

USE OF BIOMASS FUEL FOR HOUSEHOLD COOKING IS ASSOCIATED WITH NEONATAL MORTALITY IN INDIA

A. Patel^{1,2}, J. Borkar², N. Badhoniya², Y. Pusdekar², P. Hibberd³

¹*Pediatrics, Indira Gandhi Government Medical College, Nagpur, India,* ²*Lata Medical Research Foundation, Nagpur, India,* ³*Division of Global Health, Massachusetts General Hospital, Boston, MA, USA*

Background and aims: Exposure to indoor air pollution due to burning of biomass cooking fuel and its association with respiratory infections is common in low income countries, but little is known of its impact on neonatal mortality. We evaluated whether exposure to biomass fuels is associated with neonatal mortality using data from the three nationally representative National Family Health Surveys (NFHS-1, NFHS 2 and NFHS 3) in India. The surveys were conducted by the International Institute for Population Sciences and Macro International between 1992 and 2006.

Methods: The type of cooking fuel was classified as low pollution fuel (LPF, liquid petroleum gas, electricity) or high/medium pollution fuels (HPF/MPF, wood, agricultural waste, etc). We included households that had births in the preceding 3 years. Neonatal mortality was compared in households exposed to LPF vs. HPF/MFP using cross-tabulations and multivariate analyses, with adjusted odds ratios (OR).

Results: In NFHS-1 (1992) 92% of the 36,253 households, in NFHS-2 (2002) 88% of 32,716 households and in NFHS-3 (2005-6) 82% of the 29,611 households used HPF/MPF. Neonatal mortality rates per 1,000 live births were 23, 26 and 22 in LPF households and 49, 41 and 42 in households using HPF/MPF in NFHS-1, NFHS-2 and NFHS-3 respectively. The adjusted odds ratio for neonatal mortality was 1.53; CI: 1.01-2.31, p=0.04 in NFHS-3 (2005-6).

Conclusions: Neonatal mortality was higher in households using HPF/MPF in all 3 surveys so there is an urgent need to adopt LPF for household cooking in India.