Correlates of infant and child's nutritional status in Nigeria: A multilevel analysis

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Background

Adequate nutrition remains an essential factor to make certain healthy growth, and proper functioning of all systems in a child. Stunting, a chronic form of malnutrition remains excellent ways of measuring child health inequalities and human capital as it shows multiple dimensions of children's health, development and the environment where they live (Arif, et al., 2012; UNICEF, et al., 2012; Adekanmbi, et al., 2011; Agee, 2010; Victora, et al., 2008; Fotso, 2007). In addition it enables identification of those at increased risk of faltered growth, disease, impaired mental development, and death. Enough progress has not been made despite alarming rates of stunting among under-five children in Nigeria, with just 5% decline in the level of stunting between 2003 and 2013 (NPC & ICF Macro, 2013). Although many studies have reported a number of individual-level factors influencing stunting, similar studies on the influence of community-level determinants have been few. Whereas, previous studies have shown that community environment where individuals reside tend to have impact on their health outcomes. To this end, this study examines the influence of community contexts on infant (age 0-11 months) and childhood (12-59 months) stunting in Nigeria. We disaggregated analysis by the two periods – infancy and childhood – in order to disentangle the micro and macro-level correlates of stunting during these two distinct stages of life.

Theoretical focus

The study has its theoretical underpinning in Mosley-Chen theoretical model, Sastry framework and WHO Conceptual framework on childhood stunting.

Data &Methodology

To address the study objective, both single-level &multilevel 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 two, not stunted (coded as 0), and stunted (coded as 1). Infant stunting is defined as height for age *z*-score less than -2 standard deviations (HAZ < -2 SD) for infants 6-11months and child stunting is defined as height for age *z*-score less than -2 standard deviations (HAZ < -2 SD) for children categorized into 12-59 months. Multi-level modelling was used to identify the influence of context on infant and children.

Findings

Preliminary findings from the study indicate that a macro-level (i.e. community-level) characteristic such as region of residence, ethnic diversity and community maternal education were important factors influencing child stunting in Nigeria. In addition, differences were observed between the two distinct groups (i.e. 0-11 month-olds and 12-59 month-olds), with micro-level determinants like immunization status, type of birth, and maternal education found to be more important for stunting during infancy compared to the period during childhood while household characteristics, maternal factors and community factors influenced child stunting more. For instance, the results show a higher risk of stunting in infancy for children who were product of multiple birth (OR:3.11, p-value < 0.05), small birth weight (OR:2.31, p-value<0.05) and for children at childhood phase whose mothers reside in North East region of Nigeria(OR:7.71, p-value<0.05), reduced risk of stunting for children whose mothers resided in rich households (OR:0.38, p-value<0.05), and with tertiary education (O.R:0.21, p-value<0.05).

Conclusion

Findings of this study underscore the need for strategies and policies aimed at ameliorating poor macro-level characteristics, particularly in the poor communities, if efforts to reduce chronic forms of malnutritionamong children will yield the desired results in Nigeria.

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