



# A Methodology for Evaluating the Impact of a Fortified Complementary Food Supplement on Linear Growth and Cognitive Development in Senegalese Infants and Young Children: The Kolda Region Study

Abdoulaye Ndiaye<sup>1</sup>, Marième Diop<sup>1,2</sup>

<sup>1</sup> Institut Sénégalais de Recherches Agricoles (ISRA)

<sup>2</sup> Department of Epidemiology, Université Gaston Berger (UGB), Saint-Louis

**Published:** 25 January 2007 | **Received:** 02 September 2006 | **Accepted:** 29 December 2006

**Correspondence:** [andiaye@aol.com](mailto:andiaye@aol.com)

**DOI:** [10.5281/zenodo.18529155](https://doi.org/10.5281/zenodo.18529155)

## Author notes

*Abdoulaye Ndiaye is affiliated with Institut Sénégalais de Recherches Agricoles (ISRA) and focuses on Medicine research in Africa.*

*Marième Diop is affiliated with Department of Epidemiology, Université Gaston Berger (UGB), Saint-Louis and focuses on Medicine research in Africa.*

## Abstract

Stunting and delayed cognitive development are significant public health challenges in rural Senegal, particularly in the Kolda Region. Effective and locally acceptable nutritional interventions are required. This article describes the methodology for a study assessing the impact of a lipid-based nutrient supplement on linear growth and cognitive development in infants and young children. The primary objective is to determine its effect on length-for-age Z-scores. Secondary objectives include assessing its impact on cognitive scores, micronutrient status, and acceptability. A cluster-randomised controlled trial will be conducted. Villages will be randomised to an intervention group receiving the supplement or a control group receiving standard nutritional counselling. Participants are children aged 6-24 months, who will be followed for 12 months. Primary outcomes are linear growth, measured monthly, and cognitive development, assessed using the Bayley Scales of Infant and Toddler Development. Secondary outcomes include anaemia prevalence and other anthropometric measures. Data will be analysed using mixed-effects regression models. This is a methodology article; no empirical results are presented. The detailed protocol is described, including the planned statistical analysis to detect a clinically significant difference in length-for-age Z-score between groups. The described methodology provides a robust framework for evaluating the efficacy of a fortified complementary food supplement in a high-need setting. Its design aims to generate evidence to inform public health nutrition policy. Future research should consider cost-effectiveness and scalability. Implementing partners should ensure rigorous training of field staff and community engagement to optimise protocol adherence and participant retention. Methodology, stunting, cognitive development, complementary feeding, cluster-randomised trial, Senegal, child nutrition This protocol details a rigorous methodological approach for evaluating a nutrition-specific intervention in a rural African setting, contributing to the literature on robust field trial design in public health nutrition.

**Keywords:** *Complementary feeding, Stunting, Cognitive development, Sub-Saharan Africa, Nutritional intervention, Child growth, Programme evaluation*

## ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

**Email:** [info@parj.africa](mailto:info@parj.africa)

Request your copy of the full paper today!

## SUBMIT YOUR RESEARCH

**Are you a researcher in Africa? We welcome your submissions!**

Join our community of African scholars and share your groundbreaking work.

**Submit at:** [app.parj.africa](http://app.parj.africa)



Scan to visit [app.parj.africa](http://app.parj.africa)

**Open Access Scholarship from PARJ**

Empowering African Research | Advancing Global Knowledge