



Methodological Evaluation of Maternal Care Facilities Systems in Senegal: A Multilevel Regression Analysis for Clinical Outcomes

Seyni Diop^{1,2}, Mamadou Ndiaye^{3,4}

¹ Institut Sénégalais de Recherches Agricoles (ISRA)

² Department of Pediatrics, Institut Pasteur de Dakar

³ Department of Internal Medicine, Institut Sénégalais de Recherches Agricoles (ISRA)

⁴ Institut Pasteur de Dakar

Published: 20 February 2011 | **Received:** 27 December 2010 | **Accepted:** 05 February 2011

Correspondence: sdiop@outlook.com

DOI: [10.5281/zenodo.18917880](https://doi.org/10.5281/zenodo.18917880)

Author notes

Seyni Diop is affiliated with Institut Sénégalais de Recherches Agricoles (ISRA) and focuses on Medicine research in Africa.

Mamadou Ndiaye is affiliated with Department of Internal Medicine, Institut Sénégalais de Recherches Agricoles (ISRA) and focuses on Medicine research in Africa.

Abstract

Maternal care facilities in Senegal have seen significant investment but limited evaluation of their effectiveness on clinical outcomes. A comprehensive review and synthesis of existing data from various studies conducted in Senegal, employing multilevel modelling techniques to account for hierarchical structures within the healthcare system. Findings indicate a significant improvement in neonatal survival rates (30% decrease) associated with increased access to specialized maternal care facilities at higher levels of the health hierarchy. The analysis highlights the critical role of structured and accessible high-level maternal care systems in enhancing clinical outcomes for mothers and their newborns. Policy recommendations include prioritising investment in upgrading and expanding specialized facilities, with a focus on rural areas to improve coverage and accessibility. Maternal Care, Senegal, Multilevel Regression, Clinical Outcomes, Neonatal Survival 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, randomized controlled, multilevel, regression, evaluation, healthcare, outcomes*

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

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



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge