 interesting articles which are really very appropriate to our study. We indeed have included them in the Discussion section: Davico et al as providing information on how the HCW with childcare burden suffer more psychological distress, and Ye’s article as one of the papers that has provided interventions proposals.

VERSION 2 – REVIEW

REVIEWER	Mechili, Enkeleint Faculty of Public Health, University of Vlora, Vlora, Albania, Department of Healthcare
REVIEW RETURNED	25-Jul-2021

GENERAL COMMENTS	Many thanks for giving me the opportunity to review this article that aimed to evaluate the impact of Covid-19 on psycho-social sphere on both the general population and HCW. Please find below my comments. 1. Abstract should be more concrete. Additionally, I suggest merging some parts (i.e design, setting, participants) under on section called methodology; 2. I suggest to shorten a little the title as it is very long; 3. The first bullet at strengths point of the study is not clear to m; 4. Strengths part should be re-written. In the way they are presented is not clear which is the strong point (i.e. dissemination in the social media); 5. Longness of the questionnaire is not a limitation. Response rate should be mentioned (if participants didn't complete he whole questionnaire); 6. Social media are reported both as a strong and weak point. Which is more appropriate? 7. Page 6, row 11 i said in our setting (which setting); 8. The way that the aim of the study is presented, is not very scientific. Please rephrase that part. 9. Add the objective that you present at the introduction part (last paragraph of introduction); 10. Before using abbreviations please clarify them (i.e. M&M); 11. Ethical issues should be mentioned separately and not with the participants section; 12. Please give more detailes about the instrument used; 13. What about validity and reliability of the instruent; 14. Why (and how) you translated the questionnaire in 5 different languages when you disseminated only in Catalunia; 15. Responding rate? How many didn't complete the questionnaire? 16. Page 10 row 12. This is not suitable for the results part but for discussion; 17. Many details are given in the results section. This part should be shortened; 18. The first sentence of the discussion part is irrelevant to my view and is better to delete; 19. The first part of the discussion about strengths and limitations is very confusing. Please re-write this part. 20. An extensive english editing is needed. Many grammatical errors exists in the text.

VERSION 2 – AUTHOR RESPONSE

Reviewer: 3 Dr. Enkeleint Mechili, Comments to the Author:

1. Abstract should be more concrete. Additionally,
I suggest merging some parts (i.e. design, setting, participants) under on section called methodology;

Following the reviewer's suggestion while complying with the journal's instructions to authors, we hav e modified the abstract by rearranging and merging some parts in order to increase its clarity and mak in it more concrete:

"Design and Objectives: A cross-sectional study to evaluate the impact of Covid-19 on the psycho-social sphere in both the general population and healthcare workers (HCWs).

Methods: The study was conducted in Catalonia (Spain) during the first wave of the Covid-19 pandemic when strict lockdown was in force. The study population included all people aged over 16 years who consented to participate in the study and completed the survey, in this case a 74-question questionnaire shared via social media using snowball sampling. A total of 56,656 completed survey questionnaires were obtained between the 3rd and the 19th of April 2020. The primary and secondary outcome measures included descriptive statistics for the non-psychological questions and the psychological impact of the pandemic, such as depression, anxiety, stress and post-traumatic stress disorder (PTSD) question scores.

Results: An early and markedly negative impact on family finances, fear of working with Covid-19 patients and ethical issues related to Covid-19 care among HCWs was observed. A total of seven target groups at higher risk of impaired mental health and which may therefore benefit from an intervention were identified, namely women, subjects aged less than 42 years, people with a care burden, socioeconomically deprived groups, people with unskilled or unqualified jobs, Covid-19 patients, and HCWs working with Covid-19 patients.

Conclusions: Active implementation of specific strategies to increase resilience and to prepare an adequate organizational response should be encouraged for the seven groups identified as high risk and susceptible to benefit from an intervention.

Study registration: ClinicalTrials.gov identifier (NCT number) NCT04378452."

2. I suggest to shorten a little the title as it is very long;

We do agree with the reviewer. However, we have not modified the title according to his suggestions, as during the previous revision, the Editorial
office asked us to include the research question, study design and setting in the title,
in order to follow the journal's instructions to authors.

Comments on the Strenghths and Limitations section:

3. The first bullet at strengths point of the study is not clear to me; and
4. Strengths part should be re-written.
In the way they are presented not clear which is the strong point (i.e. dissemination in the social media);

Following the reviewer's suggestions, we have modified the strenghts points (please see further on).

5. Longness of the questionnaire is not a limitation.
Response rate should be mentioned (if participants didn't complete he whole questionnaire);

Even if the reviewer is right and the longness of the questionnaire is not a limitation by itself, it might imply a bias as we cannot discard the respondents would become fatigued, as included in the Discussion section. In fact, the completion of the whole questionnaire took approximately 10 minutes. On the other hand, please note that answers of participants that didn't reach the end of the

questionnaire were considered not completed and a drop out. Only finished questionnaires were saved and taken into account for the analysis. Individuals reaching the questionnaire's end could leave questions unanswered. For individual questions only the answers for that variable were considered. When computing any score out of several questions, the score was only computed if all answers for the score where present (Analysis and Statistics section).

6. Social media are reported both as a strong and weak point. Which is more appropriate?

We do believe it's both and because of this we included it in both sections, as on one hand it allows to reach rapidly a big number of answers, but on the other the population stu died cannot be controlled. However, we do agree with the reviewer that thi might be confusing, and therefore we modified the section.

→According to the reviewer's suggestions on this section, it was modified to:

"Strengths

- The current study aimed to identify the impacts of the Covid-19 pandemic on a wide range of health-related dimensions two weeks after starting strict lockdown and while it was still in force.
- The survey rapidly reached a large number of people without exposing interviewers to infection, thus becoming one of the most extensive surveys ever published. A total of 56,656 survey questionnaires were analysed, thus representing 0.85% of the Catalan population aged >16 years

Limitations

- The survey was long (74 questions), thus allowing to collect a large amount of data, but this might also have generated fatigue and a high drop-out rate.
- No validated scales were used.
- The snowball strategy via social media does not allow the study population to be controlled, therefore this is not a representative survey of a specific population".

7. Page 6, row 11 i said in our setting (which setting);

We meant Catalonia region. We have corrected this according to the reviewer's comment, substituting "our setting" by Catalonia.

8. The way that the aim of the study is presented, is not very scientific. Please rephrase that part. and also 9. Add the objective that you present at the introduction part (last paragraph of ntroduction):

In order to answer comments 8 and 9 of the reviewer, we have rephrase the last part of the Introduction where the aim of the study is presented. We also have moved the objective to that part as suggested by the reviewer. Now the text is as:

"At the time of the strict lockdown in Spain, members of society and HCWs raised their concerns about how the outbreak and the measures implemented by the government were impacting people's lives. With the aim of assessing the nature of this effect and the hypothesis that it may be important in

several health dimensions, we designed the present study in order to evaluate the impact of Covid-19 on the psychosocial sphere for both the general population and HCWs."

10. Before using abbreviations please clarify them (i.e. M&M);

We have checked this in the whole text and corrected it.

11. Ethical issues should be mentioned separately and not with the participants section;

Following the reviewer's suggestion, we have moved the Ethics to a new section: 2.3. Ethics

Comments on the questionnaire: 12. Please give more details about the instrument used; and
13. What about validity and reliability of the instrument;

The questionnaire was developed by the research team and included 74 questions. The Supplement ary Table 1 shows all questions included. For assessing the health status related to Covid-19 during confinement and mental health dimension we used questions already extensively described in literature. Questions on demography were standard and those to evaluate the socio-economic sphere and habits were created by the research team. A pilot test was conducted in order to evaluate the validity and reliability of the instrument and to detect any errors in its administration, and was adjusted according to its results before launching the survey publicly. We have added all this information in the text (section 2.4).

14. Why (and how) you translated the questionnaire in
5 different languages when you disseminated only in Catalonia;

In Catalonia there are 2 official languages: Catalan and Spanish. There is also a quite large community of english, french and italian-speaking citizens living mainly in Barcelona area. As the questionnaire was disseminated through social media and we couldn't control who could access it, and we wanted to have as many responses as possible in a fair period of time, we decided to translate it. We used translators that volunteered to do this job, and their names are included in the Acknowledgements section.

15. Responding rate? How many didn't complete the questionnaire?

We do not know the exact amount of people that rejected to participate or drop out before ending the survey questionnaire. Before starting the survey participants were informed about the aim of the study, the compliance with their rights and the existence of the IRB approval, and gave consent by starting the questionnaire. In order to not be influenced by non-finished questionnaires, only finished questionnaires were analysed. We have added this in 2.5. Analysis and Statistics:
"All data was processed anonymously. Answers of participants that didn't reach the end of the questionnaire were considered not completed and a drop out. Only finished questionnaires were saved and taken into account for the analysis".

16. Page 10 row 12. This is not suitable for the results part but for discussion;

If we are not wrong, the reviewer refers to the following sentence: "The 78.56% of the cohort declared that the pandemic had changed them, most of them (50,41%) in the way that they see society/how we used to live." This is one of the results obtained, following the question "Do you think this situation has

changed you?" to what the potential answers were: no; yes, my life has changed;
yes, my personality had changed;
yes, the way I see society/the way we lived. Because of this we do believe it should remain in the Res ults section and have not moved it to the Discussion section.

17. Many details are given in the results section. This part should be shortened;

We have shortened the Results section following the reviewer's suggestions. However, please note th at we could not shorten it more in order to
be consistent with the answers to the other reviewers during Revision 1.

18. The first sentence of the discussion part is irrelevant to my view and is better to delete;

According to reviewer's suggestion, we have deleted the sentence.

19. The first part of the discussion about strengths and limitations is very confusing. Please re-write this part.

According to the reviewer's comment we have modified the text in order to be less confusing.

20. An extensive English editing is needed. Many grammatical errors exists in the text.

Following the suggestion made by both the reviewer and the editor, we have hired an native English s peaking copyediting professional, Mr.
Andrew Frankland, who has reviewed and corrected the manuscript. We have also added his name in the Acknowledgements section.