

Title

The declining trend of Double and Triple Burden of Malnutrition among preschool children in India - A decomposition analysis

EXTENDED ABSTRACT

Introduction

Malnutrition with its various forms has affected millions of children under the age of five years. In addition to this, the micronutrient deficiencies especially Iron deficiency anaemia is predominantly seen among preschool children. Many low- and middle-income countries are now facing the challenge of coping with the multiple burdens of malnutrition and anaemia.

In India, the overall prevalence of Double (DBM) and Triple Burden of Malnutrition (TBM) has changed from 50 to 40 per cent and 25 to 16 per cent during National Family Health Survey – 3 (NFHS - 3), 2005-06 and NFHS – 4, 2015-16 respectively. In spite of this decline, pace of progress is too slow for India to meet the global nutrition targets.

This study aims to identify role of specific factors responsible for this decreasing trend of burdens of malnutrition during the inter-survey period. The identification of such factors and understanding their contribution towards decline can be beneficial for policy makers to reorient the nutrition specific policies and put more stress on these factors. This knowledge will also be valuable for improving performance of nutrition driven programs in view of achieving targets of Sustainable Development Goals by 2030.

Data

For this study children's data was obtained from National Family Health Survey – 3 (NFHS – 3) and National Family Health Survey – 4 (NFHS – 4). Children who underwent anthropometric measurement and haemoglobin estimation were selected for this study. The sample size for NFHS – 3 and NFHS – 4 was 40,850 and 1,99,534 respectively.

Research Methods

- Outcome variables

For this study, forms of malnutrition such as Stunting, Wasting, Underweight and Iron deficiency anaemia were used to create outcome variables such as Double (DBM) and Triple Burden of Malnutrition (TBM).

- Independent variables

Independent variables were selected and grouped under household, maternal and child level. At household level, variables such as, caste, religion, source of drinking water, type of toilet facilities etc., were used. At maternal level, variables such as age, education, number of living children, preceding birth interval, exposure to mass media etc., were included. Child level characteristics such as age, gender, birth order, history of diarrhoea and fever in last fifteen days etc., were included.

- Statistical procedure

- A multivariable binary logistic regression analysis was carried out to find significant correlated of burdens of malnutrition.

- A decomposition analytical method was used for this study. The role of each independent factor and its contribution in decline of DBM and TBM over ten-year survey period from NFHS – 3 to NFHS – 4 was estimated.

Findings

- The major component responsible for decline in DBM was composition, which accounted for about 70 per cent of the overall change when propensity was held constant. Mother's education level was the chief contributor due to change in composition which added about 33 per cent to the total change in DBM during inter-survey period.
- The chief component responsible for decline in TBM was propensity or rate which accounted for 57 per cent of the overall change irrespective of the composition of the population. Preceding birth interval was mainly responsible for major decline of about 29 per cent in TBM regardless of change in composition of the population during inter-survey period.

Conclusion

This study was aimed to examine factors associated with decline in the prevalence of DBM and TBM. Two nationally representative datasets such as NFHS – 3 and NFHS – 4 were used to carry out decomposition analysis. It was observed that factors such as Maternal education level and preceding birth interval were responsible for overall reduction of DBM and TBM during inter-survey period respectively. The identification of such factors and understanding of their relationship can be beneficial for policy makers to reorient the nutrition specific policies.