PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	THE IMPACT OF COVID-19 PANDEMIC ON MENTAL HEALTH OF YOUNG PEOPLE AND ADULTS: A SYSTEMATIC REVIEW PROTOCOL OF OBSERVATIONAL STUDIES
AUTHORS	Silva junior, fernando; Sales, Jaqueline Carvalho e Silva; Monteiro, Claudete Ferreira de Souza; Costa, Ana Paula Cardoso; Campos, Luana Ruth Braga; Miranda, Priscilla Ingrid Gomes; Monteiro, Thiago Alberto de Souza; Lima, Regina Aparecida Garcia; LOPES-JÚNIOR, LUÍS CARLOS

VERSION 1 – REVIEW

REVIEWER	Patricia Moreno-Peral Biomedical Research Institute in Malaga (IBIMA)
REVIEW RETURNED	10-May-2020

GENERAL COMMENTS	This protocol of systematic review addresses an interesting and necessary topic. The aim of the present systematic review was to synthesize the scientific evidences on the effect of the coronavirus pandemic on the mental health of young and adult people. This study has some strengths like the large number of different electronic bibliographic databases from different continents and countries (including one database from China). The authors frame their question using the PICO framework. However, I have some comments about the inclusion and exclusion criteria. Please find below some concerns that should be addressed in a revision. 1.- I am a bit puzzled by how certain designs can fit here, specifically RCTs or pre-post study designs. I wonder how an intervention study can respond to the objective of this review? In addition, when different types of designs are included, the heterogeneity may be high, making difficult to draw conclusions. I wouldn´t recommend to mix these different types of designs. 2.- Related to the previous point, the authors state in the intervention/exposure domain of the inclusion criteria: “The exposure of interest is the COVID-19 outbreak worldwide”; therefore, how could the authors report a narrative synthesis of the findings structured around the type of exposure/intervention? Could the authors please clarify this issue? 3.- Is there any restriction about the setting, or conversely, all settings are allowed? 4.- The information in table 2 does not match with what is in the main text regarding exclusion and inclusion criteria, for example: in table 2 it does not appear that studies that analysed mental and behavioural disorders due to the use of alcohol and other drugs will be excluded. 5.- I think some important information is missing, such as information related to how the relevance of the evidence will be evaluated. Specifically, the following sentence needs some elaboration: “the

	relevance of the evidence (outcome, population / context, or intervention) pertaining to the review question, or the certainty of the evidence, directness in relation to the review question)". Regarding this point, why do the authors not use the GRADE System as recommended by the PRISMA guide? 6.- If I understood it correctly, the primary outcomes are the prevalence and the severity of psychological symptoms (of patients with mental disorders among confirmed cases of COVID-19). However, the authors stated at the table 2 legend: "Severity will be assessed based on the number of patients classified as mild, moderate and severe. It will be considered a severe situation to those in which the patient required care in Intensive Care Units." This aspect needs clarification. 7.- The dates of the study (the date of the preliminary search and when the review is expected to be completed) should be included in the manuscript. 8.- The limitations of the bullet points do not correspond to the limitations discussed in the main text of the manuscript. Minor comments: METHODS, Data synthesis, Page 8: "The studies will be classified according to the risk of bias as follows: "low" if all the main domains were classified as "low risk"; "Uncertain" if one or two main domains were classified as "uncertain risk"; and "high" if more than two main domains have been classified as "uncertain" or "high risk"." What happens when a study in one or two domains is classified as "high risk"? METHODS, Data synthesis, Page 9: "The assessment of the certainty of the evidence will search to take into consideration the precision of the synthesis finding (confidence interval if available), the number of studies and participants, the consistency of effects across studies, the risk of bias of the studies, how directly the included studies address the planned question (directness), and the risk of publication bias." I think this paragraph is in the wrong place. DISCUSSION, Page 10. The authors state that their results shall provide high-level evidence; however, the quality of evidence is conditioned in part by the quality of the included studies. This aspect needs clarification.

REVIEWER	Ben Beaglehole Department of Psychological Medicine University of Otago, Christchurch New Zealand
REVIEW RETURNED	13-May-2020

GENERAL COMMENTS	Hi, My impression is that you still need to work on this protocol before it is ready for publication. There are a number of areas that need to be addressed including general scholarship/english language. English language/general scholarship: There are a number of grammatical and semantic errors suggesting english language editing is required. Other areas needing attention. The title and introduction suggest you are reviewing mental health. But your primary outcome is prevalence and severity of symptoms of mental disorder. Much of your introduction is not sufficiently focussed and some is a long way off topic eg "no matter whether its existence is thought to be a virus or spirit". The introduction needs rewriting.

	Population of interest: aged 13-44. Also described as young and adult, and youth and adult. If young is an interest, why less than 13? If adult, why not older than 45. You need to justify your target population. Also, all populations? Which sampling criteria? Search strategy: has this been guided by a research librarian? It doesn't look comprehensive to me. If you are seeking to measure symptoms of mental illness, you probably need to include psychological distress as a search measure. Have you anticipated which measures will be in or not? I think you need to give some thought to this now eg what about wellbeing measures, what about psychological distress measures, how will you deal with anxiety versus depression versus PTSD scales. You look to be including RCTs but you are interested in prevalence of symptoms. So only their baseline measures? But then won't your risk of bias tool be inappropriate as it is focussed on conduct of an RCT rather than assessment of prevalence. Statistics: how do you plan to deal with dimensional versus categorical data, selected versus non selected populations, disorder specific versus general distress scales?

VERSION 1 – AUTHOR RESPONSE

Reviewer 1 Comments Authors' Revisions

• Major points:

This protocol of systematic review addresses an interesting and necessary topic. The aim of the present systematic review was to synthesize the scientific evidences on the effect of the coronavirus pandemic on the mental health of young and adult people. This study has some strengths like the large number of different electronic bibliographic databases from different continents and countries (including one database from China). The authors frame their question using the PICO framework. However, I have some comments about the inclusion and exclusion criteria. Please find below some concerns that should be addressed in a revision.

Response: We appreciate your willingness to revise our manuscript with interest and thank you for all your comments and valuable suggestions for its improvement.

1.- I am a bit puzzled by how certain designs can fit here, specifically RCTs or pre-post study designs. I wonder how an intervention study can respond to the objective of this review? In addition, when different types of designs are included, the heterogeneity may be high, making difficult to draw conclusions. I wouldn´t recommend to mix these different types of designs.

Response: We would like to thank you for this important question. You are totally right. We are in agreement with this important suggestion. Indeed, after running out the preliminary search strategies, we observed that the studies retrieved from all the 8 databases were those of observational design, mainly cross-sectional studies. In fact, this is the best design to answer our research question. In this sense, we changed the title of the study to add at end of the title "of observational studies". Hence, we will replace the methodological assessment tool for Methodological index for non-randomized studies - MINORS tool. Once we have our manuscript accepted, we will also update the PROSPERO record one with these modifications for the improvement of the study. Thank you very much for this valuable contribution. We really appreciate it. So, we have added changes throughout the abstract and the main text.

2.- Related to the previous point, the authors state in the intervention/exposure domain of the inclusion criteria: “The exposure of interest is the COVID-19 outbreak worldwide”; therefore, how could the authors report a narrative synthesis of the findings structured around the type of exposure/intervention? Could the authors please clarify this issue?
Response: OK. We have rewritten the Intervention/Exposure to make clearer.
“The impact of COVID-19 outbreak on mental health of young as well as adult people”

3.- Is there any restriction about the setting, or conversely, all settings are allowed?
Response: We have rewritten this sentence. “In this systematic review has no restriction with regards the settings of the target population”.

4.- The information in table 2 does not match with what is in the main text regarding exclusion and inclusion criteria, for example: in table 2 it does not appear that studies that analysed mental and behavioural disorders due to the use of alcohol and other drugs will be excluded.
Response: We really appreciate your comment and suggestion. We have added these criteria in the Table 2. “Other previous pandemics as well as studies that analyzed mental and behavioral disorders due to the use of alcohol and other drugs”.

5.- I think some important information is missing, such as information related to how the relevance of the evidence will be evaluated. Specifically, the following sentence needs some elaboration: “the relevance of the evidence (outcome, population / context, or intervention) pertaining to the review question, or the certainty of the evidence, directness in relation to the review question)”. Regarding this point, why do the authors not use the GRADE System as recommended by the PRISMA guide?
Res
ponse: We appreciate your comment and suggestion. We have added the Grading of Recommendations Assessment, Development and Evaluation use for quality of evidence as recommended by the PRISMA guideline.

6.- If I understood it correctly, the primary outcomes are the prevalence and the severity of psychological symptoms (of patients with mental disorders among confirmed cases of COVID-19). However, the authors stated at the table 2 legend: “Severity will be assessed based on the number of patients classified as mild, moderate and severe. It will be considered a severe situation to those in which the patient required care in Intensive Care Units.” This aspect needs clarification.
Response: Right. Thank you for your comment and suggestion. We have edited this in the Table 2 as per suggestion.

7.- The dates of the study (the date of the preliminary search and when the review is expected to be completed) should be included in the manuscript.
Response: The preliminary search strategies was carried out on March 29, 2020 and will be updated in June 2020. Additionally, this systematic review is expected to be completed on August 2020.

8.- The limitations of the bullet points do not correspond to the limitations discussed in the main text of the manuscript.
Response: Thank you for your comment. We rewrite the bullet points matching to the limitations discussed.

• Minor comments

1. METHODS, Data synthesis, Page 8: “The studies will be classified according to the risk of bias as follows: “low” if all the main domains were classified as “low risk”; “Uncertain” if one or two main domains were classified as “uncertain risk”; and “high” if more than two main domains have been

classified as “uncertain” or “high risk”.” What happens when a study in one or two domains is classified as "high risk"?
Response: In this case is also classified as high risk. However, as noted above, we will no longer use Rob as we will only evaluate observational studies using the MINORS tool. Therefore, that sentence has been removed and no longer applies to this protocol.

2. METHODS, Data synthesis, Page 9: “The assessment of the certainty of the evidence will search to take into consideration the precision of the synthesis finding (confidence interval if available), the number of studies and participants, the consistency of effects across studies, the risk of bias of the studies, how directly the included studies address the planned question (directness), and the risk of publication bias.” I think this paragraph is in the wrong place.
Response: Ok. Done. Thank you.

3. DISCUSSION, Page 10. The authors state that their results shall provide high-level evidence; however, the quality of evidence is conditioned in part by the quality of the included studies. This aspect needs clarification.
Response: Ok. Done. We rewrite the bullet points matching to the limitations discussed.
Rewritten: “These results shall provide evidences in order to inform, support and customize shared decision making from the healthcare providers, stakeholders and governments. Potential limitations of this systematic review might include the heterogeneity of the studies as well as methodological appraisal and the probably reduced number of studies in subgroup analyses (due the recent COVID-19 outbreak), which may influence the external validity”.

Reviewer: 2
LIST OF RESPONSES TO THE REVIEWERS' 2 COMMENTS

Reviewer 2 Comments Authors’ Revisions
1. My impression is that you still need to work on this protocol before it is ready for publication. There are a number of areas that need to be addressed including general scholarship/english language. There are a number of grammatical and semantic errors suggesting english language editing is required.
Response: Ok. Done. The English language editing was held.

2. The title and introduction suggest you are reviewing mental health. But your primary outcome is prevalence and severity of symptoms of mental disorder. Much of your introduction is not sufficiently focussed and some is a long way off topic eg "no matter whether its existence is thought to be a virus or spirit". The introduction needs rewriting.
Response: Ok. Thank you for your comments and suggestions. We have rewritten the introduction section as per suggestion. Also, we have removed the sentence pointed out by you.

3. Population of interest: aged 13-44. Also described as young and adult, and youth and adult. If young is an interest, why less than 13? If adult, why not older than 45. You need to justify your target population. Also, all populations? Which sampling criteria?
Response: Thank you very much for your comment. We have redefined the sampling criteria more clearly

4. Search strategy: has this been guided by a research librarian? It doesn't look comprehensive to me. If you are seeking to measure symptoms of mental illness, you probably need to include psychological distress as a search measure.
Response: Thank you for this great suggestion. We have adjusted the search strategy with the help of a librarian as recommended. Also, we have included psychological distress in the search strategy as

per suggestion.

5. Have you anticipated which measures will be in or not? I think you need to give some thought to this now eg what about wellbeing measures, what about psychological distress measures, how will you deal with anxiety versus depression versus PTSD scales.
Response: We are in agreement with you. Actually, we have thought about it. So, we will consider well-being measures, psychological distress/burden; anxiety, depression, post-traumatic stress. We will include only studies that used validated data collection instruments / scales with reported psychometric properties in order to ensure the reliability of the measurements as well as quality of evidence.

6. You look to be including RCTs but you are interested in prevalence of symptoms. So only their baseline measures? But then won't your risk of bias tool be inappropriate as it is focussed on conduct of an RCT rather than assessment of prevalence.
Response: We would like to thank you for this important question. You are totally right. We are in agreement with this important suggestion. Indeed, after running out the preliminary search strategies, we observed that the studies retrieved from all the 8 databases were those of observational design, mainly cross-sectional studies. In fact, this is the best design to answer our research question. In this sense, we changed the title of the study to add at end of the title "of observational studies". Hence, we will replace the methodological assessment tool for Methodological index for non-randomized studies - MINORS tool. Once we have our manuscript accepted, we will also update the PROSPERO record one with these modifications for the improvement of the study. Thank you very much for this valuable contribution. We really appreciate it. So, we have added changes throughout the abstract and the main text.

7. Statistics: how do you plan to deal with dimensional versus categorical data, selected versus non selected populations, disorder specific versus general distress scales?
Response: Theses aspects were clarified in the data synthesis and meta-analysis section.

VERSION 2 – REVIEW

REVIEWER	Patricia Moreno-Peral Biomedical Research Institute in Malaga (IBIMA)
REVIEW RETURNED	11-Jun-2020

GENERAL COMMENTS	The authors have addressed my comments appropriately. Only a couple of minor comments more: - In table 2, in "Intervention/Exposure" I think it is more appropriate to point out only COVID-19 outbreak. No need to indicate the complete aim. - Abstract section: "The primary outcomes will be the prevalence and the severity of psychological symptoms of patients with mental disorders among confirmed cases of COVID-19." According to this sentence, I understand that the target population is patients with mental disorders among confirmed cases of COVID-19. Please, clarify.

VERSION 2 – AUTHOR RESPONSE

♣ Reviewer(s)' Comments to Author [Reviewer: 1]

- The authors have addressed my comments appropriately.
Response: Ok. Thank you.

Only a couple of minor comments more:
- In table 2, in "Intervention/Exposure" I think it is more appropriate to point out only COVID-19 outbreak. No need to indicate the complete aim.
Response: Ok. Done.

- Abstract section: "The primary outcomes will be the prevalence and the severity of psychological symptoms of patients with mental disorders among confirmed cases of COVID-19." According to this sentence, I understand that the target population is patients with mental disorders among confirmed cases of COVID-19. Please, clarify.
Response: Ok. Thank you very much for this careful review. Actually, in this review our primary outcomes will be the prevalence and the severity of psychological symptoms of young people and adults (> 18 y.o.) resulting from the impact of COVID-19 pandemic. We have made the edits in the abstract section. In the Table 2 the outcome is already correct.

VERSION 3 – REVIEW

REVIEWER	Patricia Moreno-Peral Biomedical Research Institute in Malaga (IBIMA)
REVIEW RETURNED	16-Jun-2020

GENERAL COMMENTS	The authors have addressed my comments appropriately. Congratulations for this work.