Short Communication

Nutritional status of under-5 children in the newly carved states of India

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Abstract

Background: In June 2014, state of Andhra Pradesh was divided into two new states of Telangana and Andhra Pradesh. Both the new states will face the challenges of new born states in the coming years. India's progress on the Millennium Development Goals for 2015 requires that the new states overcome the challenges effectively. An attempt is made to analyze the available data in the field of child nutrition, which can serve as a baseline to monitor the progress in the field.

Objective: This study analyzes the nutritional indicators of under-5-year children in the new states.

Materials and Methods: Secondary data published in the District Level Household and Facility Survey–4 was analyzed.

Result: Although there is a reduction in the prevalence of chronic malnutrition in both the sates compared to the past, there is a drastic increase in the proportion of children with acute malnutrition.

Conclusion: Reasons for increasing burden of acute malnutrition need to be explored and addressed through proven interventions.

KEY WORDS: Under 5 years, wasting, stunting, underweight, Telangana, malnutrition

Introduction

India is a federal union of states comprising 29 states and 7 union territories. In 2014, the new state of Telangana was carved out from the north-western regions of the state of Andhra Pradesh. In 1956, the Hyderabad state was dissolved as part of the linguistic reorganization of states, and the Telugu-speaking part of Hyderabad state, known as Telangana, was merged with Andhra State to form Andhra Pradesh. On June 2, 2014, Telangana was separated from Andhra Pradesh as the new 29th state of India, with the city of Hyderabad as its capital for 10 years.[1]

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Both the new states of Telangana and Andhra Pradesh will face the challenges of new born states in the coming years. India's progress on the MDGs (Millennium Development Goals) for 2015 requires that the new states overcome the challenges effectively as they can contribute in their own way to the progress.

In India, Under Five Mortality Rate (U5MR) has declined from an estimated level of 125 per 1000 live births in 1990 to 52 in 2012. Given to reduce U5MR to 42 per thousand live births by 2015, India tends to reach 49 by 2015 as per the historical trend, missing the MDG target by 7 percentage points.[2] Prevalence of underweight in children under 5 years of age is an important indicator of the Millennium Development Goals (MDG 1).[3] It is also imperative that to achieve Goal 4 (Reduce Child Mortality), the malnutrition in the under-5 age group has to be addressed. It is a known fact from Goal 1 of the MDG that lack of development, poverty, hunger, and undernutrition in children go hand in hand. According to the

Backward Regions Grant Fund 2009–10, 9 of the 10 districts in Telangana are backward districts.[4] To monitor the progress in the field of health, achievements in MDGs need right indicators. Although the erstwhile state of Andhra Pradesh had visible indicators, the new states require focus at this critical phase of achieving the MDGs by 2015. An attempt is made to analyze the available data in the field of child nutrition, which can serve as a baseline to monitor the progress in the field in the newly carved sates.

Objective

1. To analyze the nutritional indicators of under-5 children in the new states
2. To compare the nutritional indicators of southern states of India

Materials and Methods

Secondary data published in the District Level Household and Facility Survey–4 (DLHS) are analyzed.[5] DLHSs have been undertaken by the Ministry of Health and Family Welfare, Government of India, with the main objective to provide reproductive and child health (RCH)-related database at district level in India. The data from these surveys have been useful in setting the benchmarks and examining the progress the country has made after the implementation of RCH program. In addition, the evidence generated by these surveys has also been useful for the monitoring and evaluation of the ongoing programs and planning of suitable strategies by the central and state governments. The Ministry of Health and Family Welfare, Government of India, initiated the process of conducting DLHS-4 during 2012–2013 and has designated the International Institute for Population Sciences as the nodal agency to carry out the survey. Fieldwork in Telangana was conducted during June 2013 to February 2014, gathering information from 13,927 households, 12,432 ever-married women, and also from 587 health facilities.[5] Fieldwork in Andhra Pradesh was conducted during August 2013 to January 2014, gathering information from 20,490 households, 16,498 ever-married women, and also from 1,040 health facilities.[6]

For children, standard indices of physical growth related to nutritional status are height-for-age, weight-for-height, and weight-for-age. A child who is below minus-two standard deviations (–2 SD) from the median of a reference population in terms of height-for-age is considered short for his/her age or stunted. Stunting reflects the cumulative effect of chronic malnutrition. A child who is below –2 SD from the median of a reference population in terms of weight-for-height is considered too thin for his/her height, or wasted. Wasting is a condition reflecting acute or recent nutritional deficit. Weight-for-age is a composite index of stunting and wasting and is a good indicator to monitor nutritional status over time.[7]

The operational definitions of variables analyzed and terms used are as follows:

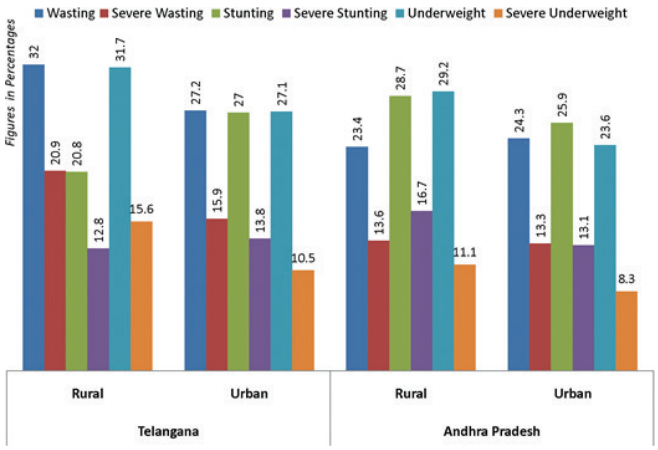

Figure 1: Malnutrition in the new states.

- Wasting: weight for height, below 2 SD
- Severe wasting: weight for height, below 3 SD
- Stunting: height for age, below 2 SD
- Severe stunting: height for age, below 3 SD
- Underweight: weight for age, below 2 SD
- Severe underweight: weight for age, below 3 SD

The terms erstwhile Andhra Pradesh used in this document depict the state of Andhra Pradesh before bifurcation in 2014. The term *New Telangana* is used to depict the newly carved state of Telangana in 2014 and *New Andhra Pradesh* depicts the residual state after the bifurcation in 2014.

Result

Rural versus Urban Comparison of Malnutrition in the New States

The prevalence of wasting among the under-5 children was the highest in rural Telangana followed by urban Telangana, urban Andhra Pradesh, and rural Andhra Pradesh, respectively. The prevalence of stunting among the under-5 children was the highest in rural Andhra Pradesh followed by urban Telangana, urban Andhra Pradesh, and rural Telangana, respectively. The prevalence of underweight among children was the highest in rural Telangana followed by rural Andhra Pradesh, urban Telangana, and urban Andhra Pradesh, respectively (Figure 1).

Trends in the Nutritional Indicators of the New States

There is a drastic increase in the percentage of children wasted in both the new states compared to the erstwhile state of Andhra Pradesh surpassing even the national average. On the positive note, proportion of children stunted has come down in both the new states compared to erstwhile state of Andhra Pradesh and Indian average as well (Figure 2).

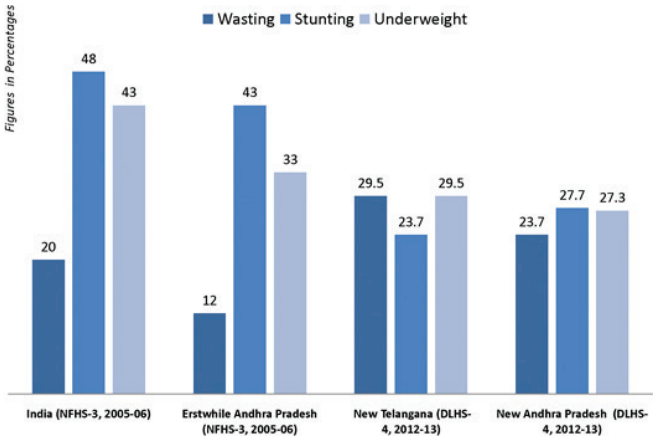

Figure 2: Nutritional indicators: country and state (past and present).

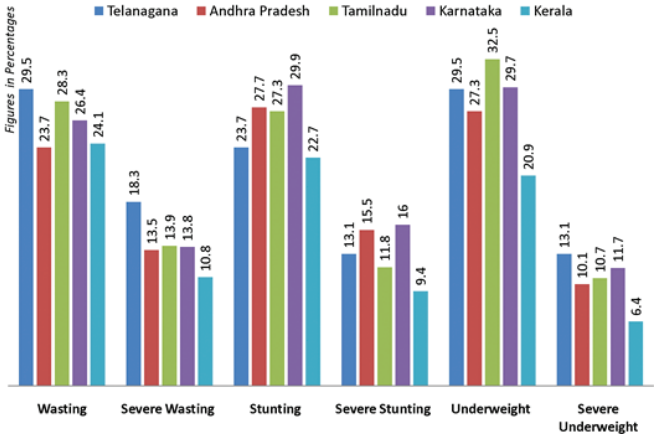

Figure 3: Malnutrition in the southern states of India.

Comparison of the Nutritional Indicators of the Southern States of the Country

The state of Telangana has the highest burden of wasting and severe wasting among any of the southern states of the country. This is followed by Tamil Nadu, Karnataka, Kerala, and Andhra Pradesh. Incidentally, the residual state of Andhra Pradesh after the bifurcation has the lowest prevalence of wasting among any of the states of south India. While Karnataka has the highest proportion of children who are stunted, Tamil Nadu is having the highest prevalence of children who are underweight. The composite index of stunting and wasting, that is, underweight, was analyzed and showed that the state of Telangana has the highest burden of severe underweight when compared to any other southern state of the country. Whereas when underweight per se is analyzed, Tamil Nadu has the highest burden and Telangana stands third in the list (Figure 3).[5,6,11–13]

Discussion

Children in the rural areas of the state of Telangana are having higher burden of acute or recent nutritional deficit. This is compounded by the fact that more number of children in the rural Telangana are underweight as well, reflecting both chronic and acute malnutrition. The startling increase in the proportion of children with acute malnutrition in both the new states requires urgent attention. The fact that rural Telangana is all the more affected with nearly every third child being a hungry child is lamentable.

Stunting reflects chronic undernutrition during the most critical periods of growth and development in early life. Children in the urban areas of the state of Telangana and the rural areas of the state of Andhra Pradesh are having higher burden of stunting. Although the reasons need to be explored, it probably reflects the transformation of rapid urbanization as a social determinant on the child's health. The National Family Health Survey 3 (NFHS-3)[8,9] data reflect 48% of under-5 children in India and 43% of under-5 children in the erstwhile state of Andhra Pradesh were stunted. The falling trends may reflect gains in the field of chronic undernutrition. The latest data from DLHS 2012–13[5] present a prevalence of stunting at 23.7% and 27.7% in the separated states of Telangana and residual Andhra Pradesh, respectively. The reasons for the lower state of stunting in Telangana can be multifactorial and needs exploration.

Underweight is a composite form of undernutrition that includes elements of stunting and wasting. The current level of underweight in Telangana is similar to the data of the erstwhile state of Andhra Pradesh.

Conclusion

The reasons for the increasing burden of hunger in Telangana and other states have to be explored and addressed. Reductions in stunting and other forms of undernutrition can be achieved through proven interventions.[10] These include improving women's nutrition, especially before, during, and after pregnancy; early and exclusive breastfeeding; timely, safe, appropriate, and high-quality complementary food; and appropriate micronutrient interventions.

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