Reviewer's report

Title: Behavioural patterns of ADHD in a large multicentre study. Part 2: Dimensional questionnaire data and intelligence measures in probands and unselected siblings of the IMAGE project.

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Reviewer: Ridha Joober

Reviewer's report:

Review of the paper titled: Behavioural patterns of ADHD in a large multicentre study. Part 2: Dimensional questionnaire data and intelligence measures in probands and unselected siblings of the IMAGE project.

In this manuscript the authors present the behavioural phenotype of children who participated in the International Multicentre ADHD Genetics (IMAGE) project. The authors report data for 1068 probands and 1446 siblings. This manuscript is the second part of the two part submission.

The authors reported significant differences between probands and siblings, and status (proband /sibling) by gender interaction effect on Conners teacher and parent rating. Centre effects were found for teacher ratings and some of the parent ratings. The teacher and parent ratings on Strength and Difficulties Questionnaire differed between probands and siblings on four problems scales, and boys and girls but only for two of the problem scales. Centre effects were also found. Centres also differed on Social Communication questionnaire. On the intelligence measure, IQ was found to be negatively correlated with age, and significant status, gender and centre effects were found.

This study has several strengths including the sample size and the thorough report of the results. It is well written and gives a good account of the behavioural profile of the sample. Again, inclusion of the teacher as an informant provides an important information about the child’s behaviour at school as well as information about the child as compared to his/her peers.

Suggestions

- In the Methods section the authors describe the sample that includes the 1446 unselected siblings. However, in the Discussion section it is stated that the findings from the questionnaires and intelligence data is described for the probands and unaffected siblings. It would be beneficial to clarify whether siblings with ADHD diagnosis were included in the analysis.

- In part one the authors describe the sample and examine siblings who also reach the diagnosis of ADHD. If these children were included in the current
analysis, it would be interesting to include the diagnostic status when comparing probands and siblings particularly when ADHD related symptoms and IQ is compared. Identifying the differences and similarities between the affected and non-affected siblings will be very informative for the reader.

- If data is available it would be interesting to see what demographic factors, such as SES or age when children first attend school, can explain the centre effect observed in both papers for most examined measures.

Overall the second part of this submission is also very well written which presents important information about the IMAGE database. I recommend it for publication.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

none