

**Reviewer #1:**

**Scientific Quality: Grade C (Good)**

**Language Quality: Grade C (A great deal of language polishing)**

**Conclusion: Minor revision**

**Specific Comments to Authors:** The manuscript (ID: 74243), “The impact factors of children and adolescent abnormal glucolipid metabolism: from a prospective cohort study”, has been reviewed carefully. This manuscript observed low QoL status, unstable and psychotic personality traits were associated with increased GLMD risk independent of obesity. This manuscript deals with the correlation between spirit and environment and glucose and lipid metabolism disorders. Some of these studies have been reported (DOI: 10.1016/j.ajp.2022.103003 ; DOI: 10.1007/s11892-015-0704-4), but the manuscript also involves the population information of other factors, which can be used as an important supplement in this field. Moreover, there are some problems in this manuscript.

The major drawbacks of the manuscript are as follows:

*1. Please modify the format of references. There are some missing contents, such as on “Liang, X... European journal of clinical nutrition.; Liang, X,... Journal of hypertension; Liang, X,...Journal of human hypertension.”.*

Reply: Thanks for your suggestion, we have modified the format of references in our manuscript.

*2. Why are two methods of significance comparison used in Table 2 (“a, b, c” and “p value”).*

Reply: Thanks for your reminder, we have indicated why two methods of significance comparison used in Table 2.

*3. Data on GH and diabetes may recall bias existed. Moreover, the limit of collecting manner on QoL and personality traits makes it difficult to draw conclusions regarding causality relationships of QoL and personality traits with GLMD.*

Reply: We appreciate for your generous suggestion, and we have added recall bias and causality relationships to the limitation section, as “First, as this was a retrospective and prospective cohort study, recall bias may exist for the prenatal variables. We checked the birth certificates to verify the birth weight, stature and gestational age. Second, data on GH and diabetes were collected through a questionnaire, and recall bias existed. However, we collected the same perinatal information both in 2014 and in 2019 independently to reduce recall bias and nonresponsive. Finally, QoL and personality traits were collected in a cross-sectional manner, which makes it difficult to draw conclusions regarding causality relationships of QoL and personality traits with GLMD. However, the personality traits remain nearly unchanged throughout a person's life course”

*4. It is suggested to provide some prospects of this research or the direction of further research in the discussion part.*

Reply: Thanks for your suggestion, we have added some contents about prospects of this research or the direction of further research in the discussion part, as “Our study emphasizes the importance of increasing QoL, developing good personality traits in children and adolescent, which will provide scientific evidence for educational institutions through improving the educational model to enhance the quality of life of school-age children and form a good personality characteristics.

However, our study illustrated the relationship between QoL and personality characteristics with glycolipid indexes nearly from a cross-sectional perspective, and further well-designed large sample size cohort study and randomized controlled trial study should be conducted to illustrate the causality relationships.”

**Reviewer #2:**

**Scientific Quality: Grade C (Good)**

**Language Quality: Grade B (Minor language polishing)**

**Conclusion: Major revision**

**Specific Comments to Authors:** *The study is relevant and certainly a large amount of data was obtained. In order to contribute to the improvement of the manuscript, some questions and suggestions are proposed:*

**1. It's important to follow the Journal formatting rules. Please note that the manuscript must be prepared using 12 pt Book Antiqua font. There are other discrepancies as abstract structure, type of citations in the text, positioning tables, structural topics; in addition, some topics and information, such as core tip, are missing**

Reply: We are sorry for those mistakes. And we have revised according to the guideline for authors.

**2. In “Keyword”, please check the typing error**

Reply: Thanks for your careful review, we have revised it as “Metabolic Abnormality”.

**3. The English language must be consistent throughout the manuscript, e.g.: “dyslipidaemia” or “dyslipidemia”; “caesarean” or “cesarean”**

Reply: Thanks for your suggestion, we have revised those English language problems throughout the manuscript.

**4. Table 2 is too long and made the analysis difficult. I understand that it is complicated to summarize a lot of information in a table, perhaps it can be considered the possibility to reduce the amount of data or separate the data into additional tables**

Reply: Thanks for your suggestion, we have reduce the amount of data in Table 2. And we keep the variables which are mostly correlated with GLMD.

**5. About the Discussion, it is important to try to relate some study results through metabolic pathways to make the manuscript more robust. It is possible, e.g., to propose hypotheses that relate data on lipoproteins and HbA1c. Metabolic syndrome is very relevant, and it could have been better explored. Best regards**

Reply: Thanks for your suggestion, we have revised the discussion section and added discussion about QoL and personality characteristics may regulate GLMD through metabolic pathways.

**Reviewer #3:**

**Scientific Quality: Grade D (Fair)**

**Language Quality: Grade B (Minor language polishing)**

**Conclusion: Rejection**

**Specific Comments to Authors:** Dear editor, I would like to thank authors for their efforts . However, there are major concerns in the method of the study.

**1. I do not think that filling out the questionnaires by the teacher is reliable for a study. The authors stated that “The validity and reliability of the questionnaire were checked, and were described in detail in a previous publication (Liang et al., 2019b).**

Reply: We apologize for this confuse. We surveyed the social situation of children from teacher, and this information were not used in this paper. Therefore, we have deleted this content in our manuscript.

**2.The questionnaire was completed by the parents or guardians of the children after standard training by the research group. ” This sentence is not clear. Which questionnaire?**

Reply: We apologize for this confuse. The questionnaire included information of demographic, perinatal status, socioeconomic, dietary intake, physical activity and sleep quality.

**3.Who did measure the blood pressure?**

Reply: Pediatric nurses and medical postgraduates measured the blood pressure.

**4.Who did take blood for biochemical markers?**

Reply: The pediatric nurses from Children's Hospital Affiliated to Chongqing Medical University drawn blood for biochemical markers.

**5.Where were these measurements taken?**

Reply: Venous blood was drawn before physical measurements at physical examination rooms, which were prepared before the beginning of physical measurements. And the physical measurements (including height, weight, blood pressure etc.) were taken at another physical examination room of the school.

**6.The authors stated that “The QoL questionnaire for adolescents consists of 49 items”. It is not clear for the readers. Which QoL questionnaire was used?**

Reply: The QoL questionnaire be made from Chinese children<sup>[1]</sup> were used.

[1] Hanrong WUPL. Heng MENG norn, reliability and validity of children and adolescents' QOL scale. Chin J School Health. 2006;27:18–21.

**7.I think “The Chinese version of Eysenck’s personality questionnaire” is not suitable for this study hypothesis? Why did the authors use this scale?**

Reply: Thanks for your generous suggestion. For the personality triats, both “The Chinese version of Eysenck’s personality questionnaire” and parental-filled classification evaluation were used to define “Introverted”, “extroverted” and “intermediate personality”. And the psychological clinic of Children's Hospital affiliated to Chongqing Medical University used this scale for general diagnose of children.

**8.The authors stated that “This study is the first prospective cohort study that involves QoL and personality traits, in addition to perinatal, SES and physical measurements over an average 12-year follow-up from” However there is no follow-up for 12 years, authors presented that**

*they had measured children for twice. And also some information was collected retrospectively.*

Reply: We appreciate for your advice. And we have revised the expression in method section.

*9. Tables are so long and difficult to understand.*

Reply: Thanks for your suggestion. Variables having significant correlation with GLMD were kept in the revised Tables.

*10. What is the result of this study? The authors aimed to explore the prevalence of and risk factors for glycolipid metabolism disorder (GLMD) from prenatal to childhood and adolescence. However there is no statistical analysis to present risk factors for GLMD.*

Reply: We appreciate for your advice. And we focused on the risk factors for glycolipid metabolism disorder (GLMD) from prenatal to childhood and adolescence. Therefore, we have revised the results of our manuscript.

*11. The aim, method and results of the study were not presented in a coherent manner.*

Reply: Thanks for your suggestion. We have reorganized the expression of the aim, method and results of the study, which may be more coherent than previous version of our manuscript.

*12. The results of the study should be interpreted*

Reply: We appreciate for your advice. And we have interpreted the results detailed in the discussion section.

*13. The discussion section is not enough should be rewritten.*

Reply: Thanks for your suggestion. We have rewritten the discussion section of our manuscript.

**Reviewer #4:**

**Scientific Quality: Grade B (Very good)**

**Language Quality: Grade C (A great deal of language polishing)**

**Conclusion: Minor revision**

**Specific Comments to Authors:** The authors investigated the determinants of glycolipid metabolism disorders in adolescents through looking at gestetional parametets, qaulity of life and marital status amongs other things. This study proposes that glucolipid metabolism disorders are associated with gestational hypertension, maternal weight gain, obesity, rural residence.

*1. I also feel the authors should have investigated the diets of the participants. I think this would have solidified their arguments when comparing rural and urban participants.*

Reply: Thanks for your suggestion, we have investigated the diets of the participants and we will added diets information to our analyses.

*2. Also, I think it may be important to consider the participants physical activity as well moving forward.*

Reply: Thanks for your suggestion, we have investigated the physical activity and we will added physical activity data to our analyses.