

Comparative Study of the Effect of School Meal Program on Nutritional Status, Dietary Diversity and School Performance of School Children in Wassa Community, FCT, Abuja

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ABSTRACT

Introduction: School feeding programs are widely promoted as a strategic intervention to help combat hunger, address malnutrition and improve educational outcomes. However, their effectiveness in settings experiencing the double burden of malnutrition and their possible effects on overweight requires robust evidence.

Methods: This comparative cross-sectional study evaluated the effect of school feeding program on 313 school-aged children (164 control, 149 intervention) in a peri-urban Nigerian community with a significant population of Internally Displaced Persons. Data included anthropometric measures (converted to WHO HAZ, WAZ, BAZ z-scores), dietary diversity scores and school records. Multiple linear and logistic regression models were employed to adjust for key social demographic confounders.

Results: The program was significantly associated with improved nutritional status, which is seen in its high mean z-scores for HAZ (-1.35 vs. -1.78, $p = 0.011$), WAZ (-0.34 vs. -1.39, $p = 0.001$) and BAZ (0.18 vs. -0.61, $p < 0.001$). This led to substantial lower odds of stunting (aOR = 0.58, $p = 0.036$), underweight (2.0% vs. 26.2%; aOR = 0.08, $p = 0.001$) and thinness (aOR = 0.20, $p = 0.015$). A critical finding was the significantly higher prevalence of overweight in the intervention group (16.1% vs. 1.8%, aOR = 5.12, $p = 0.001$), highlighting an emerging nutritional transition. The program also independently predicted higher dietary diversity (B = 0.14, $p = 0.005$), improved academic scores (B = 5.044, $p < 0.001$) and reduced absenteeism (B = -1.956, $p = 0.004$).

Conclusion: These results demonstrate the program's dual benefit for nutrition and education. However, the observed rise in overweight underscores the need to shift from calorie-dense to nutrient-dense meals, better positioning school feeding as a strategic tool to tackle the double burden of malnutrition.

Keywords: School Feeding; Child Nutrition; Anthropometric Measures; Dietary Diversity; Educational Outcomes; Double Burden of Malnutrition; Overweight; Internally Displaced Persons (IDPs); Nigeria

