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An Abridged Analysis of The Global V/S Indian Scenario of Tuberculosis

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Abstract

Globally, the year 2020 witnessed a sweeping COVID-19 pandemic devastate lives, economies, health systems and public health programmes across the world with record-breaking speed. In just a few months, the pandemic reversed years of progress made in the fight against TB. The onset of the pandemic in March triggered lockdowns, restrictions in movement, near complete closure of OPD services in public as well as private sector, repurposing of available NTEP and health system resources, infrastructure, diagnostics, treatment centers and manpower to fight Covid-19, disrupted ongoing TB elimination efforts and services all over the country.

Keywords: Pandemic, global, health, lockdown

Definition of tuberculosis

Tuberculosis is a specific infectious disease caused by M tuberculosis. Disease primarily affects lungs and causes pulmonary tuberculosis. it can also affect intestine, meninges bones and joints lymph glands skin and other tissues of the body. The disease is usually chronic with varying clinical manifestations. The disease also affects animals like cattle this is known as bovine tuberculosis which may sometimes be communicated to man. Memory tuberculosis is the most important form of tuberculosis which affects man.[1]

Global Status of Tuberculosis

Tuberculosis remains a worldwide public health problem despite the fact that the causative Organism was discovered more than 100 years ago and highly effective drugs and vaccine are available making tuberculosis a preventable and curable disease.

[1] Park's Textbook of Preventive and Social Medicine 26th Edition 2021

Technologically advanced countries have achieved spectacular result in the control of tuberculosis. this decline started long before the advent of BCG or chemotherapy and has been attributed to changes in the "nonspecific" determinants of the disease such as improvements in the standard of living and the quality of life of the people coupled with the application of available technical knowledge and health resources.[2]

It is estimated that about 1/3 of the current global population is infected asymptomatically with tuberculosis, of whom 5 to 10% will develop clinical disease during their lifetime. Most new cases and deaths occur in developing countries where infection is often acquired in childhood. The annual risk of tuberculosis infection in high burden countries is estimated to be 0.5 to 2%. Patients with infectious pulmonary tuberculosis disease can infect 10 to 15 persons in a year.[3]

Tuberculosis remains a major global health problem. The current global picture of TB shows continued progress but not fast enough.

- A total of 1.5 million people died from TB in 2020 (including 214 000 people with HIV). Worldwide, TB is the 13th leading cause of death and the second leading infectious killer after COVID-19 (above HIV/AIDS).
- In 2020, an estimated 10 million people fell ill with tuberculosis (TB) worldwide. 5.6 million men, 3.3 million women and 1.1 million children. TB is present in all countries and age groups. But TB is curable and preventable.
- In 2020, 1.1 million children fell ill with TB globally. Child and adolescent TB is often overlooked by health providers and can be difficult to diagnose and treat.
- In 2020, the 30 high TB burden countries accounted for 86% of new TB cases. Eight countries account for two thirds of the total, with India leading the count, followed by China, Indonesia, the Philippines, Pakistan, Nigeria, Bangladesh and South Africa.
- Multidrug-resistant TB (MDR-TB) remains a public health crisis and a health security threat. Only about one in three people with drug resistant TB accessed treatment in 2020.
- Globally, TB incidence is falling at about 2% per year and between 2015 and 2020 the cumulative reduction was 11%. This was over half way to the End TB Strategy milestone of 20% reduction between 2015 and 2020.
- An estimated 66 million lives were saved through TB diagnosis and treatment between 2000 and 2020.
- Globally, close to one in two TB-affected households face costs higher than 20% of their household income, according to latest national TB patient cost survey data. The world did not reach the milestone of 0% TB patients and their households facing catastrophic costs as a result of TB disease by 2020.

[2] ibid

[3] WHO (2004), Weekly Epidemiological Record, 23rd Jan 2004, No. 4 2. WHO (2016), Global Tuberculosis Report 2016.

- By 2022, US$ 13 billion is needed annually for TB prevention, diagnosis, treatment and care to achieve the global target agreed at the UN high level-meeting on TB in 2018.
- Funding in low- and middle-income countries (LMICs) that account for 98% of reported TB cases falls far short of what is needed. Spending in 2020 amounted to US$ 5.3 billion less than half (41%) of the global target.
- There was an 8.7% decline in spending between 2019 and 2020 (from US$ 5.8 billion to US$ 5.3 billion), with TB funding in 2020 back to the level of 2016.
- Ending the TB epidemic by 2030 is among the health targets of the United Nations Sustainable Development Goals (SDGs).[4]

For the past two decades, national and international efforts in TB prevention, diagnosis and treatment have been guided by the DOTS strategy (mid-1990 until 2005) an subsequently the Stop TB Strategy (2006-2015). The Stop TB strategy was designed to achieve global TB targets set for 2015 within the context of the Millennium Development Goals.[5] It focused on five indicators to measure the implementation and impact of TB control. They are; case detection, treatment success, incidence, prevalence and death. The core of the strategy was DOTS. The WHO End TB strategy, adopted by the World Health Assembly in May 2014, is a blueprint for countries to end the TB epidemic by driving down TB deaths, incidence and eliminating catastrophic costs. It outlines global impact targets to reduce TB deaths by 90 per cent and to cut new cases by 80 per cent between 2015 and 2030, and to ensure that no family is burdened with the costs due to TB. Ending the TB epidemic by 2030 is among the health targets of the newly adopted Sustainable Development Goals. WHO has gone one step further and set a 2035 target of 95 per cent reduction in deaths and a 90 per cent decline in TB incidence - similar to current levels in low TB incidence countries today.[6]

India #Tubersculosis# 2020

Between January and February 2020, the National Tuberculosis Elimination Programme (NTEP) was on an up-hill trajectory notifying more than 4,11,000 patients, ~6% more than in the corresponding months of 2019. The national lockdown imposed in March and April resulted in tumbling notifications by 38% (44% in private notifications) and NTEP worked hard to mitigate the impact of COVID-19 and regain the lost momentum. The key components of NTEP's response plan included the integration of TB and COVID-19 bi-directional screening strategy, laboratory services, diagnostic and treatment capacity upgrades and procedures for co-located testing for TB (among COVID-19 patient as well as ILI/SARI patients) and testing for COVID-19 (among notified TB patients) were introduced at most health centre's and hospitals to augment surveillance and TB case finding efforts apart from a plethora of periodically updated advisories, directives, and guidance documents issued to the states.[7]

[4] https://www.who.int/news-room/fact-sheets/detail/tuberculosis
[5] WHO (2015), Health in 2015, From MDGs (Millennium Development Goals) to SDGs (Sustainable Development Goals).
[6] WHO (2016), Fact Sheet No. 104, March 2016.
[7] https://tbcindia.gov.in/showfile.php?lid=3587

It was highlighted by the World Health Organization's 2021 Global TB report that tuberculosis (TB) cases in India went down by 41 per cent between 2019 and 2020 due to the Covid-19 pandemic. India, followed by Indonesia (14 per cent), the Philippines (12 per cent) and China (8 per cent) were the top four countries that contributed most to the global reduction in TB notifications between 2019 and 2020. [8]

The report revealed that the number of people newly diagnosed with TB and those reported to national governments fell to 5.8 million in 2020 from 7.1 million in 2019. In March 2021, an analysis by the Ministry of Health and Family Welfare revealed that notification of TB cases in India reduced by 25 per cent between January and December 2020 because of the lockdown and diversion of resources for Covid-19 control measures. In 2019, the number of cases reported was 24.04 lakh, a rise of 12 per cent from previous years. It reduced by 25 per cent to 18.02 lakh cases in 2020. It showed that the Covid-19 pandemic reversed years of global progress in tackling TB.[9]

Fig- Scale of achievement in Notification over the last five years

Source: https://tbcindia.gov.in/showfile.php?lid=3587

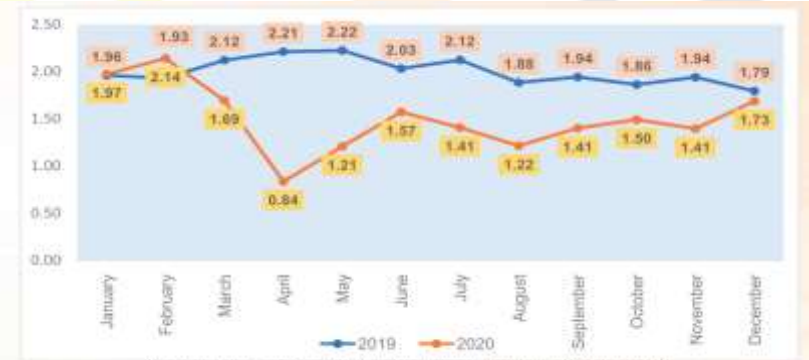

Fig- Comparison of Month-wise TB Notification between 2019 and 2020

Source: https://tbcindia.gov.in/showfile.php?lid=3587

[8] https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/tb-cases-reporting-in-india-down-by-41-due-to-pandemic-who/articleshow/87037155.cms
[9] Ibid

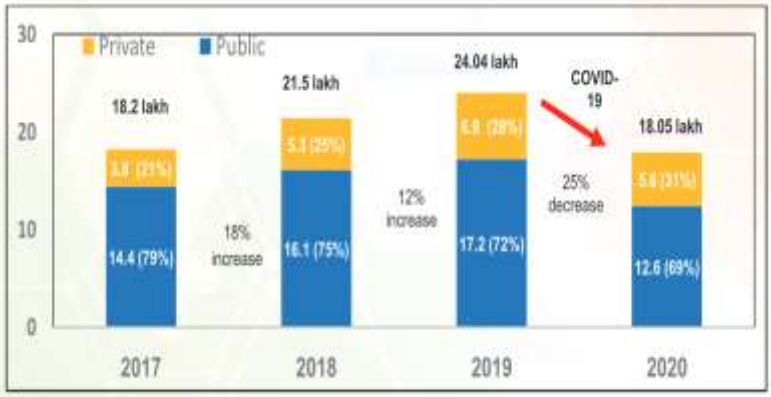

Fig- Notification Progress (Public and Private) over the years

Source: https://tbcindia.gov.in/showfile.php?lid=3587

Nearly 1.5 million people died from TB in 2020 (including 214,000 among the HIV positive). The increase in TB deaths, the first in more than a decade, occurred mainly in the 30 countries with the highest burden of TB, including India, and also in 2020 than in 2019. The report stated, the major reasons were due to disruption in access to TB services and a reduction in resources and people struggling to seek care in the context of lockdowns, as in many countries, human, financial and other resources were reallocated from tackling TB to the Covid-19 response.

Funding in the low and middle-income countries that account for 98 per cent of reported TB cases remains a challenge. Of the total funding available in 2020, 81 per cent came from domestic sources, with the BRICS countries (Brazil, Russian Federation, India, China and South Africa) accounting for 65 per cent of total domestic funding. [10]

The report calls on countries to put in place urgent measures to restore access to essentialTB services, double investments in TB research and innovation.[11]

Conclusion

To overcome the lag , In India a large capacity of Nikshay Sampark (national TB call center) was also re-purposed to serve as COVID-19 helpline. Simultaneously, at the community level, large scale active TB case finding was launched with massive screening and testing in a campaign mode, engaging health outreach workers and community volunteers to facilitate surveillance of symptoms within households, the collection of sputum samples, consulting with residents through phone and video apps and supply of medicines to people at home, Contact tracing systems and testing for TB linked to COVID-19 contact tracing were quickly set up throughout the country.

[10] https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/tb-cases-reporting-in-india-down-by-41-due-to-pandemic-who/articleshow/87037155.cms

[11] https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/tb-cases-reporting-in-india-down-by-41-due-to-pandemic-who/articleshow/87037155.cms

Private sector TB care facilities reopened, call centres were fully activated, digital tools were rolled out, home delivery of monthly medicine stock to help patients stick to treatment regimens, along with support like direct cash transfers and supplementary food provisions were delivered to people's home.

With these mitigation measures and catch-up campaigns, by December 2020, NTEP had almost closed the gap on TB treatment enrolment with a total of 18,05,670 patients notified, 11% more than the estimated projections made in April. A quarter of these were detected through active TB case-finding. The private sector too contributed notification of 5.49 lakh patients (31% of total notifications), 3% more than in 2019.[12]

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