Title: The impact of the Paris terrorist attacks on the mental health of resident physicians

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Version: 1 Date: 12 Nov 2018

Author’s response to reviews:

Dr. Benjamin Ragen
Editor, BMC Psychiatry
Paris, November 11th, 2018

Dear Doctor Ragen,

You asked us for revisions to our manuscript entitled “Impact of Paris terrorist attacks on junior doctors’ mental health” (BPSY-D-18-00521), and I thank you for that.

Please find attached the revised manuscript as well as a point-by-point response letter. Amendments are highlighted within the manuscript. We have considered all the comments and have taken them into account as best we could.

Thank you for allowing us to improve our article. We hope that this article will fulfill your standards for publication.

Best regards,

Dr. Jules GREGORY (MD. MSc.)
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Point-by-point response letter

Technical Comments:

1. Please reformat your Abstract section in the submission system same in the manuscript file. Please correct so they are consistent with each other.

Answer/amendments: Edited.

Reviewer reports:

Sally Jowett (Reviewer 1): This is a good account of the impact of a critical incident on first-responders mental health and well-being. The authors perform a cross-sectional analysis to indicate the level of need in this population and relate this to the impact of distress on medical professional's ability to perform in their jobs. Overall there is a need for proof-reading the language, to expand on the study detail and to provide a rationale for the methodological approach. The recommendations are detailed below:

Answer/amendments: The English language within the revised manuscript has been reviewed by a native English-speaking physician.

Methodology

The authors define exposed medical residents as those who were victims, had close relatives as victims, or provided first-hand aid to those at the scene. The authors do not describe having included people who simply witnessed the events or aftermath in hospital - the definition victim needs to be expanded on to clarify whether this means directly injured or whether this also includes witnesses.

Witnessing violence is a trauma and there is evidence to suggest that those who felt helpless or too frightened to act/help others may fare worse in their mental health following a violent attack.

Furthermore, the authors collected data on the different types of exposure, it would be interesting to see whether there were differences in outcomes for the different groups.

Answer/amendments:

In our questionnaire, we distinguished whether medical residents or one of their close relatives were either direct victims or witnesses of the attacks. Regarding those who witnessed aftermath in hospital, we assumed that they would be part of the care givers.

- (Methods-Demographics and clinical characteristics, Lines: 139 – 140) “Participants were also asked if they had been providing care for one the victims of the terrorist attack up to one week
after the 13th of November, or if they themselves or one of their close relatives had been one of the victims or witnesses of the attacks.”

Results depending of the type of exposure are reported in Table 4” Physician residents’ psychological characteristics according to the type of exposure.”

- (Results- Lines: 188 – 191) “Physician residents’ psychological characteristics according to the type of exposure are reported in Table 4. Maximal HADS and IES-R scores were those of residents who witnessed the attacks or had one close relative among the victims, but also among first responders who took care of the patients at the site of the massacre.”

The authors sent the questionnaire two months after the event, however the evidence to date is that psychological symptoms are elevated in the acute phase three months following traumatic events, during which time the majority of people naturally recover. The authors should include in their discussion that this will have significantly impacted their results, and recommend follow-ups for future studies.

Answer/amendments: DSM IV and then DSM 5 describe Acute Stress Disorder as symptoms present during the first month after the event and remission is in a large part spontaneous. Beyond one month, when symptoms persist, the diagnosis is PTSD. The remission of PTSD with or without treatment is very long, especially during interpersonal trauma. This is one of the reasons why we sent the questionnaire 2 months before the event.

- (Discussion, lines: 247 – 252) “Secondly, the diagnostic criteria for PTSD as stated in the DSM 4 and 5 [33] requires symptoms that persists for more than one month. When symptoms last more than a month, remission is very long. There is no clear published data on the rate of remission of PTSD during the second month after a trauma, but it has been reported that a third of PTSD will be remitted by 6 months [31], and that the median time to remission with appropriate treatment is 36 months [34].”

Variables

The authors importantly captured the resident's background history of trauma and PTSD but this should be reported in the text. It is interesting that this was not a significant factor and contradicts the literature. The authors should consider analysing whether types of previous trauma were related to current distress, such as previous interpersonal trauma versus non-interpersonal trauma.

Answer/amendments: We did not distinguish between antecedents of interpersonal and non-interpersonal trauma, mainly because we did not want to extend our questionnaire, in order not to decrease our participation rate. However, we tried to take into account this comment in the discussion:
- (Discussion, lines: 218 – 220) “Interpersonal traumas are more likely to provide PTSD than indirect traumas [6]. Among inter-personal traumas, inter-personal violence has the highest risk of PTSD (20.9%) for both victims and relatives [30, 31].”

We also studied the relationship between background psychiatric history and PTSD:

- (Results, lines: 183 – 186) “There was no difference regarding psychiatric history between the exposed and non-exposed residents (Table 3). But residents who reported PTSD related symptoms also reported significantly more histories of trauma than others (21/84 [25.0] versus 83/596 [13.9], p = 0.004). And this, especially among non-exposed residents (16/44 [36.4] versus 60/420 [14.3], p = 0.001).”

There is an established finding that females report PTSD more than males, the authors have a large sample and should consider reporting on gender differences within each exposed and non-exposed group.

Answer/amendments:

- (Results, lines 178-181) “493 (72.5%) of the responders were females, without any difference in distribution regarding the exposure. Females reported significantly more PTSD symptoms than males (75 ((75 [15.2%] versus 9 [4.8%], p < 0.001). In addition, exposed females were at higher risk of having PTSD (59/150, 39.3%) compared to non-exposed females (96/343, 28%) (p = 0.001).”

- (Discussion, lines 212-214) “In our study, women were at higher risk of PTSD than men, especially when they had been exposed to terrorist attacks. This result is consistent with the literature [27] and is significant, as PTSD is also known to persist longer in women, especially after exposure to inter-personal trauma.”

The authors found that the exposed residents were significantly more advanced in their training, this is a very interesting finding which hints at who felt able to act at the time of the incident. This is another factor which should be included in a descriptive analysis against mental health outcomes.

Answer/amendments:

- (Results, lines 173-177) “Exposed residents were also found to be significantly more advanced in their residency training: mean of 6.7 (± 3.0) semesters for exposed residents versus 5.5 (± 3.0) semesters for non-exposed (p = 0.01). However, residents who presented with PTSD related symptoms were not significantly younger or less advanced in the year of their residency training than others (respectively: 26.5 [± 2.1] years old versus 26.6 [± 2.0], p = 0.56; and 5.7 [± 3.0] semesters versus 5.9 [± 3.1], p = 0.45).”
Conclusions

The authors provide a very brief conclusion. There is a need to expand and highlight the limitations of their results however the indication that mental well-being is adversely impacted in the medical profession following critical incidents and the need for psychological support. There is no discussion of further research and how to build on these findings - i.e. multiple time points three months after event, advanced recruitment/advertising/letters to increase response rate, measuring previous traumas in greater detail, and nature of exposure to event.

Answer/amendments:

- (Discussion, lines: 282 – 296) “Data in the literature on very early interventions (such as debriefings) or early interventions (first-month psychotherapies) for the treatment of acute stress disorder are divergent and do not allow a consensual synthesis to define a gold standard of care. Reviews suggest that debriefing may not have an effect [39] or even a detrimental effect at long-term [40]. On the other hand, psychotherapeutic interventions for the treatment of PTSD are highly effective. The PTSD NICE guidelines [41] are still valid. They recommend that PTSD sufferers should be offered a course of trauma-focused psychological treatment (trauma-focused cognitive behavioral therapy or eye movement desensitization and reprocessing). More particularly in the medical field, supervision can be a protective factor allowing progressive empowerment, a valorization of work and support by seniors [42].

The findings of our study highlight the need to implement continuous preventive measures for physician residents, as well as educational campaigns about PTSD and its therapeutic possibilities. We believe that residency programs should offer systematic screening of the psychological consequences at the end of the event and at a distance, have a watchful waiting, and ensure access to appropriate care for affected residents.”

- (Conclusion, lines: 302 – 309) “Mental well-being is adversely impacted in the medical profession following critical incidents. In addition to effects on the mental health of physician residents, PTSD, depression and anxiety may also affect patient care and safety.

Dedicated screening and care strategies must be considered in the event of new attacks, based on the knowledge established for the management of PTSD. Future research would benefit from making evaluations at other time points.”

Edits

Line 43: remove "sixth"

Answer/amendments: Edited line 44

Line 44: replace "near nearby" with "around"
Answer/amendments: Edited line 45

Line 45: It is unclear what Hirsch et al reported, please expand.

Answer/amendments: Edited, (Background, lines: 46 – 47) “Hirsch et al. [2] reported the huge implication of the actors of Paris University Hospitals network in the care of victims.”

Line 49: "Being a first responder"

Answer/amendments: Edited line 51

Line 52: change to "Interacting with and identifying"

Answer/amendments: Edited line 60

Line 56: full stop after et al.

Answer/amendments: Edited line 68

Consider explicitly linking that medical students may therefore have an increased vulnerability to the development of post-traumatic stress difficulties.

Answer/amendments: - (Background, lines: 69 –73) “Rates of reported PTSD among residents related are around 10% [12, 13]. Furthermore, residents lack experience and have no preparation for exceptional situation, nevertheless they have an important role in the care of victims and therefore have an increased vulnerability to the development of post-traumatic stress difficulties.”

Line 83: "offered free appointments"

Answer/amendments: Edited line 98

Line 86: "An APHP Ethics Committee"

Answer/amendments: Edited line 100

Line 97: typo "Likert"
Line 112: Were the French versions utilised for this study?

Answer/amendments: -(Lines 129-130) “Both IES-R and HADS scales have been translated and validated into the French language and were used as such [21, 22].”

Line 138: Results say 680 (28.2%) responded however abstract says 690 (28.2%), and again discussion reports overall response rate of 32.3% including non-completers. Please clarify.

Answer/amendments: Edited,

- (Abstract, Line 34) “680 (28.2%) medical residents completed the questionnaire.”

- (Results, Lines: 156-158) “A total of 779 medical residents (32.3%) responded to the questionnaire. 99 of the questionnaires were incomplete, and thus excluded. Hence, 680 answers (28.2%) were included in the final analysis.”

- (Discussion, Lines: 266-267) “First, even if our participation rate was of 32.3% across all residency specialties, with 680 (28.2%) of complete questionnaires”

Line 139: typo "incomplete"

Answer/amendments: Edited line 157

Line 162: the Paris terrorist

Answer/amendments: Edited line 166

Line 167: full stop after et al.
Line 177: Expand on the importance of interpersonal trauma and the impact of this

- (Discussion, lines: 218-220) “Interpersonal traumas are more likely to provide PTSD than indirect traumas [6]. Among inter-personal traumas, inter-personal violence has the highest risk of PTSD (20.9%) for both victims and relatives [30, 31].”

Line 182: What does doubtful symptoms mean? Consider using subthreshold

- (Discussion, lines: 225-226) “symptoms suggesting borderline anxiety disorder (with a score of the HADS anxiety subscale between 8 and 10).”

Line 186: Fantastic link between symptoms of anxiety, depression and trauma and linking to medics ability to care generally, highlights the need to provide support for this group. This should form a key part of the conclusions and future directions.

- (Discussion, lines 256-263) “To our knowledge, no study is interested in the link between the consequences of trauma and medical errors. De Oliveira et al. [36] have shown a strong association between the presence of psychological suffering and multiple medical errors among anesthesiology trainees. If the patient is the first victim in the case of medical errors, physicians have been termed the "second victims" and often experience feelings of distress, guilt, shame, and depression in response [37, 38]. In a future research, repetition of the survey at different time points would make it possible to assess the progression of PTSD, anxiety and depression symptoms.”

- (Discussion, lines 292-296) “The findings of our study highlight the need to implement continuous preventive measures for physician residents, as well as educational campaigns about PTSD and its therapeutic possibilities. We believe that residency programs should offer systematic screening of the psychological consequences at the end of the event and at a distance, have a watchful waiting, and ensure access to appropriate care for affected residents.”

- (Conclusion, lines 303-309) “Mental well-being is adversely impacted in the medical profession following critical incidents. In addition to effects on the mental health of physician residents, PTSD, depression and anxiety may also affect patient care and safety.”
Dedicated screening and care strategies must be considered in the event of new attacks, based on the knowledge established for the management of PTSD. Future research would benefit from making evaluations at other time points.”

Line 187: Unclear sentence, please revise.

Answer/amendments:
- (Discussion, lines 233-234) “In addition, we found no difference in depressive or anxious symptomatology between the responders in the different medical and surgical specialties.”

Line 190: Literature points towards a three month delay

Answer/amendments: Please refer to the Answer/amendments lines 47-57 of this document.

Line 201: Avoidance may have been a significant factor in residents not responding to the survey. This would likely mean then that the results of distress are an underestimate.

Answer/amendments:
- (Discussion, lines 267-269) “It is possible that physician residents who were dealing with the worst implications of the attacks did not have the ability to participate.”
- (Discussion, lines 270-271) “This would have made us underestimate the post-traumatic distress among residents.”
- (Discussion, lines 272-274) “Thus, it is difficult to figure how representative these responses are of the overall group of physician residents or how biased the results are due to non-responses.

Line 208: Residents familiar with the screening measures may have had their own biases, not wanting to label themselves with anxiety or depression and score against this.

Answer/amendments:
- (Discussion, lines 269-271)” In addition, residents which are familiar with screening measures might have under-reported their symptoms. This would have made us underestimate the post-traumatic distress among residents.”

Line 220: It is important to outline which care strategies you think would be helpful in the medical context when people are struggling with symptoms in the aftermath and still returning to work. There is literature on Critical Incident Debriefing which has been shown to be actively
harmful and interrupts the natural resilience and healing process, so you could further discuss this and funding psychological screening and support to be part of the hospital response to major incidents, watchful waiting, and ensuring that medics have ongoing access to support in their roles.

Answer/amendments:

- (Discussion, lines 282-296) “Data in the literature on very early interventions (such as debriefings) or early interventions (first-month psychotherapies) for the treatment of acute stress disorder are divergent and do not allow a consensual synthesis to define a gold standard of care. Reviews suggest that debriefing may not have an effect [39] or even a detrimental effect at long-term [40]. On the other hand, psychotherapeutic interventions for the treatment of PTSD are highly effective. The PTSD NICE guidelines [41] are still valid. They recommend that PTSD sufferers should be offered a course of trauma-focused psychological treatment (trauma-focused cognitive behavioral therapy or eye movement desensitization and reprocessing). More particularly in the medical field, supervision can be a protective factor allowing progressive empowerment, a valorization of work and support by seniors [42].

The findings of our study highlight the need to implement continuous preventive measures for physician residents, as well as educational campaigns about PTSD and its therapeutic possibilities. We believe that residency programs should offer systematic screening of the psychological consequences at the end of the event and at a distance, have a watchful waiting, and ensure access to appropriate care for affected residents.”

Reviewer 2 (Reviewer 2): PEER REVIEWER COMMENTS: To view the full report from the academic peer reviewer, please see the attached file.

REVIEWER COMMENTS FROM REPORT: General statement:

The aim of the present study is to assess prevalence rates of posttraumatic stress disorder, anxiety and depression in "medical residents" after terrorist attacks in Paris.

Overall, the manuscript contains an important topic, which makes it suitable for publication. Nevertheless, the manuscript has some weaknesses which are listed below in a chronological order. In general, the manuscript is very short and should be lengthened (if not written as a short report), because some important information is missing. Furthermore, the manuscript should be corrected by an English native speaker to avoid phrases like "On the evening of Friday, November 13, 2015, terrorist attacks took place in sixth six different locations in and nearby near Paris" or "literature revue".

Answer/amendments: The English language within the revised manuscript has been reviewed by a native English-speaking physician.

REQUESTED REVISIONS:
Title

The title contains the word "junior doctors", which is never used again in the whole manuscript.

Answer/amendments: Words “Junior doctors” in title and “medical residents” in article have been replaced by “physician residents” to match the widest literature on this topic.

Background section

Major points:

- The description of the latest research in this field on only one page is too short.

Answer/amendments:

- (Background, lines 44-58) “These may occur after the exposure, but also because of a close relationship with a victim or repeated confrontation with narratives of the event, provided there is enough terror or shock associated with it. Breslau et al. [6] highlights that interpersonal trauma, including intentional violence between human beings, leads to a higher frequency of psychiatric consequences than indirect trauma. Prevalence of mental health problem among persons involved in rescue efforts after a human-made disaster is lower than among direct victims, but significantly higher than in the general population.”

- (Background, lines 61-64) “The risk of traumatic stress among those caring for victims is all the higher as these professionals are an integral part of the community under attack. Their cognitive patterns and sense of personal safety are compromised, reducing emotional distance from victims.

- (Background, lines 66-73) “Among them, a number of studies have suggested that physician residents are especially vulnerable. In a recent meta-analysis, Mata et al. [7] estimated the prevalence of depression or depressive symptoms among residents at 28.8%, ranging from 20.9% to 43.2%. With regard to stress at work, anxiety rate among residents have been reported as ranging from 8 to 40 % [8-11]. Rates of reported PTSD among residents related are around 10% [12, 13].”

- It remains unclear, what the authors mean with "medical residents". Please clarify, whether the samples included all workers in the medical sector of the hospitals or only physicians or residents. The title contains "junior doctors", because in the manuscript is only written "medical residents". If the description of the sample is more specified, the literature research for this research field could also be adapted adequately.

Answer/amendments: Words “Junior doctors” in title and “medical residents” in article have been replaced by “physician residents” to match the widest literature on this topic.
The authors wrote only one sentence about the prevalence of depression in "medical residents". To my knowledge, there has been conducted much more research in this field. Additionally, the current state of research with regard to the prevalence rates of anxiety and PTSD is missing completely.

Answer/amendments:

- (Background, lines 66-73) “Among them, a number of studies have suggested that physician residents are especially vulnerable. In a recent meta-analysis, Mata et al. [7] estimated the prevalence of depression or depressive symptoms among residents at 28.8%, ranging from 20.9% to 43.2%. With regard to stress at work, anxiety rate among residents have been reported as ranging from 8 to 40% [8-11]. Rates of reported PTSD among residents related are around 10% [12, 13].”

Minor points:

- Line 44: Insert "people" after "129"

Answer/amendments: Edited line 45

Methods section

Minor points:

- Please describe the participants in more detail. For me it was surprising that the sample is very young.

Answer/amendments: Participants are physician residents, age usually ranging from 24 to 30 years old.

- Line 77: "The questionnaire … could only be filled once" --> content unclear

Answer/amendments: Edited line 92 “could only be completed once”

- Please add the protocol number of the Ethic Committee.

Answer/amendments: Since this was a non-interventional research, the Ethic Committee “Comité de Protection des Personnes Île-de-France III” reviewed and approved the study’s protocol, and gave us a consultative authorization on January 11, 2016, through its president the attorney Mr David Simhon (president.cppidf3@gmail.com) to conduct the research.
Line 100: "it correlates well with the diagnosis of PTSD" --> please specify with regard to sensitivity and specificity

Answer/amendments:

- (Methods-Study outcomes variables, lines 117-119) “This cutoff provides the highest overall diagnostic power (0.88) with a sensitivity of 0.91, a specificity of 0.82, positive predictive power of 0.90, and negative predictive power of 0.84 [15, 19].”

Line 110: "Subscales anxiety and depression were found to be independent of each other" Please specify, what you mean with this sentence. From my research experience, anxiety and depression are never independent from each other, but correlate substantially up to .70. Furthermore, I have never seen an CFA that documented uncorrelated factors of the HADS. Please specify why you decided to use these statistical tests and give some references for that.

Answer/amendments:

- (Methods-Study outcomes variables, lines 127-128) “Our analyses were based on both anxiety and depression HADS subscales as well as total HADS score (cut-offs being the sum of its subscales).”

Results section

Major points:

- If the authors used the cutoff value of 33 for the IES-R, it should be corrected in line 143 into "IES-R ≥ 33" instead of "IES-R > 33" and rerun the analyses according to this.

Answer/amendments:

- Analyses had been run using cut-off value of 33 (IES-R ≥ 33), and this was a typing error in the result section, we thus replaced and “IES-R ≥ 33” "IES-R > 33" (Results, line 161).

- There is only one table containing a few comparisons between the exposed and the non-exposed group. Do the authors maybe have more data that could make the examination more multifaceted? Additionally, further analyses could be done by testing some sociodemographic predictors for the dependent variables.

Answer/amendments:

- (Results, lines 173-177) “Exposed residents were also found to be significantly more advanced in their residency training: mean of 6.7 (± 3.0) semesters for exposed residents versus 5.5 (± 3.0)
semesters for non-exposed (p = 0.01). However, residents who presented with PTSD related symptoms were not significantly younger or less advanced in the year of their residency training than others (respectively: 26.5 [± 2.1] years old versus 26.6 [± 2.0], p = 0.56; and 5.7 [± 3.0] semesters versus 5.9 [± 3.1], p = 0.45).”

- (Results, lines 178-181) “493 (72.5%) of the responders were females, without any difference in distribution regarding the exposure. Females reported significantly more PTSD symptoms than males (75 (75 [15.2%] versus 9 [4.8%], p < 0.001). In addition, exposed females were at higher risk of having PTSD (59/150, 39.3%) compared to non-exposed females (96/343, 28%) (p = 0.001).”

- “Table 4: Physician residents’ psychological characteristics according to the type of exposure.”

- (Results- Lines: 188 – 191) “Physician residents’ psychological characteristics according to the type of exposure are reported in Table 4. Maximal HADS and IES-R scores were those of residents who witnessed the attacks or had one close relative among the victims, but also among first responders who took care of the patients at the site of the massacre.”

- Why did the authors collect data about the individual history of trauma and psychiatric disorders and did not use these results for further analyses? If about 15% of the sample already have had a trauma in the past, this might be affecting the present symptoms.

Answer/amendments:

- “Table 3: Association between background psychiatric history and PTSD depending on the exposure.”

- (Results, lines 182-185) “There was no difference regarding psychiatric history between the exposed and non-exposed residents (Table 3). But residents who reported PTSD related symptoms also reported significantly many more histories of trauma than others (21/84 [25.0] versus 83/596 [13.9], p = 0.004). And this, especially among non-exposed residents (16/44 [36.4] versus 60/420 [14.3], p = 0.001).”

Minor points:

- Please specify what is meant by "medical residency training". In Table 1 is written "residence seniority". Both terms are unclear.

Answer/amendments: “medical residency training” has been replaced by “residency training”; “residence seniority” has been replaced by “resident seniority”.

Discussion section
Major points:

- Line 168: 6% is wrong. Sterud et al. reported at least 12%. Furthermore, the prevalence in 5 out of 7 studies was about 20%. That makes the interpretation of the results of the present study very difficult and should be discussed, because the prevalence rates of 18.5% found here is below the 20% found in other studies without the context of terrorist attacks. Nevertheless, the difference between the exposed and the non-exposed group is still evident.

Answer/amendments:

- (Discussion, lines 200-204) “The meta-analysis by Sterud et al. [24] reported PTSD prevalence among emergency personnel in Western European countries ranging from 15 to 21.5%. Our results are within the higher end of this range. However, the chosen IES-R cut-off was lower than ours (20 instead of 33), as we chose this cut-off to have a higher specificity. By way of comparison, another systematic review among worldwide rescue workers found a prevalence of PTSD of about 10% [25].”

- (Discussion, lines 208-214) “There is no study on PTSD among general population following the 2015 terrorist attacks to compare our results. A study conducted in the United States one to two months following the events of September 11 found a prevalence of probable PTSD among general population of 11.2% in the New York City metropolitan area and 4.0% in the rest of the country.”

- The results of the depression prevalence rates are not discussed at all in comparison to the general population. Please add. Furthermore, the question arises, why the prevalence rate was so low?

Answer/amendments:

- (Discussion, lines 229-233) “2.4% of responders had a probable diagnosis of depression and 6.4% had symptoms of depression. Mata's et al. study [7], which considered depression symptoms among physician residents, reported among studies using the same HADS scale a higher prevalence (15%). By comparison, the percentage of recently reported depressive disorder in the general population of France is 1.6% [32].”

Minor points:

- Line 212: "We did not collect the psychological support that medical residents could have been provided since the attack" Did the authors mean: "We did not collect the psychological support that medical residents could have been used/accessed since the attack"?

Answer/amendments:
(Discussion, lines 281-282) “We did not collect the psychological support that physician residents could have been accessed since the attack”

Table 1

Major points:

- At least one number with regard to the mean age in the three different (sub)samples is wrong. If the mean age in both subsamples varies between 26.5 and 26.6, the mean of the whole sample cannot be 26.8

Answer/amendments: Changes have been made, values of these 2 cells had been inverted.

- The same is true for "residence seniority"

Answer/amendments: Changes have been made in the table, as well as in the results section as follow.

- (Results, lines 173-177) “Exposed residents were also found to be significantly more advanced in their residency training: mean of 6.7 (± 3.0) semesters for exposed residents versus 5.5 (± 3.0) semesters for non-exposed (p = 0.01). However, residents who presented with PTSD related symptoms were not significantly younger or less advanced in the year of their residency training than others (respectively: 26.5 [± 2.1] years old versus 26.6 [± 2.0], p = 0.56; and 5.7 [± 3.0] semesters versus 5.9 [± 3.1], p = 0.45).”

Minor points:

- What means "Medicine" in the column of "Speciality", since all participants work in the medical area?

Answer/amendments: Among physician residents, some have medical specialties (such as emergency, radiology, cardiology…) others are specialized in surgery (orthopaedics, general surgery, neurosurgery…), psychiatry, anaesthesiology or paediatrics.

- The use of an HADS total score was not mentioned in the Methods section before. Please add.

Answer/amendments:
- (Methods-Study outcomes variables, lines 127-128) “Our analyses were based on both anxiety and depression HADS subscales as well as total HADS score (cut-offs being the sum of its subscales).”

Page 21 Validity and translation...

- "New instruments were adapted for use in the study setting through established procedures" Please give a reference for the procedures used.

- PHQ for the assessment of somatoform symptoms should be named PHQ-15 as this is the right name.

- Please tell the readers the number of items in the PSQ and standardize the information given in all questionnaire sections.

- The cut-off given for the Lubben Social Network Scale is wrong, because participants with 12 points on this scale still are at risk for isolation! Please correct the results according to this.

- Where do the cut-offs for social support availability come from? It is referenced with number 8 in the list, but the researchers there did not calculate or use these cut-offs.

Answer/amendments: Please note that these comments do not correspond to our study and seem to refer to another article.