

'2 of 3 child deaths due to malnutrition'

Analysis of health data finds that Assam, Bihar, Rajasthan and U.P. are the most affected States

BINDU SHAJAN PERAPPADAN
NEW DELHI

Two-thirds of the 1.04 million deaths in children under five years in India are still attributable to malnutrition, according to the first comprehensive estimate of disease burden due to child and maternal malnutrition and the trends of its indicators in every State from 1990.

The report states that the disability-adjusted life year (DALY) rate attributable to malnutrition in children varies 7-fold among the States and is highest in Rajasthan, Uttar Pradesh, Bihar and Assam, followed by Madhya Pradesh, Chhattisgarh, Odisha, Nagaland and Tripura.

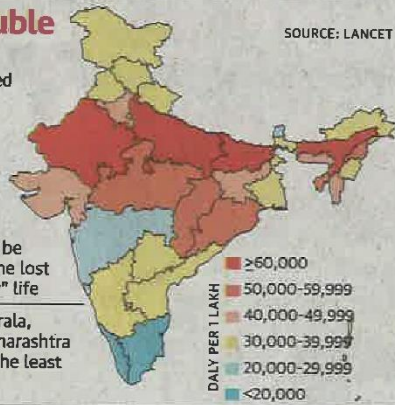
The report was published on Wednesday in *The Lancet Child & Adolescent Health* by the India State-Level Disease Burden Initiative. The report says the overall under-five death rate and the death rate due to malnutrition has decreased substantially from 1990 to 2017, but malnutrition is still the leading risk factor for death in children under five years, and is also the leading risk factor for disease burden for all ages con-

Diet trouble

Map shows disability-adjusted life years (DALY) attributable to malnutrition in children below 5 years of age in 2017

■ One DALY can be thought of as one lost year of "healthy" life

■ Children in Kerala, Tamil Nadu, Maharashtra and Sikkim are the least affected



sidered together in most States.

The malnutrition trends over about three decades reported in this paper utilised all available data sources from India, which enable more robust estimates than the estimates based on single sources that may have more biases.

The India State-Level Disease Burden Initiative is a joint initiative of the Indian Council of Medical Research (ICMR), Public Health Foundation of India, and Institute for Health Metrics and Evaluation in collaboration with

the Ministry of Health and Family Welfare along with experts and stakeholders associated with over 100 Indian institutions, involving many leading health scientists and policy makers from India.

Vinod K. Paul, member, NITI Aayog, said that the government is now intensifying its efforts to address the issue of malnutrition across the country. "State governments are being encouraged to intensify efforts to reduce malnutrition and undertake robust monitoring to track the progress," he said.

Balram Bhargava, Director General, ICMR said: "The National Institute of Nutrition, an ICMR institute, and other partners are setting in place mechanisms to ensure that there is more data available on malnutrition in the various States which will help monitor progress. The findings reported in the paper published today highlight that there are wide variations in the malnutrition status between the States. It is important therefore to plan the reduction in malnutrition in a manner that is suitable for the trends and context of each State."

Low birth weight

Senior author of the paper Lalit Dandona, also director of the India State-Level Disease Burden Initiative, explained that the study reports that malnutrition has reduced in India, but continues to be the predominant risk factor for child deaths, underscoring its importance in addressing child mortality. "It reveals that while it is important to address the gaps in all malnutrition indicators, low birth weight

needs particular policy attention in India as it is the biggest contributor to child death among all malnutrition indications and its rate of decline is among the lowest. Another important revelation is that overweight among a subset of children is becoming a significant public health problem as it is increasing rapidly across all States," he said.

Soumya Swaminathan, chief scientist at the World Health Organisation and first author on this paper, noted that the study findings have highlighted where efforts need to be intensified.

"For substantial improvements across the malnutrition indicators, States will need to implement an integrated nutrition policy to effectively address the broader determinants of under-nutrition across the life cycle. Focus will be needed on major determinants like provision of clean drinking water, reducing rates of open defecation, improving women's educational status, and food and nutrition security for the most vulnerable families," she explained.

INDIA STATE-LEVEL DISEASE BURDEN INITIATIVE

Malnutrition major risk factor in under-5 deaths

ANURADHA MASCARENHAS & ABANTIKA GHOSH
PUNE, NEW DELHI,
SEPTEMBER 18

MALNUTRITION CONTINUES to be the underlying risk factor for deaths of children under the age of five years in India and contributed to 68.2 per cent of such deaths in 2017.

Of the 1.04 million under-5 deaths in 2017, at least 7,06,000 could be attributed to malnutrition, according to first estimates of the disease burden due to child and maternal malnutrition and trends of its indicators in each state from 1990 by the India State-Level Disease Burden Initiative. On the other hand, child overweight is increasing in a subset of children at 5 per cent per year in India, reveal the findings.

This is a joint initiative of Indian Council of Medical Research, Public Health Foundation of India and Institute of Health Metrics and Evaluation in collaboration with Ministry of Health and Family Welfare along with ex-

perts from over 100 institutions.

The state-specific findings in this report published online in *The Lancet Child & Adolescent Health* and released by ICMR at Delhi on Wednesday indicate the effort needed in each state and will be useful in tracking progress, Prof Lalit Dandona, Director of India State-Level Disease Burden Initiative, told *The Indian Express*.

This study provides a comprehensive account of the burden of child and maternal malnutrition in every state from 1990 to 2017 by using accessible data analysed in the unified Global Burden of Diseases, Injuries, and Risk Factors Study framework. Researchers have also projected prevalence of malnutrition indicators up to 2030 on the basis of 1990-2017 trends for comparison with National Nutrition Mission (NNM) 2022 and WHO and UNICEF 2030 targets.

As per the findings, if the trends continue, NNM, WHO and UNICEF targets will not be achieved in most states—except for targets of low birth weight and stunting in a few states and exclusive breastfeeding in several, Dr R Hemalatha, Director, ICMR-

National Institute of Nutrition, said.

However, child mortality attributable to malnutrition has dropped by two-thirds since 1990.

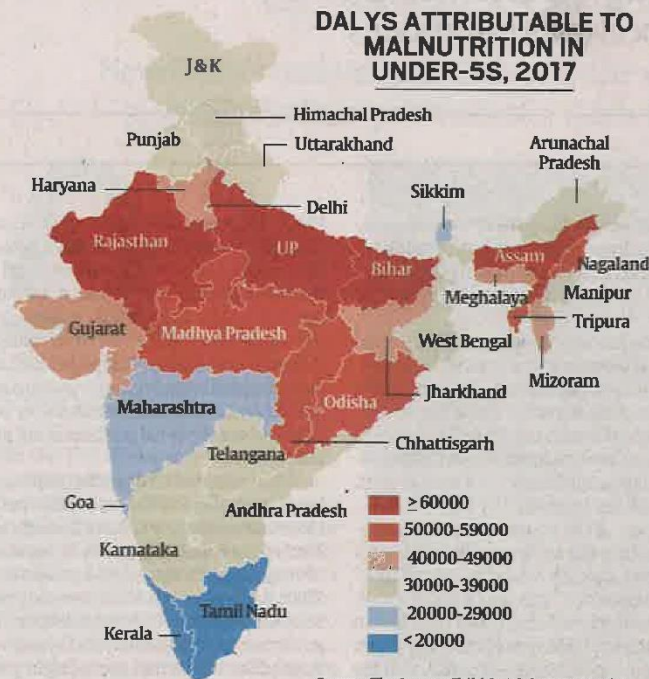
“While India has set ambitious targets for child nutrition indicators, the current paper provides a reality check. Instead of calling this a warning, I would label it as a call for intensified action,” said researcher Dr Subodh Gupta from Mahatma Gandhi Institute of Medical Sciences at Wardha.

Prof Vinod K Paul, Member, NITI Aayog said, “The study findings are released at an opportune time when the government is intensifying efforts to address the issue of malnutrition. September is being observed as *Poshan Maah* with the aim of reaching every household with the message of nutrition. Focus on improving the overall nutritional status of girls and women during the preconception and pregnancy period, providing quality antenatal care will positively influence low birth weight indicators and extend the benefits to next generation.”

FULL REPORT ON
www.indianexpress.com
TELLING NUMBERS, PAGE 13

TELLING NUMBERS

The burden of malnutrition in under-5 children, state by state



Source: *The Lancet Child & Adolescent Health*

A REPORT published Wednesday in *The Lancet Child & Adolescent Health* gives comprehensive estimates of disease burden due to child and maternal malnutrition and the trends of its indicators in every state of India from 1990 to 2017. Key findings include:

The death rate attributable to malnutrition in under-5 children in India has dropped by two-thirds from 1990 to 2017. Malnutrition is, however, still the underlying risk factor for 68% of the deaths in under-five children in India.

The Disability-Adjusted Life Years (DALY) rate attributable to malnutrition in children varies 7-fold among the states – a gap between a high of 74,782 in Uttar Pradesh and a low of 11,002 in Kerala. Other states with a high burden are Bihar, Assam and Rajasthan, followed by Madhya Pradesh, Chhattisgarh, Odisha, Nagaland and Tripura.

The proportion of under-5 deaths attributable to malnutrition, which is 68.2% across India, ranges between a high of 72.7% in Bihar and a low of 50.8% in Kerala. Rajasthan, Chhattisgarh and Uttar Pradesh are states with a high such proportion, while Meghalaya, Tamil Nadu, Mizoram and Goa have the lowest proportions of such deaths.

Among the malnutrition indicators, low birth weight is the largest contributor to child deaths in India, followed by child growth failure which includes stunting, underweight, and wasting.

50,627

DALY (Disability-Adjusted Life Years) rate per lakh population of under-5s in India attributable to malnutrition, 2017

HIGHEST 4

Uttar Pradesh	74,782
Bihar	66,673
Assam	63,493
Rajasthan	61,574

LOWEST 4

Kerala	11,002
Tamil Nadu	17,275
Sikkim	22,732
Goa	25,764

68.2%

Proportion of total under-5 deaths in India attributable to malnutrition, 2017

HIGHEST 4

Bihar	72.7%
Rajasthan	72.2%
Chhattisgarh	71.6%
Uttar Pradesh	68.6%

LOWEST 4

Kerala	50.8%
Meghalaya	59.1%
Tamil Nadu	59.8%
Mizoram, Goa	60.1%

PROPORTION OF TOTAL DEATHS IN UNDER-5 ATTRIBUTABLE TO MALNUTRITION AND ITS COMPONENTS, 2017

	BOYS	GIRLS	BOTH
Child & maternal malnutrition	69.1%	67.3%	68.2%
Low birth weight & short gestation	49.4%	42.7%	46.1%
Stunting, wasting, underweight	19.1%	23.7%	21.4%
Vitamin A deficiency	4.97%	5.62%	5.29%
Zinc deficiency	0.35%	0.48%	0.42%

<https://www.hindustantimes.com/india-news/obesity-in-children-on-rise-in-india-problem-has-just-begun-say-experts/story-Ktz6tnJXdWd6JBhU9pcX3I.html>

Obesity in children on rise in India; problem has just begun, say experts

The estimates were published in The Lancet Child & Adolescent Health by the India State-Level Disease Burden Initiative, a collaboration between the Indian Council of Medical Research (ICMR), the Public Health Foundation of India (PHFI), Institute for Health Metrics and Evaluation (IHME).

INDIA Updated: Sep 19, 2019 03:49 IST



Rhythma Kaul
New Delhi



The study shows 23 states have child overweight prevalence higher than the national prevalence, with Telangana and Delhi having prevalence as high as 23.2% and 23.1% respectively. At least 6 states have child overweight prevalence of more than 20%. (HT FILE)

While malnutrition continues to remain a leading risk factor for deaths in under-5 children, accounting for 68.2% of the total under-5 deaths, at least 11.5% of children between the age of 2 and 4 years are overweight, shows

a study published in the leading medical journal The Lancet on Wednesday.

The prevalence of obesity in Indian children increased significantly during 1990-2017, which is the period of the study, with an annual rise of 4.98%. The projected prevalence is 17.5% in 2030, an estimate which is worrying experts.

“It is a matter of concern as we have seen through certain other studies that about 9% children are pre-diabetic. A lot is to be blamed on their lifestyle which is largely sedentary, and wrong eating habits. Look at the kids in metros, a large number is overweight. It is a matter of concern and we are thinking of ways to deal with it,” said Dr Vinod Paul, member, Niti Aayog.

The estimates were published in The Lancet Child & Adolescent Health by the India State-Level Disease Burden Initiative, a collaboration between the Indian Council of Medical Research (ICMR), the Public Health Foundation of India (PHFI), Institute for Health Metrics and Evaluation (IHME).

The study shows 23 states have child overweight prevalence higher than the national prevalence, with Telangana and Delhi having prevalence as high as 23.2% and 23.1% respectively. At least 6 states have child overweight prevalence of more than 20%.

“The problem of overweight or obese children has just started, and we have enough indicators before us to warn us that time is now to act. However, we must not forget that malnutrition in children in India is a bigger problem and that is a leading cause of many metabolic and other life-threatening disorders among children,” said Dr Balram Bhargava, director, ICMR.

The researchers analysed the disease burden, attributable to child and maternal malnutrition, and the trends in the malnutrition indicators from

1990 to 2017 in every state of India using all accessible data from multiple sources, as part of Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2017.

Low birth weight, stunting, wasting, anaemia are among the forms of malnutrition that can lead to life-threatening conditions such as neonatal disorders, lower respiratory infections, and diarrhoeal diseases.

Low birth weight needs more focus as the data shows the prevalence of it in India in 2017 was 21.4%.

“It is one of the major contributors of death and disability adjusted life years among other malnutrition-related problems. Inadequate maternal nutrition is one of the reasons,” said Lalit Dandona from Public Health Foundation of India, who is also director, India State-Level Disease Burden Initiative.

“Over the last 27 years that have been analysed as part of the study, there has been a two-thirds decline in child mortality rate and that’s attributed to malnutrition but it is still a leading cause of mortality in children, highlighting the fact that a lot more needs to be done,” he added.

How healthy an adult is depends a lot on their nutritional status during the first 1,000 days of life.

“This study has state-wise data that can help them see where they stand. Some states need to step up,” said Dr Hendrik Bekedam, WHO representative to India.



‘Malnutrition still a factor for 68% of child deaths’

U5 Deaths Due To It Fell By 2/3rd From 1990 To 2017

New Delhi: Malnutrition deaths among under-five children in the country have dropped by two-thirds between 1990 and 2017, but it still remains the underlying risk factor for 68% of child deaths, according to a study published in The Lancet Child and Adolescent Health on Wednesday.

The first comprehensive estimates of disease burden due to child and maternal malnutrition and the trends of its indicators in every state from 1990 have been published by the India State-Level Disease Burden Initiative. It shows malnutrition is still the leading risk factor for disease burden in people of all ages considered together, contributing 17% of the total DALYs (disability adjusted life years).

The DALY rate attributable to malnutrition in children varies seven-fold between the states and is highest in Rajasthan, Uttar Pradesh, Bihar and Assam, followed by Madhya Pradesh, Chhattisgarh, Odisha, Nagaland and Tripura, the study noted.

Among the malnutrition indicators, low birth weight is the largest contributor to child deaths in India, followed by child growth fail-

LETHAL LOW BIRTH WEIGHT

Death rate attributable to malnutrition in under-5 children has **dropped by two-thirds** from 1990 to 2017

Malnutrition is the leading risk factor for **68%** of the under-5 deaths

Disease burden rate attributable to malnutrition in children varies 7-fold between the states and is highest in Rajasthan, Uttar Pradesh, Bihar and Assam, followed by Madhya Pradesh, Chhattisgarh, Odisha, Nagaland and Tripura



Low birth weight – with **21%** prevalence in 2017 – was the biggest cause of child deaths in India

PREVALENCE IN 2017

39% Child stunting	33% Child underweight	63% Child anaemia	54% Anaemia in women	53% Exclusive breastfeeding
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Prevalence of child overweight was 12% in 2017, rapidly increasing in all states

Annual rate of increase of child overweight between 1990 and 2017 was 5%

Source: Indian Council of Medical Research (ICMR)

ure, which includes stunting, underweight, and wasting, the study stated.

According to the study, the prevalence of low birth weight was 21% in India in 2017, ranging from 9% in Mizoram to 24% in UP. The annual rate of reduction was 1.1% between 1990 and 2017. The prevalence of child stunting was 39% in

India in 2017, the study stated. This ranged from 21% in Goa to 49% in UP. Its annual rate of reduction was 2.6% between 1990 and 2017. The prevalence of child underweight was 33% in 2017 with an annual rate of reduction of 3.2% since 1990. The prevalence of child anaemia was 60% in India in 2017 PTI

The Tribune

VOICE OF THE PEOPLE

Page 1

One in three Indian kids underweight

TRIBUNE NEWS SERVICE

NEW DELHI, SEPTEMBER 18

Malnutrition was the predominant cause of death in children younger than five years in all India states in 2017 and accounted for 68.2 per cent of all under-five deaths. A new research published in The Lancet Child and Adolescent Health today on disease burden attributable to child and maternal malnutrition in India reveals that malnutrition was also the leading risk factor for health loss for all ages.

The disease and disability burden from malnutrition was the highest in Uttar Pradesh, Bihar, Assam and Rajasthan.

The paper authored by ICMR and Public Health Foundation of India experts shows India struggling to address child malnutrition

CONTINUED ON PAGE 7



FIGURES FOR 1990-2017

LOW BIRTH WEIGHT

- 9% Lowest in Mizoram
- 24% Highest in UP
- 1.1% Annual reduction rate

CHILD STUNTING

- 21% Lowest in Goa
- 49% Highest in Uttar Pradesh
- 2.6% Annual reduction rate

UNDERWEIGHT

- 16% Lowest in Manipur
- 42% Highest in Jharkhand
- 3.2% Annual reduction rate

CHILD ANAEMIA

- 21% Lowest in Mizoram
- 74% Highest in Haryana
- 1.8% Annual reduction rate

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One in three Indian kids underweight

FROM PAGE 1

which has three major indicators — underweight children, stunted and wasted children. The prevalence of child underweight in India was 32.7 per cent in 2017; child stunting was 39.3 per cent and child-wasting (low weight for height) 15.7 per cent. This means nearly one in three children were underweight and two in five were stunted.

The prevalence of child anaemia in the country was 60 per cent in 2017 and ranged from 21 per cent in

Mizoram to a high of 74 per cent in Haryana. Haryana posted the highest prevalence of child anaemia in the country, as per the Lancet paper. Overall, the annual rate of reduction in child anaemia was 1.8 per cent nationally (1990-2017) which varied from 8.3 per cent in Mizoram to nearly nil in Goa.

“If trends estimated up to 2017 for the indicators in the National Nutrition Mission 2022 continue, there would be 8.9 per cent excess

prevalence for 9.6 per cent for stunting, 4.8 per cent for underweight and 11.7 per cent for anaemia in children relative to 2022 targets,” concludes the paper.

The authors also point out the death rate attributable to malnutrition in under-five children in India has dropped by two-thirds from 1990 to 2017 but continues to be a challenge due to very low annual drop in the prevalence of major malnutrition indicators.

'MALNUTRITION ACCOUNTS FOR 68% OF DEATHS OF CHILDREN UNDER 5'

Most States Won't Meet Poshan Abhiyaan Targets to Curb Child Malnutrition: Study

Rajasthan, Bihar, UP, MP, Odisha, Assam & Tripura have reported some of the worst cases

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New Delhi: Terming the targets framed by the Centre to tackle malnutrition and stunting under Poshan Abhiyaan 'aspirational', a study by the Indian Council of Medical Research (ICMR) estimated that many Indian states are running behind and may not be able to achieve them.

The study presented trends and estimates of disease burden caused due to child and maternal malnutrition in India between 1990 and 2017. Some of the states, which have reported the worst cases include Rajasthan, Bihar, Uttar Pradesh, Madhya Pradesh, Odisha, Assam and Tripura.

Poshan Abhiyaan, earlier called the National Nutrition Mission, was launched by Prime Minister Modi in 2017-18 to reduce instances of malnutrition and stunting in children by 2022. Apart from

Report Card	Gap between projected low-birth weight and target (%)		Gap between projected child stunting and target (%)		Gap between projected child anemia and target (%)		Gap between projected anaemia in women and target (%)	
	Poshan Abhiyaan 2022	WHO & UNICEF 2030	Poshan Abhiyaan	WHO & UNICEF	Poshan Abhiyaan	Poshan Abhiyaan	WHO & UNICEF	
	India	8.9	2.8	9.6	5.2	11.7	13.8	22.8
Bihar	8.8	2.9	19.4	12.0	12.2	14.5	28.7	
UP	9.1	4.4	19.4	10.0	13.8	14.1	24.1	
Rajasthan	9.0	3.3	7.2	3.0	11.3	13.3	17.9	
MP	9.1	3.7	10.5	3.7	11.6	10.8	14.8	
Assam	8.8	2.4	8.2	4.3	6.1	6.6	1.7	
Odisha	8.8	2.4	5.9	2.5	9.2	13.5	19.7	



Poshan Abhiyaan, the study claimed that malnutrition trends between 1990 and 2017 show that the country may also miss global targets for 2030, set by WHO and UNICEF. The report further recommended the need for higher rates of improvement and the setting 'bold' yet 'achi-

evable' targets for 2030. Balram Bhargava, secretary in the department of health research in the health ministry and also director general ICMR, said the apex body and other Poshan Abhiyaan partners are looking at ways of getting more state-specific data to tackle malnutrition.

The estimates, part of the Global Burden of Disease Study 1990-2017, were published in the Lancet Child & Adolescent Health and also released by ICMR on Wednesday. The study was conducted by the India State-Level Disease Burden Initiative — a joint initiative of the ICMR, Public Health Foundation of India and Institute for Health Metrics and Evaluation in collaboration with the ministry of health and family welfare.

According to the study, the death rate attributable to malnutrition in children under five years of age in India has dropped by two-third from 1990 to 2017. However, malnutrition still accounts for 68% of deaths of children of this age group.

Among malnutrition indicators, low-birth weight is the biggest contributor to disease burden. Director of the India State-Level Disease Burden Initiative, Lalit Dandona said, "Low-birth weight needs particular policy attention in India as it is the biggest contributor to child death among all malnutrition indications and its rate of decline is among the lowest." In 2017, the study states, prevalence of low-birth rate was 21.4% , child stunting was 39.3% , anemia in children at 59.7% and anemia in women between the age of 15 and 49 was 54.4%.

Malnutrition leading cause for death among children under 5

Low birth weight is biggest contributor to disease burden, followed by stunting, according to ICMR study

Neetu Chandra Sharma
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NEW DELHI

Malnutrition continues to be the leading cause for death among Indian children under the age of five, according to a study led by the Indian Council of Medical Research (ICMR).

The death rate due to malnutrition in children under five years of age in India has dropped by two-thirds between 1990 and 2017, but still accounts for 68% of deaths in children of the age group, according to ICMR's comprehensive estimates of disease burden caused by child and maternal malnutrition.

The disease burden—the impact of a health problem as measured by financial cost, mortality, morbidity, or other indicators—attributed to malnutrition in children varies across states by as much as seven times, the study highlighted. Rajasthan, Uttar Pradesh, Bihar, and Assam top the list, followed by Madhya Pradesh, Chhattisgarh, Odisha, Nagaland, and Tripura. Among malnutrition indicators, low birth weight is the biggest contributor to the disease burden, followed by child growth failure, including stunting, underweight and wasting.

The estimates, which are part of the Global Burden of Disease



The death rate due to malnutrition in children under five years has dropped by two-thirds between 1990 and 2017, but still accounts for 68% of deaths in children of the age group, the study said. PRIYANKA PARASHAR/MINT

Study 1990–2017, were also published in *The Lancet Child and Adolescent Health* on Wednesday. The study was conducted by the India State-Level Disease Burden

Initiative, a joint initiative by the ICMR, Public Health Foundation of India, and Institute for Health Metrics and Evaluation, in collaboration with the ministry of health and family welfare.

"Efforts are needed in each state to control malnutrition. State governments are being encouraged to

"The National Institute of Nutrition, an ICMR institute, and other partners are setting in place mechanisms to ensure there is more data on malnutrition in the various states, which will help monitor progress," said ICMR director-general Balram Bhargava, who is also the secretary, department of health research, ministry of health.

The prevalence of low birth weight in 2017 was 21%, and varied across states, ranging from 9% in Mizoram to 24% in Uttar Pradesh, the study showed. The prevalence of child stunting

was 39%, ranging from 21% in Goa to 49% in Uttar Pradesh. The trend was the highest in the Empowered Action Group States, which includes Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Odisha, and Rajasthan. The prevalence of child underweight was at 33% and child anaemia cases was at 60%, ranging from 21% in Mizoram to 74% in Haryana.

The study also found that the prevalence of anaemia in women was at 54% in 2017.

"While it is important to address the gaps in all malnutrition indicators, low birth weight needs particular policy attention as it is the biggest contributor to child death among all malnutrition indications and its rate of decline is among the lowest," said Lalit Dandona, director, India State-Level Disease Burden Initiative.

"Focus on improving the overall nutritional status of girls and women during the preconception and pregnancy period and providing quality antenatal care will positively influence low birth weight indicators and extend the benefits to next generation," Paul said.

"For substantial improvements across all malnutrition indicators, states will have to implement an integrated nutrition policy to effectively address broader determinants of under nutrition across the life cycle," said Soumya Swaminathan, chief scientist, World Health Organization, and the first author of the research paper.

DISEASE BURDEN

OF the malnutrition indicators, low birth weight is the biggest contributor to disease burden

OTHER contributors to malnutrition are child growth failure, underweight and wasting of children

IN 2017, the prevalence of low birth weight was 21% and child stunting was at 39%

WHILE prevalence of child underweight was at 33%, child anaemia cases was at 60%, study said

Initiative, a joint initiative by the ICMR, Public Health Foundation of India, and Institute for Health Metrics and Evaluation, in collaboration

with the ministry of health and family welfare. "Efforts are needed in each state to control malnutrition. State governments are being encouraged to intensify efforts to reduce malnutrition and undertake robust monitoring to track progress," said NITI Aayog's Vinod K. Paul.

The prevalence of low birth weight in 2017 was 21%, and varied across states, ranging from 9% in Mizoram to 24% in Uttar Pradesh, the study showed. The prevalence of child stunting

● CHILDREN UNDER 5

‘Malnutrition deaths drop by two-thirds’

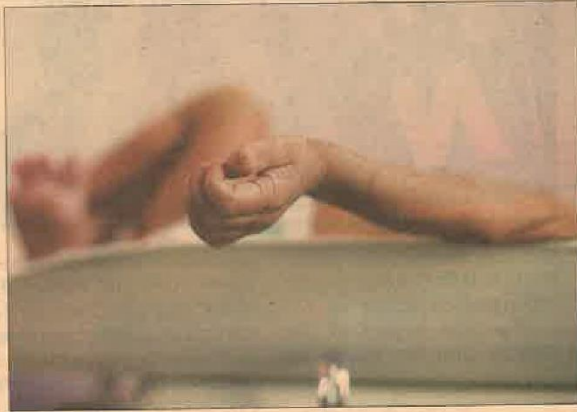
PRESS TRUST OF INDIA
 New Delhi, September 18

MALNUTRITION DEATHS AMONG under-five children in the country have dropped by two-thirds between 1990 and 2017, but it still remains the underlying risk factor for 68% child deaths, according to a study published in *The Lancet Child and Adolescent Health* on Wednesday.

The first comprehensive estimates of disease burden due to child and maternal malnutrition and the trends of its indicators in every state from 1990 have been published by the India State-Level Disease Burden Initiative.

The findings show malnutrition is still the leading risk factor for disease burden in persons of all ages, considered together contributing 17% of the total DALYs (disability adjusted life years). The DALY rate attributable to malnutrition in children varies seven-fold among the states and is highest in Rajasthan, Uttar Pradesh, Bihar and Assam, followed by Madhya Pradesh, Chhattisgarh, Odisha, Nagaland and Tripura, the study noted.

Among the malnutrition indicators, low birth weight is



the largest contributor to child deaths in India, followed by child growth failure that includes stunting, underweight, and wasting, the study stated.

According to the key findings of the study, the prevalence of low birth weight was 21% in India in 2017, ranging from 9% in Mizoram to 24% in UP.

The annual rate of reduction was 1.1% in India between 1990 and 2017. The prevalence of child stunting was 39% in India in 2017, the study stated. This ranged from 21% in Goa to 49% in Uttar Pradesh. Its annual rate of reduction was 2.6% in India between 1990 and 2017.

The prevalence of child

According to the key findings of the study, published in *The Lancet Child and Adolescent Health*, the prevalence of low birth weight was 21% in India in 2017, ranging from 9% in Mizoram to 24% in Uttar Pradesh

underweight was 33% in India in 2017, ranging from 16% in Manipur to 42% in Jharkhand. Its annual rate of reduction was 3.2% between 1990 and 2017.

According to the study the prevalence of child anaemia was 60% in India in 2017, ranging

from 21% in Mizoram to 74% in Haryana. The state-specific findings described in this scientific paper highlight the extent of the effort needed in each state to achieve the national and global targets for various malnutrition indicators.

The India State-Level Disease Burden Initiative is a joint initiative of the Indian Council of Medical Research, Public Health Foundation of India, and Institute for Health Metrics and Evaluation, in collaboration with the ministry of health along with stakeholders associated with over 100 Indian institutions, involving many leading health scientists and policy makers from India.

Indian Council of Medical Research (ICMR) director General Balram Bhargava said the government, in its commitment to the Poshan Abhiyaan (nutrition mission), is taking important steps to augment monitoring of malnutrition indicators across the country.

“The findings reported in the paper published today (Wednesday) highlight that there are wide variations in the malnutrition status between the states. It is important therefore to plan the reduction in malnutrition in a manner that is suitable for the

trends and context of each state,” Bhargava said.

“Inclusion of data from all available sources in India over three decades has enabled robust estimation of malnutrition trends for every state in this study, which is a useful reference for further efforts to improve nutritional status across India,” said senior author of the paper professor Lalit Dandona, who is director of the India State-Level Disease Burden Initiative.

“This study reports that malnutrition has reduced in India, but continues to be the predominant underlying risk factor for child deaths, underscoring its importance in addressing child mortality,” Dandona said.

It reveals that while it is important to address the gaps in all malnutrition indicators, low birth weight needs particular policy attention in India as it is the biggest contributor to child death among all malnutrition indications and its rate of decline is among the lowest.

On the release of these findings, Professor Vinod K Paul, Member NITI Aayog said September is being observed as ‘Poshan Maah’ (nutrition month) with the aim of reaching every household with the message of nutrition.

Beating **HUNGER**

Two-thirds of the under-5 deaths in India occur due to malnutrition. India needs an integrated nutrition policy

A REPORT IN *Lancet Child & Adolescent Health*, by the India State-Level Disease Burden Initiative, shows two-thirds of under-5 deaths in 2017—706,000 out of 1.04 million—were due to malnutrition. The report finds that under-5 deaths from all causes have been falling—2,336 per 100,000 in 1990 to 801 per 100,000 in 2017. However, the deaths caused by malnutrition have shown a much smaller decline, from 70.4% in 1991 to 68.2% in 2017. The disability-adjusted life years (DALY) rate due to malnutrition was the highest in Assam, Uttar Pradesh, Bihar and Rajasthan. The report states that if these trends persist, then achieving UN SDG targets by 2030, WHO Global Nutrition 2025 targets, and National Nutrition Mission (NNM) 2022 targets will be near impossible.

Policy steps such as Integrated Child Development Scheme, the Mid-day Meal Scheme, National Food Security Act, and the NNM targets were taken to reduce malnutrition and related deaths. However, the proof of the pudding lies in the eating—one can gauge the quality of implementation of these schemes from the fact that child malnutrition continues to haunt India even today. The report notes that improvements across malnutrition indicators in India need an integrated nutrition policy which can effectively address the broader determinants of under-nutrition across life cycles. Such improvements must include clean drinking water, reduction of open defecation and promotion of proper sanitation, improvement in women's status, food security, and promotion of nutrition sensitive agriculture. The right policies exist, as do the implementing bodies. What is needed is "political will and good governance, and strategic investments in a multi-sectoral approach".

HEALTH

Assam, Bihar, Rajasthan, UP most malnourished States: Study

Across age groups, malnutrition leading risk factor for disease, says *Lancet* report

OUR BUREAU

New Delhi, September 18

Rajasthan, Uttar Pradesh, Bihar and Assam have the highest malnutrition levels in the country, even though the disease burden and death rate attributable to poor nutritional intake have dropped substantially in India, according to a study published in the journal *Lancet Child & Adolescent Health*, on Wednesday.

Malnutrition continues to be the leading risk factor underlying deaths in under-five children and health loss in persons of all ages considered together, according to the study which comprehensively estimated the disease burden due to child and maternal malnutrition in every Indian State from 1990 by India State-Level Dis-

ease Burden Initiative, a consortium of experts and stakeholders associated with over 100 Indian institutions, including the Indian Council of Medical Research (ICMR), the Public Health Foundation of India and Institute for Health Metrics and Evaluation, an independent global health research centre at the University of Washington.

Variation among States

Among the malnutrition indicators, low birth weight is the biggest contributor to disease burden followed by child growth failure, which includes stunting, being underweight and wasting. The prevalence of malnutrition indicators and their rates of improvement vary substantially between the



Low birth weight needs particular policy attention in India **ISTOCK**

States. The performance of different States was measured using disability-adjusted life-years (DALYs) per 1,00,000 lost due to child and maternal malnutrition. The disease burden rate attributable to malnutrition in children varies seven-fold between the States, with Rajasthan, UP, Bihar and Assam being the top of the list while Kerala and Tamil Nadu have

the lowest disease burden, the study showed.

While the four worst-performing States have DALYs of more than 60,000, Madhya Pradesh, Chhattisgarh, Odisha, Nagaland and Tripura figure among the second set of poor-performing States that have DALYs between 50,000 and 59,999, the *Lancet* study said.

"The findings reported in

the paper highlight that there are wide variations in the malnutrition status between the States. It is important therefore to plan the reduction in malnutrition in a manner suitable for the trends and context of each State," said Balram Bhargava, ICMR Director General.

"The study reveals that while it is important to address the gaps in all malnutrition indicators, low birth weight needs particular policy attention in India as it is the biggest contributor to child death among all malnutrition indications and its rate of decline is among the lowest. Another important revelation is that overweight among a subset of children is becoming a significant public health problem as it is increasing rapidly across all States of India," said Lalit Dandona, who heads the consortium.

The death rate attributable to malnutrition in under-5

children in India has dropped by two-thirds from 1990 to 2017.

However, malnutrition is still the underlying risk factor for 68 per cent of the deaths in under-five children in India, and the leading risk factor for disease burden in persons of all ages considered together contributing 17 per cent of the total DALYs. The prevalence of low birth weight was 21 per cent in India in 2017, ranging from 9 per cent in Mizoram to 24 per cent in UP. The annual rate of reduction was 1.1 per cent in India between 1990 and 2017, ranging from 3.8 per cent in Sikkim to 0.3 per cent in Delhi. The prevalence of child stunting was 39 per cent in India in 2017. This ranged from 21 per cent in Goa to 49 per cent in Uttar Pradesh, and was generally highest among socio-economically backward States of Bihar, Chhattisgarh,

Jharkhand, Odisha, Rajasthan, MP and UP.

The annual rate of reduction in child stunting was 2.6 per cent in India between 1990 and 2017, which varied from 4 per cent in Kerala to 1.2 per cent in Meghalaya. The prevalence of child underweight was 33 per cent in India in 2017, ranging from 16 per cent in Manipur to 42 per cent in Jharkhand. The annual rate of reduction of child underweight was 3.2 per cent in India between 1990 and 2017, ranging from 5.4 per cent in Meghalaya to 1.8 per cent in Delhi. Child anaemia prevalence was 60 per cent in India in 2017, ranging from 21 per cent in Mizoram to 74 per cent in Haryana. The annual rate of reduction in child anaemia was 1.8 per cent in India between 1990 and 2017, which varied from 8.3 per cent in Mizoram to no significant reduction in Goa.

Obesity and malnutrition: Two sides of the health crisis

Sunderarajan Padmanabhan New Delhi | Updated on September 18,
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The prevalence of the overweight problem in children aged from 2 to 14 has increased significantly between 2010 and 2017

All is not well on the nutrition front in the country. A new study has found that while malnutrition continues to be the leading risk factor for deaths in children under five and illness in persons of all ages considered together, the problem of overweight among children is also rapidly increasing across the country.

The prevalence of the overweight problem in children aged from 2 to 14 has increased significantly between 2010 and 2017, in two waves. The first wave, from 2000 to 2010 covered states with high and medium state of socio-demographic indices and the second wave, from 2011 to 2017 engulfed the entire country, covering these states as well as states with low socio-demographic indices.

The study has estimated that the incidence of child overweight problem was 11.5 per cent as of 2017. It has projected that the number may rise to 17.5 per cent, which is 14.5 per cent higher than the target of three per cent set by the World Health Organisation (WHO) and United Nations Children's Fund (UNICEF).

The study examined trends in the burden of child and maternal malnutrition from 1990 to 2017. It found that among various malnutrition indicators, low birth weight is the most significant contributor to child deaths, followed stunting, underweight and wasting.

Anaemia

The prevalence of low birth weight was 21.4 per cent in 2017 and it decreased moderately with increasing socio-demographic index. The prevalence has come down since 1990, with a relatively higher decline between 2010 and 2017. The prevalence of child stunting and under-weight is declining but remains high at 39 percent and 36 percent in 2017. The study has also highlighted that the prevalence of anaemia in India was “extremely” high at 60 percent in children and 54 percent in women in 2017.

The study was conducted by Indian Council of Medical Research, Public Health Foundation of India and the Institute for Health Metrics and Evaluation in collaboration with the Ministry of Health and Family Welfare. It has been published in The Lancet Child and Adolescent Health.

Participating in a programme to mark the release of the findings, Member, Niti Aayog, Prof. Vinod K. Paul, said “state governments are being encouraged to intensify efforts to combat nutrition in keeping with their requirements. Focus on improving the overall nutritional status of girls and women during pre-conception and pregnancy, and provision of quality ante-natal care will positively address the problem of low birth weight”.

ICMR Director-General Prof. Balram Bhargav, said ICMR’s Hyderabad-based National Institute of Nutrition and other partners are setting in place mechanisms to improve the availability of data from states to provide for better monitoring of the status of malnutrition in the country.

Twitter handle: [@ndpsr](https://twitter.com/ndpsr)

(India Science Wire)

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चिंताजनक

पोषक तत्वों की कमी और बार-बार संक्रमण से प्रभावित होता है बच्चों का संज्ञानात्मक, भावनात्मक और शारीरिक विकास, द लैंसेट चाइल्ड एंड एडोलेसेंट हेल्थ नामक जर्नल में प्रकाशित हुआ अध्ययन

कम हो रहा कुपोषण, बढ़ रहीं इससे जुड़ी बीमारियां

नई दिल्ली, आइएसडब्ल्यू : कुपोषण के मामले तो कम हो रहे हैं, पर इससे जुड़ी बीमारियों का बोझ बढ़ रहा है। भारतीय शोधकर्ताओं के एक ताजा अध्ययन में यह बात उभरकर आई है। विभिन्न राज्यों में वर्ष 1990 से 2017 के दौरान किए गए इस अध्ययन में पता चला है कि कुपोषण के मामलों में दो-तिहाई गिरावट हुई है। हालांकि, पांच साल से कम उम्र के बच्चों की 68 फीसद मौतों के लिए कुपोषण एक प्रमुख कारक बना हुआ है। बच्चों के अलावा, अलग-अलग उम्र के 17 फीसद लोग भी कुपोषण जनित बीमारियों का शिकार पाए गए हैं। राष्ट्रीय दर की तुलना में कुपोषण के मामले राज्य स्तर पर सात गुना अधिक पाए गए हैं। सबसे अधिक कुपोषण राजस्थान, उत्तर प्रदेश, बिहार, असम, मध्य प्रदेश, छत्तीसगढ़, ओडिशा, नागालैंड और त्रिपुरा में पाया गया है।

इंडिया स्टेट-लेवल डिसीज वर्डन इनीशिएटिव द्वारा किया गया यह अध्ययन शोध पत्रिका द लैंसेट चाइल्ड एंड एडोलेसेंट हेल्थ में प्रकाशित किया गया है। यह अध्ययन भारतीय आयुर्विज्ञान अनुसंधान परिषद, पब्लिक हेल्थ फाउंडेशन ऑफ इंडिया तथा स्वास्थ्य और परिवार कल्याण मंत्रालय की संयुक्त पहल पर आधारित है। इंडिया स्टेट-लेवल डिसीज वर्डन इनीशिएटिव के निदेशक और प्रमुख शोधकर्ता



बच्चों में 68 फीसद मौत की वजह है कुपोषण। फाइल

ललित डंडोना ने बताया कि लंबे समय तक पोषक तत्वों की कमी और बार-बार संक्रमण से बच्चों का संज्ञानात्मक, भावनात्मक और शारीरिक विकास प्रभावित होता है, जो कुपोषण के प्रमुख संकेतक माने जाते हैं। कुपोषण से होने वाली मौतों के लिए जन्म के समय बच्चों का कम वजन मुख्य रूप से जिम्मेदार पाया गया है। बच्चों का समुचित विकास न होना भी कुपोषण से जुड़ा एक प्रमुख जोखिम है। उम्र के अनुपात में कम लंबाई और लंबाई के अनुपात में कम वजन बच्चों की मौतों के लिए जिम्मेदार कुपोषण जनित अन्य प्रमुख कारकों में शामिल हैं।

21 फीसद बच्चों का जन्म के समय कम होता है वजन : शोधकर्ताओं का कहना है कि भारत

में 21 फीसद बच्चों का वजन जन्म के समय से ही कम होता है। उत्तर प्रदेश में यह संख्या सबसे अधिक 24 फीसद और सबसे कम मिजोरम में 09 फीसद है। हालांकि, राष्ट्रीय स्तर पर जन्म के समय बच्चों के कम वजन के मामलों में 1.1 फीसद की दर से वार्षिक गिरावट हुई है। राज्यों के स्तर पर यह गिरावट दिल्ली में सबसे कम 0.3 फीसद और सिक्किम में सबसे अधिक 3.8 फीसद देखी गई है। वर्ष 2017 में बच्चों के कम विकास दर की राष्ट्रीय स्तर पर व्यापकता 39 फीसद थी। गोवा में यह 21 फीसद से लेकर उत्तर प्रदेश में 49 फीसद तक दर्ज की गई है। सामाजिक आर्थिक रूप से पिछड़े राज्यों में यह दर सबसे अधिक पाई गई है।

झारखंड के हालात चिंताजनक : अध्ययन में यह भी पता चला है कि देश में अभी भी 33 फीसद बच्चों का वजन सामान्य से कम होता है। मणिपुर में 16 प्रतिशत से लेकर झारखंड में 42 फीसद बच्चे कम वजन से ग्रस्त पाए गए हैं। राष्ट्रीय स्तर पर बच्चों में एनीमिया की व्यापकता 60 फीसद है, जो मिजोरम में 21 प्रतिशत से लेकर हरियाणा में 74 प्रतिशत तक देखी गई है। मिजोरम में 28 फीसद से लेकर दिल्ली की 60 फीसद महिलाओं समेत देश में कुल 54 फीसद महिलाएं एनीमिया की शिकार हैं।