Reviewer’s report

Title: The trajectory of symptom burden in exposed and unexposed survivors of a major avalanche disaster: A 30 year long-term follow-up study

Version: 3 Date: 02 May 2019

Reviewer: Reviewer 2

Reviewer’s report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses one or several testable research questions? (Brief or other article types: is there a clear objective?)

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

No - there are minor issues

EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?

No - there are minor issues

STATISTICS - Is the use of statistics in the manuscript appropriate?

No - there are issues with the statistics in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

No - there are minor issues

OVERALL MANUSCRIPT POTENTIAL - Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? If not, can further revisions be made to make the work technically sound?
Probably - with minor revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The authors did not respond adequately to each of the questions or concerns raised in the comments. They made changes to reflect their responses in the manuscript itself, but such changes are not satisfactory.

REQUESTED REVISIONS:

I am glad to know that the assumptions of normality along with linearity and homogeneity of variance have been tested and fulfilled. However, in the manuscript itself, homogeneity of variance was not mentioned in the revised version of this manuscript. Moreover, I suggest the authors to report the outputs from such tests (both homogeneity of variance and normality) as supplemental materials.

In the revised manuscript, these sentences have been added "Our analyses would require a higher sample size to reveal the main findings as statistically significant. However, due to ethical reasons it was important to present the results despite some of them being largely descriptive." However, these changes include inaccurate aspects and do not reflect what I said in my previous comments. The analyses would require a higher sample size because, as it stands, the statistical tests have inadequate power. The issue of inadequate power does not mean that with a higher sample size, the main findings would be statistically significant. I am suggesting the authors to read one of the published books about statistical power (e.g., Cohen's book entitled "Statistical power analysis for the behavioral sciences" or Kraemer & Blasey's book entitled "How many subjects? Statistical power analysis in research"). In these books, the authors can find useful information about the issue of statistical power which is a matter of validity of the test; the design of study (either experimental such as RCT-studies or observational such as this one) is irrelevant. Moreover, although ethical reasons are very important for science, they do not justify the denial or the underestimation of the problem of inadequate statistical power. Statistical power is about the validity of the statistic test. As scientists, you do not have an ethical obligation to analyze every kind of data (even when the results are not valid and reliable). In my previous comments, I said "In other words, does this sample size allow enough power to detect differences of various magnitudes (from small to large)? This point is not even mentioned in the limitations." I was told that this issue (i.e., "does this sample size allow enough power to detect differences of various magnitudes (from small to large)?" was already addressed in the paper. However, I was not able to find an answer to this question in the Strengths and Limitations section and the word "power" does not appear throughout the manuscript. Please also report that, according to your power calculations you would require 25 (PTSS-10), 23 (IES-15) and 121 (STAI-12) in both groups to detect differences of which (small, medium or large?) magnitude (I mean effect size).

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.

No

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

No

**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

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

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