# The Composite Index of Malnutrition: An Emerging Occurrence in Low and Middle-Income Countries

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## DESCRIPTION

Malnutrition has remained a major global public health problem. In the bid to address the burden of malnutrition, the World Health Organisation (WHO) recognised nine grey areas (otherwise referred to as the United Nations action on nutrition) to be addressed before the end of the current sustainable development goals in 2030 [1]. Recent evaluations showed that no nation is on course to actualize these objectives [2]. The goals have become more difficult for low and middle-income countries to achieve. In the past, researchers have taken on the challenge of addressing the issues of malnutrition from either the dimension of undernutrition or overnutrition, without considering the possible intersectionality of the indicators of malnutrition. However, in recent times, studies have shown the emergence of what is now commonly referred to as 'the double burden of malnutrition', a condition where an individual cohabits with undernutrition (such as stunting and wasting) and overnutrition (such as overweight or obesity) [3-6], and is currently eating deeper into the fabric of public health systems in LMICs. Therefore, moving away from studying malnutrition in its singular manifestation to knowing the level of prevalence and the predictors of the multidimensional status of malnutrition at country's or city's levels has become a major concern of the WHO if reasonable achievements in the nine global malnutrition objectives are to be attained. One way towards understanding the depth of the 'double burden of malnutrition', especially in countries where it has become highly prevalent, is to derive a 'composite index of malnutrition'. In a recent study in Nigeria using the most recent Nigeria demographic and health survey the four indices of malnutrition-stunting, wasting, underweight, and overweight-were combined to create a composite index using "the composite index of anthropometric failure" [7], to describe the overall status of the "double burden of malnutrition" among children between the ages of 6 and 59 months in Nigeria. Children who showed no signs of 'anthropometric failure' while including all the indicators of malnutrition were assigned the number "0," considered to be "well-nourished," and those who cohabit with any of the 'anthropometric

failures' were assigned the number "1," represented as "poorly-nourished," resulting in a binary outcome. In view of the hierarchical data set, a three-level multilevel mixed-effect logistic regression was used to establish the predictors. The results were staggering, with nearly one in every two children in Nigeria classified as living with multiple dimension of malnutrition'. The spatial distribution of the proportions of the DBM across the states and Federal Capital Territory (FCT) was relatively highest among the states in the northern part of the country. Furthermore, the state and community levels were responsible for 14.2% and 21.8%, respectively, of the overall variation in the odds of a double burden of malnutrition. Also, the median odds ratios of the final model indicate that a child who moves from one state where there is an increased risk of malnutrition to another carries a 7.7% increased risk of malnutrition. Similarly, a child who relocates to a community where malnutrition is more common has a 46% higher chance of experiencing malnutrition. According to the study, compared to their male counterparts, female children have significantly lower odds of being poorly nourished; the reasons for this gender disparity are the subject of future study. Also, relative to children aged 6–11 months, the odds of 'double burden of malnutrition' in children aged 24-35 months were 2.22 times higher. Furthermore, the findings indicate that children from wealthier households are less likely than those from the poorest households to receive inadequate nutrition. The results from this study are essential for determining the epidemiological burdens of malnutrition, designing impact interventions, and directing advocacy and policy campaigns in Nigeria and other similar settings.

## REFERENCES

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