3 SCIENTIFIC QUALITY

Please resolve all issues in the manuscript based on the peer review report and make a point-by-point response to each of the issues raised in the peer review report, and **highlighted the revised/added contents with yellow color in the revised manuscript**. Note, authors must resolve all issues in the manuscript that are raised in the peer-review report(s) and provide point-by-point responses to each of the issues raised in the peer-review report(s); these are listed below for your convenience:

Dear Editor,

Thank you for your letter. We highly appreciate the valuable comments of the reviewers on our manuscript entitled *Refining the Relationship and Analyzing Influential Factors of Attention Deficit Hyperactivity Disorder in Children and Bronchial Asthma.* We have improved our manuscript according to the suggestions, and the amendments are highlighted in yellow in the revised manuscript. Point by point responses to the reviewer's comments are listed below. We would like to re-submit this manuscript for your kind consideration.

Yours sincerely.

Reviewer #1:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors:

This research, conducted at Dongying People's Hospital from September 2018 to August 2023, includes children diagnosed with ADHD and a control group

of healthy children undergoing physical exams during the same period. The manuscript is well designed and written. The introduction gives a good overview about the topic and the procedures are precisely described. The results were well discussed. Thank you for giving the opportunity to review this manuscript. In my opinion, the manuscript would benefit from a more thorough explanation of how these independent risk factors like family asthma history, pregnancy-related maternal factors, and parental relationships specifically impact ADHD and asthma. Expanding the discussion to provide deeper theoretical insights would significantly enhance the manuscript.

Response: Thanks for your kindly reminding. The discussion section of the article has supplemented the history of family asthma, maternal factors related to pregnancy, and how parental relationships affect children 's attention deficit hyperactivity disorder with asthma.The supplementary content is :It is speculated that the reason may be that family history may play an important genetic role in asthma, allergic diseases and ADHD.Some genes may increase the risk of asthma and allergic diseases in individuals, and may also be related to ADHD. Maternal complications during pregnancy may have a negative impact on the development and health of the fetus. The fetus is adversely affected in the womb, and its key organs such as the brain and immune system may be affected, increasing the risk of developing various diseases in the future, including ADHD and asthma. The use of some drugs during pregnancy to treat asthma and allergic diseases, such as steroids and antihistamines, may affect the neurodevelopment of the fetus. These drugs may penetrate the placenta and affect the development of the fetal brain, thereby increasing the risk of neurodevelopmental problems (such as ADHD) in children. Maternal anxiety and depression during pregnancy can affect the secretion of cortisol in the body, increase the secretion, and cortisol reaches the fetus through the blood, affecting the development of the nervous system, and increasing the risk of comorbid asthma in children with ADHD. Family

conflict and poor parental relationship may lead to immune system disorders in children and increase the risk of asthma.

Response: Thank you very much for your guidance on this article. The limitations of this study also lie in the fact that the psychological mechanism of children is not considered, and the relevant variables are mostly included from the aspects of genetics, family history and parents. The main reason is that the children included in the study are 4 to 14 years old, and the psychological differences of children in this age group are relatively large. Multivariate Logistic regression analysis cannot specifically explain the impact of children 's psychology on ADHD combined with asthma. In the future, the sample size will be further expanded, combined with qualitative

analysis, time series analysis and other methods to analyze the mechanism of children 's psychology.