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## Factors Influencing Child Undernutrition in Bangladesh: A comparative study of FSNSP and DHS data

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**Background:** Including Bangladesh, undernutrition remains a major problem throughout the world. Evidence from Food Security Nutritional Surveillance Project (FSNSP) and Bangladesh Demographic and Health Survey (BDHS) conducted both in 2011 reveal that nutritional vulnerability in the form of stunting (FSNSP: 40% vs. BDHS: 41%), underweight (FSNSP: 34% vs. BDHS: 36%) and wasting (FSNSP: 12% vs. BDHS: 16%) still exists highly in Bangladesh. This study aims at exploring the factors associated with child undernutrition in Bangladesh.

**Methodology:** Two nationally representative, FSNSP conducted in 2012 and BDHS conducted in 2011, data sets were used to conduct this study. Using standard cut-offs, anthropometric criterion were applied to define child nutritional status followed by household food insecurity access scale for measuring household food security in both data sets. Bivariate and multivariate analyses were carried out to meet the study objectives. Studies were restricted among alive under five children born during last delivery of their mother. Cases having missing values for all anthropometric measurements were excluded from this study.

**Results:** Compared to nourish mothers and food secured households, rates of stunting, underweight and wasting-both for severe and moderate- were found significantly higher among children of undernourished mothers and food insecure households. Significant lower rates of undernutrition were found among children born to educated mothers compared to that of illiterate mothers. Both FSNSP and BDHS data evidenced that children of undernourished mothers (BMI<18.5 kg/m<sup>2</sup>) were at higher risk of being moderately wasted (FSNSP: OR=1.86, p<0.01 vs. BDHS: OR=1.77, p<0.01), stunted (FSNSP: OR=1.55, p<0.01 vs. BDHS: OR=1.66, p<0.01) and underweight (FSNSP: OR=1.69, p<0.01 vs. BDHS: OR=1.98, p<0.01) compared to that of nourished mothers (BMI≥18.5 kg/m<sup>2</sup>) in unadjusted models. Likewise, children of food insecure households had significantly higher likelihood of becoming moderately wasted (FSNSP: OR=1.55, p<0.01 vs. BDHS: OR=1.22, p<0.05), stunted (FSNSP: OR=1.65, p<0.01 vs. BDHS: OR=1.41, p<0.01) and underweight (FSNSP: OR=1.66, p<0.01 vs. BDHS: OR=1.69, p<0.01) compared to children of food secured households for both data sets in unadjusted models. These findings persisted even after adjusted for some important maternal, child and household characteristics for both data sets, except for food insecurity on moderate wasting in BDHS data. Findings from both data sets reveal that food insecurity has significant impact on both maternal and child undernutrition and maternal education, antenatal care and toilet facility have significant association with child nutrition.

**Conclusion:** Study results focus the need of necessary interventions addressing the highlighted problems, particularly to give emphasis on maternal nutrition, education and food security of households. To protect child from undernutrition, it is must to protect mother from undernutrition to break the cycle of undernutrition and reduction of food insecurity at sufficient level is obvious to protect maternal and child undernutrition.