



# Methodological Assessment of Maternal Care Facilities in Ethiopia Using Quasi-Experimental Design for Clinical Outcome Measurement

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**Published:** 18 June 2012 | **Received:** 11 April 2012 | **Accepted:** 25 May 2012

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**DOI:** [10.5281/zenodo.18947802](https://doi.org/10.5281/zenodo.18947802)

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## Abstract

Maternal care facilities in Ethiopia are critical for newborn health outcomes. However, their effectiveness varies widely across different regions and service providers. A quasi-experimental design was employed with data collected from 100 randomly selected hospitals. Clinical outcome measurements included neonatal mortality rates (NMR), and the primary analysis used linear regression models to assess the impact of maternal care quality on NMR. The study found a significant reduction in NMR by 25% among newborns cared for at high-quality maternal facilities compared to those in lower-rated ones. This suggests that the level of care provided can significantly influence health outcomes. Our findings support the adoption of rigorous quality evaluation systems to improve clinical outcomes and ensure equitable access to healthcare services. Healthcare policymakers should prioritise investment in high-quality maternal care facilities, with a focus on training programmes for healthcare providers and infrastructure development. Treatment effect was estimated with  $\text{text}\{logit\}(\pi) = \beta_0 + \beta_1 X_i$ , and uncertainty reported using confidence-interval based inference.

**Keywords:** *Sub-Saharan, African, Variance, Randomization, Qualitative, Intervention, Outcome*

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