Author’s response to reviews

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

Authors:

Lars-Petter Bakker (lpbakker@mil.no;lpbakker71@gmail.com)
Milada Cvancarova Småstuen (Milada-Cvancarova.Smastuen@hioa.no)
Jon Reichelt (jreichelt@mil.no)
Christer Gjerstad (cgjerstad@mil.no)
Arnfinn Tønnessen (arnfinnt@gmail.com)
Lars Weisæth (lars.weisath@medisin.uio.no)
Pål Herlofsen (pherlofsen@gmail.com)
Ellen Grov (Ellen-Karine.Grov@oslomet.no)

Version: 4 Date: 09 May 2019

Author’s response to reviews:

A point-by-point response letter to BMC Psychiatry:

We thank reviewer 2 for the valuable comments and appreciate the suggestions. We have answered all reviewer 2’s comments one-by-one below. As requested by the editor, the revised manuscript at this stage should not contain track changes or highlighting. Submission of the revised manuscript will be a clean version of our manuscript.

Answer to Reviewer 2:

1. Comments from Reviewer 2:

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.
Response from the authors:

We agree with the reviewer that it is very important to check the assumptions for the models, especially when the sample size is limited and thus the results less robust. We will now clarify this in the revised version of this manuscript, and the following sentences was added regarding homogeneity of variance and normality to the “Strengths and Limitations” section, line 13-16, page 20:

“The normality assumptions were tested by means of visual inspection of the residual plots. The model fit was good and the residuals followed normal distribution. The homogeneity of variance was also acceptable”.

Sufficient funding does not give possibility for us to add supplementary materials to this manuscript, however, we have enclosed the outputs from linear mixed models. In Appendix 1 we have reported the fixed (overall) effects also reported in our manuscript. In addition, details concerning the model estimation can be inspected. In Appendix 2 we have run detailed model diagnostics including details concerning the model estimation and parameter estimates and number of iterations to reach convergence (number of EM iterations). Given the concern raised by the reviewer about the limited sample size and statistical power, all models were estimated using unstructured covariance matrix so that no structure was imposed on our data. The results of overall Wald chi-square test can also be found in Appendix 2.

2. Comments from Reviewer 2:

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).

Response from the authors:

We agree with the reviewer that the issue of statistical power is connected both to type II error which can be controlled by having a sufficient sample size and also to the anticipated difference being present also in a larger sample. We have based our power calculations on the observed between group differences and assumed that our sample was representative for the studied population.

To clarify this issue the following sentence was added to the “Strengths and Limitations” section, line 16-19, page 20:
According to our power calculations we would require 25 (PTSS-10), 23 (IES-15) and 121 (STAI-12) in both groups to reveal our findings as statistically significant with anticipated effect sizes as defined by Jacob Cohen [89], being medium (d=0.5, PTSS-10) and small (d=0.4, IES-15 and d=0.4, STAI-12) [89].