Reviewer’s report

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

Version: 0 Date: 26 Jul 2018

Reviewer: Sally Jowett

Reviewer’s report:

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:

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.

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.

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.
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.

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.

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.

Edits

Line 43: remove "sixth"

Line 44: replace "near nearby" with "around"

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

Line 49: "Being a first responder"

Line 52: change to "Interacting with and identifying"

Line 56: full stop after et al. Consider explicitly linking that medical students may therefore have an increased vulnerability to the development of post-traumatic stress difficulties.

Line 83: "offered free appointments"

Line 86: "An APHP Ethics Committee"

Line 97: typo "Likert"

Line 99: The IES-R

Line 101: typo "review"

Line 112: Were the French versions utilised for this study?
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.

Line 139: typo "incomplete"

Line 162: the Paris terrorist

Line 167: full stop after et al.

Line 177: Expand on the importance of interpersonal trauma and the impact of this

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

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.

Line 187: Unclear sentence, please revise.

Line 190: Literature points towards a three month delay

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.

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.

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.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Unable to assess

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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