

## Research Paper

## Education



## Nutritional status of children in India : An Overview of socio - economic condition

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### ABSTRACT

*Nutritional status of children in India Despite recent achievement in economic progress in India, the fruit of development has failed to secure a better nutritional status among all children of the country. Growing evidence suggest there exists a socioeconomic gradient of childhood malnutrition in India. The present paper is an attempt to measure the extent of socio-economic inequality in chronic childhood malnutrition across major states of India and to realize the role of household socio-economic status as the contextual determinant of nutritional status of children. Methods: Using National Family Health Survey-3 data, an attempt is made to estimate socio-economic inequality in childhood stunting at the state level through Concentration Index (CI). Multi-level models; random-coefficient and random-slope are employed to study the impact of SES on long-term nutritional status among children, keeping in view the hierarchical nature of data. Main findings: Across the states, a disproportionate burden of stunting is observed among the children from poor SES, more so in urban areas. Results from multi-level models however show children from highest SES quintile possess 50 percent better nutritional status than those from the poorest quintile. Conclusion: In spite of the declining trend of chronic childhood malnutrition in India, the concerns remain for its disproportionate burden on the poor. The socio-economic gradient of long-term nutritional status among children needs special focus, more so in the states where chronic malnutrition among children apparently demonstrates a lower prevalence. The paper explain for state specific policies which are designed and implemented on a priority basis, keeping in view the nature of inequality in childhood malnutrition in the country and its differential characteristics across the states. Across the states, a disproportionate burden of stunting is observed among the children from poor SES, more so in urban areas. The state having lower prevalence of chronic childhood malnutrition shows much higher burden among the poor. Though a negative correlation ( $r = -0.603$ ,  $p < .001$ ) is established between Net State Domestic Product (NSDP) and CI values for stunting; the development indicator is not always linearly correlated with intra-state inequality in malnutrition prevalence. Results from multi-level models however show children from highest SES quintile possess 50 percent better nutritional status than those from the poorest quintile.*

**Keywords : Nutritional, socio-economic, malnutrition, policies.**

### Introduction

Despite recent achievement in economic progress in India, the fruit of development has failed to secure a better nutritional status of children in the country. India presents a typical scenario of South-Asia, fitting the adage of 'Asian Enigma'; where progress in childhood malnutrition seems to have sunken into an apparent under nutrition trap, lagging far behind the other Asian countries characterized by similar levels of economic development. The decline in prevalence however becomes unimpressive with the average levels marked by wide inequality in childhood malnutrition across the states and various socio-economic groups. Growing evidence suggest that in India the gap in prevalence of underweight children among the rich and the poor households is increasing over the years with wide regional differentials. Contextualizing the extent in India Socio-economic differences in morbidity and mortality rates across the world have received its due attention in the recent years. The present paper is an attempt to measure the extent of socio-economic inequality in chronic childhood malnutrition across major states of India and to realize the role of household socio-economic status as the contextual determinant of nutritional status of children.

### Socio-economic inequality in childhood malnutrition: Contextualizing the extent in India

Socio-economic differences in morbidity and mortality rates across the world have received its due attention in the recent years [15-17]. Such differentials in health status in-fact are found pervasive across nations cross-cutting stages of development [18-29]. Studies have identified poverty as the chief determinant of malnutrition in developing countries that perpetuates into inter-generational transfer of poor nutritional status among children and prevents social improvement and equity [30,31]. Nutritional

status of under-five children in particular is often considered as one of the most important indicator of a household's living standard and also an important determinant of child survival [32]. The deterministic studies in India while exploring the impact of covariates on the degree of childhood malnutrition suggests an important nexus shared with household socioeconomic status [2,25,33-41]. The two-way causality of poverty and under nutrition seems to pose a very significant pretext for malnutrition in India like other developing nations, where poverty and economic insecurity, coupled by constrained access to economic resources permeate malnourishment among the children [42-46].

Thus, economic inequality constitutes the focal point of discussion while studying malnutrition and deserves suitable analytical treatment to examine its interplay with

other dimensions of malnutrition and to prioritize appropriate programmed intervention. Such attempt to the best of our knowledge is still awaited, using recent nationwide survey data in India. In this backdrop, the paper attempts to shed lights on two specific objectives: 1) to find out the extent of socio-economic inequality in chronic childhood malnutrition, across the major states of India, separated for urban and rural locations, and 2) to understand the conditional impact of household socio-economic condition

on nutritional status of children per se, controlling for various other important covariates. The conceptual framework (Figure 1) of the study is based on review of existing literature on the topic and adapts from various existing framework on determinants of childhood malnutrition in general [47], adding a special emphasis on household socio-economic status as the key explanatory

variable. Nutritional status of under-five children in particular is often considered as one of the most important indicator of a household's living standard and also an important determinant of child survival.

### Objective:

In this paper attempts to lights on two specific objectives:

- 1) to find out the extent of socio-economic inequality in chronic childhood malnutrition, across the major states of India, separated for urban and rural locations, and
- 2) to understand the conditional impact of household socio-economic condition on nutritional status of children per se, controlling for various other important covariates. The conceptual

### Methodology:

The study uses two analytical methods for studying the objectives. The first objective is catered through the measurement of concentration index and understanding its linkage with the state level indicator of economic development. The controls on mother's characteristics includes; years of in terms of education, body mass index (BMI),

mothers status of anemia, autonomy for seeking medical help for self and place of birth for the child of interest. On the household level, except for asset quintile, controls was included for household ethnicity, since a large number of earlier studies found a significant linkage between scheduled tribe/scheduled caste households and childhood under nutrition. Community characteristic is regarded as the distant covariate of child malnutrition in the model and include rural-urban

### Concentration Index

The widely used standard tool that examines the magnitude of socio-economic inequality in any health outcome, i.e. Concentration Index (CI) [49] is employed to study the extent of inequity in chronic child malnutrition across the states of India. The tool has been universally used by the economists to measure the degree of inequality in various health system indicators, such as health outcome, health care utilization and financing. The value of CI ranges between -1 to +1, hence, if there is no socio-economic differential the value returns zero. A negative value implies that the relevant health variable is concentrated among the poor or disadvantaged people while the opposite is true for its positive values, when poorest are assigned the lowest value of the wealth index.

A zero CI implies a state of horizontal equity we adopt an alternative approach of using multilevel models.

### Individual Characteristics of Child

- Age
- Sex
- Birth Order
- Size at birth
- Child feeding practice
- Mother Specific
- Education
- Occupation
- Nutritional Status (BMI)
- Anemia status
- Healthcare related autonomy

### Household Characteristics

#### Household Specific

- Ethnicity
- Socio-economic status

### Health Service Uptake

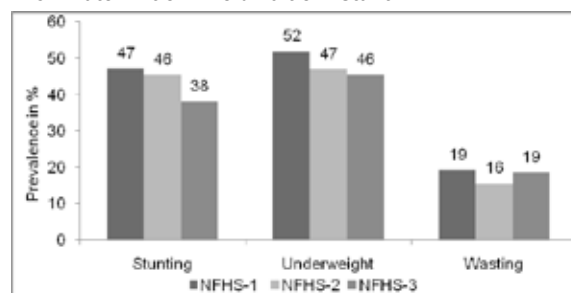
- Status of Institutional Delivery
- Status of immunization

### Place of Residence

- Urban
- Rural

### State

#### Proximate Intermediate Distant



### Results

The present paper is an attempt to measure the extent of socio-economic inequality in chronic childhood malnutrition across major states of India and to realize the role of household socio-economic status as the contextual determinant of nutritional status of children. Methods: Using National Family Health Survey-3 data, an attempt is made to estimate socio-economic inequality in childhood stunting at the state level through Concentration Index (CI). Multi-level models; random-coefficient and random-slope are employed to study the impact of SES on long-term nutritional status among children, keeping in view the hierarchical nature of data. Main findings: Across the states, a disproportionate burden of stunting is observed among the children from poor SES, more so in urban areas. Extent of socio-economic inequity in childhood stunting As mentioned earlier, the successive waves of NFHS in India indicates a declining trend in the prevalence of child malnutrition among children aged below three years. Except for wasting, across the two different established anthropometrics measures of malnutrition; stunting and underweight, a consistent decline is evident during 1992-2005 period. Overall, NFHS-3 reveals a differential scenario of child malnutrition across the fifteen major states of India. To describe further, the state of Kerala showed the lowest prevalence of stunting among children (25 percent) across all the major states, where the rural-urban differential is virtually nonexistent. Whereas the opposite side of the spectrum, more than half the children below five years were stunted in Uttar Pradesh (57 percent), Bihar (56 percent), Gujarat (52 percent) and Madhya Pradesh (50 percent).

### Conclusions

Regional heterogeneity in malnutrition across the major states and rural-urban locations are observed to be widespread during NFHS-3. The concerns amplify with the disproportionate burden of malnutrition among poor, more so in the states where the absolute level of malnutrition is seen to be at the lower level, but where they are experiencing better status of economic development. Multilevel analyses with introduction of controls on various covariates continue to indicate the household SES-under nutrition gradient.

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