Review of: "Obesity, Dyslipidemia and other Risks Factors for Metabolic Syndrome among Indigenous Black African Secondary School Students in Lagos, Nigeria"

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Dear Authors,

This study ustilised a primary data obtained from Secondary School students aged 10-19 years, recruited from 16 registered schools across the LGAs in the 3 Senatorial Districts. Each secondary school is divided into two arms – Junior Secondary School and Senior Secondary School. I believe, this research idea has potential for adolescent health and is addressing a pertinent issue i.e., an early onset of metabolic syndrome. Though, there are some minor concerns those are needed to be addressed before. I believe the authors have the data to do so and, with substantial revision, this article could make a useful contribution towards enhancing knowledge towards the same and perhaps can be utilised for effective policies and programs implications. Following are my few observations which I beleive are doable:

Abstract and title:

1. The title and the objective for the study is not aligning, perhaps authors might want to modify the study title a little bit to make sure it is conforming with the study objective.

Methods:

1. Kindly give more insight into how this study has utilised a multistage sampling design and why you have opted for a multistage sampling. For instance, mention in the manuscript how schools are clustered within those three districts, i.e., your first level and how you have sampled those schools (as in what sampling technique you have used for selecting particularly those schools, e.g., wether you have used PPS, or systematic, or perhaps purposive sampling), followed by students clustering within a partiular school and how you have selected those sampled 650 students.
2. In sampling technique and procedure kindly clearly mention the above.
3. Further, in the above section itself, there is are two sample sizes I can see being reported. It seems your target size was 650 but you have collected information on only 624, I mean make sure you are clearly mentioning why descriptives were only presented for only for 624. Kindly be clear while reporting the sample sizes mentioned and should be uniform throughout.
4. It would be helpful for the reader if you can just mention what level of significance you are going to use throughout your analysis in the manuscript.

5. Kindly mention which software you have used for the analysis purposes.

Measures used

1. Whenever, you want to understand overweight/obesity among adoelscents we always take BMI for age rather than just BMI, because, 10-19 years of age are very delicate and growth rate is fast paced. You can find studies where this thing have been highlighted. It would be my suggestion, since you have the data you can definitely calculateBMI for age among your study sample and use it for your further analysis.

Definitions

1. Definition used for ascertaining MetS you have used WC as a proxy for obesity, it would be better if you use BMI-for-age as merely WC won't give much information on the obesity status among sampled individuals. Since, you have used BMI in the results section, therefore, it is again advisable to use BMI for the MetS definition as well instead of WC and refer to those definitions where they have used BMI.

Results

1. In your methods section, I can see that inforation was collected on the dietary and food consumption pattern, clinical features, physical activity levels and parental medication intake from the respondents. But I can not see any of those features used for any descriptive analysis, authors might be interested in utilising those information particularly, dietary and food consumption pattern, as it definitely interact and affect an individuals MetS status. You'll find ample literature on the same.

2. There are so many tables, it is advisable to keep only neccessary and required tables in the main manuscript. If required, merging of tables can also be done to make sure there are not so many tables, as it exhaust the reader, hence try to report on the main ones and perhaps rest you can tranfer it to a supplementary file.

Discussion

1. You have extensively mentioned that nutritional status, dietary pattern, sedenatry lifestyle, family history contribute towards individuals' obesity and MetS etc. but no where in your results this was found. It is suggested to use only those findings from your study discuss them extensively using the existing literature and justification as per requirement.

2. There are few studies which authors can refer to while discussing and even for the introduction part. Such as:

i. Kirti, K., & Singh, S. K. (2022). Quantifying the burden of lipid anomalies among adolescents in India.*BMC Cardiovascular Disorders*, *22*(1), 385.

ii. Friedland, O., Nemet, D., Gorodnitsky, N., Wolach, B., & Eliakim, A. (2002). Obesity and lipid profiles in children and adolescents. *Journal of Pediatric Endocrinology and Metabolism*, *15*(7), 1011-1016.

3. Regarding dietary pattern and metabolic syndrome following literature can also be refered to while discussing your

analysis pertaining to dietary pattern and MetS among your study sample:

i. Kirti, K., & Singh, S. K. (2023). Obesogenic diet and metabolic syndrome among adolescents in India: data-driven cluster analysis. *BMC Cardiovascular Disorders*, *23*(1), 1-13.

 4. You can also mention in your discussion (refering to prevailing literature) how an early onset of such conditions affects the later life or overall life course of an individual. Perhaps how it will lead to other chronic conditions in such a young age and might hamper the adulthood. This can also be mentioned in the rational to highlight how important it is study this condition even among individuals as young as a 10-19 year olds.