

# COOKING FUEL CHOICES AND INDOOR AIR POLLUTION ACTIVITIES OF ACCRA HOUSEHOLDS: DETERMINING FACTORS AND ASSOCIATIONS WITH BIRTH WEIGHT

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**Background and Aims:** Birth weight is a predictor of infant growth and survival, and an important indicator of health in adulthood. The evidence linking air pollution especially ambient levels with reduced and low birth weight has been accumulating worldwide. The effect of indoor air pollution on birth weight however remains largely unexplored but yet purported as the most important environmental exposure for pregnant women especially in developing countries. This study therefore sought to establish the cooking fuel choices and indoor air pollution activities of Accra households, identify the perpetuating factors, and examine their consequences for birth weight trajectories.

**Methods:** A cross-sectional design was employed to assess exposure status of 592 mothers accessing postnatal services at the Korle Bu Teaching Hospital located in Accra and to record birth weight of their newborns.

**Results:** Cooking fuel choices of mothers was dependent on their residential location ( $p=0.011$ ) and educational level ( $p=0.000$ ). Mothers residing in middle/upper class neighbourhoods preferred LPG whereas charcoal was most preferred by mothers in low class and slum areas. Primary and junior high educated mothers and mothers with no formal education preferred charcoal whilst tertiary educated mothers liked LPG. Cooking fuel type ( $p=0.000$ ) and household rubbish burning ( $p=0.027$ ) was associated with birth weight with charcoal users and mothers present most of the time during rubbish burning sessions delivering smaller babies. Charcoal use was a significant risk factor for LBW (Adjusted OR=3.526, CI=1.732-7.179,  $p=0.001$ ).

**Conclusion:** Improving social status and income levels of women residing in deprived areas; scaling up household waste collection to cover all Accra zones; and increasing LPG production facilities, expanding their distribution networks in urban centres, and curbing their competing use in motor vehicles are thus important in reducing maternal exposure to indoor air pollution.

## **References:**

Blanc AK and Wardlaw T (2005) Monitoring low birth weight: an evaluation of international estimates and an updated estimation procedure. *Bulletin of the World Health Organization* 83:178-185