

What is our Body Burden?

Environment and Health

- Food and nutrition
- Lifestyle diseases

3rd National Knowledge Conclave

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Our environment is toxic

- Air, water, food are contaminated and this has weakened our bodies
- We are vulnerable to diseases. These are diseases of **our lifestyle**, diseases of **our toxic growth**
- These diseases are debilitating
- We are facing a double burden of disease
- It's a burden we cannot afford

Disease profile: ICMR report

- 55% of India's disease burden is due to Non-Communicable Diseases (NCDs). NCDs are responsible for 61% of deaths. The phase of **epidemiological transition** is over.
- Between 1990 and 2016, burden due to communicable, maternal, neonatal and nutritional diseases went down from 61% to 33%

A DownToEarth PUBLICATION

LIFESTYLE DISEASES

BODY BURDEN

STATE OF INDIA'S HEALTH

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BODY BURDEN

2015

STATE OF INDIA'S HEALTH



Ecology of diseases

NCDs in India

- Obesity: The number of overweight and obese people in India has doubled between 2005 and 2015. Women and children are more vulnerable
- Mental health: More than 10% of the country's population over the age of 18 suffers from mental illnesses. At least 150 million people are in need of active medical intervention

NCDs in India

- Cancer: More than 1.73 million new cancer cases are likely to be recorded each year by 2020. The 6 most common cancer types in men and women are projected to increase by 25.6% and 21.4% respectively by this year
- Heart diseases: Leads to 26% of all deaths in India. In urban India, young and middle-aged people are at risk, while in rural areas, the elderly population is vulnerable

NCDs in India

- Respiratory diseases: Had an estimated 22.2 million chronic COPD patients and around 35 million chronic asthma patients in 2016.
- Hormonal disorders: Every 12th Indian is said to be a diabetic and 1 in 10 adult suffers from hypothyroidism. Recent study puts down prevalence of diabetes to 6.5 for men and 6.1 for women

NCDs in India

- Food allergies: 25-40 million people in India could be suffering from food allergies. About 170 foods reportedly cause allergic reactions



Food and health

- Children consume large amounts of packaged foods. These junk foods do not contain nutrients but are high in unhealthy salt, sugars and fats
- Link between poor diet and dementia. Western diets which typically consists of meats, sweets and fat-rich deteriorates cognitive function

Food and health

- As much as 30% of all cancers in the developed world and 20% in developing worlds are linked to diet
- Excess sugar is said to be a risk factor in heart disease
- Diets low in red meat and rich in whole grain could reduce risk of COPD. Each extra serving of fruits and vegetables results in 4% lower risk of COPD in former smokers and 8% lower risk in current smokers

Food and health

- Poor diets such as those deficient in vitamin D and iodine are linked to hormonal disorders
- Traditional diets that have more vegetables, less meat and fewer additives and processed foods protects from food allergies

Bad food

- ICMR has identified **malnutrition** continues to be the single largest risk for ill health
- Crops grown in poor soils are deficient in nutrients
- Climate change is also reducing the ability of the plants to produce nutrients

Healthy more

Earth compares the latest report of the National Institute of Nutrition with its report published in 1989 for levels of seven nutrients in food. The snapshot shows that most pulses and vegetables have less carbohydrate, but are low in micronutrients, but fruits and micronutrients have not been reduced in fruits, while milk is now low in milk and eggs

ICRISAT Data Centre
K. Kumar Singh
Vandana and Sushmita Das
National Institute of Nutrition, Hyderabad
Infographics visit:
nri.org.in/infographics

must be compared for
data as they are not
in 1989 report

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MACRONUTRIENTS (in g/100g)

MICRONUTRIENTS (in µg/100g)

	Protein				Carbohydrate				Fat				Thiamine (vitamin B1)		Iron		Magnesium		Zinc	
	2017	% change from 1989 level	2017	% change	2017	% change	2017	% change	2017	% change	2017	% change	2017	% change	2017	% change	2017	% change	2017	% change
Rice (raw milled)	7.94	16.76	78.24	0.05	0.52	4	0.05	-16.66	0.65	-7.14	19.30	-78.55	1.21	-13.57						
Wheat (whole)	10.59	-17.26	64.72	-9.10	1.47	-2	0.46	2.22	3.97	-25	125	-9.42	2.85	5.55						
Whole green gram	22.53	-6.12	46.13	-18.64	1.14	-12.30	0.45	-4.25	4.89	11.13	198	55.90	2.67	-11						
Tomato (ripe, hybrid)	0.76	-15.55	3.20	-11.11	0.25	25	0.04	-66	0.22	-65.62	11.86	NA	0.11	-73.17						
Potato (brown skin, big)	1.54	-3.75	14.89	-34.11	0.23	130	0.06	-40	0.57	18.75	24.07	-19.76	0.28	-47.17						
Apple	0.29	45	13.11	-2.16	0.64	28	0.03	NA	0.26	-60	8.09	15.57	0.09	50						
Banana (ripe, robusta variety)	1.23	2.50	23.63	-13.12	0.33	10	0.01	-80	0.28	-22	34.98	-14.68	0.14	-6.66						
Mustard seeds	19.51	-2.45	16.80	-29.41	40.19	1.23	0.55	-15.38	13.49	70.76	266	NA	4.03	-16.04						
Buffalo milk	3.68	-14.41	8.39	67.80	6.58	1.23	0.05	25	0.16	-20	10.05	NA	0.30	NA						
Eggs (poultry, whole)	13.28	-0.15	NA	NA	9.15	-31.20	0.06	-40	1.82	-13.33	12.01	-7.61	1.23	NA						

Deficient foods

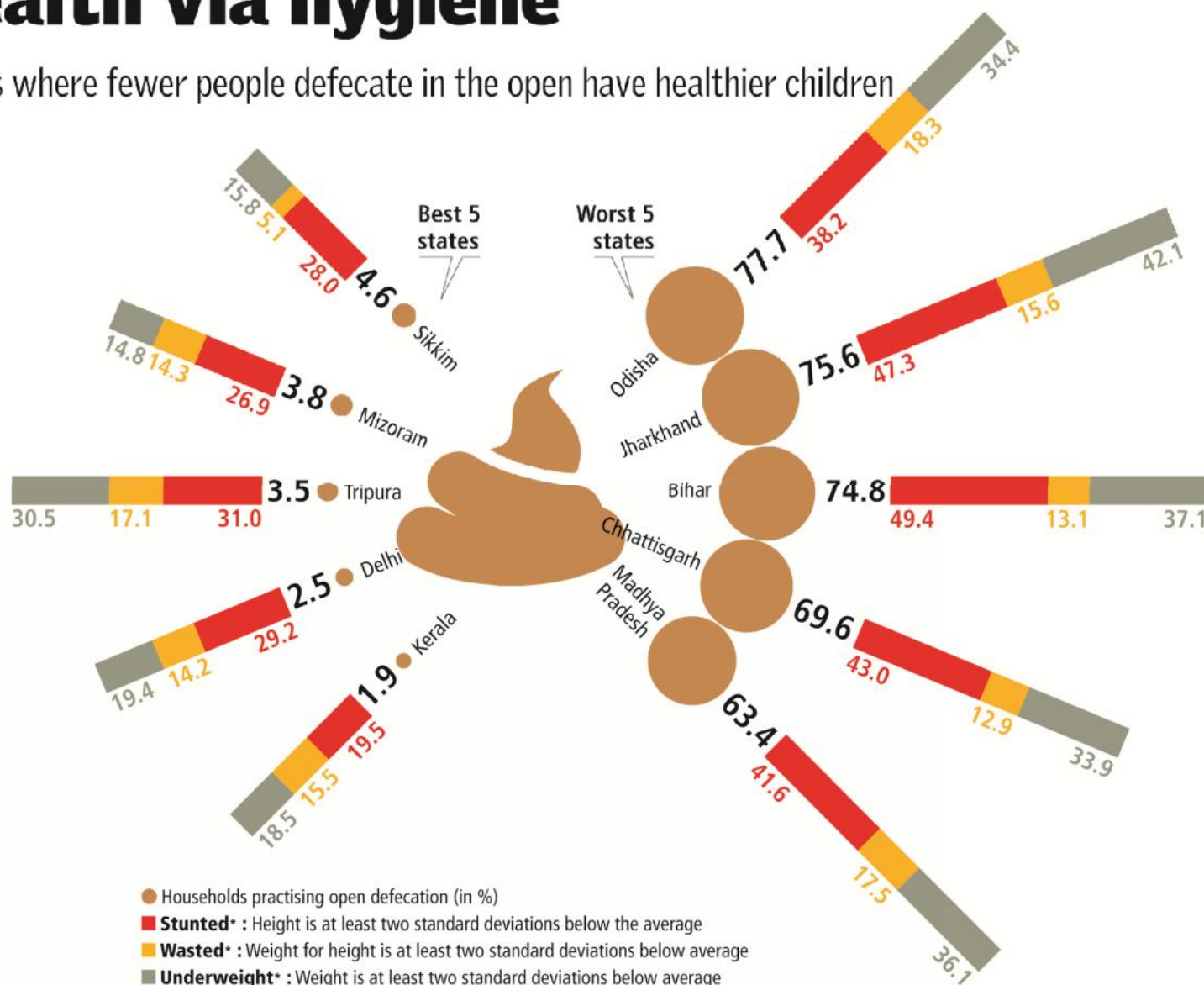
- In bajra and wheat, carbohydrate levels have gone down by 8.5% and 9% respectively
- Pulses: Protein has reduced by 10.4% in masoor and 6.12% in moong
- Micronutrients: In potato, iron has increased but thiamine, magnesium and zinc have reduced. The four micronutrients have reduced by an astounding 41-56% in cabbage. Iron has reduced by 76.6% in green tomato and by 60% in apples

Double whammy

- Communicable diseases worsens a person's nutritional status
- Lack of sanitation is directly linked to health. Leads to stunting, wasting and underweight

Health via hygiene

States where fewer people defecate in the open have healthier children



* % of total under-five children in the country

Source: Rapid Survey on Children (2013-14), Unicef and the Government of India

The new battle: losing to food

- NCDs are complex
- They are not the simple pathogen-disease linkages we are used to
- Have multiple triggers, interplay is not understood
- Co-morbidities are common. One NCD makes to susceptible to another
- Treatment is difficult, expensive and lifelong
- Poor are more susceptible
- Research is inconclusive

Solution too lies in food



Leaves: Mudakkatran



Flowers: dhawai



Fruits: phalsa



Seeds: jakhiya



Take home message

- Unless we address the environmental triggers of diseases, we cannot
 - Protect people from lifetime of suffering
 - Improve economy
 - Meet SDGs