Author's response to reviews

Title: Association between infection early in life and the risk of mental disorders among youth in the community: a cross-sectional study

Authors:

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Author's response to reviews: see over
Dear Miss Gallears,

Enclosed please find our revised Manuscript MS: 2134732844124856, “Association between infection early in life and the risk of mental disorders among youth in the community: a cross-sectional study,” with revisions as requested for publication in BMC Public Health. We appreciate the helpful comments and suggestions by the reviewers. We have addressed their concerns in the revision, and the manuscript is improved considerably as a result. Below we have outlined specific changes made to the manuscript in response to reviewers’ comments.

Reviewer 1:

1. The reviewer requests that the variables used in the logistic regression analyses be clearly delineated. Also, there was some confusion about whether the unadjusted odds ratios were presented, and if so, whether these should be changed to adjusted odds ratios and confidence intervals. We have made clear that in the revised manuscript only unadjusted odds ratios and confidence intervals are presented in the table. We removed the adjusted odds ratios because in light of other feedback regarding small cell size and additional consultation with a statistician, the cell sizes are too small to support adjusted odds ratios. We think the table should be much clearer now.

2. The reviewer suggests that we examine and present additional variables (if available) that may co-vary with infection, including maternal diet, weight gain during pregnancy, and medication use. We agree with this suggestion, but unfortunately none of these variables are available in this dataset. We have included this as a limitation in the discussion in the revised manuscript.

3. The reviewer suggests that we clearly present the diagnoses that were not associated with increased risk (including substance abuse). We have now added substance use disorders to Table 1.

4. The reviewer points out that, as might be expected, there are multiple diagnoses in the individuals in the study population, with the total presented being in the infection group being far greater than the number of individuals in that group. The reviewer suggests that we provide additional information on diagnosis by individual. We have now included a description of the number of mental disorder diagnoses for the 14 cases with early infection in the results section.

Reviewer 2:

1. The reviewer requests that we provide more details about the characteristics of study sample, such as gender, age, race, and parents’ social class/socioeconomic status. We have now included a description of demographic characteristics of those with and without early infection in the results section.
2. The reviewer points out that the variable used for early infection is very crude, and the number of infections needing antibiotics is also small (14/1265 = 1.1%). We agree that this is a substantial limitation and have emphasized this in the limitations section.

3. The reviewer suggests that the results of the study may not be reliable because the number of cases with early infections is very small, and the confidence limits are wide. We agree and as such we suggest that these results be considered preliminary findings requiring replication (and we have noted this in the abstract and discussion).