

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Burnout Syndrome in Spanish Internists during the COVID-19 outbreak and associated factors: a cross-sectional survey
<b>AUTHORS</b>	Macía-Rodríguez, Cristina; Alejandro de Oña, Alvaro; Martín-Iglesias, Daniel; Barrera-López, Lucía; Perez Sanz, Maria Teresa; Moreno Diaz, Javier; González-Munera, Adriana

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Maayan Shacham School of Social Work, Ariel University, Israel
<b>REVIEW RETURNED</b>	23-Aug-2020

<b>GENERAL COMMENTS</b>	<p>I thank the opportunity for reviewing the current manuscript. The manuscript addresses important topics considering the Medical staff during COVID-19. It entails important information for health care policy makers, as it provides insight regarding the mental status of internists in Spain.</p> <p>I believe the manuscript could be improved with regard to English, and I suggest authors to consider adding references regarding psychological distress and Burnout especially during COVID-19, e.g.</p> <p>(1) Civantos AM, Byrnes Y, Chang C, et al. Mental health among otolaryngology resident and attending physicians during the COVID-19 pandemic: National study. Head Neck. 2020;42(7):1597-1609. doi:10.1002/hed.26292</p> <p>(2) Mijiritsky E, Hamama-Raz Y, Liu F, et al. Subjective Overload and Psychological Distress among Dentists during COVID-19. Int J Environ Res Public Health. 2020;17(14):5074. Published 2020 Jul 14. doi:10.3390/ijerph17145074.</p> <p>Otherwise, the current manuscripts' aim, method, and results are clearly understood.</p>
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<b>REVIEWER</b>	Roger Ho National University of Singapore Singapore
<b>REVIEW RETURNED</b>	31-Aug-2020

<b>GENERAL COMMENTS</b>	<p>I have the following comments and hope to review this paper again.</p> <p>1) The authors state "has been a stressful period that has put healthcare systems and their professionals under considerable " This statement needs a reference:</p> <p>Tan BYQ, Chew NWS, Lee GKH, et al. Psychological Impact of the COVID-19 Pandemic on Health Care Workers in Singapore [published online ahead of print, 2020 Apr 6]. Ann Intern Med.</p>
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	<p>2020;M20-1083. doi:10.7326/M20-1083</p> <p>2.The authors stated " A recent publication in Spain has revealed that more than a third of Internal Medicine specialists suffer from Burnout Syndrome (9)." It is important to state the global burnout rate among residents. Please cite the findings of the following study:</p> <p>Low ZX, Yeo KA, Sharma VK, et al. Prevalence of Burnout in Medical and Surgical Residents: A Meta-Analysis. Int J Environ Res Public Health. 2019;16(9):1479. Published 2019 Apr 26. doi:10.3390/ijerph16091479</p> <p>3) Under the discussion, the author stated "The second includes measures such as promotion techniques to handle stressful situations, meditation techniques and communication skills (10)(24)(25)." It is important to highlight cognitive behaviour therapy:</p> <p>Ho CS, Chee CY, Ho RC. Mental Health Strategies to Combat the Psychological Impact of COVID-19 Beyond Paranoia and Panic. Ann Acad Med Singapore. 2020;49(3):155-160.</p>
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<b>REVIEWER</b>	Socaciu Andreea Iulia "Iuliu Hațieganu" University of Medicine and Pharmacy, Department of Occupational Medicine, Cluj-Napoca, Romania
<b>REVIEW RETURNED</b>	10-Oct-2020

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review your paper. I highly appreciate and respect your work and research interest through these stressful times.</p> <p>The main two issues consist of the lack of an Ethics Committee Approval and insufficient MBI acknowledgement. Which version of the questionnaire did you use? Also regarding the MBI, you should introduce an appropriate reference or references for this section in the Methods section and provide a proof for purchasing the original version and having the right to use it.</p> <p>There is a lot of repetition throughout the text and also problems regarding the syntax of the sentences, issues that must be resolved.</p> <p>When you talk about PPE, specify what type of PPE was provided, and how many per day, in case you have this information.</p> <p>You state that some of the respondents intended to change their specialty or profession due to the CoVid outbreak, but according to the questions asked (as they were written in the table) this intension is not necessary related to the pandemics, because the phrasing is "Have you ever?". Explain, comment accordingly or state the correct questions.</p> <p>For quantifying the Burnout dimensions, use "score" instead of "points" and also the correct term, without any alterations: Personal "Accomplishment", instead of "Fulfilment".</p> <p>Regarding the keywords: "anxiety disorders" and "psychiatry" do not reflect well the content of your work; consider using maybe "Burnout", "occupational health", according to MeSH thesaurus.</p>
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	<p>In the Tables, you have problems with misspelling, some items are formulated as statements, some as questions. You should introduce the items exactly as in the Google Form that was sent to the participants.</p> <p>In the Methods section you haven't explained the criteria for including or excluding the participants and how were the participants involved in the design of the survey? Explain.</p>
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### VERSION 1 – AUTHOR RESPONSE

#### REVIEWER 1:

1. I believe the manuscript could be improved with regard to English, and I suggest authors to consider adding references regarding psychological distress and Burnout especially during COVID-19, e.g.

(1) Civantos AM, Byrnes Y, Chang C, et al. Mental health among otolaryngology resident and attending physicians during the COVID-19 pandemic: National study. *Head Neck*. 2020;42(7):1597-1609. doi:10.1002/hed.26292

(2) Mijiritsky E, Hamama-Raz Y, Liu F, et al. Subjective Overload and Psychological Distress among Dentists during COVID-19. *Int J Environ Res Public Health*. 2020;17(14):5074. Published 2020 Jul 14. doi:10.3390/ijerph17145074.

• Authors: We thank the reviewer for this comment. We have revised and improved the English used in the manuscript. We have also included the suggested references in the manuscript (references 16 and 17).

#### REVIEWER 2:

1. The authors state "has been a stressful period that has put healthcare systems and their professionals under considerable " This statement needs a reference: Tan BYQ, Chew NWS, Lee GKH, et al. Psychological Impact of the COVID-19 Pandemic on Health Care Workers in Singapore [published online ahead of print, 2020 Apr 6]. *Ann Intern Med*. 2020;M20-1083. doi:10.7326/M20-1083.

• Authors: We thank the reviewer for this comment and we have included the suggested references (reference 2).

2. The authors stated "A recent publication in Spain has revealed that more than a third of Internal Medicine specialists suffer from Burnout Syndrome (9)." It is important to state the global burnout rate among residents. Please cite the findings of the following study: Low ZX, Yeo KA, Sharma VK, et al. Prevalence of Burnout in Medical and Surgical Residents: A Meta-Analysis. *Int J Environ Res Public Health*. 2019;16(9):1479. Published 2019 Apr 26. doi:10.3390/ijerph16091479

• Authors: We thank the reviewer for this comment and we have included the global burnout in residents: introduction, second paragraph:

"Moreover, international studies showed than more than an a half of the residents suffer it (13)."

3. Under the discussion, the author stated "The second includes measures such as promotion techniques to handle stressful situations, meditation techniques and communication skills (10)(24)(25)." It is important to highlight cognitive behaviour therapy: Ho CS, Chee CY, Ho RC. Mental Health Strategies to Combat the Psychological Impact of COVID-19 Beyond Paranoia and Panic. *Ann Acad Med Singapore*. 2020;49(3):155-160.

• Authors: We thank the reviewer for this comment and we have included cognitive behavior therapy as a technique for dealing with burnout as well as the suggested reference; discussion, 9th paragraph: "The second includes measures such as promotion techniques to handle stressful situations, meditation techniques, communication skills and cognitive behavior therapy (11)(28)(29)(30)."

### REVIEW 3:

1. The main two issues consist of the lack of an Ethics Committee Approval and insufficient MBI acknowledgement. Which version of the questionnaire did you use? Also regarding the MBI, you should introduce an appropriate reference or references for this section in the Methods section and provide a proof for purchasing the original version and having the right to use it.

• Authors: We thank the reviewer for this comment. We included in Methods a section including an ethics statements and the questionnaire used.

“The survey was anonymous, and all participants accepted the use of their responses for publication and scientific studies. The study followed the criteria of the Helsinki Declaration.”

“Maslach Burnout Inventory: Human Services Survey for Medical Personnel in Spanish.”

2. There is a lot of repetition throughout the text and also problems regarding the syntax of the sentences, issues that must be resolved.

• Authors: We thank the reviewer for this comment. We have revised and improved the English used in the text.

3. When you talk about PPE, specify what type of PPE was provided, and how many per day, in case you have this information.

• Authors: We only have asked if the doctors had or had not access to any type of PPE. In general, the type of PPE depends of each hospital. We are sorry for the inconvenience.

4. You state that some of the respondents intended to change their specialty or profession due to the CoVid outbreak, but according to the questions asked (as they were written in the table) this intension is not necessary related to the pandemics, because the phrasing is "Have you ever?". Explain, comment accordingly or state the correct questions.

• Authors: We thank the reviewer for this comment. Our intention was to know whether the professionals have ever had any thoughts of quitting the medical profession or changing their specialty, which is an effect of burnout syndrome. This question is not directly related to the COVID-19 outbreak or the assistance of patients presenting SARS-COV2 infection, as it was not our intention to know how many people have had these thoughts as a result of the outbreak. In fact, we found similar results in a previous study before the COVID-19 outbreak. We comment this in our discussion, 9th paragraph: “Moreover, doctors who suffered Burnout were less satisfied with their job and, similarly to previous studies (10)(11), we found that they would be more willing to change their medical specialty or abandon the medical profession.”

5. For quantifying the Burnout dimensions, use "score" instead of "points" and also the correct term, without any alterations: Personal "Accomplishment", instead of "Fulfilment".

• Authors: We thank the reviewer for this comment and we have changed the terms in table 2.

6. Regarding the keywords: "anxiety disorders" and "psychiatry" do not reflect well the content of your work; consider using maybe "Burnout", "occupational health", according to MeSH thesaurus.

• Authors: We thank the review for this comment and we have changed the terms.

7. In the Tables, you have problems with misspelling, some items are formulated as statements, some as questions. You should introduce the items exactly as in the Google Form that was sent to the participants.

• Authors: We thank the review for this comment and we changed the misspelled items in table 1, table 3, table 4 and table 5.

8. In the Methods section you haven't explained the criteria for including or excluding the participants and how were the participants involved in the design of the survey? Explain

• Authors: We have stated the excluding criteria and how the participants were involved in the design of the survey. Participants and Public Involvement: “A group of participants, who represented all ages and work positions, were involved in the design of the first part of the survey.” and Participants: “...We only included internists who worked in Spain during the COVID-19 outbreak. We excluded retired people, medical students and internists who worked in a different country than Spain.”

## VERSION 2 – REVIEW

<b>REVIEWER</b>	Maayan Shacham School of Social Work, Ariel University, Israel
<b>REVIEW RETURNED</b>	10-Dec-2020

<b>GENERAL COMMENTS</b>	Thank you for submitting your revision.
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<b>REVIEWER</b>	Roger Ho National University of Singapore Singapore
<b>REVIEW RETURNED</b>	10-Dec-2020

<b>GENERAL COMMENTS</b>	I recommend publication.
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<b>REVIEWER</b>	Socaciu Andreea – Iulia "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania, Department of Occupational Health
<b>REVIEW RETURNED</b>	08-Dec-2020

<b>GENERAL COMMENTS</b>	<p>I want to thank you for your work and time addressed for completing this study.</p> <p>I have some minor suggestions:</p> <p><b>Abstract</b> The information in Results page 4/44-51 is repeated in Conclusion page4/56-59, with almost exactly the same words. Try to add some changes in one section or the other in order to avoid repetition.</p> <p><b>Introduction</b> Page 5/52-60 need correcting and rephrasing; eg: "...international studies showed than more than an a half of the residents suffer it" or "only a few studies have revealed..." "only a Chinese study found less Burnout syndrome..."</p> <p><b>Discussion</b> Page 8/ 58 Include also the interval for the hospitalization, "from February to May 2020" Page 9/21,22 Rephrase "presented less Burnout Syndrome prevalence" Page 9/35,36 Rephrase "In fact, not having had any holidays in the previous 6 month was related with more Burnout" Try replacing "was related with more Burnout" with "was related to high Burnout scores" Page 9/44 Try replacing "doctors who suffered Burnout" with "doctors who had high levels/scores of Burnout"</p>
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## VERSION 2 – AUTHOR RESPONSE

REVIEWER 3:

I have some minor suggestions:

**Abstract**

The information in Results page 4/44-51 is repeated in Conclusion page4/56-59, with almost exactly the same words. Try to add some changes in one section or the other in order to avoid repetition.

**Introduction**

Page 5/52-60 need correcting and rephrasing; eg: "...international studies showed than more than an a half of the residents suffer it" or "only a few studies have revealed..." "only a Chinese study found less Burnout syndrome..."

## Discussion

Page 8/ 58 Include also the interval for the hospitalization, "from February to May 2020"

Page 9/21,22 Rephrase "presented less Burnout Syndrome prevalence"

Page 9/35,36 Rephrase "In fact, not having had any holidays in the previous 6 month was related with more Burnout" Try replacing "was related with more Burnout" with "was related to high Burnout scores"

Page 9/44 Try replacing "doctors who suffered Burnout" with "doctors who had high levels/scores of Burnout"

• Authors: We thank the reviewer for these comments we have performed the changes suggested:

- Abstract: "During the COVID-19 outbreak, 40.1% of Internal Medicine physicians in Spain presented Burnout Syndrome, which was independently related to the assistance of patients with SARS-COV-2, overworking without any compensation and the fear of being contagious to their relatives."

- Introduction: "Moreover, it has been shown that in several other countries more than an a half of the residents suffer from Burnout syndrome (13)."

- Introduction: "A few studies have evaluated stress and Burnout syndrome in health workers during the COVID-19 outbreak, finding an increase in stress levels (14)(15)(16)(17), with the exception of a single Chinese analysis that found less Burnout syndrome prevalence in people who worked on the front line compared to people performing usual ward work during the pandemic in Wuhan (18)."

- Discussion: "More than 90000 people in Spain were hospitalised from February to May 2020 due to SARS-COV-2 infection and more than 7000 had to be admitted to intensive care units(4)"

- Discussion: "Only a single Chinese study (18) showed that Burnout syndrome prevalence was lower in professionals who worked on the first line"

- Discussion: "In fact, not having had any holidays in the previous 6 month was related to higher Burnout scores"

- Discussion: "Moreover, doctors who had high levels of Burnout were less satisfied with their job and, similarly to previous studies"