What is our Body Burden?

Environment and Health

• Food and nutrition
• Lifestyle diseases

3rd National Knowledge Conclave
Vibha Varshney
February 1, 2018
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%
BODY BURDEN
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 no more

The World Health Organization (WHO) and the Food and Agriculture Organization (FAO) of the United Nations have published a report comparing the latest nutrient data with that of 1989 to assess changes in dietary habits. The report highlights significant changes in the intake of nutrients, particularly a decline in the consumption of healthy foods like fruits and vegetables, and an increase in the intake of less healthy foods like processed and high-sugar products.

The chart shows the percentage change in the intake of macronutrients and micronutrients from 1989 levels. Key findings include:
- A decrease in the consumption of carbohydrates and an increase in the intake of fats.
- A decline in the consumption of vitamin B1 (thiamine).
- An increase in the intake of sodium and iron.
- A decrease in the consumption of zinc.

The report also highlights the need for increased awareness and education about healthy eating habits to reverse these trends and improve public health.
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

- **Best 5 states**
  - Sikkim
  - Mizoram
  - Tripura

- **Worst 5 states**
  - Bihar
  - Chhattisgarh
  - Madhya Pradesh

---

- **Households practising open defecation (in %)**
  - Sikkim: 6.4%
  - Mizoram: 10.3%
  - Tripura: 20.3%
  - Delhi: 25.2%
  - Bihar: 32.7%

- **Stunted**: Height is at least two standard deviations below the average
  - Sikkim: 58.4%
  - Mizoram: 68.5%

- **Wasted**: Weight for height is at least two standard deviations below average
  - Sikkim: 15.9%
  - Mizoram: 15.9%
  - Tripura: 19.5%

- **Underweight**: Weight is at least two standard deviations below average
  - Sikkim: 14.2%
  - Mizoram: 15.5%
  - Tripura: 15.5%

- % 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: Mudakkatraan
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