

HOW HEALTHY IS OUR YOUNG POPULATION

FINDINGS FROM THE NATIONAL HEALTH SURVEY

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WORKING PAPER

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EXECUTIVE SUMMARY

Height

- India has made considerable strides in improving maternal and child health, however 36% of children in India are stunted.
- Between 2005-06 and 2019-21, the share of women below 145 cm in the age group between 15 and 19, has increased from 12% to 14%. Moreover, among women between 20-29, 11% women are below 145 cm.
- The mean heights of 18-year-old boys and girls in India have grown since 1985, however, at one of the lowest rates. The average height of 16 year old's across the world reveals that Indians fare extremely low, comparable to Sub-Saharan Africa.

Obesity

- Even for BMIs less than 20, abdominal obesity is high among young people in India, a characteristic of South Asian communities. Compared to European and other populations at any given Waist to Height Ratio, South Asians have higher abdominal visceral fat.
- Obesity levels for the ages of 15-19, the proportion of the population of obese/overweight has increased from 12% in 2005-06 to 14% in 2019-21. In the same period, the population of obese and overweight persons remained at 11% for the population between the ages of 20 and 29.

Anaemia

- About 60% of women between ages 15-19 years and 56% between ages 20-29 years were anaemic as per the NFHS-V data.
- Iron deficiency has been known to cause infertility, miscarriage, low birth weight and preterm labour. In Jammu and Kashmir, which reports a fertility rate of 1.4, 65% of women aged 15-49 are anaemic, as in Ladakh, with a fertility rate of 1.3, 78% of pregnant women were anaemic. 52% of pregnant and 60% of breastfeeding women were found to be anaemic as per NFHS-V.

Deaths due to non-medical reasons

- In 2019-21 about 31% of deaths between 15-19-year-old women were due to accidents, violence, poisoning, homicides and suicides. Among men in the same age group about 42% are due to such non-medical causes. About 47% of men between 20-29 years of age died of non-medical causes, while 21% of women in the same age group also reported deaths due to non-medical reasons.
- The suicide mortality rate in India is 11.3 in 2020, the highest in the world.

Tobacco and Alcohol Usage

- Tobacco consumption through smoking five or more cigarettes/bidis each day in women 15-19 is 19.6% and for women aged 20-39 is 26.10%. There is a sharp rise in tobacco consumption through smoking five cigarettes/bidis on an average in men at 15.7% between the ages of 15-19 and 34.2% between the ages of 20-34.
- An overall decline in the consumption of alcohol From 1 % in 2005 to 0.20% in 2021 for women aged 15-19 . Alcohol consumption fell from 11% in 2005 to 5.89% in 2021 in men aged 15-19.

Sexual Health

- About 36% of men between the ages of 15-19 years reported using modern contraceptives with their last partner. Among 20-24-year-old men, the use of modern contraceptives has grown from 18% in 2005-06 in 2005-06 to 24% in 2019-21. However, among men between the ages of 25-29, there has been a decline in the usage of modern methods of contraception from 29% in 2005-06 to 20% in 2019-21. On the contrary, the usage of modern contraceptive techniques has gained immense popularity with both married and unmarried women.

Access to health insurance

- Among women aged 15-19, 26% in 2019-21 are insured compared to 17% in 2015-16. There is a 4% rise among insured women aged 20-24 in 2019-21. Among men, the rise in insured aged 15-19 is from 19% in 2015-16 to 27% in 2019-21. There is an 8% rise among insured men aged 20-24 in 2019-21.

Global Burden of Diseases

- The disease burden for non-communicable diseases has grown from 137.43 million Disability-adjusted life years (DALYs) lost in 1990 to 235.82 million DALYs lost in 2019. Cardiovascular and respiratory diseases continue to have the largest disease burden as in the 1990s. Cancers, other non-communicable diseases, diabetes and kidney diseases as well musculoskeletal diseases, reported a significant disease burden in 2019. Mental health illnesses also show a significantly increased burden in 2019 when compared to 1990.
- The burden from injuries, self-harm, violence, and accidents is the highest among young people between the ages of 15-49 years.

1. HOW HEALTHY IS OUR YOUNG POPULATION

The paper uses the latest round of family health survey and other national datasets to describe the health profile of the population below the age of 30. India has the largest youth population in the world, with about 66 per cent of the total population (more than 808 million) below the age of 35. About 40 per cent of the Indian population is aged 13 to 35 years. The paper explores the nutritional status, mortality, health care access, morbidity and behavioural patterns among young people in India. Increased levels of education, age at marriage and income have had a significant impact on mortality and morbidity. Advancement in medical science and technology has shifted the narrative of health concerns from infectious diseases to non-communicable diseases and mental health illnesses. The paper takes into account three rounds of family health surveys – 2005-06, 2015-16 and 2019-21 to understand the transitions that have occurred in the health profile of young respondents.

I. INTRODUCTION

The national youth policy in India classifies youth as individuals between the ages of 15-29 years. This section accounts for nearly 29% of the country's population. Indicators on education, employment, access to infrastructure and economic empowerment have been at the centre of youth-related issues. Health rarely does the discourse concern itself with the youth. The focus of public health on young people is reflected largely in deliberations around drug abuse, alcohol and tobacco consumption and the growing burden of suicides and road traffic accidents.

Youth is accompanied by physical, mental and cognitive transitions. Today's youth is facing strains and pressures starkly different from their previous generations. The threat of infectious diseases looms large, coupled with health-concerns brought on due to sedentary and stressful lifestyles. Moreover, migration and economic challenges have further added to the disease burden.

The well-being of the young population is moulded by societal context, including gender and social values. In India, there is a higher proportion of young people in the population, and hence a disproportionately high burden of youth-related health problems is inevitable, coupled with a greater resource challenge.

Health priorities vary across the social, economic and gender spectrum. Urbanisation and globalisation have impacted consumption patterns. As a result, India has transitioned from an underweight nation to an overweight one. Several studies document the prevalence of obesity among young Indians and the prevalence of fad dieting behaviours. They also reveal that obesity in adolescents in India is comparable to those of industrialised nations¹.

The State of the World's Children 2021 by UNICEF highlighted that about 14 per cent of 15 to 24-year-olds in India, or 1 in 7, often felt depressed or had little interest in doing things². The Global Burden of Disease (GBD) study reveals that Indian youth between 15-19 years of age are increasingly prone to mental and substance use disorders. About 13% of all adolescent health loss in India stems from risky behaviours such as unsafe sex, alcohol, smoking, drug use and poor eating habits. GBD data also points out that youth between 15-24 years of age are most susceptible to self-harm and intimate partner violence³.

The report uses National Family Health Surveys to assess the health indicators, risk factors, sexual behaviour and healthcare utilisation patterns of the population between 15-29 years of age. The NFHS-3 collected information from a nationally representative sample of 109,041 households, 124,385 women aged 15-49, and 74,369 men aged 15-54. NFHS-4 selected a total of 628,900 households out of which 723,875 women aged 15-49 and 122,051 men aged 15-54 were chosen. NFHS-5 gathered information from 636,699 households, 724,115 women, and 101,839 men.

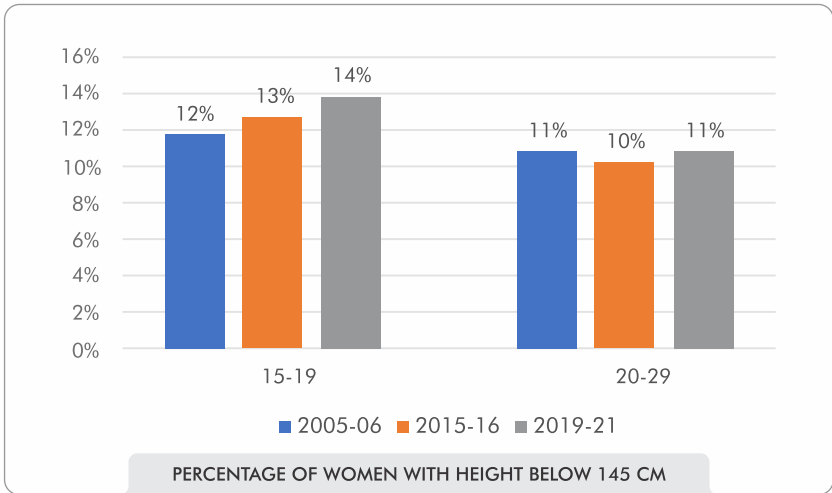
II. HEALTH INDICATORS

a. Height Below 145 cm

Indians are among the shortest people in the world. The discussion on adult height has focussed on food availability and nutrition, genetics and environmental factors. Maternal health, socio-economic status of women and open defecation have also been considered crucial factors in contributing to height gain. While India has made considerable strides in improving maternal and child health, 36% of children in India are stunted.

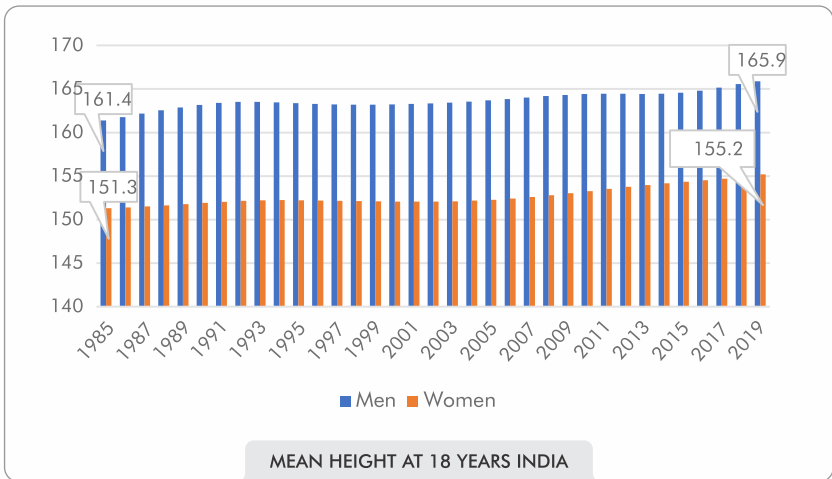
The chart below shows the percentage distribution of women with height below 145 cm. Between NFHS-III and NFHS-V, the share of women below

145 cm in the age group between 15 and 19, has increased from 12% to 14%. Moreover, among women between 20-29, 11% women are below 145 cm.



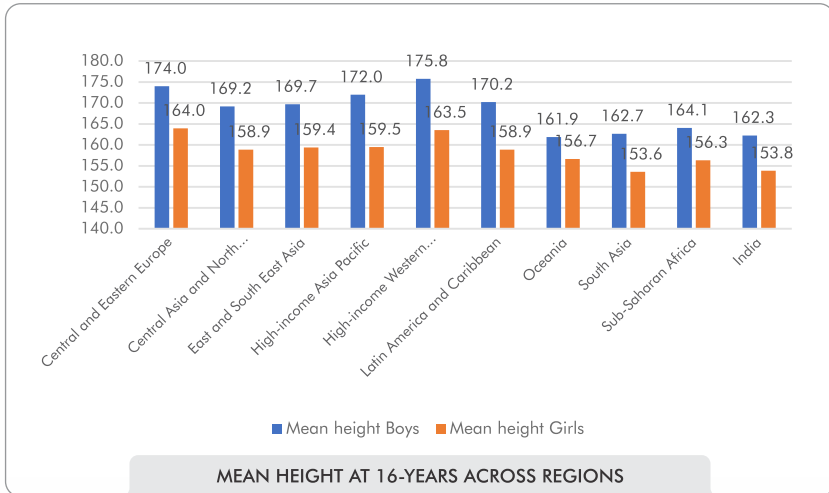
Source: NFHS

The mean heights of 18-year-old boys and girls have grown since 1985, however, at one of the lowest rates. The average height of both men and women at 18 increased by 0.03 centimetres between 1985 to 2019.



Source: NCD-RisC database

A look at the average height of 16 year old's across the world reveals that Indians fare extremely low, comparable only to Sub-Saharan Africa.



Source: NCD-RisC database

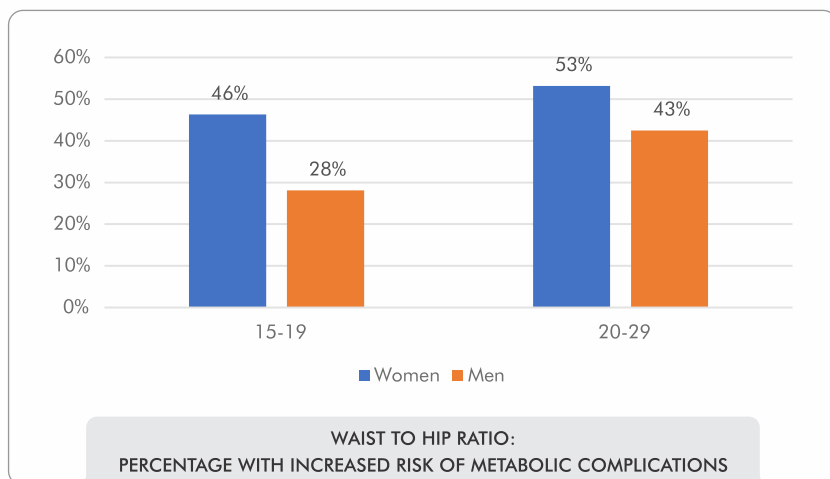
b. Waist to Hip Ratio (WHR)

Waist to hip ratio is an early indicator of a range of chronic lifestyle diseases. WHR shows significant association with myocardial infarction in some ethnicities. Ethnic groups such as African Americans and Indians are known to have high-risk WHRs. Studies have observed that individuals with larger waist carried a premature risk of cardiovascular disease and even death. Studies have also shown that abdominal obesity is strongly linked with an increased risk of type 2 diabetes, cardiovascular disease and death, even after controlling for body mass index (BMI)⁴.

As per World Health Organisation (WHO) guidelines, the waist circumference (WC), the waist-to-hip ratio (WHR) and the waist-to-height ratio (WHtR) are appropriate measurements of abdominal obesity. For the first time, the NFHS-5 included waist and hip circumference measurements provided by using Gulick tapes for both eligible women and men for measures of abdominal obesity⁵.

Among women, a waist-to-hip ratio greater than 0.85, represents an increased risk of metabolic complications and among men, a ratio greater than 0.9 represents a similar risk. As per the 2019-21 survey, 46% of women

aged 15-19 years and 53% of women between 20-29 years had a waist to hip ratio greater than 0.8. Among men, 28% between ages 15-19 years and 43% of those between 20-29 years had a waist to hip ratio greater than 0.9.



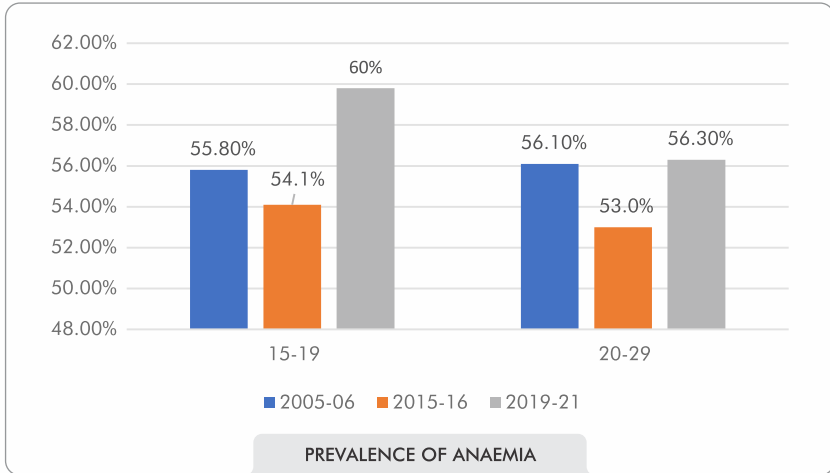
Source: NFHS

India's population is transitioning from an underweight nation into an overweight/obese one. The rapid urbanisation, sedentary lives and stress are major contributors to the increase in abdominal obesity among the young in India. Moreover, South Asian genetics are prone to a high prevalence of abdominal obesity. Even for BMIs less than 20, abdominal obesity is high among young people in India, a characteristic of South Asian communities. Compared to European and other populations at any given WHR, South Asians have higher abdominal visceral fat⁶.

c. Anaemia

About 60% of women between ages 15-19 years and 56% between ages 20-29 years were anaemic as per the NFHS-V data. Anaemia continues to be a major public health issue in India despite strategic interventions such as the National Nutritional Anaemia Control Programme and the Weekly Iron and Folic Acid Supplementation. According to a report published by IndiaSpend, anaemia caused 20% of maternal deaths in India and was the associate cause of 50% of maternal deaths⁷. Dietary Iron deficiency is one of the top ten leading causes of death and disability in India⁸.

Iron deficiency has been known to cause infertility, miscarriage, low birth weight and preterm labour. In Jammu and Kashmir, which reports a fertility rate of 1.4, 65% of women aged 15-49 are anaemic, as in Ladakh, with a fertility rate of 1.3, 78% of pregnant women were anaemic. 52% of pregnant and 60% of breastfeeding women were found to be anaemic as per NFHS-V.

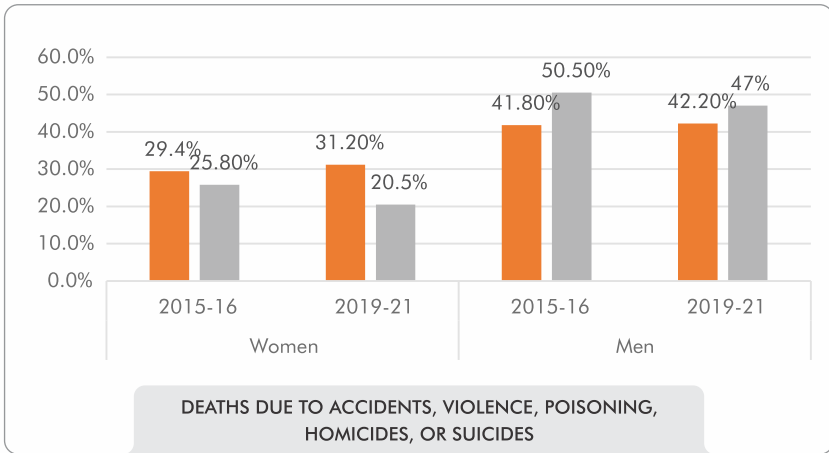


Source: NFHS

d. Deaths due to non-medical causes

Deaths due to accidents, violence, poisoning, homicides and suicides are high among young people between 15-29 years of age. In 2019-21 about 31% of deaths between 15-19-year-old women were due to accidents, violence, poisoning, homicides and suicides. Among men in the same age group about 42% are due to such non-medical causes. About 47% of men between 20-29 years of age died of non-medical causes, while 21% of women in the same age group also reported deaths due to non-medical reasons.

About one-third of suicides take place among youth in India. The suicide mortality rate in India is 11.3 in 2020, the highest in the world⁹. The suicide rate among Indian girls and women is twice the global rate. About 75% of female suicides take place before the age of 30 years. Suicide accounts for more deaths than any other cause for individuals between 15-35 years¹⁰. India loses 40,000 youth every day between the ages of 25-35 years due to road traffic accidents¹¹.



Source: NFHS

As per the National Crime Records Bureau data, in 2020, most arrests for murder were made for offenders between the ages of 18-30 years.



Source: NCRB Crime in India 2020

III. HEALTH RISK FACTORS

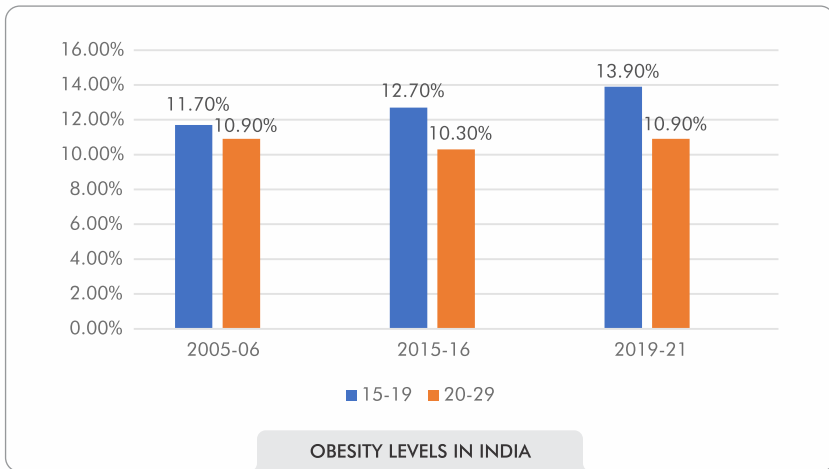
Non-communicable diseases (NCDs) account for most deaths in the country, around 63 per cent. The significant NCDs share four behavioural risk factors: unhealthy diet, lack of physical activity, and use of tobacco and alcohol.

Factors contributing to NCDs' rise include ageing, rapid unplanned urbanisation and globalisation¹². The complex range of factors that interact to determine the nature and course of this epidemic needs to be understood to adopt preventive strategies to help developing societies like India deal with this burgeoning problem. The burden of risk on health has seen a betterment and transitions in infectious disease. Still, the changes in people's lifestyles due to these health transitions and the economic progress are leading to increased instances of NCDs. The following section shall focus on some risk factors classified under non-communicable chronic diseases.

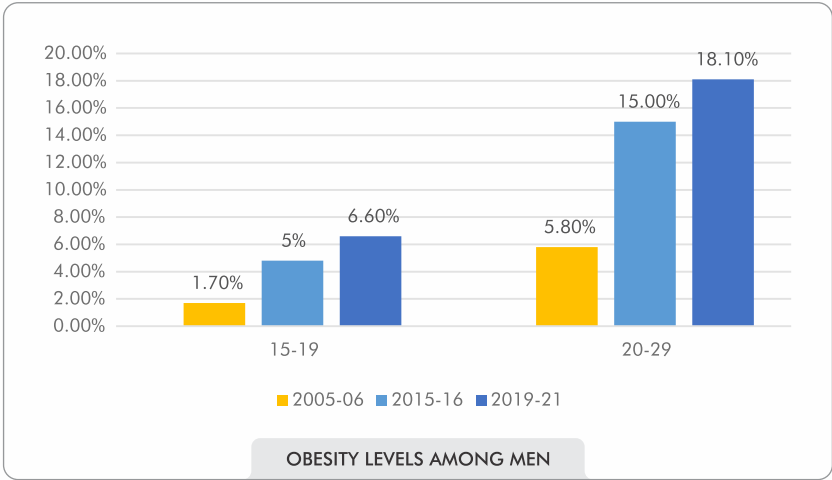
a. Obesity

Overweight and obesity are usually classified as abnormal or excessive fat accumulation that may impair health. Overweight and obesity present considerable challenges to maintaining global health improvements due to their association with many non-communicable diseases (NCDs).

The latest round of the NFHS 5 shows the country's obesity and overweight population levels. The above below compares the last three rounds of NFHS data from 2005 to 2021. Obesity levels for the ages of 15-19, the proportion of the population of obese/overweight has increased from 12% in 2005-06 to 14% in 2019-21. In the same period, the population of obese and overweight persons remained at 11% for the population between the ages of 20 and 29.

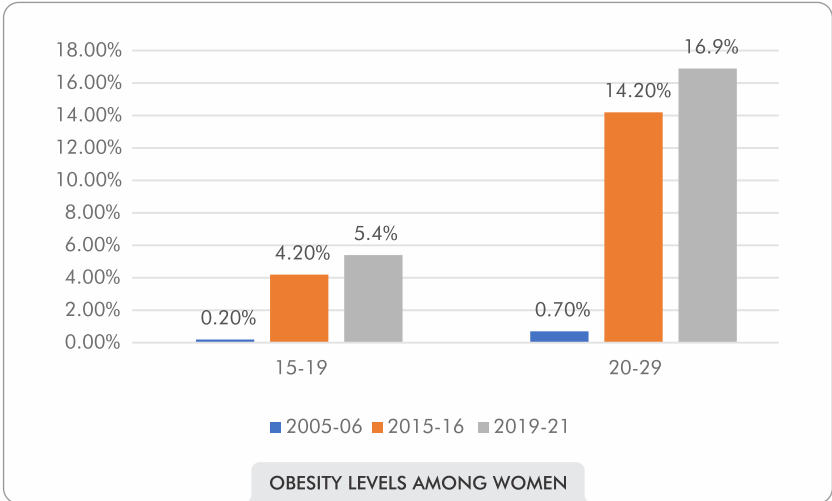


Source: NFHS



Source: NFHS

Obesity level among young men has grown steadily since 2005-06. Between the ages of 15-19, the proportion of men who are obese/overweight has increased from 2% in 2005-06 to 7% in 2019-21. In the same period, overweight and obese men between 20-29 years have gone up from 6% to 18%.



Source: NFHS

Obesity level among young women also shows an upward trend from 2005-06. Between the ages of 15-19 years, the proportion of women who are obese/overweight has grown from 0.2% in 2005-06 to 5% in 2019-21. In the same period, overweight and obese women between the age of 20-29 years have gone up from 0.7% to 17%. The increase has been considerably sharper in the case of women between 20-29 years.

b. Tobacco Use

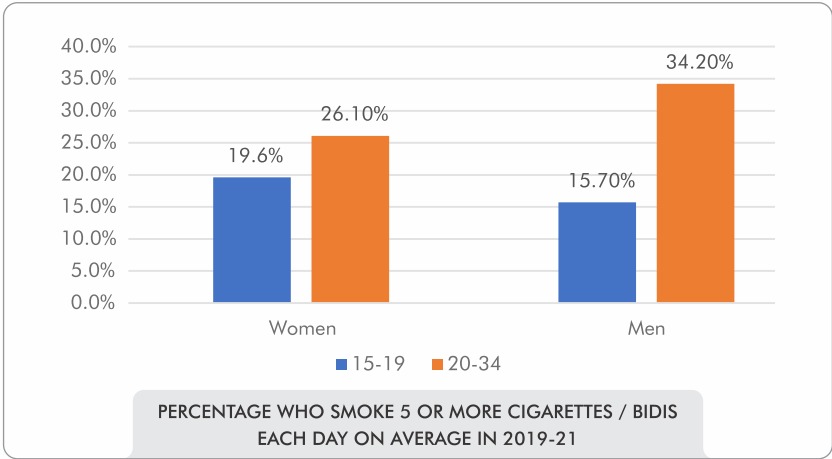
Tobacco use is a significant risk factor for many chronic diseases, including cancer, lung disease, cardiovascular disease and stroke. It is one of India's major causes of death and disease and accounts for nearly 1.35 million deaths yearly. India is the second-largest consumer and producer of tobacco¹³.

Over the ages, tobacco has established a firm hold in India, and its prevalence is varied and disparate throughout the country. Of the estimated 28.6% of tobacco use in India, only 10.7% of the total tobacco consumption is in the form of cigarettes and bidis (tobacco enclosed in parched leaves of particular trees), which are traditional alternatives to cigarettes. At the same time, 21.4% is used in the form of smokeless tobacco products such as pan (a blend of lime, bits of areca nut, and spices enclosed in betel leaf), gutka/ pan masala (blend of pulverised lime and areca nut) and mishri (used as toothpaste for scouring gums)¹⁴.

A variety of tobacco products are available at low prices in the country.

The NFHS 5 (2019-20) has estimated the percentage of tobacco consumption as persons who smoke five or more cigarettes/bidis on average daily.

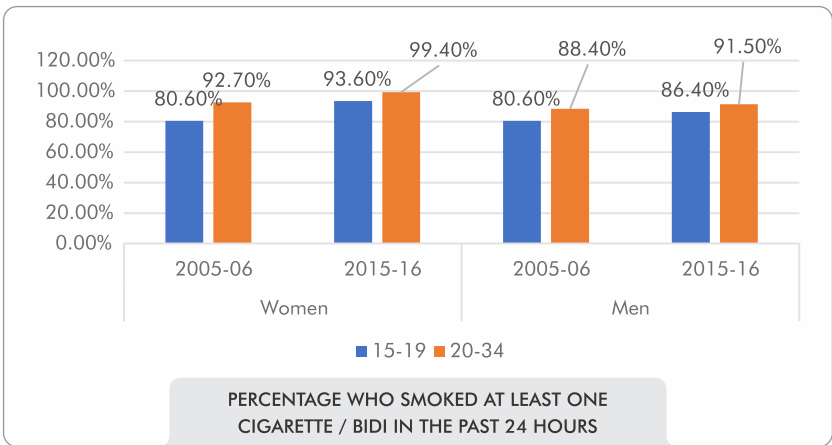
Tobacco consumption through smoking five or more cigarettes/bidis each day in women 15-19 is 19.6% and for women aged 20-39 is 26.10%. There is a sharp rise in tobacco consumption through smoking five cigarettes/bidis on an average in men at 15.7% between the ages of 15-19 and 34.2% between the ages of 20-34.



Source: NFHS -V

The consumption of tobacco products especially smoking at least one cigarette/bidi has seen an upward trend in both men and women. The NFHS 3 (2005-06) and NFHS 4 (2015-16) have estimated the percentage of persons who smoked at least one cigarette/bidi in the past 24 hours.

Tobacco consumption in women through smoking at least one cigarette/bidi in the past 24 hours in 2005-06 was 80.6% for women between the ages of 15-19, and the proportion of women smoking at least one cigarette/bidi in 2015-16 was 93.6%.



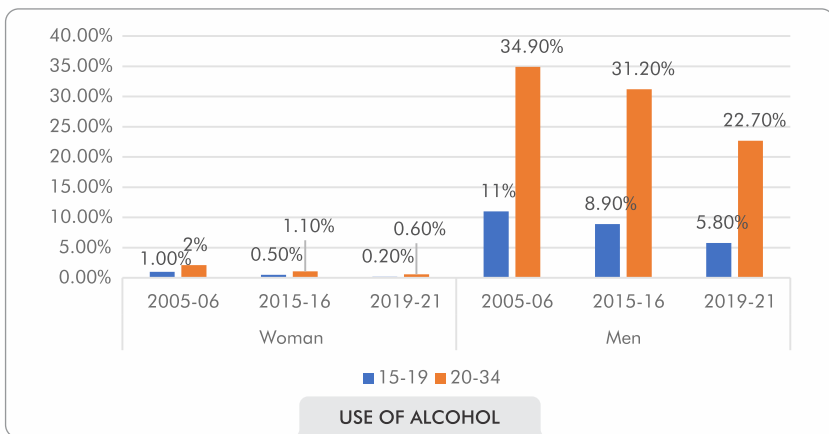
Source: NFHS 3 and 4

The usage of tobacco increases concomitantly with age. Its dependency is highest among individuals aged 45 and above, comparatively less among individuals from the 24–44 age group, and least among individuals below 24. The most susceptible age for tobacco use is late adolescence and early adulthood, i.e., 15–24 years. The GATS 2016–17 report estimates have reported that tobacco use among minors aged 15–17 has been reduced from 10% to 4%, and the age at initiation of tobacco use has been increased by about one year for both smoking (18.8 years) and smokeless tobacco use (18.9 years)¹⁵.

c. Use of Alcohol

Multiple studies in different socio-cultural settings show that higher consumption of alcohol increases the risk of coronary artery disease and related mortality. The alcohol consumption in men and women between the years 2005–2021 among the ages of 15–19 and 20–34 are depicted in the figure below.

In women of both age groups, there has been an overall decline in the consumption of alcohol over the years. From 1% in 2005 to 0.20% in 2021 for women aged 15–19. For the women aged 20–34, the consumption has reduced from 2% in 2005 to 0.60% in 2021. The overall consumption of alcohol by men also has reduced over the years in both age groups. In 2005, from 11% to 5.89% in 2021 in men aged 15–19. For men aged 20–34, 34% in 2005 to 22.7% in 2021.



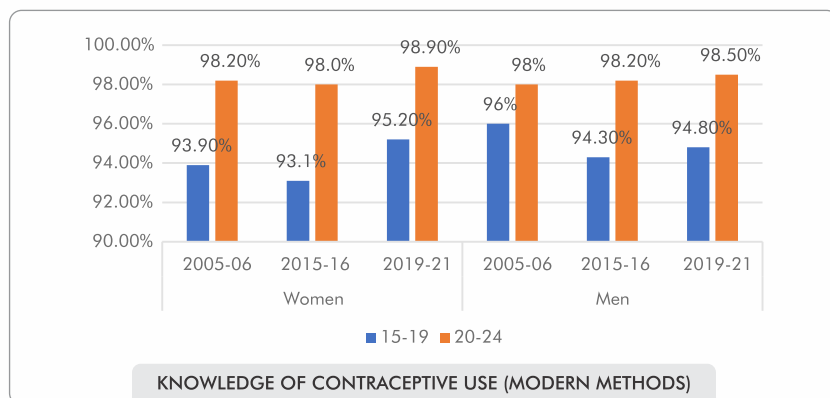
Source: NFHS

The overall reduction in the consumption of alcohol among both men and women in the NFHS 5 is seen as a welcome change. According to experts at NIMHANS^{16,17}, there could be a few reasons for this drastic change, one being the COVID 19 pandemic and the subsequent lockdowns that made alcohol inaccessible for long periods. The second aspect that needs consideration is the consistent increase in sales and production of alcohol during the period of the survey 2019-2021.

IV. SEXUAL BEHAVIOUR

a. Knowledge of contraceptive use (modern methods)

The knowledge of modern methods of contraception has grown among both men and women. Nearly 99% of women and men between the ages of 20-24 years know about modern methods of contraception. 95% of men and women of ages 15-19 years are aware of contraceptive usage.

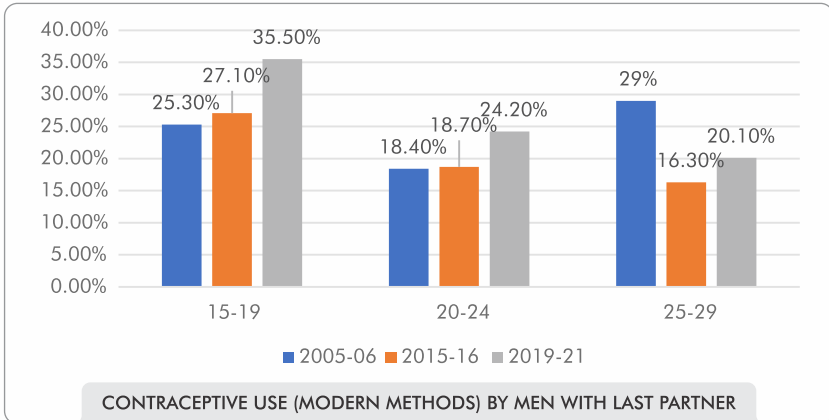


Source: NFHS

b. Contraceptive use (Modern Methods) by men with last partner

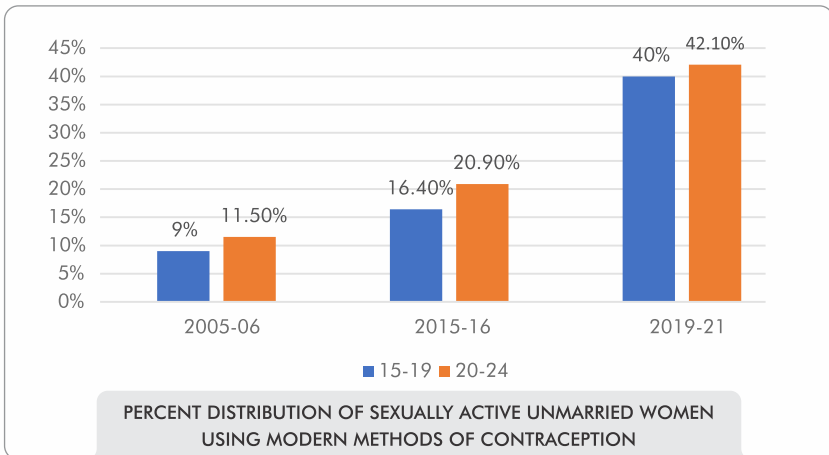
India has 2.3 million cases of HIV at present, one of the highest in the world. In 2020, there were 101,000 unintended pregnancies in 2020, yet the use of modern contraceptives among men remains low¹⁸. About 36% of men between the ages of 15-19 years reported using modern contraceptives with their last partner. Among 20-24-year-old men, the use of modern contraceptives has grown from 18% in 2005-06 in 2005-06 to 24% in 2019-21. However, among men between the ages of 25-29, there has been a decline in the usage of modern methods of contraception from 29% in 2005-06 to 20% in 2019-21.

c. Sexually active unmarried women using modern methods of contraception



Source: NFHS

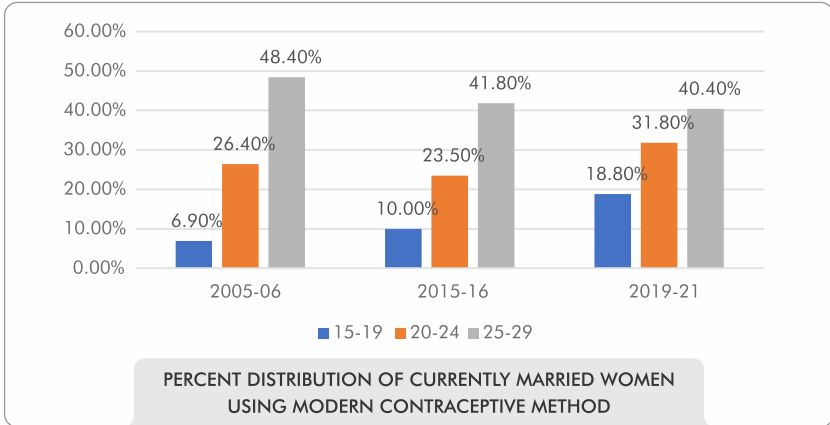
On the contrary, the usage of modern contraceptive techniques has gained popularity with both married and unmarried women. The use of modern methods of contraception has grown rapidly among 15-24 year old sexually active unmarried women. Among 15-19-year-old women, the use of modern contraceptive techniques has grown from 9% in 2005-06 to 40% in 2019-21. 42% of women between the ages of 20-24 years now use modern contraceptive methods as opposed to 12% in 2005-06.



Source: NFHS

d. Currently married women using modern contraceptive method

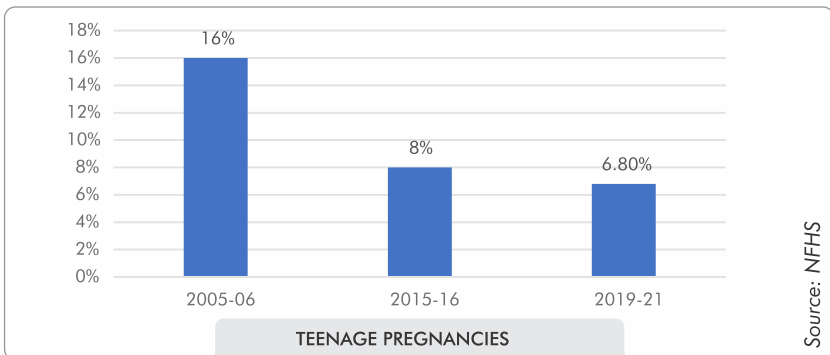
The use of modern contraceptive methods for currently married women between the ages of 15-19 years has grown from 7% in 2005-06 to 48% in 2019-21. Married women between 20-24 years of age report a contraceptive usage of 42%, up from 10% in 2005-05. About 40% of women between 25-29 years of age report using modern methods of contraception.



Source: NFHS

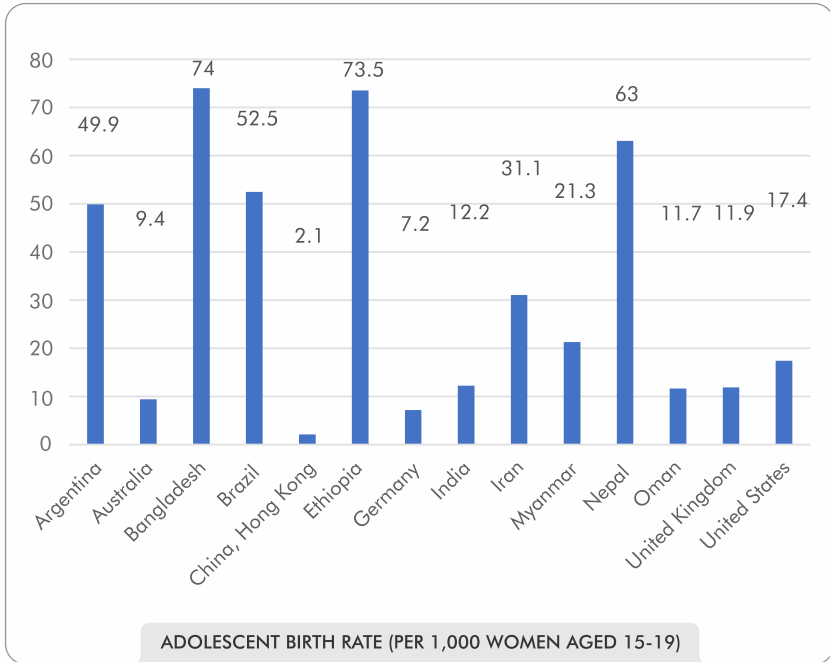
e. Teenage Pregnancies

According to the UN, India loses \$7.7 billion a year due to teen pregnancies. Children born to teenage mothers are more likely to be undernourished than those born to adult mothers. In general, teenage mothers are less educated, anaemic and have no bargaining power. Moreover, they lack access to adequate health and sanitation services¹⁹. Teenage pregnancies in India have declined from 16% in 2005-06 to 7% in 2019-21.



Source: NFHS

A comparison between countries reveals that India has an adolescent fertility rate of 12.2 per 1000 women, comparable to the United Kingdom and Oman. South Asian countries such as Bangladesh and Nepal report higher adolescent fertility rates.

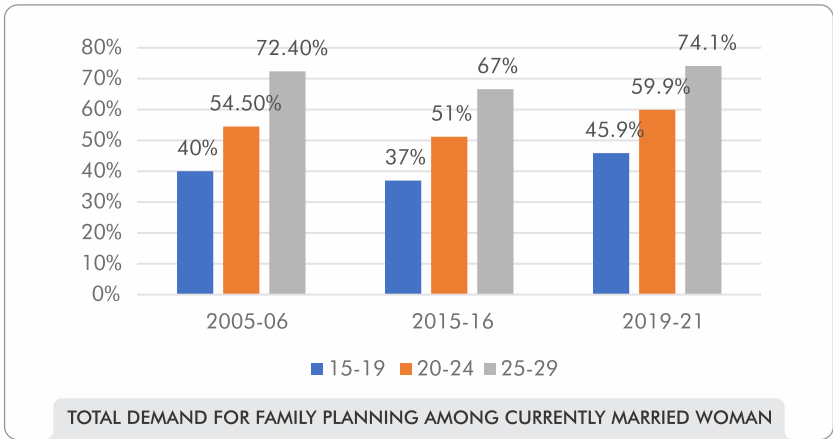


Source: World Bank

f. Demand for Family Planning

Urbanisation, education and employment have played a crucial role in transforming the narratives around family planning. The total wanted fertility rate in India is 1.6 children per woman, much lower than the actual fertility rate of 2. This suggests women today are aware and conscious of the availability of choices in family planning.

The demand for family planning among 15–19-year-old married women grew rapidly to 72% in 2019-21, up from 40% in 2005-06. The demand among currently married women between 25-29 years of age has increased to 74%, from 46% in 2005-06. The demand for family planning among 20-24-year-old married women increased to 67% in 2019-21.

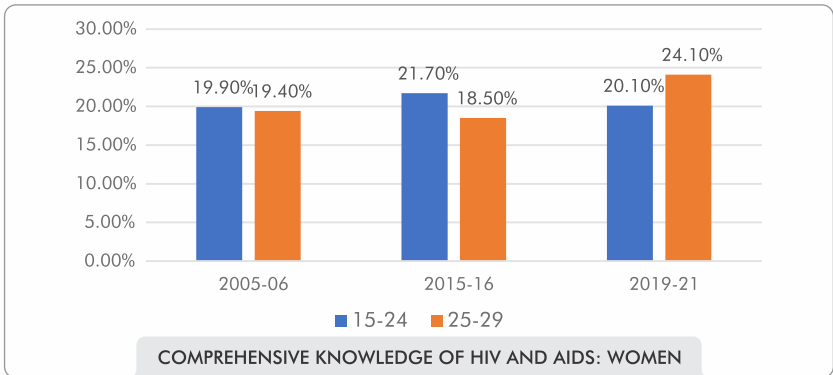


Source: NFHS

g. Comprehensive knowledge of HIV and AIDS: Women

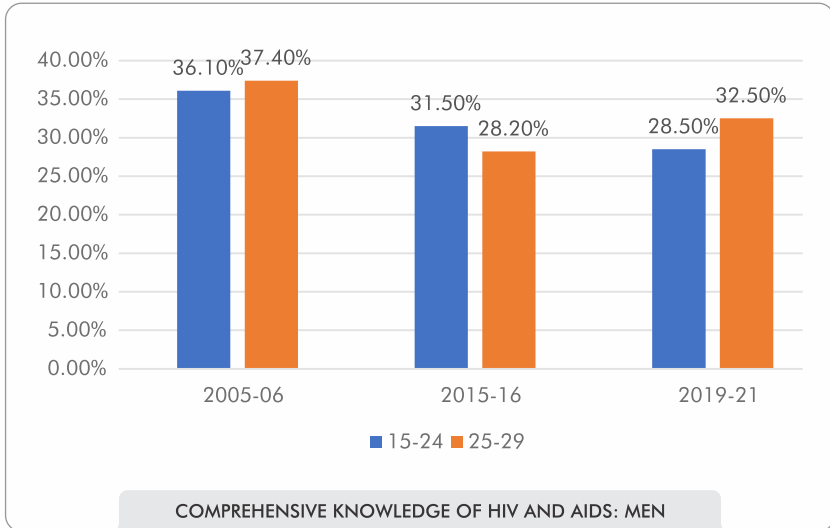
Young people between 15-29 years of age constitute 25% of the population in India; however, they account for 31% of the total AIDS burden in India. Moreover, about 35% of all the AIDS cases in the country occur among those in the age group of 15-24²⁰. Young women are more at risk of HIV infection than their male counterparts. The vulnerability of young women increases several manifolds given their lack of access to information on HIV, absence of sexual empowerment and early marriages²¹.

About 20% of women between the ages of 15-24 years and 24% between the ages of 25-29 years have comprehensive knowledge of HIV and AIDS, up from 19% in 2005-06. There has not been a significant rise in the same.



Source: NFHS

About 29% of men between the ages of 15-24 years and 33% of men between the ages of 25-29 years have comprehensive knowledge of HIV and AIDS. This value has gone down significantly from 2005-06. The coverage remains inadequate.



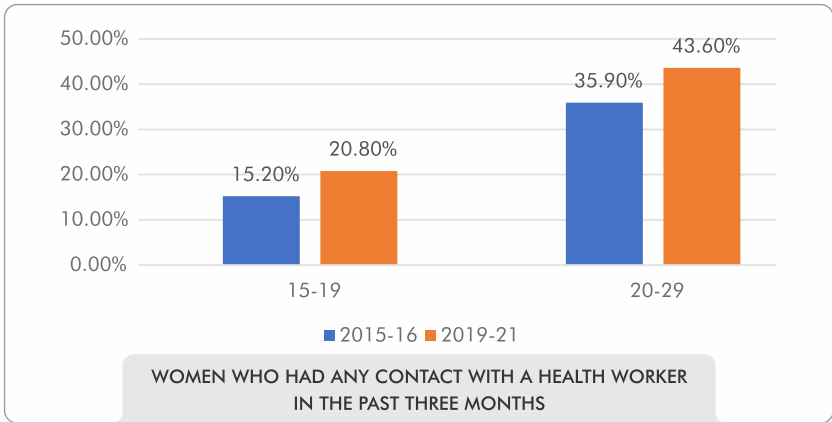
Source: NFHS

Despite increased knowledge of HIV among men, according to India HIV Estimations Report, the national adult HIV prevalence was pegged at 0.23% (0.18%–0.31%) among males and 0.20% (0.15%–0.26%) among females. The prevalence of HIV in men declined from 0.32% in 2012 to 0.23% in 2020; among women, it declined from 0.22% to 0.20% in the same period. Thus, the decline in the rate of infection among men is much steeper compared to women²²²³.

V. ACCESS TO HEALTHCARE

a. Contact with a health worker

The figure shows that women who have had any contact with a health worker in the past three months from 2015 to 2021. In 2015-16, 15.2% of women aged 15-19 and 35.9% of women aged 20-29 were in contact with a health worker. In 2019-21, there is a significant increase from previous years. 20.8% of women aged 15-19 and 43.6% of women aged 20-29 were in contact with a health worker.

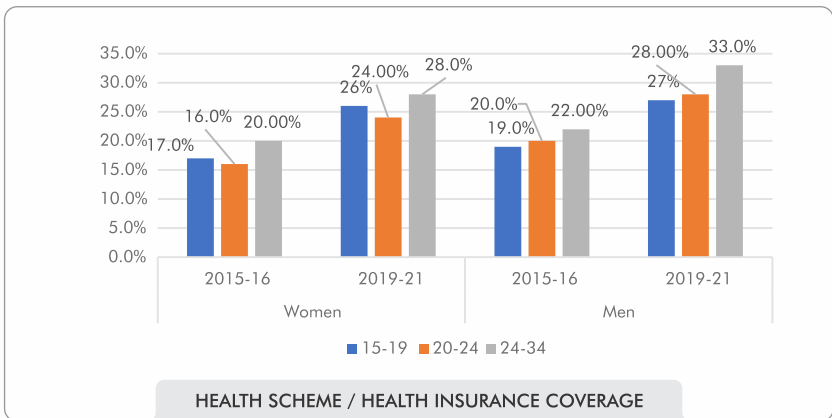


Source: NFHS

b. Health Insurance Coverage

The country's health insurance coverage indicator has improved since the previous years. Among women aged 15-19, 26% in 2019-21 are insured compared to 17% in 2015-16. There is a 4% rise among insured women aged 20-24 in 2019-21; similarly, women aged 24-34 who are insured rose to 28% in 2019-21 from 20% in 2015-16.

Similarly, among men, the rise in insured men aged 15-19 is from 19% in 2015-16 to 27% in 2019-21. There is an 8% rise among insured men aged 20-24 in 2019-21; similarly, men aged 24-34 who are insured rose to 33% in 2019-21 from 22% in 2015-16.



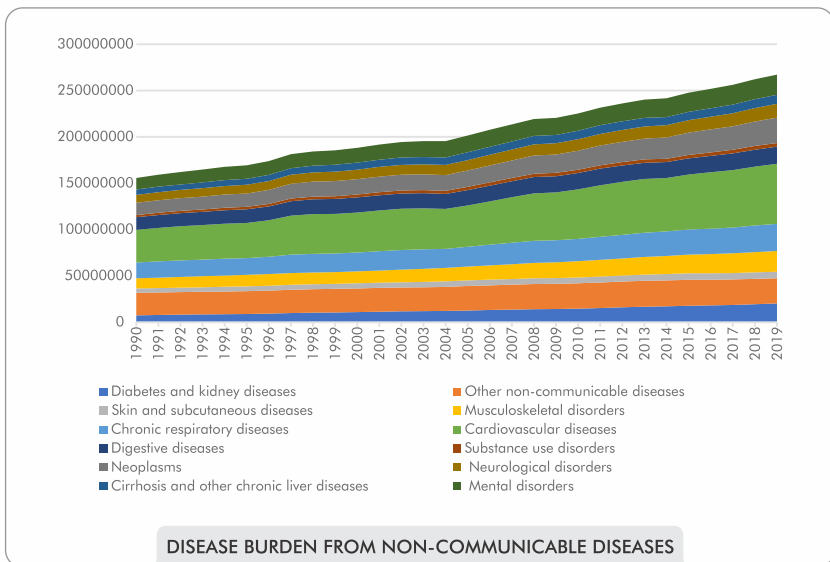
Source: NFHS

One of the most significant reasons for the rise in health insurance is the Ayushman Bharat Scheme. The centre launched the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) in September 2018. The scheme provides health assurance of up to ₹5 lakh per family a year for secondary and tertiary healthcare hospitalisations. As the world's most extensive government-funded healthcare programme, it targeted more than 50 crore beneficiaries at its launch²⁴.

VI. EMERGING ISSUES

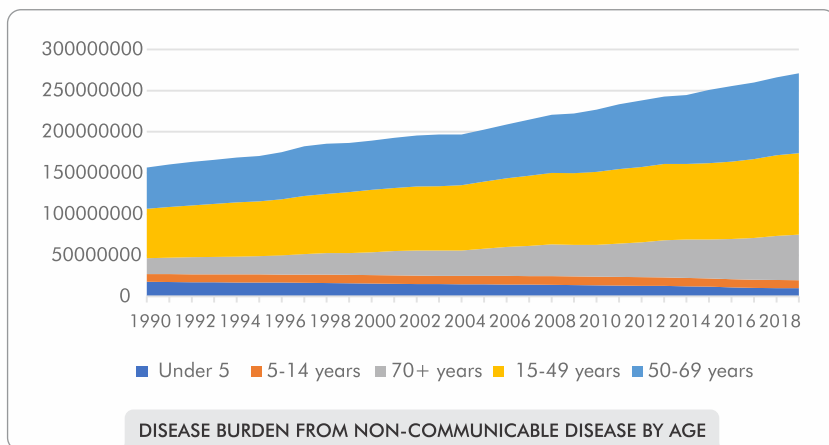
Urbanisation, environmental degradation and global climate change have added new dimensions to healthcare. Growing consumerism and altered sexual behaviour.

The disease burden for non-communicable diseases has grown from 137.43 million DALYs lost in 1990 to 235.82 million DALYs lost in 2019. Cardiovascular and respiratory diseases continue to have the largest disease burden as in the 1990s. Cancers, other non-communicable diseases, diabetes and kidney diseases as well musculoskeletal diseases, reported a significant disease burden in 2019. Mental health illnesses also show a significantly increased burden in 2019 when compared to 1990.



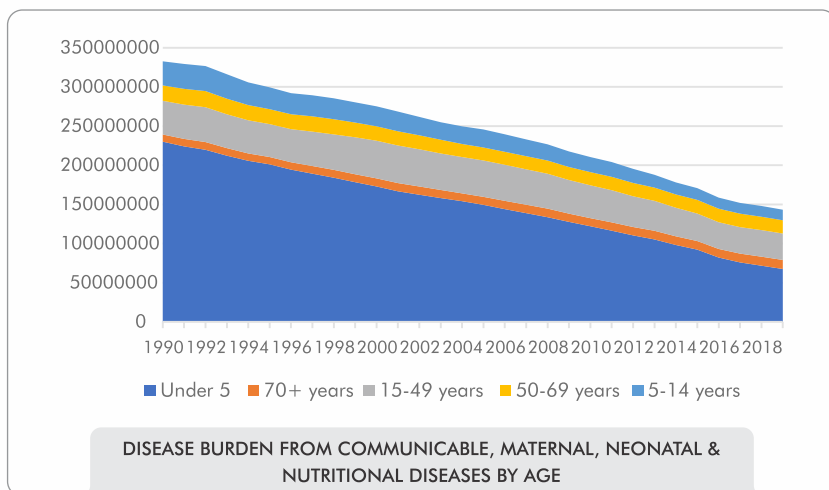
Source: *Global Burden of Diseases 2019*

The disease burden has increased tremendously for young people between the ages of 15-59 years . In 1990, 60 million DALYs were lost from non-communicable diseases; this has increased to 99 million DALYs lost.



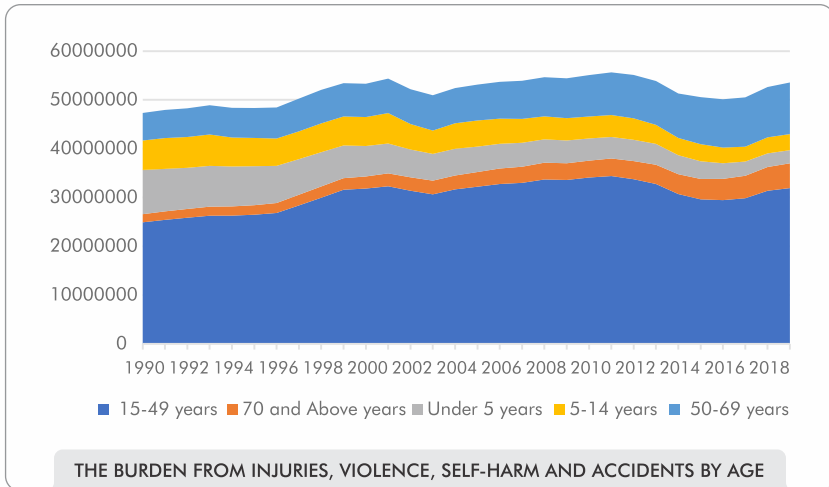
Source: *Global Burden of Diseases 2019*

There has been a sizeable reduction in the burden of communicable diseases in the last 30 years, decreasing from over 300 million DALY's lost in 1990 to below 150 million in 2019, a nearly 50% reduction. This category of health conditions is dominated by respiratory and enteric infections and neonatal disorders.



Source: *Global Burden of Diseases 2019*

The burden from injuries, self-harm, violence and accidents is the highest among young people between the ages of 15-49 years. The burden has grown from 25 million DALYs lost in 1990 to 31 million DALYs lost in 2019. Road injuries, self-harm and falls are the major contributors to the disease burden in the category.



Source: *Global Burden of Diseases 2019*

The COVID-19 pandemic has had a devastating on humankind, with lives lost, economies going bust and medical resources being crippled. Those who survived the virus are now left grappling with a plethora of health issues, including physical and mental, as well as the social stigma of the disease. These create a new challenge for care, as well as handling the virus' patient legacy.

The pandemic has also created a significant shortage of medical personnel everywhere; this is like to strain access to medical care. Urbanisation has increased emissions leading to poor air quality, which will continue to worsen. Air pollution causes over 6.5 million deaths each year globally. Lead and other chemicals are responsible for 1.8 million deaths each year globally²⁵.

About 700,000 lives are lost due to antimicrobial resistance (AMR) per year and another 10 million are projected to die from it by 2050²⁶. India is referred to as the AMR capital of the world²⁷. The emergence of new multi-drug resistant (MDR) organisms poses concerns on both diagnostics and

therapeutic fronts. Moreover, India is struggling to deal with old risks like tuberculosis, malaria and cholera, which are becoming drug resistant²⁸.

Climate change will also affect the well-being of the young population. Climate change poses an increased risk of injury, lung disease, infectious disease and poor nutrition. Forced migrations due to climate vulnerabilities also impact mental health. Education and employment opportunities are considerably altered due to extreme climate-related weather events

The health vulnerabilities of the youth have acquired newer dimensions due to changes in social and economic structures in society. While on the one hand, there are factors such as globalisation, unregulated urbanisation, and environmental changes triggering lifestyle changes. There is also the influence of social media and advertising, impacting the preferences of the young.

Moreover, the divide between the rich and the poor, the urban and the rural in accessing health services compounds the severity of illnesses and prevents the youth from achieving their full potential.

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2. WHY DATA MATTERS – THE IMPORTANCE OF EVIDENCE-BASED DECISION MAKING IN HEALTHCARE

Amir Ullah Khan, Saleema Razvi

Data on health indicators comes from the National Sample Survey Organization, the National Family Health Surveys, the Sample Registration system, Diseases Registries, Surveillance reports, the Annual Health Surveys in select states and a few others. However, this plethora of sources just does not give us the data we are looking for in most cases. What is even more tiresome is the inability to get information on the biggest healthcare calamity in living history that we are witness to. The pandemic has taken its toll disproportionately on doctors, nurses and policemen who are waging an ongoing battle against the virus. The Health Ministry, shockingly, declared it had no data on how many of our frontline health workers died. Oxygen supplies ran out and the entire country went through harrowing times, reading about patients gasping for breath and hospital staff running helter-skelter for cylinders. The answer yet again from the government was that it had no information on those who died waiting for oxygen supplies at ICUs and hospital beds.

The data problem was even more obvious over the last two years even as the country fought a raging pandemic at all levels. With the paucity of information, while tackling COVID 19 and the latest variants of Concern, the Omicron and the Delta, health officials are unable to determine the spread among age groups, and therefore are not able to focus attention on the most vulnerable. When looking at the death data for example, it is just not possible to get age wise or gender wise numbers. This resulted in a completely avoidable controversy. While the government declared 400,000 deaths due to COVID, some very credible analysts including former Chief Economic Advisor, Arvind Subramanian, declared that deaths could be ten times that number.

Why do we continue to suffer the lack of reliable, transparent, and integrated data? It is ironic given the changing nature of governance where we rely more and more on evidence to make new policy and data to monitor and evaluate it. While this is true of all sectors, nowhere is evidence more important than in healthcare. What we have is a number of opaque data systems that operate in watertight compartments, making their interoperability very difficult. These

datasets are not shared between ministries and certainly are not open sourced for use by analysts and commentators.

The Arogya Setu is a great example of such technology that should have given us all the data we needed to trace, track and monitor the spread of COVID 19. When asked, the National Informatics Centre replied that it had no information on who had built the app and how, denting the credibility of what could have been a great resource for epidemiologists. The government later clarified that it was built on a public private partnership and was indeed well designed and protected. Even now, the data that it collects is not available to government departments, not even in an aggregated manner. The government has declared its policy on using open source software and has announced Knowledge sharing protocols. However, all these systems with their complicated architectures are almost always inflexible in addition to being proprietary and expensive.

The correct numbers would have helped so much in managing supplies, mortuaries and even cremation facilities. In this third wave, where we are all expecting far fewer deaths, reliable data will validate that belief. We will not have to count dead bodies arriving at crematoriums and graveyards to get the right estimates. The fear factor would be much lesser and the pressure on healthcare staff and frontline workers would be that much lower. Data on hospital admissions would also tell us clearly the level of hospitalization that the new variant requires. All this would enable our facilities to get equipped in time and not be overwhelmed when the peak arrives.

The data story so far

It is not that there is no effort being made to collect data, nor that money and resources haven't been deployed. The problem is more in terms of design, transparency and confidence in releasing the information collected. The Health Management Information System was started thirteen years ago. It collects enormous amounts of information but uses only a tenth of this to generate health indicators. In almost all sheets, half the fields are blank or are marked not applicable. The big problem arises even after this data is collected as very often the denominators are not available. Therefore, if the data shows number of children suffering from respiratory disorders, there is no standardized denominators that could be used to help make budgets or decide on adequate staffing. Errors are sought to be corrected at the central levels and not at the point of data collection leading to huge shifts in results.

The problem of collecting lots of irrelevant data is compounded with collecting the same data more than once. One of the basic principles of data quality assurance is that the same data should not be collected more than once. During the times we were looking for data on opportunistic infections for HIV AIDS, it was exasperating to look for the prevalence of TB in the country. Even today, each source gave a different number. The HMIS, the Global Health Data Exchange, the WHO and Extended Immunization Program all give their own numbers. TB prevalence is therefore often an approximate estimate based on varying sources. HIV AIDS prevalence itself was a matter of great controversy fifteen years ago when the estimates of 5 million affected were overnight cut down by half as data collection improved.

When the same data is collected multiple times on different platforms, it confuses the health workers, the data collection agents and the surveyed population itself. And then when these different sources give varying numbers out, allocating budgets and deciding policy becomes that much more confusing. The way our budget allocations for malaria keep going up and down is a manifestation of this very problem that keeps altering the prevalence of the disease every now and then. The same is the problem with all our major diseases, the numbers keep changing and so do the targets. The changing dates for elimination of Kala Azar are a clear example.

There is another huge problem that exists by way of collecting data on health in India. That is by way of the large contribution that the Private sector makes in providing healthcare. Nearly 75% of all illnesses are treated in the private sector, both in rural and the urban centers. The same is the case for all outpatient care. Even for inpatient care, the proportion that the private sector treats is close to 70%. This means that at least two thirds of all data is with non state actors. However, none of this data, barring a few minuscule exceptions is ever notified or reported.

There are so many other factors that weigh in. Data privacy is a major source of irritation to patients. Given the lack of confidence in confidentiality, patients often are loath to share their health information. Where such data is leaked or misused, and the instances are many, the confidence erodes further. Given its lack of confidence in the data collected and a diffidence in answering questions that emerge, the government rarely allows researchers and other stakeholders access to simple administrative health data collected on a routine basis. This results in a lack of accountability as Citizens charters are

rendered irrelevant and questions are not raised. Causes of death, for example are usually either not provided or are not collected and that ends up making the health systems even more vulnerable to sudden increases in mortality or morbidity due to specific causes.

The way forward

Robust health data collection mechanisms are now possible with the easy availability of technology and the spread of bandwidth across the country. Real time data monitored by GPS tools can now be collected and verified immediately. The aggregation is often instant and the state level and national data feeds quickly into the planning and policy processes. Given the rise of artificial intelligence based applications that enable high quality health interventions, we need high quality and frequently updated data that would pave the way for quick decision making, for example in procurement policy and ensure we don't run out of drug supplies, oxygen cylinders and PPE kits again.

We need to collect and disseminate routine administrative data, the cheaper and more reliable form of collecting information daily and right near the point of data collection. Our reliability on surveys has not been overdone. Surveys are critical where administrative data is not available but where it is possible to collect information regularly and directly that is what must be preferred. Surveys in such large populations suffer from sampling issues, and the NFHS 4 is a great example of a survey that suffered because in some states the sample used was too small. Same is the case with the National Sample Surveys, despite their enormous credibility, which in some cases are unable to collect data from more than a handful of people within a state on any particular parameter.

Imagine all that we could have done if we had some credible and regular sets of data given to us by our Health Ministry. This is data that is available in most countries and is given out routinely. The first is the old demand most of us have been making. Weight at birth for all children must be recorded and entered into the birth certificate. It will allow us to see what happens to our children as they grow up and would lead to a lowering of our under 5 mortality rate, the highest in the world today among developing nations. Similarly, the cause of death must be clearly mentioned in all death certificates.

What would we not give to get some more regular data, that would help us fight pandemics and epidemics? It would be so simple to provide weekly or monthly data on deaths and causes. This data can then be spliced on gender and on age, helping us understand which section of the population is most vulnerable. Similarly, if only we could get daily or at least weekly hospitalization numbers across the country, broken down through vaccination status and available for each district. We would then not live under a constant threat of numbers exploding and under an uncertainty over whether a full dose actually protects us from new variants like Omicron.

Most researchers and now most of the citizenry would like to know periodic and regular results of the genomic sequencing that is being done in some small number of cases. We should be able to get a daily update on tests done, on patients having reached hospitals and therefore on the hospitalization rates. It would be just great, if like in other major countries, daily estimates are put out and hospitalization estimates for the subsequent week are produced, patients have a choice. We need daily information on infections and reinfections in hospitals. All this would allow us to project the number of beds required and hospitalizations needed over the next week and more,

The launch of the National Digital Health Mission (NDHM) was indeed a step that seems to be in the right direction as it will enable an integrated digital database for healthcare in India. While it will be based on individual case records, the data disseminated will be protected and will be available only in aggregated forms. This data will allow public policy to be shaped well, and expenditure be streamlined. However, the NDHM will be successful only if the system allows for a transparent collection and disbursement of the data collected. It needs to include private care and community based hospital services that would provide most of the information given their reach in terms of populations served and diagnosed.

All stakeholders must know that data is being collected to be used for policy purposes and that it will ensure accountability and efficiency in the use of resources. That was the secret behind the success of collecting the data on NREGA. The users all realized it will be used for budgeting and for monitoring of performance. The collection and dissemination became real time, and the data base was made accessible to all, researchers, panchayat heads, state governments and the Central government. Similarly, health data should be

seen as useful and must be seen used. Towards this, it is essential that Application Program Interface (API) access for the HMIS is provided. As the HMIS platform is built on proprietary software, open access constitutes a bottleneck and is therefore not available to the public and to states. The National Data Sharing and Accessibility Policy of 2012 promised to ensure the sharing of information on this database, but it is still not easy to do so.

The other way forward is to make the ownership of data decentralized. State governments must take pride in collecting and disseminating information, again like is done with casual workers and card holders under NREGA. The panchayat also then starts taking pride in keeping data ready. To do this it is important to make inputting the information easy. This will happen when all fields are clear and are translated into local languages.

It also helps when health workers, ASHAs and ANMS are trained to upload the numbers they collect quickly and seamlessly. At most places where health workers have been working on legacy systems, especially those introduced by the WHO and other multilaterals, the existing systems should either continue as they are or get integrated into the database so they can be used in tandem with other platforms.

Private hospitals and diagnostic centres should be incentivized and encouraged to share information, register cases and report infections. Some private data aggregators could also be used where they are found efficient and are well trained. This data then should be kept in the public domain and should be open to researchers and to all those who are interested in the subject. A great example of this is the way in which the NFHS 3 data was disseminated openly, despite causing embarrassment to the incumbent government. NFHS 3 showed how India's dizzying economic growth had left a large number suffering from malnutrition. The data then forced the Union and the state governments to take nutritional planning seriously and correct the many mistakes made in food policy.

A new data policy that puts our public funded information for easy access to all is what we urgently need to work towards. We have enough examples of these from Israel, UK and most of Europe, where solid and real time data actually helped avert lots of deaths. This policy must also ensure that data privacy is respected and theft is simply not tolerated. Here it is important to

point out that the Digital Information Security in Healthcare Act (DISHA) has been passed and needs to be tightened further.

(Excerpted from <https://www.livemint.com/science/health/why-india-s-health-data-needs-a-booster-jab-11642091670500.html>)

3. HEALTH AND NUTRITION – WHAT DO THE NUMBERS SAY ON CHILD HEALTH

Vinita Bali and Amir Ullah Khan

Ever since the nutrition story was highlighted by the HUNGaMA report and termed a national shame in 2012 by the then Prime Minister¹, we have seen significant improvements in the indicators. Over the last fifteen years, after the District Level Health Survey in 2004 showed that 53% of children in India's worst affected 100 districts were under weight, there has been a steady decline in these numbers. The mid-day Meal Scheme, the National Health Mission², MNREGA, increased outlays for ICDS, the rise of women's groups, SHGs³ and a decisive movement by the government towards setting up the POSHAN Abhiyan have shown clear improvements. Nutrition had finally got its due.

Since March 2020 however, with massive increases in unemployment and impoverishment, seem to have resulted in significant back sliding. Most surveys being done during the lockdowns show that up to 70% of respondents report food distress⁴. This COVID-19 outbreak is expected to double food insecurity in 2020, if an immediate response is not developed (FAO, IFAD, UNICEF, WFP and WHO, 2020). The number of people facing acute food insecurity has increased from 135 million in 2019 to 265 million in 2020, up after the Coronavirus outbreak (Food Security Information Network and Global Network against Food Crises, 2020).

What is even more serious is that we have an increase in numbers over time. The number of undernourished people in the world has increased by approximately 60 million in the last 6 years. In 2019, the number of undernourished persons in the world rose to 687.8 million. If not arrested, FAO projects that by 2030, the world will have 841 million undernourished people. The question that continues to baffle analysts is on how these poor nutritional outcomes, particularly in emerging economies like India occur even as the economic growth remains high⁵.

With the novel coronavirus taking a heavy toll on populations and economies, global health action has focussed on containing the spread of the virus and finding an effective vaccine for it at the earliest. While exposing glaring inadequacies in existing healthcare systems in developed and developing countries, the pandemic also threatens to wipe away years of progress made towards reducing malnutrition and the control of deadly diseases such as AIDS, malaria, dengue and tuberculosis⁶. Patients suffering from malnutrition, rare diseases, cancer and other acute and chronic non-communicable diseases (NCDs), too, have suffered due to delays and disruptions in their treatment and diagnoses.

The challenges to our Health systems

Much before the coronavirus pandemic began, India's healthcare system was reeling under the triple burden of disease – control of infectious diseases, growing incidence of non-communicable diseases, as well as a rising wave of drug-resistant pathogens. India is now the third most-affected country due to the coronavirus outbreak globally, accounting for 25 million recorded cases and over 50,000 deaths. The perceived risk of visiting a healthcare facility during the pandemic, as well as restrictions on movement during the lockdown caused an effective decline in preventive screening as well as routine management of diseases.

With public health screenings and immunisation drives being postponed to avoid large gatherings, the fight against NCDs and vaccine-preventable diseases such as polio, measles, diphtheria, whooping cough and mumps was affected. Interventions targeted at controlling vector-borne diseases like chikungunya, malaria and dengue have also been delayed. With maternal and family planning healthcare services taking a hit, the risk of unwanted pregnancies, and maternal and infant deaths has increased substantially. The pandemic may take away two decades of India's gains in maternal mortality rates.

Despite having the largest global burden of tuberculosis and more than TB 1,400 deaths a day, and with nearly 40% of the population being infected⁷, notifications for incidence of the disease across India dropped by over 50 percent since March,[8] with an estimated 3,00,000 missed cases recorded until May 30. Fears over the rise of multidrug-resistant tuberculosis have been raised as restricted mobility and mass exodus of migrants interrupted the

treatment regimen of several patients. Mobilisation of ventilators and beds for Covid-19 patients has affected critical TB patients as well⁹.

It's not only the COVID pandemic and its impact on health that is responsible for these increases. Shutting down of schools, internal conflicts, climatic unpredictability and economic slowdown will further aggravate the food crisis. Desert Locust outbreaks in Eastern Africa, Arabian Peninsula, and parts of South Asia, are set to worsen the existing undernourishment in these regions. In developing and underdeveloped nations communicable diseases such as malaria, diarrhea and tuberculosis are still rampant and fatal. Lack of nutrient rich food will lead to weakened immune systems that aggravate vulnerability to contract infection.

Child health and the imperatives

Children of 0-5 years comprise 10% (12.6 crore) of the total population, with 71% in rural areas and 29% in urban areas. Malnutrition is the predominant risk factor for death in these children, in all states of India, accounting for 68.2% of the total under-5 deaths (Swaminathan et al. 2019). As per the National Family Health Survey-4, 38% of children under age five years are stunted, 21% are wasted, 36% are underweight, and 2% are overweight (IIPS and ICF,2017). These numbers are much higher than in other developing countries, where on an average 25 per cent of children suffer stunting and 8.9 per cent are victims of wasting (Global Nutrition Report, 2020). Among children under two years of age, 90.4% of them did not receive an adequate diet. 58% of children age 6-59 months are anemic. Only 55% of children under age six months are exclusively breastfed. The prevalence of low birthweight in India in 2017 was 21.4% (IIPS and ICF,2017).

The various measures undertaken have helped. The percentage of stunted children under 5 came down from 48% in 2005-06 to 38.4% in 2015-16. However, there has been a rise in the percentage of children who are wasted from 19.8% to 21% during this period. A high increase in the incidence of wasting was noted in Punjab, Goa, Maharashtra, Karnataka, and Sikkim. The prevalence of underweight children is significantly higher in rural areas (38%) than urban areas (29%) The incidence of low birth-weight babies varies across different states, with Madhya Pradesh, Rajasthan and Uttar Pradesh witnessing the highest number of underweight childbirths at 23%. Anemia was highly prevalent at 54.6%, across the poorest of the poor in Rajasthan, Gujarat, Madhya Pradesh and Telangana.

Stunting among boys was marginally higher than girls. There is a large gap between stunting among rural and urban children. Stunting and wasting among children sees a decline with increase in income and mothers' education. Stunting prevalence is 10.1 per cent higher in rural areas as compared to the urban areas (IIPS and ICF,2017). Only 23% of children aged between 6 months and 23 months received an adequately diversified diet (Agrawal et al., 2019). In 2019, India's ranking in the Global Health Index fell to 102 out of 117 nations, the lowest among South Asian countries, far behind other BRICS nations.

The Targeted Public Distribution System (TPDS), Mid-Day meals (MDM) and the Integrated Child Development Services (ICDS) under the National Food Security (NFS) Act, 2013 were designed to address food insecurity and malnutrition in the country. Additionally, the POSHAN Abhiyaan aims to prevent and reduce prevalence of stunting among children (0–6 years) in the country by 6%, undernutrition (underweight) by 6% as well as promote dietary diversification (Press Information Bureau,2018). National Nutrition Mission (NNM) has led to a progressive decline in child malnutrition, the decline has been slow, and the improvements have not been equally distributed across the population¹⁰.

Malnutrition and Child health

The present crisis however has, like in the rest of the world, also disrupted the supply chain in India's fight against malnutrition. UNICEF estimates that 3 lakh children could die over the next six months as India's health outreach services are reduced and child wasting increases during the pandemic. A little less than a 100 million children below 6 years of age receive supplementary nutrition at anganwadi centres (AWC) across the country. This got seriously disrupted as ASHAs and Anganwadi workers were called away to COVID-19 duties and their focus shifted away from nutrition. There are close to 1.4 million Anganwadi Workers (AWWs) and 13 lakh Anganwadi Helpers (AWHs) in the country. ASHAs are roughly 9 lakhs in number¹¹.

UNICEF has raised several concerns over disrupted Anganwadi services, that would impact childcare for the 20 million babies being born between March-December 2020 as well as the ante natal care needed for their mothers. The immense pressure on access to clinics, social workers, water, and sanitation under the current situation will adversely impact children¹². Additionally, push

several children into the malnutrition category. This will push moderately malnourished children into severe category. Lastly, those children afflicted by severe malnourishment will face dire circumstances¹³.

Government schools in India would provide mid-day meals to 120 million school-going children. In India, school going children are now denied access to mid-day meals since education institutions are closed in time of COVID19. With schools and AWCs closed, millions of children now are battling deprivation and under nourishment. With almost 40 percent of children in India already malnourished, the COVID pandemic could further exacerbate malnutrition.

A study conducted post COVID19 in Madhya Pradesh on the nutritional status of children, and pregnant and lactating women of underprivileged sections shows a calorie deficit of 51 per cent, 67 per cent and 68 per cent respectively. What this means is that women on an average only get a third of their recommended dietary allowance whereas children get about half their daily requirement¹⁴.

Another major impact on nutrition among children will stem from disruption in supply and distribution of iron and folic acid, micronutrient, Vitamin supplement, zinc, ORS and treatment of malnutrition. The pandemic has already resulted in an increase in prices of food and essentials. The higher price of food will lead to lack of access to nutrient-rich food for the rich people. As a result of which nutrient-rich foods will be replaced by calorie dense but less nutritious food. The nutrition levels of Children and women shall bear the brunt of this pandemic induced food inflation, especially in the regions with endemic poverty.

Poverty and Hunger

There has been a strong push to fight poverty and over the last few decades we have seen an impressive decline in the numbers of people below the poverty line. Several measures have been proposed under a government led mission to push up India's score on 29 global indices on the four areas of industry, economy, governance and development. In all, 18 nodal ministries and 47-line departments will work with state governments on over 800 parameters.

The latest government data that has been leaked out suggests that poverty in India seems to have gone up before the COVID 19 pandemic. Another survey

shows that unemployment has gone up like never before. It is also possible that the government's claims that Indians have started using toilets are grossly exaggerated. The reason for this distrust is the fact that for the first time ever in independent India the government is refusing to release data on poverty and employment. Last year, before the parliamentary elections, the results of the Periodic Labour Force Survey were not allowed to be released until the Parliamentary Elections were over. Subsequently, results of other surveys including the 75th round (Consumer Expenditure), 76th round (Drinking water, Sanitation, Hygiene, and Housing Conditions) and more recent quarterly data of the PLFS surveys, have not been released.

What is the government worried about? It is so clear that the economy is in a bad shape. India's factory output shrank by 4.3% to the lowest level in eight years in September, because of a sharp fall in capital goods production. Industrial production is likely to continue to struggle more in the coming months. Eight core infrastructure industries declined 5.2% in September from a year ago - the steepest drop in 14 years. A contraction in production in sectors like coal, steel, electricity and natural gas meant overall demand was weak. As a result, there are huge job losses in the country.

Usually sales pick up during Diwali, in October, when shoppers usually spend on food and gifts. This year, festival sales were relatively subdued. More than 90% of storekeepers indicated footfalls were lower than last year, according to research by Bank of America Merrill Lynch analysts. Car sales fell 6.3% in October from a year ago - the 12th straight month of decline -- after plunging 33% in September, according to data released by the Society of Indian Automobile Manufacturers. Two-wheeler sales were down 14.4% from a year earlier while demand for trucks and buses were down 23.3%. Growth in bank credit has slowed to around two-year lows amid sluggish demand from companies.

Private sector investment, the mainstay of sustainable growth in any economy, is at a 15-year low. In other words, there is almost no investment in new projects by the private sector. The situation is so bad that many Indian industrialists have complained loudly about the state of the economy, the distrust of the government towards businesses and harassment by tax authorities. But India's economic slowdown is neither sudden nor a surprise. This is even though the government, led by the Prime Minister has been

announcing that the Indian economy is the fastest growing in the world with record levels of foreign investment coming in.

Behind the fawning headlines in the press over the past five years about the robustness of India's growth was a vulnerable economy, straddled with massive bad loans in the financial sector, disguised further by a macroeconomic bonanza from low global oil prices. India's largest import is oil and the fortuitous decline in oil prices between 2014 and 2016 added a full percentage point to headline GDP growth, masking the real problems. Confusing luck with skill, the government was callous about fixing the choked financial system. This inability to clean up the banking sector coupled with unwise moves like demonetization, ensured that the India economy started to weaken and quickly went into a downward slide.

The government, instead of owning up and analyzing the causes of the downward trend, has reacted by refusing to share the data. This is a typical mistake made by those who refuse to look at reality. In hiding data, the government is now going further credibility to all analysts who are pointing out to the increase in prices, the fall in consumption and employees getting aid off as symptoms of a catastrophe. This attitude of not allowing data to be published also puts the government in a defensive position when tackling questions about the fall in consumer demand that is so visible. It also ensures that the state does not have the available information to take corrective steps.

The last time there was controversy regarding data was when the Vajpayee government had released the results of the 55th round of the NSSO that showed that poverty had fallen significantly in the country. This data was sharply contested by all economists and was shown to be incorrect. However, at that time, the government did not hide the results nor did it refuse to share the data. It is only now that the India government is hiding behind spurious excuses and not sharing data that is showing that the economy is on a decline.

A quick reading of the leaked findings makes it amply clear that the real reason for withholding the release of the report is the revelation that real consumption expenditure on comparable measure has declined between 2011-12 and 2017-18, a large part of which is the period when this government has been in power. According to the leaked report, real consumption expenditure declined by 10% per annum in rural areas and increased marginally by 2% per annum in urban areas, with an overall

decline of around 4% per annum for the country as a whole which in simple terms means that the Indian consumer has lesser money to spend and is therefore earning lesser than he was in previous years.

The immediate implication is that poverty levels would, in all likelihood, have increased between 2011-12 and 2017-18, as against a sharp decline between 2004-05 and 2011-12. It is this uncomfortable truth that the government did not want to come out at a time when the hype has been that everything is well with the economy. The PM has been claiming that the economy has been growing at a fast clip and inviting foreigners and NRIs to invest in India. The data that it is hiding now would indeed be very embarrassing and that is why is being denied.

Most of the 1.4 million Aanganwadi centers where food is distributed from, have all but stopped working. This was where the poor children and women got their food from. Despite this huge disruption, there is no public discourse nor a statement from any responsible official about any attempt to correct this massive debacle. The 120 million mid day meals that were being fed to children across the country have been stopped. Children are suffering the most because of this lockdown and they do not have reserves that can help them through this extended period of denial of food and nutrition. The fear of a resurgence in SAM cases is real, and that would be catastrophic. We need to strengthen the Community based Management of Acute Malnutrition in the country again. More than 40 percent of the world's Severe and acute malnourishment cases are found in India. This number will, in all likelihood go up as we are unable to feed our children during the lockdown. CMAM would help as it provides treatment and therapeutic food to those suffering from SAM.

How does the nutrition and Hunger story look now?

Why does India perform so poorly on the Hunger index? India tops the world hunger chart with around 20 crore Indians sleeping hungry each night. The hunger and malnutrition level in India has reached such heights that we are forced to believe the shocking fact that in India; nearly 2 million children who are born each year do not live beyond the age of five. Data for 2015-16 says that 38 per cent of children below five years are stunted, that is, they have low height for their age. The ratio is 31 per cent for children living in urban areas and 41.41 per cent are those in the rural areas. Same is the case with wasting

of children. Wasting refers to a process by which a debilitating disease causes muscle and fat tissue to "waste" away. On an average, 21 per cent children in India suffer from wasting syndrome. Only three countries in the world have wasting above 20 per cent - Djibouti, Sri Lanka, and South Sudan.

Recent studies have shown that India is home to the world's largest population on malnourished children. Earlier this month the Global Hunger Index (GHI) was published stating this stark reality. The GHI is a tool designed to comprehensively measure and track hunger at the global, regional, and national levels. The GHI is designed to raise awareness and understanding of the struggle against hunger, provide a means to compare the levels of hunger between countries and regions, and call attention to the areas of the world in greatest need of additional resources to eliminate hunger.

In the 2019 Global Hunger Index, India ranks 102nd out of 117 qualifying countries. With a score of 30.3, India suffers from a level of hunger that is serious. In the index that measures the level of hunger in 117 countries, Bangladesh at 88 and Pakistan at 94 perform better than India. Sri Lanka at rank 66 and Nepal at 73 are way better. The only country in the region that performs worse than India is Afghanistan at rank 108. How has India got left behind in this race? A democratic country, whose economy has been growing at among the fastest rates, India's performance is perplexing and worrisome.

At the world level, nearly 800 million persons suffer from chronic hunger, not having enough food for an active and healthy life. Most of the globe undernourished persons is still to be found in Southern Asia, closely followed by Sub-Sahara Africa and Eastern Asia. The fact is that growth itself is not enough to reduce poverty and hunger. In poor nations, hunger goes down and poverty reduces only with growth that is not only sustained but also broadly shared.

According to Food Agricultural Organization (FAO), the number of hungry people has actually been declining steadily worldwide over the last two decades i.e. between 1990-92 and 2010-12, although progress has slowed since 2007. In 2009-10, the globe has 870 million hungry people. In India in 1992 there were 240 million people undernourished while in 2012 the figure has gone down to 217 million, registering a change of -9.3 per cent. In terms of proportion of undernourished in total population of India the decline is 9.4 per cent i.e. from 26.9 per cent to 17.5 per cent during the last decade.

The reasons for such a sad state of affairs are not hard to find. It is a reflection of the agriculture infrastructure that nearly one-third of food produced gets lost or wasted. More than 40 percent of vegetables and 30 percent of cereals produced are lost due to inefficiencies in the supply chain. The other concern is that in a gender unfriendly society, women account for 60 percent of India's hungry population. Girls are fed poorly, treated badly and often are denied food that is first served to their male siblings in patriarchal societies like ours.

It is estimated that 3,000 children die every day from hunger. Around 30 percent of newborns die from lack of nutrition. This is largely on account of sickly and anemic mothers who are fed poorly and are not given adequate medical care during pregnancy. India ranks 97th in addressing hunger. The country's condition is worse than many believe. India is not poor, yet hunger remains an issue. India's GDP has significantly increased over the last two decades to 2.7 trillion USD.

The situation seemed to have improved till recently. However, the dip that we see again this year shows that the state has failed yet again. We were ranked 95 last year. The fall this year is indeed a serious issue that the government must take up seriously. It is indeed true that there had been significant improvement in tackling poverty and hunger over the last three decades. However, the war needs to be fought continuously if these 20 crores left hungry are to be fed. What we need is increase in the reach of the food supply system, improvement in anti-poverty measures like MNREGA, better sanitation facilities, reduction in the food wastage that happens because of poor supply chains and the lack of warehouses and godowns.

Hungry children suffer from various other problems. Under fed students are unable to learn what they are being taught in schools. Malnourished children are susceptible to diseases alike diarrhea and tuberculosis. These children develop serious health problems as they grow up and become under productive labour which is usually absent from work on health grounds. If these problems are not solved quickly, the sick labour force will not be able to take country to its goal of becoming a 5 trillion-dollar economy in five years' time.

What we should remember is that there is enough evidence that the denial of nutritious food to expectant mothers results in a serious and long term impact on the country's population. The impact of the Dutch Food crisis post world

war 2 is a significant case study that shows that pregnant mothers who went without food then, gave birth to children who suffered lifelong disabilities. This is because of the metabolic imprint in the fetus that does not get adequate food. Expectant mothers should never go hungry. It is important to note that roughly 70000 babies are born every day in the country. Those being born now face several challenges. Institutional deliveries themselves have come down, mothers are impoverished and hungry, hospitals are prone to opportunistic infection and vaccination facilities have been withdrawn.

Way forward – what we need to do now

Some of the strategies that would help us deal with nutrition related setbacks are

- The prevention of wasting and treating children can be easily integrated in the existing health infrastructure especially in crowded cities. The high population density allows for easy monitoring and evaluation of the large number of children suffering wasting
- Community engagement and intervention is critical. It has been seen that where communities are integrated in interventions, the rate of vaccinations, testing, measurement and monitoring of growth takes place and allows for wasting to be treated¹⁵.
- Governments must enhance the coverage of programs such as PDS, ICDS, MDM along as well as improve the nutritional quality of the foods provided through these programs such as the distribution of nutritious ready-to-eat or processed foods to children, emphasis on distribution of pulses, vegetable oil under PDS.
- Encouraging the religious and charitable organizations to increase their routine of free cooked meals to the poor¹⁶.
- AWWs, ASHAs and ANMs are now spearheading covid-related crisis. Their dues must be cleared, and compensation must be regularized.
- Women's Self-Help Groups should be engaged in for better outcomes in ensuring the provision of Take-Home Rations¹⁷.

The government should be tackling food insecurity closely. Large data sets like the NSSO should include district questions on people's food and nutrition distress. We should also record carefully antenatal visits, Anganwadi worker

outreach and their impact on women's health. In a situation where we cannot supply mid day meals, the Anganwadi centers should ramp up the provision of dry food ration, maybe even double or triple the quantity given till now. There will be some over supply. But we should not worry about any over distribution now, even if it is upto 30 percent of what we need. Our godowns are stocked and overflowing with 77 million tonnes of food grains already. If not now, when are we going to use this reserve? In any case, the food supply chain wastes more than that due to poor storage and transportation.

The focus on women's education, as enunciated in the New Education Policy should also help improve nutrition outcomes in the long run[18]. In terms of making our health delivery better, making pre-surgery Covid tests mandatory will also go a long way in ensuring the safety of patients and healthcare workers. More beds and ventilators must be made available for non-coronavirus patients. As the season for vector-borne disease outbreaks looms, public awareness regarding simple and effective ways of disease prevention like use of mosquito repellents and nets needs to be generated.

The Integrated Disease Surveillance Program (IDSP), India's central disease monitoring network operating under the National Centre for Disease Control, has seen a steep decline in the number of reported outbreaks, as compared to previous years. While officials attributed this to behavioral changes such as handwashing and physical distancing that have helped prevent the spread of communicable diseases, the possibility of underreporting as a reason for the sudden dip cannot be overruled. Curiously, IDSP's weekly updates for the period since the twelfth week of 2020 have not been uploaded on the official website. The IDSP must continue to publish weekly updates to help keep a check on future disease outbreaks.

Immunization, public health screening, family planning and other RMNCH programmes should be resumed fully with social distancing and other safety protocol in place. Additionally, national healthcare services provided to tuberculosis and HIV patients must continue without disruptions. Measures like dual testing for Covid and TB will also help during these times.

To put things in perspective, the 2014-16 Ebola virus epidemic that ravaged West Africa had caused a 50 percent reduction in access to healthcare at the time. This resulted in an additional 10,000 people dying of TB, Malaria and HIV during the epidemic. While it goes without saying that efforts must be

stepped up to contain the coronavirus outbreak in the country, it would be deplorable to do so at the expense of India's non-Covid patients.

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4. REGIONAL AND COUNTRY-LEVEL BURDEN OF DISEASES

The severity of infectious diseases was much higher among young adults in their 20s than among children aged 6-14 years for many diseases, including polio, measles, HIV, tuberculosis, typhoid and meningococcal meningitis. WHO estimates that close to 50,000 people die each day throughout the world directly from an infectious disease¹. The next section assesses the burden of communicable diseases in India and the neighboring regions. The outbreak of COVID19 has highlighted the vulnerabilities of porous borders and inter-connectedness in the region. Globalisation will continue to ensure future pandemics impact countries and populations.

The South-East Asia Region of the WHO region comprises eleven countries: Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste. It is home to roughly a quarter of the world's population.

Of the estimated population of the region's countries in 2020 (2044 million), 80% reside in Bangladesh, Bhutan, India, Myanmar, and Nepal. These countries also have a high burden of communicable diseases. These have signed up for various World Health Assembly resolutions calling for the elimination of malaria, TB, reduction of HIV, and regional elimination of visceral leishmaniasis (Kala-Azar). Many countries of the region have made significant progress in achieving elimination targets, but there is a constant fear of an imported case setting up a chain of local transmission (for example, of malaria) undoing the gains. The region cannot be free of diseases until all the countries of the region are.

Priority Diseases

HIV, Tuberculosis, Kala-azar and Malaria are major public health concerns. Malaria has epidemic potential. Drug-resistant *P. falciparum* is found along both sides of many international borders. Treatment of tuberculosis, care and support for AIDS in border areas require specific attention. Kala-Azar is endemic in a few South Asian countries, especially along their international borders. AIDS, TB, malaria and kala-azar, constitute unique problems in border areas that require cooperation between countries to address the specific issues related to combat these diseases.

HIV

It is estimated that in 2020, globally, nearly 38m (range 30.2-45.1m) people were living with HIV. Of this 3.7m (range 2.8-4.4m), about 10% were living in countries of the SEA region. There were about 1.5 million new infections globally, and of these 100 000 were in the SEA region. India, Myanmar and Nepal are among the five countries which account for the majority of the HIV burden. In contrast, Bangladesh, Bhutan, the Maldives, Sri Lanka and Timor-Leste account for about 2 million people living with HIV (2018). In 2017, India had 2.1m people living with HIV- the third-largest figure globally. India, Myanmar and Nepal are among the five countries which account for a majority of the HIV burden, while Bangladesh, Bhutan, along with Maldives, Sri Lanka and Timor-Leste account for about 2 million people living with HIV (2018). In 2017, India had 2.1m people living with HIV- the third-largest figure globally.

A vital feature of the HIV epidemic in the region is that most new HIV infections occur among key populations such as sex workers, men who have sex with men, transgender persons and people who inject drugs and their partners. As per the fast track targets of UNAIDS, 95-95-95 (which require 95% of those living with HIV to know their HIV status, 95% of all people diagnosed with HIV infection to receive sustained antiretroviral therapy, and 95% of all people on such therapy to have viral suppression by 2030), this fast track approach will avert 17.6 million new infections and 10.8 million AIDS-related deaths between 2016 and 2030.

Nearly 60% of the estimated 3.7 million people in the region living with HIV are now receiving lifelong antiretroviral therapy. The Maldives, Sri Lanka and Thailand have eliminated mother-to-child transmission of HIV and syphilis. Bhutan, India and Nepal have decriminalized same-sex relations, reflecting Regionwide efforts to promote inclusivity, reduce stigma and increase access to HIV services.

The three states with the highest HIV prevalence in India are Manipur, Mizoram, and Nagaland, which share their border with Myanmar.

INDIA: As per the recently released India HIV Estimation 2020 report, overall, the estimated adult (15–49 years) HIV prevalence trend has been declining in India since the epidemic's peak in the year 2000 and has been stabilizing in recent years. The estimate for this indicator was 0.22%

(0.17–0.29%) in 2020. In the same year, HIV prevalence among adult males (15–49 years) was estimated at 0.23% (0.18%–0.31%) among males and among adult females at 0.20% (0.15%–0.26%).

At the sub-national level, three states with the highest adult HIV prevalence were from the north-eastern part of the country, namely Mizoram (2.37%), followed by Nagaland (1.44%) and Manipur (1.15%). Andhra Pradesh (0.66%) also has an estimated adult HIV prevalence higher than the national average. Nationally, there was an estimated 23.19 lakh (18.33 lakh– 29.78 lakh) PLHIV in 2020. Nationally, 51,000 (34,800–77,200) deaths among PLHIV in 2020 of which 63 % AIDS-related deaths were estimated in the year 2020.

In India, there were estimated 23.19 lakh (18.33 lakh– 29.78 lakh) PLHIV in 2020, with an adult (15–49 years) HIV prevalence of 0.22% (0.17–0.29%). This includes around 79,000 CLHIV, accounting for 3.4% of the total PLHIV estimates. There were 9,94,000 women living with HIV (15+ years), constituting around 44% of the total estimated 15+ years PLHIV. There were 69,22,000 (37.03 thousand–121.50 thousand) new HIV infections in 2019, which has declined by 37% since 2010. There were 58.96 thousand (33.61 thousand – 102.16 thousand) AIDS-related deaths in the year 2019, which has declined by 66% since 2010 and by 78% since attaining its peak in 2005. HIV incidence was estimated at 0.05 per 1,000 uninfected populations in 2019. Around 20.52 thousand (14.98 thousand – 28.13 thousand) pregnant women were estimated to be in need of PMTCT. In the year 2018, there were 79.4 Percent of people living with HIV who know their status, 82 Percent of people who know their status who are on ART and 68 per cent of people on ART who achieve viral suppression.

Tuberculosis

SEA Region, with only 26% of the world's population, has the highest TB incidence among other countries in the WHO region. In the year 2019, in SEA Region, about 4.3 million persons developed TB disease and 0.65 million persons died due to the disease. These numbers constitute ~43% of the global TB incidence and 46% of the global TB deaths. SEA Region also has the highest proportion (30%) of people with a tuberculosis infection.

SEA Region countries have made commendable progress towards reducing the TB burden by increasing the number of TB patients diagnosed and treated from ~2.6 million in 2015 to ~3.6 million in 2019 (a 38% increase). Close to 70,000 rifampicin-resistant/ multidrug-resistant TB (MDR-TB) patients were detected in 2019, more than double the number (32,000 patients) detected in 2015.

INDIA: India accounts for about one-quarter of the global TB burden. Among the 30 high TB and high multidrug-resistant TB (MDR-TB) burden countries, India is ranked first in World Health Organization's Global Tuberculosis Report, 2019. In 2019, the estimated TB incidence was 2,640,000, and an estimated 436,000 people died from TB, including about 10,000 HIV-positive people with TB. In 2019, India notified 2,162,323 TB cases - a 13 percent increase from 2018 - with a large proportion (31 percent) coming from private sector notifications. While significant progress has been made, if India is to eliminate TB and detect the approximately 478,000 'missing' cases, it will need to accelerate that progress even further.

In 2020, about 2,590,000 (estimated) people developed tuberculosis, and close to 970,000 were missed. Nearly 53,000 people who developed tuberculosis were also co-infected with HIV, and about 30,500 people were diagnosed with both HIV infection and tuberculosis disease. Close to 493,000 people had died due to tuberculosis.

Malaria

In 2019, there were approximately 229 million cases of malaria. Twenty-nine countries accounted for 95% of cases. The WHO African Region, with an estimated 215 million cases, accounted for about 94% of cases. Malaria is endemic in 9 of the 11 countries in the South East Asia region; it has almost 6.3 m estimated cases (accounting for about 3% of global cases). Three countries in the region accounted for 99.5% of cases – India contributing 87.9%, Indonesia 10.4%, and Myanmar 1.2%. No indigenous case was reported by Bhutan and Nepal. Recent reports indicate that in 2020 Bhutan had 22 and Nepal 71 indigenous malaria cases. Two countries in the region Maldives in 2015 and Sri Lanka in 2016 were certified as malaria-free, while three other Member States – Bhutan, Nepal, Timor Leste, have been identified as having the potential to eliminate malaria by 2020 (of 21 countries termed as "E-2020 countries" by WHO).

Visceral leishmaniasis (Kala-azar)

It is estimated that 50,000 to 90,000 new cases of VL occur worldwide, but only 25-45% get reported to the WHO. In 2020 of the 14 endemic countries, 9 reported 4311 cases of visceral leishmaniasis to the WHO. The region of Africa reported 34% of these cases, the Eastern Mediterranean 29% and South East Asia 18%. Three countries in SEA (Bangladesh, India, and Nepal) reported 2295 (18%) autochthonous cases. India's contribution was 2033 (88.58%), Nepal 215 (9.36%) and Bangladesh 47 (2.04%). Since 2011, the SEA region has seen a sharp decrease in the number of cases to less than 2500 in 2020- a decrease of 94%. The disease is endemic in 109 districts in the region – 52 blocks in India, 45 upazilas in Bangladesh, and 12 districts in Nepal. Three countries in SEA (Bangladesh, India, and Nepal) reported 2295 (18%) autochthonous case. India's contribution was 2033 (88.58%), Nepal 215 (9.36%) and Bangladesh 47 (2.04%). Since 2011, SEA region has seen a sharp decrease in number of cases to less than 2500 in 2020- a decrease of 94%. The disease is endemic in 109 districts in the Region – 52 blocks in India, 45 upazilas in Bangladesh, and 12 districts in Nepal.

The distribution patterns of the disease are changing, and new foci are emerging from regions not covered under elimination programmes, such as mountains, valleys and even urban areas. Although endemic regions in the three countries are confined to the Lower Gangetic plains – north-eastern India, south-eastern lowland of Nepal and the Ganga delta in Bangladesh – localized transmission has also been reported from hilly areas in India and Nepal, perhaps due to the effects of climate change.

What lies ahead

International borders that intersect endemic zones present the biggest challenge, to the success of elimination of diseases. Such cross-border endemic foci require special attention to ensure that programme activities are unified. It is vital that national programmes and the committees responsible for the oversight of progress towards elimination are aware and address such issues in their current planning and programmatic activitiesⁱⁱ.

The border areas are usually some of the most remote areas and because of challenging terrain are difficult to reach, and more so if there is an ongoing civil unrest. This issue of access to healthcare system has been identified as one of the emerging challenges that needs to be addressed. Civil unrest or

conflict prevents access to populations through disruption of health services and migration, access to remote populations in challenging geographic settings and vulnerable groups in elimination programmesⁱⁱⁱ. Health services in the border districts are poor and inadequate especially in peripheral areas. Communicable diseases pose major challenges in border areas as they require synchronization of intervention measures, a sensitive surveillance system, and sharing information across the border.

The migrant populations are another major factor in cross-border situations and always need to be accounted for in cross-border disease elimination programmes. The respective Governments and their national disease programmes have recognized these issues and have included them in their strategy documents and plans. The health of migrants, their access to preventive, diagnostic, curative, and follow-up services irrespective of their nationality, and that the treatment is continued when they go back to their country, is a major issue that needs to be addressed.

For more than two decades, efforts have been made in the SEA Region to tackle malaria, Kala-azar, tuberculosis and HIV along international borders and through cross-border collaboration. Though Member countries have committed to address malaria and Kala-azar along international border by signing/endorsing ministerial declarations, several bilateral and international meetings have been conducted. But success has been limited.

Some of the challenges identified have been known and stressed since the late 1990s. These include lack of priority towards commitments for cross-border collaboration and sufficient and sustained resources for cross-border component, inadequate situation analysis to inform comprehensive planning and action as well as irregular follow-up and coordination support and absence of new and/or minimal use of existing platforms for information sharing and harmonization of efforts^{iv}. The level of commitments on all sides, and the follow-up actions have been inadequate. Multi-sectoral and multi-partner involvement is insufficient. Utilization of existing inter-country mechanisms is weak. There has been a mismatch between the expectations and the capacity of the health systems.

Excerpted from the report on 'Cross-border Control of Priority Communicable Diseases in SEA Region of WHO: Looking Back, Looking Ahead'

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