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Agriculture Reforms and Farmer Movements
April-June 2022
(Last date to receive articles : 15 February 2022)

✶✶✶

Ambedkar, Buddhism and Social Transformation
July-September 2022
(Last date to receive articles : 15 May 2022)

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Editorial

Public Health and Well-being

Every human being needs sound physical and mental health in order to live a life of dignity. Health and well-being of citizens are critical for the growth and development of a nation. This critical human need had been recognized by the United Nations when it included three health related goals, namely reducing child mortality, improving maternal health and combating HIV/AIDS, malaria and other diseases, in the eight Millennium Development Goals. Subsequently, "ensuring healthy lives and promoting well-being for all at all ages" has been made the Goal 3 of the 17 Sustainable Development Goals to be achieved by 2030. This implies that universal access to healthcare is an important global health goal. Since Independence, India has been developing its health systems with a large network of health service providers. The National Health Policy of 1983 had the goal of providing universal and comprehensive primary health services. The National Health Policy 2002 focused on integrating various health programmes, strengthening infrastructure and decentralizing health care delivery. The latest National Health Policy 2017 has set the goal of "achieving the highest possible level of health and well-being and universal access to good quality health care services without anyone having to face financial hardship as a consequence". Most of these goals have not been fully realized due lack of adequate budgetary allocation for healthcare. The government health expenditure has been as low as 1.3 per cent of GDP, which is lower than health expenditures of many developing nations. As a result of such low investment in health, it is estimated that about 60 million people are pushed further into poverty due to high out-of-pocket expenditure on health. During the last few decades, India has made considerable progress in reducing child mortality and maternal mortality, raising life expectancy and strengthening the defenses against major communicable diseases. The focus of successive governments has been on universalizing preventive healthcare, ensuring primary healthcare affordability and ramping up modern medical infrastructure. In recent times, primary health centres (PHCs) are being upgraded to Health and Wellness Centres (HWC) to provide comprehensive primary health care. Besides, various schemes have been launched in order to provide universal health protection and affordable health care, enhance medical infrastructure, reduce mortality and eliminate communicable and non-communicable diseases. The Government has also been promoting alternative medicine, such as Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homeopathy.

However, being the second most populous country in the world, India has a formidable task of ensuring access to quality health care services to its entire population. Due to lack of adequate investment, the public health infrastructure and facilities have remained poor. Consequently, there has been an expansion of private healthcare providers, which has made health care unaffordable for the majority of marginalized sections of society. 70 per cent of the out-patient care and 58 per cent of the inpatient care are treated by the private sector. In addition, India has one of the lowest densities of healthcare personnel comprising doctors, nurses and midwives. COVID-19 pandemic exposed the limitations of the healthcare system in India, both public and private. The public health system could hardly manage the health crisis created by the pandemic and the limited health resources were diverted towards COVID-19 management. Consequently, many people were exploited by the unregulated private health sector that used the occasion to demand exorbitant healthcare charges. The second COVID-19 wave exposed the unpreparedness of the healthcare system as there were shortages of beds, ventilators, oxygen supplies and critical medicines. The Government responded with the use of technology, such as Aarogya Setu App, for surveillance and tracking, containment, testing and treatment of people infected with the coronavirus. Being the largest producer and supplier of vaccines and generic drugs in the world, India managed to produce vaccines used to vaccinate over a billion adult population and organize the vaccination process using the CoWIN App. In a post-COVID-19 scenario, the challenges to public health are immense since India is still home to a huge number of patients affected by communicable diseases, non-communicable diseases, natural disasters, violence and accidents.

This issue of Social Action reflects on the status of public health and well-being in India in the light of the COVID-19 pandemic. The first article titled "Health and Well-being: Evidence based on Non-communicable Diseases Burden of India in the SDG Era" by Sanitha Sadanandan and K. Gangadharan analyses the serious public health challenge of non-communicable diseases in India in the light of the 2030 agenda of the United Nations' Sustainable Development Goals. The authors point out that health loss due to non-communicable diseases have been rising in the last few decades resulting in an additional burden to the Indian economy and its efforts at attaining the Sustainable Development Goals. Therefore, they suggest a multi-sectoral strategy to improve the health and well-being of the people of the country. The article by J.V. Arun and A. Premkumar titled "Disparities in Tribal Health Infrastructure in India: Roadmap for

Improving Health Care Services" reveals that the shortage of infrastructure facilities and qualified health personnel in tribal areas are the two main concerns for providing efficient health care services to the tribal people in India. The authors point out that the states that have adequate health personnel perform better in health indicators rather than states that have a shortage of qualified health personnel in tribal areas. Salamah Ansari and Alok Ranjan focusses on the equitable access to health care for marginalized sections of society in their article "Towards an Equitable and Universal Health Coverage amidst COVID-19 Pandemic: Learnings from 75th Round National Sample Survey, 2017-18". The authors point out that people belonging to the Scheduled Caste and Scheduled Tribe communities have lower out-of-pocket expenditure on health and higher unmet health care needs compared the people belonging to the general category. The article on "Access to Medicines as an Emerging Public Health Challenge: Is Fair Price Medical Shops an Answer?" by Merin Joy and Roy Scaria point out to the serious public health challenge of non-communicable diseases that pushes many households into poverty due to increasing out-of-pocket expenditure. The authors examine the possibility of improving affordable access to medicines through Fair Price Medical Shops (FPMS) by analysing the availability and affordability of medicines in FPMS and the factors affecting people's choice to purchase medicines from FPMS. The authors conclude that FPMS can play an important role in ensuring availability and affordability of medicines. The article titled "Disparities in COVID-19 Vaccination in India: A Study based on the CoWIN Database" by Radha R. Ashrit, Megha Tomar and Shipra Joshi uses CoWIN database to study the equitable access of vaccines across India. The authors find out that there are gender and regional disparities in the access to vaccines. The article recommends measures to address issues of equitable access to vaccines as well as vaccine hesitancy among the population. Saji P. Jacob and Prasad R. highlights the unprecedented misery of the largely female nurses in Kerala during the COVID-19 pandemic in their article "Nursing in times of Health Emergencies in Kerala from a Decent Work Perspective". Using the decent work framework of the International Labour Organisation (ILO), the authors point out that though nurses have been doing a commendable service to the people during the COVID-19 pandemic, yet nursing professionals have not been able to experience decent working conditions in their workplace. The last article titled "Contextualising Gandhi, the Plague and Public Health in Pandemic Times" by Teresa Joseph is based on the writings of Mahatma Gandhi on health and hygiene. The author points out that the experiences of Mahatma Gandhi during the outbreak

of plague in Johannesburg crystallized his vision of health and well-being from the perspective of disadvantaged sections of society. The author draws from the Mahatma's vision and action during the plague to infer ways in which public authorities need to respond to the ensuing COVID-19 pandemic to ensure health and well-being of the all the people without any discrimination against any social category.

It is hoped that these articles will bring to focus the need for every citizen of India to enjoy good health throughout his/her life. In addition, COVID-19 pandemic has reinforced the need for all citizens to access quality healthcare at all stages in their lives. Let us hope that India gives public health and well-being the priority it deserves so that the country is able to achieve the goal of ensuring quality healthcare to all its citizens by 2030.

Denzil Fernandes

Health and Well-being: Evidence based on Non-communicable Diseases Burden of India in the SDG Era

Sanitha Sadanandan*
& K Gangadharan**

Abstract

Good health and well-being are significant dimensions to ensure the quality of life and to attain human development. However, ill-health, especially on account of Non-communicable Diseases (NCDs), affects not only an individual's well-being but also places a burden on households and communities and destroys their capability to survive. NCDs have been considered a serious public health challenge in the United Nations' Sustainable Development agenda. India accounts for a relatively large share of the world's disease load and is undergoing an epidemiological transition in which NCDs have exceeded communicable diseases in terms of the country's overall disease burden. Consequently, health loss due to non-communicable conditions such as heart disease, stroke, and diabetes are rising and creating additional burdens and challenges to the Indian economy in this era of Sustainable Development Goals. Therefore, multisectoral strategy, as well as coordination across economic, social, and environmental policy arenas, is essential to improve good health and well-being.

Keywords: Health, Ill-health, NCD burden, Sustainable Development Goal, Well-being

Introduction

Health is critical to human pleasure and well-being, as well as prosperity, wealth, and even economic growth. Good health and well-being are significant dimensions to ensure the quality of life and to attain human development. Health refers to the body's functional and metabolic efficiency, as well as its ability to adapt to physical, mental, and social changes. According to World Health Organization (WHO), “health is a state of complete physical, mental and social well-being & not merely the absence of disease or infirmity.” Thus, health should not be viewed solely

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as a means of curing a sickness, but as an indicator of social, economic, material, and environmental development. Access to better health and well-being is a basic right, and the Sustainable Development Framework provides a new incentive to recognize that everyone, not just the wealthy, has access to the highest levels of health and health care. The third Sustainable Development Goal focuses on health and it emphasises 'good health and well-being' that envisages ensuring healthy lives and promoting well-being for all of all ages.

Health is both a means to and an end to growth. It confers on a person or group the ability to live a life free of illness while also allowing them to reach their full potential. The state of one's health is multifaceted, and it is measured using a variety of indicators such as morbidity, mortality, life expectancy at birth, nutritional status, and so on. Poor health has been the most basic form of distress and deprivation. Ill health is generally recognized to be the most significant and least predictable shock to economic well-being. Diseases, especially Non-communicable Diseases (NCDs), not only affects an individual's well-being, but it also places a burden on household and public resources, impairs communities, and destroys their capabilities.

The outbreak of the COVID-19 pandemic has served as a stark reminder that our economies are inextricably linked to our health. At this juncture, the entire world experiences a triple burden of diseases with the co-existence of the prevailing burden of communicable diseases and evolving heavy burden of non-communicable diseases along with the outbreak of the COVID-19 crisis. People's health and well-being of all ages are thus at the centre of sustainable development. As a result, countries around the world are striving to prevent illness, improve treatment and healthcare, and confront new emerging health challenges.

Non-communicable diseases are the main cause of illness and premature mortality worldwide, accounting for seven out of ten fatalities. NCDs are one of the foremost challenges confronted by all countries, especially among developing countries in this 21st century. If people with NCDs are the principal income earner or raising the children, NCD-related short-term or long-term disability or early mortality can lead to lost personal and household earnings (Engelgau et al., 2011). NCDs have a substantial impact on households and countries, predominantly affecting the poor and vulnerable, thus hampering development. NCDs increase not just direct healthcare expenses, but also indirect costs such as increased absenteeism

(lost output due to missed workdays) and presenteeism (lost output due to reduced productivity while at work) (Finkelstein et al., 2021) Non-communicable diseases (NCDs) have been considered a serious public health challenge in the United Nations' Sustainable Development agenda, which was approved in 2015. Reducing premature mortality from non-communicable illnesses by one-third by 2030 through prevention and treatment has been one of the indicators of the SDGs. The interaction of coronavirus disease and non-communicable diseases could raise the global disease burden. The substantial burden of NCDs along with the COVID-19 crisis has made the situation more precarious.

The epidemiological burden of chronic diseases and associated risk factors are rising over the world (Abegunde and Stanciole, 2006). Chronic diseases, especially NCDs, impact people of all ages, and the pain and disability that each disease causes can reduce the quality of life. The epidemiological load of chronic illnesses and their risk factors is growing worldwide. NCDs and their risk factors are the world's largest cause of death. Mortality from communicable diseases has reduced as a result of socioeconomic progress, diagnosis, increased access to medical care, and vaccine availability, however, the burden of NCDs has increased. (Thakur et al., 2021). According to a Global Burden of Disease (GBD) study, 71 percent of all deaths in 2016 were due to NCDs in the world. Every year, almost 15 million people aged 30 to 69 die from a non-communicable diseases, and 85 percent of these fatalities fall in low-income and middle-income countries. NCDs are significant impediments to poverty reduction and sustainable development. (WHO, 2014). Thus, NCDs have been considered a global "chronic emergency" (Nikolic, 2011; Thakur et al, 2011).

In the case of India, there have been some signs of improvement in health indices, such as average lifespan, infant mortality, and maternal deaths over the last two decades. However, India accounts for a relatively large share of the world's disease load and is undergoing an epidemiological transition in which NCDs have exceeded communicable diseases in terms of the country's overall disease burden. It still poses significant challenges to the health system in India, resulting in a double burden of disease and a substantial share of the global burden of disease. Since the 1990s, the contribution of NCDs to the overall illness burden has risen in India. While there is a reduction in disease and death from transmissible ailments, there is a faster rise in the prevalence of NCDs, such as cardiovascular disease (CVD), diabetes, chronic obstructive pulmonary disease (COPD), cancers, mental health disorders, and injuries. The growing burden of NCDs in India

is due to the prevalence of associated risk factors. In the case of India, NCDs are primarily attributed to changing food and lifestyle patterns, poverty, unclean environment, pollution (both indoor and outdoor air pollution), etc.

India is ranked 120th out of 165 nations on the SDG Index 2021, with an overall score of 60.1. Target 3 of 'Good Health and Well-Being' is a major challenge for India, as per the SDG report 2021, and SDG trends show moderate progress towards achieving this goal. NCDs have arisen as the principal cause of morbidity and death, leading to 55 per cent of all sickness burden and more than 62 per cent of deaths in the country. Every year, about 5.8 million people in India die from major NCDs like heart and lung diseases, stroke, cancer, and diabetes, implying that one in every four Indians is at risk of dying from one of these diseases before reaching the age of 70. At the same time, NCDs have a higher catastrophic burden as a result of high out-of-pocket health expenses, which exacerbates poverty and impoverishment. Furthermore, the expansion of the private sector increases financial vulnerability and destitution by increasing out-of-pocket health spending. NCDs account for more than 47 per cent of out-of-pocket healthcare spending in India (Mahal et al., 2010). In the case of four major NCDs, such as CVDs, chronic respiratory illnesses, cancer, and diabetes, it is relatively high. Consequently, health loss due to non-communicable conditions such as heart disease, stroke, and diabetes are rising that creating additional burden and challenges to the Indian economy in this era of Sustainable Development Goals.

Against this backdrop, the present paper attempts to analyse different aspects of India's burden of non-communicable diseases such as cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes, the leading causes of global death and morbidity - in the light of the global Sustainable Development Goals. The paper also examines the risk factors associated with NCDs and identifies the way forward to tackle successfully the problem of NCDs for sustainable development. The data regarding non-communicable diseases, deaths, disability-adjusted life years (DALYs) has been extracted from the Global Burden of Disease Study (GBD) 2019. The burden of NCDs at the state level, as well as their risk factors such as tobacco use, dietary risks, metabolic risks, environmental and occupational risks, have been evaluated. To analyse the prevalence of NCDs, their associated risk factors, and SDG, data is gathered from various secondary sources like WHO, GBD study, WEF, NITI Aayog, ICMR, GOI reports, etc.

Global NCD burden

The global burden of diseases is associated mostly with non-communicable diseases. NCDs and injuries have emerged as the most prominent contributors to the global disease burden. NCDs affect people of all ages, from all layers of society, from all regions, and all nations. Even though these conditions are repeatedly allied with the geriatric population, research suggests that more than15 million NCD related fatalities happen between the period of 30 and 69 years. 85 percent of these "premature" deaths are estimated to result in low-income and middle-income countries. Low-income and middle-income nations account for 77% of all NCD mortality. Cardiovascular illnesses such as heart attacks and strokes, cancers, chronic respiratory diseases like chronic obstructive pulmonary disease, asthma, etc., and diabetes are the most common NCDs. Cardiovascular disease, which kills 17.9 million people each year, is followed by cancer (9.3 million), respiratory problems (4.1 million), and diabetes (1.5 million). Over 80 per cent of all premature NCD fatalities are caused by these four disease types (WHO, 2021).

In 1990, the percentage of global death due to NCDs was 58, it increased to 62 per cent in 2000 and leaped to 72 per cent in 2016. At the same time, the percentage of DALYs due to NCDs was 44 in 1990, 49 per cent in 2000 and it drastically increased to 61 percent in 2016. These facts show the certainty of the prevalence of NCDs, and their bearings on death and disability. Due to these trends, the countries across the globe focus on reducing the impacts of NCDs through the recent agenda of sustainable development goals.

Global Risk Factors for NCDs

Risk factors are the primary drivers of diseases that result in premature mortality and disability. Risk factors can be categorised as modifiable or behavioural risk factors and non-modifiable or individual risk factors (Bloom et al, 2013). Tobacco use, inactivity, inadequate diet, and excessive alcohol consumption are all modifiable behaviours that increase the risk of NCDs. The metabolic changes that raise the risk of NCDs are caused by metabolic risk factors like raised blood pressure, overweight or obesity, high blood glucose levels (hyperglycemia), and high levels of fat in the blood (hyperlipidemia). Increased blood pressure, excessive blood glucose, high cholesterol, and obesity are all indications of unhealthy eating habits and insufficient physical activity. These are known as metabolic risk factors, and they can lead to cardiovascular disease, the major cause of premature mortality among NCDs. Children, adults, and the elderly are

all susceptible to the risk factors that contribute to NCDs, whether they are poor diet, lack of physical exercise, tobacco smoke intake, or harmful alcohol consumption.

The major ten risks attributed with the largest number of global NCD deaths for both males and females at all ages in 2019 are,

- High systolic blood pressure (10.8 million deaths)
- Harmful use of tobacco products (8.71 million deaths)
- Dietary risks such as low fruit, high salt intake (7.94 million deaths)
- Air pollution (6.67 million deaths)
- High fasting plasma glucose (6.50 million deaths)
- High body-mass index (5.02 million deaths)
- High LDL cholesterol (4.40 million deaths)
- Kidney dysfunction (3.16 million deaths)
- Child and maternal malnutrition (2.94 million deaths)
- Alcohol consumption (2.44 million deaths)

Behavioural risk factors are inextricably related to several socio-economic characteristics, including unequal access to medical treatment, poverty, gender, food habits, and education.

NCDs and Associated Risk Factors in India

During the last three decades, India has been facing crucial changes in disease patterns including cardiovascular diseases, diabetes, chronic respiratory diseases, cancers, chronic kidney disease, and mental health. The growth of NCDs is mainly due to the increase in risk factors such as physical inactivity, use of tobacco, low consumption of fruits and vegetables, high body mass index, and so on. Regardless of these risk factors, NCDs are very common among older people. The present phase of India's epidemiological transition is characterized by low mortality, high morbidity, and the twin burden of communicable diseases and NCDs. NCDs have arisen as the principal cause of morbidity and death, leading to 60 percent of all sickness burden and more than 65 percent of deaths in the country.

The major illness burden of NCDs rises from 1990 to 2019. In 2016, more than half of the whole illness burden in India i.e. 55 per cent was triggered by NCDs, 33 per cent by Communicable-Maternal-Neonatal-Nutritional Diseases (CMNND), and 12 per cent by injuries. From 1990 to 2019, the

sickness burden due to NCD, measured by DALYs, increased from 30 per cent to 60 per cent.

Table1-The burden of major NCDs in India-DALY and Death in India, 2019

Type of disease	India	
	DALYs	Death
Cardiovascular Diseases	13.9	27.3
Cancer	5.75	9.95
Chronic respiratory Diseases	6.3	12.45
Diabetes	2.73	2.91
Chronic Kidney Diseases	1.61	2.37
All NCDs	57.9	64.93

Source: GBD India Compare, https://vizhub.healthdata.org/gbd-compare/india

In India, there is a quicker increase in the occurrence of NCDs such as cardiovascular disease (CVD), chronic respiratory diseases, cancers, and diabetes in the last several years. Among NCDs, cardiovascular diseases (27.3%) were the principal reason for death, followed by chronic respiratory diseases (12.45%), and cancers (10%). In India, NCD deaths are far higher among the productive as well as old age groups. Further, it adversely affects the productivity and growth of the economy.

The main risk factors for NCDs are modifiable factors like tobacco use, harmful use of alcohol, physical inactivity, and a poor diet. The major factors that cause NCD burden are unwholesome diet habits, high blood pressure, high blood sugar, high cholesterol, and overweight condition. These factors give a quarter of the overall disease burden in India. This surge is responsible for the growing domination of NCDs in every state of the country. The behavioural and environmental risks lead to being overweight and obesity, raised blood pressure, and raised cholesterol, subsequently increasing the occurrence of CVDs, diabetes, cancers, and chronic respiratory diseases. Air pollution has rapidly emerged as an important risk factor for NCDs. Among the environmental risks, exposure to air pollution in India is the highest in the world, leading to both, NCDs and communicable diseases. This covers both outdoor air pollution as well as household air pollution. In 2016, domestic air pollution was responsible for 4.8 per cent of India's total DALYs, while outdoor air pollution was responsible for 6.4 per cent (GBD 2015 Risk Factors Collaborators).

In India, the behavioural and metabolic problems associated with the rising

Table 2- Non-Communicable Disease burden and related risk factors in India, 2019 (as per cent of total DALYs)									
States	Cardio-vascular diseases	Cancer	Diabetes mellitus	Chronic respiratory diseases	Non-com-municable diseases	Tobacco use	Dietary risks	Metabol-ic risks	Environmen-tal/ occupa-tional risks
Andhra Pradesh	17.1	5.6	3.2	6.1	63.3	8	8.9	20.2	18.7
Arunachal Pradesh	7.8	6.9	2.5	4.7	58.6	6.9	3.6	10.9	14
Assam	12	6.1	2.4	5.2	56	7.9	5.1	14.4	18
Bihar	11.3	4	2.1	5.3	50.3	4.6	5.1	12.4	24.3
Chhattisgarh	14.3	5.1	2.6	4.7	53.8	5.1	6	15.9	19.9
Delhi	13.9	8	3.4	5.4	66.3	7.2	6.9	18.4	15.4
Goa	19.1	7.2	5.6	4.5	74.7	4.4	8.7	26.1	12.3
Gujarat	15.7	6.2	2.7	6.5	59.8	7.4	8.5	18.8	18.4
Haryana	14.4	6.5	2.9	6.5	61	9.2	7.2	17.6	17.8
Himachal Pradesh	14.8	7.6	2.7	10.2	67.8	11.3	7.4	19	18.4
Jammu & Kashmir and Ladakh	15.2	6.5	2.4	8.1	63.8	10.7	8	17.2	17.8
Jharkhand	9.7	4.4	2.4	5	53.5	2.7	4.4	11.8	20.2
Karnataka	17.9	7.4	3.8	6.7	65.4	7.8	8.7	21.9	17.2
Kerala	20.5	9.2	4.3	6.4	76.9	8.8	10.1	27.4	14.1

Madhya Pradesh	12	5.4	2.1	5.9	51.7	7.3	6	13	20.6
Maharashtra	17.1	6.6	3	5.9	66	5.5	9.2	20	16.7
Manipur	12.6	5.7	3.8	4.5	61.6	8.5	5.7	16.6	15.2
Meghalaya	7.6	8.2	1.9	5.3	56.4	8.8	3.7	10.1	14.4
Mizoram	5	11.3	2.3	6.7	57.4	11.8	2.9	9.1	13
Nagaland	10.5	7.1	2.1	3.4	56.6	6	4.5	13.4	13.1
Odisha	11.5	5.8	2.4	3.5	54.3	4.3	4.3	14	18
Punjab	22.4	6.2	4.9	3.8	68.9	4.8	12.1	28.8	18.4
Rajasthan	10	5.5	1.6	9.4	51.3	9.8	4.7	11.3	20.9
Sikkim	11.5	7.6	3.4	5.8	68.2	8	5.5	16.9	15.7
Tamil Nadu	19.6	6.2	5.6	4.3	68	7.1	11.3	28	16.2
Telangana	15.9	5.4	3.1	5.3	62.7	6.5	7.9	18.3	17.7
Tripura	16.7	5.8	2.5	7.1	65.3	11	7	18.3	18.2
Uttar Pradesh	9.5	5.3	2	7.7	49.2	7.9	4.9	11	22.2
Uttarakhand	13.6	7.2	3.2	9.2	61.7	11.8	6.9	17.9	18
West Bengal	18.5	6.3	2.4	5.7	66	9.6	8.2	19.8	19.9
India	13.9	5.8	2.7	6.3	57.9	7.3	6.9	16.6	19.6

Source: GBD India Compare, https://vizhub.healthdata.org/gbd-compare/india;
GBD Compare, https://vizhub.healthdata.org/gbd-compare

burden of NCDs have become ridiculously large. Dietary concerns include a lack of fruits and vegetable consumption, and grains, as well as a high salt and fat intake. These risks lead to health loss in the form of cardiovascular disease, diabetes, cancer, etc. Tobacco use is a leading risk factor for NCDs attributable to nearly 1.3 million deaths every year. NCDs are on the rise all across the country due to significant economic expansion and urbanisation, along with changes in lifestyle that have raised vulnerability to NCD risk factors.

NCDs impede global and national economic growth by reducing worker productivity and shifting the focus away from productive uses toward disease treatment. If the four main NCDs, including diabetes, cardiovascular disease, chronic respiratory disease, and cancer, are not addressed India could lose around US$ 3.55 trillion by 2030 (Bloom et al., 2014). People in low and middle-income countries (LMICs) are more likely to be exposed to risk factors for NCDs, and unhealthy behaviours, poor health, and early death can result in a loss of household income. The cost of healthcare, as well as the loss of work and income, pushes poor individuals and families deeper into poverty.

Sustainable Development Goals and NCD Burden Actions and Challenges

"The SDG framework for global health provides a window of opportunity to broaden health policy thinking, break out from mono-disciplinary thinking and vertical frameworks, and integrate policy" (Mondal and Van Belle, 2018). All key health concerns, including communicable, non-communicable, and environmental diseases; reproductive, maternal, and child health; universal health coverage; and access to safe, effective, high-quality, and affordable medications and vaccines, are addressed by good health and well-being. "The transition from MDGs to SDGs recognizes the link between NCDs and global development" (Thakur et al., 2021). NCDs also have multiple additional interconnections with targets under other SDG goals.

- Target 3. focuses on improvements in tobacco control.
- Target 3.b focuses on supporting research and development of vaccines and medicines for NCDs that primarily affect developing countries, as well as providing access to affordable essential medicines and vaccines for NCDs.
- Target 3.4 aims to reduce premature NCD mortality by one-third.
- Target 3.4.2 aims to reduce the global suicide mortality rates.

- Target 3.5 addresses substance abuse, including the harmful use of alcohol.
- Target 3.6 aims to reduce deaths related to road traffic injuries.
- Target 3.8 aims to achieve Universal Health Coverage, which has implications for a wide range of NCD-related promotion, prevention, and treatment interventions.
- Target 3.9 is to reduce the number of deaths and illnesses related to hazardous chemicals, as well as air, water, and soil pollution and contamination.

To combat NCDs, a comprehensive approach centered on preventive, curative, and rehabilitative services will be essential, as envisioned by an SDG vision.

NCDs have become a significant health burden in India, both for individuals and for the health system (Rath et al, 2018). Due to the obvious nature and determinants of NCDs and the need to concentrate on preventive, curative, and rehabilitative components, achieving SDG 3.4 - "by 2030, reduce by one-third pre-mature mortality from non-communicable diseases through prevention and treatment, and promote mental health and wellbeing" - will necessitate a broad endeavour beyond the health ministry (Lim et al., 2016). India has taken a major step on several fronts in terms of health. India adopted the World Health Organization's Worldwide Action Plan for NCDs 2013–2020 and prepared its nation-wide action plan with particular indices. In 2016, a unique initiative was launched in collaboration with the Ministry of Statistics and Programme Implementation (MoSPI) to establish indices that represent the SDG's targets and objectives. The National Health Policy 2017 identified SDGs as a vital agenda and it was recognised that national strategies and global methods must be coordinated. The policy aims to "achieve the highest attainable standard of health and wellbeing for all people of all ages by integrating preventive and promotive health care directions into all developmental policies and ensuring universal access to high-quality healthcare services without causing financial hardship to anyone" (NHP, 2017). Specific targets under the National Health Policy, 2017 in connection with SDGs are to reduce premature mortality from cardiovascular diseases, cancer, diabetes & chronic respiratory diseases by 25 per cent by 2025.

The Government of India has implemented the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS) with a focus on screening, early diagnosis,

prevention, and treatment, and to build infrastructure to achieve the SDG goal. A National Non-Communicable Diseases Cell, Cardiac Care Units, and Chemotherapy Day-Care Centres have been established in various areas across the country. Furthermore, the government has launched 'mDiabetes' to combat diabetes, a mobile health project aiming at promoting diabetes awareness, as well as 'mCessation', a tool to assist people to quit smoking. As a significant step towards Universal Health Coverage, the Indian government launched the 'Ayushman Bharat' healthcare scheme, which is the world's largest government-funded health-protection mission, in 2018.

Apart from these actions and strategies, India's current development pace is insufficient to meet the Sustainable Development Goals by 2030 (WHO 2020). Rising inequality, poverty, unemployment, social exclusion, malnutrition, gender discrimination, health disparities, political uncertainty, and other factors exist in the country, impeding economic and sustainable development. The current COVID-19 crisis has made the situation more vulnerable. At this critical stage of the COVID-19 pandemic, the convergence of COVID-19 with non-communicable diseases is an additional critical concern in the country towards achieving SDGs. The strong linkage between COVID -19 NCD is a challenge for achieving SDGs, particularly those related to NCDs (Thankappan, 2020). Therefore, the SDG goal for NCDs has strayed off track. This is likely to adversely affect the SDG agenda globally in varying degrees, particularly the agenda on health and wellbeing, especially in India. (Azarpazhooh et al., 2020). Persons with NCDs are much more prone to severe COVID-19 and death in a developing country like India. Persons with underlying NCD diseases such as cardiac ailment, diabetes, long-lasting respiratory disease, and cancer are highly susceptible to COVID-19, and further severe conditions lead to death. The COVID-19 pandemic has exposed various obstacles to healthcare delivery, with significant consequences for patient care, particularly for those with long-term chronic ailments (Pati et al., 2021). A further key economic concern during COVID-19 would be increasing out-of-pocket expenditure in the country due to the large NCD load and low public investment in health care. The prolonged epidemic has aggravated chronic ailment burden by substantially disrupting health care systems' ability to provide routine screening, assessment, treatment, and preventive measures. At this juncture, the effort on the NCD agenda for SDGs in all regions will be critical in the coming period.

NCD prevention is a precondition for eliminating social and economic disparities and enhancing long-term development. Taking measures to

address the socio-economic determinants of NCDs and health, in general, will help accelerate progress toward alleviating poverty and promote a much more equal society that supports sustainable development. Comprehensive epidemiological trend monitoring for NCD predictors will be critical for calculating disease burden and directing policy and programme implementation and evaluation. India will need to adopt research-based interventions to reduce the risk, prevalence, and incidence of NCDs to address the NCD crisis (Kataria et al., 2020). Early detection, appropriate and effective referral and long-term care for NCDs would better prepare health systems. Additional funding for NCDs, integration of the NCD action plan with efforts to achieve accessible and equitable national healthcare systems through universal health coverage, and building the capacity for prioritising and implementing NCD care within the health system are all required to build such a system.

Conclusion

The inclusion of NCD in the 2030 Agenda reaffirms the role of NCD prevention to achieve sustainable development goals. Inadequate diet, lack of physical activity, excessive alcohol consumption, use of tobacco, and poor air quality are all risk factors for NCDs, and their underlying social determinants are influenced by different sectors like agriculture, urban planning, energy, trade, and education. As a result, achieving the NCD targets will necessitate actions outside of the health sector. Therefore, multisectoral strategy, as well as coordination across economic, social, and environmental policy arenas, is essential to improve public health and well-being. It will necessitate collaboration between various government agencies, civil societies, and the required enterprises. Enhancing grass-root level local planning might benefit populations to access equitable, reasonable, high-quality, and effective care on time and ensure optimal allocation of resources to the vulnerable population. Future policy interventions should be a focus on crucial sectors such as health, education, employment, poverty, and local governance to address the underlying social, economic, and environmental grounds of chronic ill-health as well as pandemic to mitigate the repercussions and to achieve sustainable development goals. ❐

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