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The tailored functional recipe approach: Linking local resources with global science to create sustainable school nutrition intervention in Ghana

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School feeding interventions like many other nutrition interventions in low-income economies are usually designed according to donor interest. Such interventions often do not reflect the indigenous dietary preference and patterns of target populations; failure to consider such key determinants of food consumption greatly affects the sustainability and effectiveness of donor driven interventions. This study is part of the tailored functional food recipe concept that seeks to enhance the effectiveness of nutrition interventions by employing indigenous knowledge of food composition and processing to improve bioavailability of micronutrients in local available foods without compromising palatability. The aim of this study was to develop model meals (SC meals) for the Ghana School Feeding Program by employing local agricultural produce as food-to-food fortification. Each meal was developed using dietary intake data from local mothers and local agricultural production data. Formulations were based on indigenous recipes using nutrition data from FAO West-African-Food-Composition-Table and optimized to contain at least 40% DRI of protein for school children. AOAC (2009) methods were used to analyze the nutritional content of the SC meals and two sets of sensory tests (15 member trained panel and 50 untrained panel) were performed to determine acceptability. SC meals had mean protein content of 49.18 g per 100 g and overall sensory acceptability scores of 77.71 ± 0.70 . In an 18-week nutrition intervention with the SC meals, anemia prevalence decreased by $7.32 \pm 1.59\%$ in the intervention group compared to the control groups. These findings illustrate that the application science to indigenous nutrition knowledge could be a plausible tool in enhancing the nutritional sensitivity of school feeding, building local capacity as well as promoting food sovereignty.

Biography

Jolene Mateko Azagba-Nyako is currently a PhD candidate in Department of Human and Health Sciences, University of Westminster, UK with a background in Dietetics, Food Science and Technology. Her areas of specialty pertain to the nutrition in emergency, nutrition policy drafting (optimization, implementation and surveillance), nutrition interventions (infant-maternal nutrition interventions) and the development of tailored food product. She has over 10 years experience in the dietetics, nutrition and food technology sector (Ghana/UK) and is currently part of Home Grown School Feeding Project Team at the Noguchi Memorial Institute Medical for Medical Research, Ghana. She is currently a Reviewer for *Journal of Functional Foods in Health and Disease*.

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