Title: Impact of food price inflation on stunting in under five aged children in Bangladesh

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Abstract: Currently, food price inflation is a widespread issue in Bangladesh as well as the rest of the world. Malnutrition is a common issue among children that can have long-lasting effects on their development and overall health. There have been lots of studies conducted to identify the factors responsible for child malnutrition, but inflation is rarely considered a factor in child malnutrition. We aimed to determine the relationship between food price inflation and stunting (Height-for-Age Z-score (HAZ)) in children under five years of age in Bangladesh. The study utilized food price data from the World Food Programme database and malnutrition (stunting) information from the 2014 and 2017-18 Bangladesh Demographic Health Surveys (BDHS). This includes the total study period from 2009 to 2018. Food prices were linked to the BDHS dataset using each child's birth month. For each child, the average food prices from 9 months prior to 5 months post-birth, including their birth month, were recorded to calculate month-to-month inflation. This inflation was computed for rice (coarse), oil, wheat flour, and lentils by comparing the price sum of each item from one month to the previous month and dividing by the total price of the preceding month. A generalized linear regression model was used to assess the relationship between food price inflation and stunting, with stunting as the dependent variable. Other explanatory variables included wealth index, sex of the child, height, weight, mother's education, respondent's current pregnancy, and breastfeeding status. Our study has revealed that food price inflation has a significant negative effect on stunting, with a coefficient of -0.127 ($p < 0.001$). Furthermore, we have identified several other factors that have also significantly negative associations with stunting, including the wealth index ($p < 0.001$), mother's education level ($p < 0.001$), mother's pregnancy status ($p < 0.001$), breastfeeding ($p < 0.001$), child's age ($p < 0.001$). child's weight ($p < 0.001$) has significantly positive effect on stunting. However, we did not find any significant differences in stunting between boys and girls. In conclusion, the findings of this study underscore the significant negative impact of food price inflation on child stunting, emphasizing the need to acknowledge this factor alongside others. These results highlight the critical role of addressing food price inflation as a key determinant of stunting, in conjunction with various other contributing factors, in efforts to combat childhood malnutrition.

Keywords: Inflation, Malnutrition, Stunting, Food Price, BDHS, Under five aged, Children, Bangladesh

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