



PEER-REVIEW REPORT

Name of journal: *World Journal of Clinical Pediatrics*

Manuscript NO: 97105

Title: Visceral adiposity index, cardiorespiratory fitness, and fasting plasma glucose associations in adolescents

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05360676

Position: Editorial Board

Academic degree: PhD

Professional title: Professor

Reviewer's Country/Territory: United Kingdom

Author's Country/Territory: Nigeria

Manuscript submission date: 2024-05-23

Reviewer chosen by: Meng-Hua Liu (Quit 2024)

Reviewer accepted review: 2024-09-16 12:42

Reviewer performed review: 2024-09-16 14:05

Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation



Scientific significance of the conclusion in this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The manuscript titled "Visceral adiposity index, cardiorespiratory fitness, and fasting plasma glucose associations in adolescents" presents a cross-sectional study examining the relationship between visceral adiposity index (VAI), cardiorespiratory fitness (CRF), and fasting plasma glucose (FPG) in a cohort of Nigerian adolescents. The study aims to determine the independent associations of VAI and CRF with FPG and to characterize the T2DM risk profile of the participants. The findings suggest that both VAI and CRF are independently associated with T2DM risk in boys but not in girls, and that CRF demonstrates a stronger association with FPG. The authors may consider following comments and suggestions for improvements. General Comments: 1. Study Design and Methodology: o The study employs a descriptive cross-sectional design, which is appropriate for examining associations between variables at a single point in time. o The sample size of 403 adolescents is reasonable, but the manuscript should discuss the representativeness of the sample and the potential for selection bias. o The use of VAI as a surrogate measure for visceral adipose tissue is novel and may be a strength of the study, as it provides a more nuanced assessment than waist circumference alone. o The



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manuscript should clarify the methods used to measure cardiorespiratory fitness and ensure they are age-appropriate and validated. 2. Analysis and Interpretation: o The manuscript presents a thorough analysis, adjusting for potential confounders such as age and maturity status. o The discussion of the findings is comprehensive, with a comparison to other studies and an exploration of the implications for public health. o The manuscript should consider discussing the limitations of the cross-sectional design, such as the inability to establish causality. 3. Results and Conclusions: o The results are clearly presented and indicate a significant relationship between VAI, CRF, and FPG in boys, which is a valuable insight for targeting interventions. o The conclusion that regular aerobic activities and healthy diets are important for preventing T2DM in adolescents is well-supported by the data and is a strong public health message. o The manuscript should consider including a discussion on the potential reasons for the lack of significant associations in girls, which could provide insights into sex-specific differences in metabolic health. 4. Public Health Implications: o The study's findings have direct implications for public health policy and practice, emphasizing the importance of promoting physical activity and healthy diets among adolescents. o The manuscript should consider expanding on the potential strategies for implementing these recommendations in the Nigerian context. o Suggestions for Improvement: 1. Sample Representativeness: o Provide more information on the sampling method and the representativeness of the sample to ensure the generalizability of the findings. 2. Measurement Validity: o Ensure that the methods used to measure VAI and CRF are validated in the adolescent population and discuss any limitations in their application. 3. Sex-Specific Differences: o Explore and discuss the reasons for the observed sex-specific differences in the associations between VAI, CRF, and FPG. 4. Longitudinal Studies: o Recommend the need for longitudinal studies to confirm the findings and to establish the predictive value of VAI and CRF for T2DM risk in adolescents. 5. Policy and Practice



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Implications: o Provide concrete examples of how the findings can be translated into public health policy and practice, particularly in the Nigerian context. 6. Limitations and Strengths: o Include a section discussing the limitations of the study, such as the cross-sectional design and potential measurement errors, as well as the strengths, such as the novel use of VAI in this population. 7. Additional Analyses: o Consider conducting additional analyses to explore the potential mediating or moderating effects of other variables on the observed relationships. By addressing these points, the manuscript can provide a more robust and comprehensive analysis of the associations between VAI, CRF, and FPG in adolescents, which will be of significant value to the field of public health and the prevention of T2DM in youth.