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Double Burden Of Malnutrition Among Children In Poor Areas Of India

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Abstract

The double burden of malnutrition (DBM)" accord of the landscape like overnutrition and undernutrition of different individuals of the same population and household. This research tries to explore dynamic of DBM in child of ten poorest areas of India from the year of 2019 to 2022. Lack of persistent diarrhoea, nutritious foods and inadequate breastfeeding are focused on undermining the status of a child's nutritional. The study explores the need for programs and policies which address the of malnutrition's. This study uses the mixed-methods data collection process, combining qualitative and quantitative data collection. It also focuses on analysis the DBM among the children of ten India's poorest areas. This study aims to explore the factors of the DBM among Children in Poor Areas of India. The findings of the results shed light on the complexity of DBM and the necessity to mitigate its impact on future generations.

KEY WORDS: Double Burden of Malnutrition. Children, Under Nutrition, Poor areas, India.

Introduction:

Malnutrition is a pervasive issue in Indian, mainly among the children of impoverished areas. The phenomenon of BDM presents different forms of challenges to the health of the public which requires some important strategies for addressing its multidimensional nature. This study aims to the DBM of the children of 10 Indian poor areas while focusing on the data of the area from 2019 to 2022. These regions include Odisha, Madhya Pradesh, Bihar, Uttar Pradesh, Jharkhand, Manipur, Meghalaya, Rajasthan, Assam and Chhattisgarh. The

objective of this research is to analyse the determinants and prevalence of overnutrition and undernutrition based on the proposed evidence. This study also evaluates the understanding of the interplay of environmental, socioeconomic and cultural factors while formulating the effective principle. The study focuses on providing valuable insight to healthcare providers, community leaders, and policymakers to combat the issue of malnutrition and promote a healthier future in these vulnerable regions.

Background of the study:

In the past decades, India has made strides in economic development; eventually, this progress is not distributed with the substantial disparities persisting in the rural and impoverished areas. Malnutrition, based on the different forms, is a critical concern about the public health, mainly of children. India needs to tackle the multiple burdens of malnutrition, especially among urban and rural slum households (Nguyen et al. 2021). The DBM concept gained prominence in recent years while highlighting the presence of overnutrition and undernutrients for the individual and also for the same population. Undernutrients are categorised as being underweight, wasting, and stunting among the children of India's poorer areas. Poverty is a determinant of the DBM factor, and it also influences healthcare access, educational opportunities and food security measures. The factor which contributes to the concept of undernutrition include inadequate young and infant child feeding practices, infectious disease, inadequate dietary intake, and poor maternal health. The undernutrition consequences are long-lasting, educational attainments, economic productivity and impacting cognitive development. The overnutrition children are marked as obesity and overweight under an emerging problem in India's poorer regions.

As per “National Family Health Survey (NFHS-4) conducted in 2015-16”, nearly 36% of children who are under five years old in India were stunted, 19% were wasted, and 36% were underweight. DBM requires a multi-sectoral approach which involves nutrition-sensitive and nutrition-specific interventions. This figure is higher in poor states and this is the result of increased poverty and limited access to nutrition and healthcare. The NFHS-4 reported that 2.1% of children under five are overweight, which is a figure that has increased in recent years because of ongoing changes in lifestyle (Peoples Archive of Rural India 2022). Cultural practices and beliefs play an important role in shaping dietary habits and nutritional outcomes. The dual burden stems from socioeconomic inequalities, which are likely to suffer from the different forms of malnutrition because of limited access to a diverse quality of food, education and healthcare services.

Child malnutrition is not only the attributed to a single factor, however, its multiple interconnectedness is also linked with these factors (Rahman et al. 2020). Lack of persistent diarrhoea, nutritious foods and inadequate breastfeeding are focused on undermining the status of a child's nutritional. Proper approaches are required to address the different multifaceted determinants of malnutrition, as it is also important for breaking the poverty and malnutrition cycle and ensuring healthier futures of the child in vulnerable areas. The double burden approach to the malnutrition of India's children of poorer regions underscores the need for some specific

and integrated strategies for combating the dynamic of overnutrition and undernutrition. The phenomenon of BDM presents different challenges to the public's health, and some important strategies are required to address its multidimensional nature.

Method

This study conducted a mixed-methods approach, which combines qualitative and quantitative data collection and analysis to understand the double burden of malnutrition (DBM) among children in ten of India's poorest regions: Odisha, Madhya Pradesh, Bihar, Uttar Pradesh, Jharkhand, Manipur, Meghalaya, Rajasthan, Assam and Chhattisgarh. The primary data is only collected using the method of data collection that is used by scientific approval, and the secondary data is mainly required to support the background of the formulated research question (GHR and Aithal, 2022). The study period covers 2019 to 2022. Quantitative data were obtained from several sources, including the "National Family Health Survey (NFHS), District Level Household and Facility Survey (DLHS), and State Health Department reports". These sources provided data on anthropometric measurements (height, weight, BMI), dietary intake, and health indicators (incidence of infectious diseases, immunisation coverage).

Secondary data collection methods involved in the investigation in which the data are collected have already been analysed by the researchers in previous studies. For directing the entire research, data are collected from existing sources such as websites, Sage Pub, Government records, Google Scholar, journals, articles, etc. The reason for using the secondary analysis method for data collection is to generate a new insight from the previous researchers during the primary analysis processes. Secondary data is important for research as it helps to get information from the different studies and collect data about the background of the research (Taherdoost, 2022). The secondary analysis process is low-cost and less time-consuming than the primary data collection process.

Result

Area	Stunting (%)	Wasting (%)	Underweight (%)	Overweight/Obesity (%)	Key Factors	Specific Interventions
Bihar	45	20	40	3	Poverty, inadequate healthcare, cultural practices	Community-based nutrition education, maternal health improvement
Jharkhand	42	25	38	2.5	Acute food insecurity, high incidence of infectious diseases	Nutrition-specific interventions, improved infant feeding practices
Uttar Pradesh	40	22	37	3	Cultural practices, poor maternal health	Maternal education enhanced healthcare access
Madhya Pradesh	43	21	36	2	Low household income, poor healthcare infrastructure	Poverty alleviation, healthcare infrastructure improvements
Chhattisgarh	39	19	35	2.5	Chronic food insecurity, poor maternal and child health services	Social protection programs, maternal and child health service enhancements
Odisha	38	18	36	2	Poverty, food insecurity, cultural beliefs	Improved dietary diversity, community mobilisation efforts
Rajasthan	37	17	34	4	Urbanisation, dietary changes	Promotion of healthy eating and active lifestyle programs

Assam	36	16	33	5	Urbanisation reduced physical activity	Healthy urban environments, physical activity opportunities
Meghalaya	35	15	32	3	Food insecurity, poor access to healthcare	Nutrition education, healthcare service access improvements
Manipur	34	15	32	4.5	Rapid urbanisation, lifestyle changes	Integrated nutrition approaches, urban planning for healthy living

(Source: Peoples Archive of Rural India 2022)

The analysis of data for the years 2019 to 2022 reveals a high prevalence of overnutrition and undernutrition in children in the ten poorest areas of India (ruralindiaonline.org, 2022). "The NFHS-5 report of 2019-21 provides information on the population, health, and nutrition of 707 districts, 28 states, and eight union territories in India."

Overnutrition:

Obesity and overweight: Prevalence of overweight and obesity among the under-five children is lower and ranges from 2% to 5%. The upward trends are also observed in the urban slums of Assam and Rajasthan. However, the dynamic of overnutrition is associated with reduced physical activity, higher socioeconomic status and an increased consumption of processed foods.

Undernutrition:

Underweight: The proportion of underweight children (weight-for-age) ranged from 30% to 40%. Bihar and Jharkhand have the highest rates of poor maternal and child health services, reflecting chronic food insecurity.

Wasting: Wasting (weight-for-height) rates varied between 15% and 25%, with Uttar Pradesh and Jharkhand reporting the highest figures. Wasting is linked to acute food insecurity, inadequate feeding practices for the young and infant child, and a high incidence of different infectious diseases.

Stunting: The stunting prevalence (height-for-age) in the children who are under five ranged from 35% to 45%, with the highest rates observed in Madhya Pradesh and Bihar. Stunting is significantly associated with inadequate access to healthcare services, low household income and poor maternal nutrition.

Environmental and socio-demographic determinants

Access to Nutrition and Healthcare Services: Access to Nutrition and Healthcare Services plays a major role in determining the outcomes of malnutrition. Area with a good infrastructure of healthcare and maternal services high coverage has a low rate of malnutrition in India. The Public Distribution System (PDS) provide subsidised wheat, rice and other food items to the holder of a ration card (Raghunathan et al. 2020). The Integrated Child Development Scheme (ICDS) help lactating and pregnant women and children by providing nutrient services within in the form of a dry home take ration or hot cooked meal. The mid-day meal is also initiated, which focuses on providing free meals to the school-going under 6-14 years children.

Food Insecurity and Poverty: Poverty acts as a crucial determinant of BDM, which influences both overnutrition and undernutrients. However, food insecurity is identified as a "pressing public health concern of India" (McKay et al. 2023). The households with lower income levels are likely to experience the food insecurity, which leads to higher rates of undernutrition and inadequate dietary intake. At household level, exists of food security means that for all time, all members have the chance to access into the dynamic of enough food for an active and healthy life. High-income households in urban areas can easily access the calorie-dense food that contributes to overnutrition.

Beliefs and Cultural Practices: Beliefs and cultural practices influence nutritional outcomes and dietary habits. There are also some areas where this dynamic is restricted nutrition intake, affecting the diversity of diet and consumption of certain foods. Promoting healthy eating habits helps to prevent the problem of obesity in adolescents, in which families play a major role (Liu et al. 2021). In some areas, traditional practices and beliefs help restrict the consumption of different foods that are harmful to the body and influence a person to focus on effective nutrient intake and dietary diversity. In places like Uttar Pradesh and Bihar, the cultural taboos against the consumption of animal-source food during lactation and pregnancy contributed to child and maternal undernutrition.

Maternal Health and Education: Maternal health and education are very important as they are directly associated with the outcomes of child nutrition. Proper knowledge about child nutrition can help the child grow healthier, and maternal education is considered one of the important factors (Vikram and Vanneman, 2020). Children of mothers who have higher attainment of education have better health conditions and lower rates of underweight, stunting and wasting. Maternal education is correlated with the knowledge of feeding practices

of young and infant children, household food security and healthcare services utilisation. Interventions that focus on maternal healthcare and education access are crucially addressing undernutrition.

Lifestyle Changes and Rapid Urbanisation: Lifestyle changes and rapid urbanisation contribute to the rising prevalence of overnutrition. In the countries which are developing, a shift is visible the output shares of high-productivity sector, increasing of their average incomes, means "urbanisation" to dietary habits (Aiyar et al. 2020). In the urban slum, there is the availability of cheap and high in sugar and fatty foods, which is also coupled with a sedentary lifestyle. This led to an increased rate of obesity and overweight in children. The shift from a traditional to a Western diet is evident in the areas like Manipur and Assam. The lifestyle providing valuable insight to healthcare providers, community leaders, and policymakers to combat the issue of malnutrition and promote a healthier future in these vulnerable regions

Discussion and Analysis

The coexistence of overnutrition and undernutrition presents a complex form of health challenges in these ten poor areas of India. The study highlights the multidimensions nature of the DBM and its influence on the different factors of the child's overnutrition and under-nutrient factors. Obesity and overweight prevalence among under-five children are lower and ranges from 2% to 5%. The upward trends are also observed in the urban slums of Assam and Rajasthan. At the same time, the proportion of underweight children (weight-for-age) ranged from 30% to 40%. Programs related to the social protection, like food subsidies and cash transfers, help in enhance the household food security and also reduce the risk of undernutrition. The cultural beliefs and practices and the environmental factors shaping the nutritional outcomes and dietary habits. Childhood is an important period of overall growth and development of a person throughout their whole lifespan (Hombaiah et al. 2021). Implementation of different policies and programmes help in promoting equitable access to quality education and healthcare services are essential for improving maternal and child nutrition outcomes.

Poverty is a pervasive issue across all regions, directly impacting food security and access to healthcare. Bihar and Madhya Pradesh exhibit the highest stunting rates (45% and 43%, respectively), closely tied to low household incomes and inadequate healthcare services. Similarly, Jharkhand and Uttar Pradesh reported the highest wasting rates (25% and 24%), further illustrating the critical role of poverty in exacerbating undernutrition. On the other hand, regions like Rajasthan and Assam show a rising trend in overweight and obesity (5% each), indicating a shift towards overnutrition in slightly better-off households due to increased access to calorie-dense, nutrient-poor foods. The objective of the 2019-21 round of "National Family Health Surveys" are to provide important data on family welfare and health (ruralindiaonline.org, 2022). Nutrition-specific interventions target immediate causes of malnutrition, such as inadequate disease and dietary intake,

by implementing programs like treatment of acute malnutrition, micronutrient supplementation and supplementary feeding.

The study also tries to evaluate the retaliation between child healthcare and maternal education, which is an important and important factor. These factors include the practices of breastfeeding and education about the proper intake process. The people of both and Jharkhand, are the place where the education level is lower than other places of the data. The process of monitoring growth is also included in the material education system; this helps the women to always look over their children's growing dynamic. Growth monitoring, known as a multilevel strategy basically applied at early growth retardation; it helps to encourage optimum growth while generating a proper level of awareness about growth among mothers and their children (Hombaiah et al. 2021). This factor also helps recognise those at risk of malnutrition and strengthen primary health care delivery. Regions with better healthcare infrastructure, such as Odisha and Chhattisgarh, report relatively lower rates of undernutrition.

Belief and cultural values are the growing and emerging factors, as nowadays everybody is evolving throughout the old remedies and their benefits. The cultural values always mention the proper way to grow and the amount of nutrients essential for women and their children to grow. At the time of the growth, Adequate nutrition intake acted as a pillar of development and growth for a morbid and healthy life (Panda et al. 2021). Addressing the barrier of cultural values through community-based nutrition education programs can promote healthier dietary practices. The DBM carries different forms of necessary and important interventions that help develop the evolving paradigm under the new and evolving alleviation of poverty. A concerted effort by the government, NGOs, and communities is required to break the cycle of malnutrition and poverty and ensure healthier futures for children in these vulnerable areas.

Proper approaches are required to address the different multifaceted determinants of malnutrition, as it is also important for breaking the poverty and malnutrition cycle and ensuring healthier futures of the child in vulnerable areas. Government programs, such as the ICDS and the National Health Mission, provide essential services and support for maternal and child nutrition. The mixed result of lifestyle changes and dietary changes increases the population's level of over-nutrients, and it also leads to different diseases and obesity (Little et al. 2020). The dual burden of socioeconomic inequalities, which are likely to suffer from the different forms of malnutrition because of limited access to a diverse quality of food, education and healthcare services. Nutrition-sensitive interventions address the underlying determinants, which include healthcare, poverty, education and food insecurity access.

Conclusion

The DBM in children poses health challenges and complexity of malnutrition. The study focuses on the role of the policies and socioeconomic, cultural, and environmental dynamics in helping the outcomes of child malnutrition. Alleviation of poverty and access to education and healthcare services are important for addressing the main cause of malnutrition. The changing in the lifestyle and urbanisation process are pressing the overnutrition and also focus on promoting a healthier urban environment. Non-government and government organisations are effectively implementing different programs that help them reach the vulnerable population. Child malnutrition silently affect the economy and human development of any country, and the children of this generation are the backbone of the future generation. The DBM encompasses the challenges among the impoverished areas children are overnutrition and nutrients.

The study finds and cultivates insight for the community leaders' health providers as their effort helps them to combat the situation that arises due to malnutrition. A collaborative effort is necessary to break the cycle of poverty and malnutrition and ensure the future generations development and well-being. Taking care of the children's nutrient status is important for any country. Child weight and height are important indicators of human capital and population health. Child development and growth are mainly influenced by socioeconomic and demographic factors, climate factors, cultural factors, and living standards, which vary across the nation. Lack of knowledge about the proper nutritional diet affects the children and lowers their immunisation status. Data are mainly collected from the government side; this analysis reveals the alarming rates of stunting, underweight, wasting, obesity and overweight among the children of this area.

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