Author’s response to reviews

Title: Psychiatric Symptoms and Risk Factors in Adults Born Preterm with Very Low Birthweight or Born Small for Gestational Age at Term

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Please also see the uploaded file called "Response to Review II".

Editor:

1) Please conduct an ANCOVA (for continuous outcome) adding three groups as a factor and adding all adjustments (at once) in the analysis and to report the effect size in eta square.

- In this reply, we assume that the editor refers to Table 4.

Unfortunately, the heading for table 4 was not precise and has now been revised. The heading now states:

"Perinatal risk factors and neurodevelopmental markers in the preterm VLBW and the term SGA group; linear regression with ASEBA ASR Total Problems score, AQ Sum score and PDI Grand Total score separately as dependent variables, and for each variable one at a time as covariate."

In Table 4, we carried out separate analyses for each study group, since these study groups are very different in several respects, including number of participants, clinical characteristics and mean and standard deviation of the dependent variables. Hence, an ANCOVA is not suitable,
and we believe the result of an ANCOVA analysis would be misleading. We understand that this may have seemed unclear with the previous table text.

2) For the series of chi-square, please also report the effect-size to give readers an insight into the magnitude of the effects.

- In this reply, we assume that the editor refers to Table 3.

We have reported the effect sizes in terms of proportions within each group, which we believe is the most suitable.

In general, the choice of a relevant effect size measure depends on the context. Examples are the unstandardized difference between means, unstandardized regression coefficient, odds ratio, or risk difference. A recent tutorial article by Pek and Flora[1] clearly recommends unstandardized effect sizes for primary research reporting. This view is strongly supported by Baguley[2]. Standardized effect sizes may be relevant for estimation of power or sample size in a future study. Baguley[2] also argues against using the partial eta squared in ANOVA as an effect measure.

We have chosen to follow the clear and well founded advice in the above cited references, and report unstandardized effect sizes.

Jonathan O'Muircheartaigh (Reviewer 2):

1) After correcting for multiple comparisons, some results are no longer significant. However, the discussion is still written as if some results are significant - e.g. "page 15 - as all participants in the SGA group were born at term (week 37 to 42), this result was surprising."

But the previous sentence states that it didn't survive multiple comparisons?

- We agree, and the text now states:

“As all participants in the SGA group were born at term (week 37 to 42), one could expect a beneficial effect of being born at early term for those subject to intrauterine growth restriction.”

2) There are one or two other examples in the discussion (with respect to fine motor scores etc) that need to be edited.

- We agree, and the text now states:
“Lower childhood cognitive function was associated with more autistic traits as adults. However, as the AQ subscale Attention switching is included in the concept of executive functions, poor childhood cognitive function may indicate later problems in executive functions, rather than autistic traits per se. This may also apply to motor function, but the association between poor childhood fine motor function and more autistic traits was non-significant after adjustment. Nonetheless, these results call for more research,…"

3) Page 8: "The estimated power for the preterm VLBW group was minimum 93% and for the term SGA group 78%". Emphasise that this was (appropriately) calculated prior to conducting the study.

- Thank you for this suggestion, the text now states:

“Power was estimated prior to conducting the study and was minimum 93% for the preterm VLBW group and 78% for the term SGA group.”

Please also note that we moved this sentence to the beginning of the section termed “statistics”, as we consider this placement more appropriate.

4) Page 17: "term-born SGA group also comprised genetically small" - genetically small? Typo? I guess you mean small but within a normal distribution or maybe not, please clarify.

- For clarity, we have replaced “genetically” with “constitutionally”.

The text now states:

“However, the term-born SGA group also comprised constitutionally small but otherwise healthy individuals, leaving the reasons for smallness more important for neurodevelopmental outcome.”

5) The enclosing paragraph is a little dense to read and a sentence or two could be split.

- For enhanced readability, we have split the last sentence in the conclusion, in two. The text now states:

“Our findings lend support to the idea that low birthweight involve vulnerability to neurodevelopmental disadvantages involving motor, cognitive and mental health problems. Further, symptoms seem to be expressed according to advancing age and persist into adult life."
6) Tables: Mark the statistically significant changes (after correction) in bold or with a star for clarity.

- Tables are now edited, and statistically significant p-values are marked in bold.

References:
