

Correlates of Infant and Child Stunting in Nigeria: A Multilevel Analysis

By

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Abstract

Background

Stunting, linear growth retardation is the outcome of not meeting nutritional requirement for growth over a long timeframe starting from conception (Bloem, et al., 2013). It is considered as the most reliable indicator of child's nutritional status, best predictor of human capital and best measure of child health inequalities especially long term malnourishment (Arif, et al., 2012; UNICEF, et al., 2012; Adekanmbi, et al., 2013; Agee, 2010; Victora, et al., 2008; Fotso, 2007). This malnutrition indicator has bi-directional cause of frequent infections and malnutrition (Victora, et al., 2008). This makes children who are stunted to be at increased risk of severe chronic illnesses and ultimately death (UNICEF, et al., 2012). Despite its numerous negative effects, it remains a public health menace in Nigeria with alarming rate of 41% (NPC & ICF Macro, 2013). Although, contributing factors to stunting among under-five children have been greatly flogged by different researchers (Arif, et al., 2012; Akorede & Abiola, 2013; Bolajoko & Ogundahunsi, 2012; Agee, 2010), less attention has been focused on the investigation of childhood stunting during the two distinct periods of infancy (0-11 months) and early childhood (12-59 months). In addition, few studies have examined under-five stunting taking into consideration moderate; children with height-for-age Z-score below minus two standard deviations (-2SD) from the mean and severe stunting; children with height-for-age Z-score below minus three standard deviations (-3SD) from the mean. To this end, this study examines the factors associated with infant (age 0-11 months) and early childhood (12-59 months) stunting in Nigeria.

Theoretical focus

The study has its theoretical underpinning in Mosley & Chen theoretical model, (Mosley & Chen, 1984), Sastry's framework on childhood stunting (Sastry 1997) and WHO Conceptual Framework (Stewart et al., 2013).

Data and Methodology

To address the study objective, multinomial logistic regression analysis were performed on a nationally representative sample of 20,192 women of childbearing age who had a total of 28,596 children during the five years preceding the 2013 Nigeria Demographic and Health Survey (NDHS). The outcome variables for this study are infant stunting and child stunting. Stunting was categorized into three, not stunted (coded as 0), severely stunted (coded as 1) and moderately stunted (coded as 2). Severe stunting is defined as height for age z -score less than -3 standard deviations from the mean ($HAZ < -3 SD$) and moderate stunting is defined as height for age z -score less than -2 standard deviations from the mean ($HAZ < -2 SD$).

Key Findings

Results from the study indicate that 20 % of Infants in Nigeria were stunted and 41% of children in early childhood phase were stunted. It is observed that child stunting was higher than infant stunting. Stunting increased significantly across age group to peak at age 24-36 months before a gradual decline. Being a male child, born small at birth and with incomplete immunization predisposes children to be stunted both at infancy and during early childhood. For instance, children with low birth weight were more than twice more likely to be stunted during infancy (aOR: 2.31; P-Value<0.05). Results from 2013 NDHS data also showed significant variation across all regions. However, vast variations were observed South West and North West (aOR: 4.07; P-Value<0.05). Both micro and macro-level characteristics accounted for the observed regional variation. For instance a child with complete immunization status is less likely to be stunted during infancy (aOR: 0.23; P-value<0.05). Community maternal education was an important macro-level factor influencing stunting. Therefore a child whose mother resides in a community with high concentration of mothers with secondary school and higher level of education had reduced odds of being stunted (aOR: 0.59; P-value<0.05). Surprising place of residence was not an important factor associated with stunting during infancy phase (aOR: 1.06; P-Value>0.05) but was associated with stunting during childhood phase (aOR: 1.42; P-Value <0.05).

Conclusion

Findings of this study emphasize amongst others the need for interventions aimed at improving maternal health if efforts to reduce chronic forms of malnutrition among children will yield the desired results in Nigeria. Policies and programs should also be directed towards mitigating vast regional variations observed with regards infant and child stunting.

