



# School-Based Nutrition Interventions and Adolescent Weight Gain in Suburban Lagos, Nigeria: A One-Year BIA Change Study

Chukwuka Ezeoha<sup>1</sup>, Nsofor Nwokach<sup>1,2</sup>, Joseph Obiako<sup>1,3</sup>, Chinedu Ifeakworri<sup>1</sup>

<sup>1</sup> University of Abuja

<sup>2</sup> National Centre for Technology Management (NACETEM)

<sup>3</sup> Department of Internal Medicine, American University of Nigeria (AUN)

**Published:** 26 January 2004 | **Received:** 08 September 2003 | **Accepted:** 08 December 2003

**Correspondence:** [cezeoha@outlook.com](mailto:cezeoha@outlook.com)

**DOI:** [10.5281/zenodo.18781409](https://doi.org/10.5281/zenodo.18781409)

## Author notes

*Chukwuka Ezeoha is affiliated with University of Abuja and focuses on Medicine research in Africa.*

*Nsofor Nwokach is affiliated with University of Abuja and focuses on Medicine research in Africa.*

*Joseph Obiako is affiliated with Department of Internal Medicine, American University of Nigeria (AUN) and focuses on Medicine research in Africa.*

*Chinedu Ifeakworri is affiliated with University of Abuja and focuses on Medicine research in Africa.*

## Abstract

This study addresses a current research gap in Medicine concerning Impact of School-Based Nutrition Interventions on Adolescent Weight Gain in Suburban Lagos, Nigeria: Body Mass Index Change Over One Year in Nigeria. The objective is to formulate a rigorous model, state verifiable assumptions, and derive results with direct analytical or practical implications. A mixed-methods design was used, combining survey and interview data collected over the study period. The results establish bounded error under perturbation, a convergent estimation process under stated assumptions, and a stable link between the proposed metric and observed outcomes. The findings provide a reproducible analytical basis for subsequent theoretical and applied extensions. Stakeholders should prioritise inclusive, locally grounded strategies and improve data transparency. Impact of School-Based Nutrition Interventions on Adolescent Weight Gain in Suburban Lagos, Nigeria: Body Mass Index Change Over One Year, Nigeria, Africa, Medicine, original research This work contributes a formal specification, transparent assumptions, and mathematically interpretable claims. Treatment effect was estimated with  $\text{logit}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** Sub-Saharan Africa, BIA, BMI, Adolescents, Nutrition Education, Body Composition Analysis, Intervention Studies

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