

Early postnatal care and full immunization: district-level evidence from National Family Health Survey (NFHS-5), India: Reg No: 262

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ABSTRACT

Introduction Full immunization (12–23 months) remains uneven across Indian districts. Early postnatal care (PNC ≤ 2 days) may strengthen contact with the health system and improve vaccine completion. We examined whether districts with higher early PNC coverage also have higher full-immunization coverage. **Methods** Cross-sectional ecological analysis using NFHS-5 (2019–21) district factsheets (≈ 708 districts). Exposure: PNC within 2 days (%). Outcome: full immunization at 12–23 months (%). Using a simple DAG, we prespecified a minimal adjustment set: ANC ≥ 4 , institutional births, women's education (≥ 10 years) and literacy, improved drinking water, improved sanitation, clean fuel, adolescent motherhood, third-or-higher-order births, and sex ratio at birth. We also included state fixed effects. Primary analysis: OLS with state-clustered robust SEs. Effects are percentage points (pp) change in full immunization per +10-pp higher PNC. Robustness is checked using spline for non-linearity, influence trimming, leave-one-state-out. **Results** We will present adjusted associations of Change in full immunization per 10 percentage points (pp) in PNC with 95% CIs, diagnostics, and sensitivity results. Preliminary checks supported linearity, with estimates stable to influence trimming and leave-one-state-out. **Conclusions** A DAG-guided minimal adjustment with state fixed effects yields transparent, policy-relevant estimates from routine survey indicators. If a positive association is confirmed, strengthening early PNC, alongside ANC and institutional delivery, could help improve vaccine completion. This shows how to move beyond “adjust for everything” toward defensible models for MCH program analytics.

KEYWORDS

Family; NFHS 5