

## Co-existence of maternal overweight and obesity with childhood stunting in rural and urban communities of Lagos State, Nigeria

**Introduction:** Childhood under-nutrition remains a major public health problem in sub Saharan Africa. The emergence of overweight and obesity at the household level has been linked with the rising prevalence of childhood under-nutrition. The aim of this study was to determine the prevalence of maternal overweight and obesity, childhood stunting, coexisting maternal overweight and obesity with childhood stunting (MOCS) and the associated socio-demographic factors in rural and urban communities of Lagos State, Nigeria.

**Methods:** This was a cross sectional survey conducted using the multistage random sampling technique. A total of 300 mother-child pairs were studied, consisting of 150 each from rural and urban communities. Data collected include demographics, socio-economic characteristics and anthropometric measurements of the subjects. Maternal overweight and obesity was determined using body mass index (BMI) classified according to World Health Organization recommended cutoff points and stunting in children was defined as height-for-age z-scores  $< -2.0$ . Bivariate and multivariate analyses were used to determine risk factors for coexisting maternal overweight and obesity with childhood stunting.

**Results:** The mean ages of mothers in urban and rural communities were 30.4 years and 29.6 years respectively with no statistically significant difference ( $t=1.33$ ,  $p=0.186$ ). The prevalence of overweight and obesity among mothers was significantly higher in urban than rural areas (50.7% vs. 41.3%;  $p = 0.022$ ) while the prevalence of childhood stunting was significantly higher in rural than urban areas (43.3% vs. 12.6%;  $p < 0.001$ ). Coexisting maternal overweight and obesity with childhood stunting was observed in 31 (10.3%) mother-child pair with a significantly higher prevalence in rural than urban areas (14.7% vs. 6.0%,  $p = 0.014$ ). In multivariate logistic regression (Table 1), maternal short stature (OR 3.3, 95% CI = 1.2-9.0,  $p = 0.02$ ) and living in rural area (OR 0.2, 95% CI = 0.1-0.5,  $p = 0.001$ ) were the identified risk factors for coexisting maternal overweight and obesity with childhood stunting.

**Conclusion:** The prevalence of coexisting MOCS is high especially in rural areas. There may be intergenerational effect perpetuating malnutrition. Effort at reducing the vicious cycle of childhood and maternal malnutrition should focus on appropriate interventional measures aimed at improving infant and child nutritional status especially in the rural area.

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**Session Classification:** Poster session 1

**Track Classification:** Epidemiology