India’s target of eliminating tuberculosis by 2025

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Why is in news? On World TB Day 2023, Prime Minister Narendra Modi addressed the One World TB Summit

India’s TB Burden

Although India continues to be the largest contributor to global TB cases, there has been a decline in the number of cases in 2021.

Reporting of TB cases also improved in 2021 – although it didn’t reach the pre-pandemic levels, it bounced back from the lows seen during the first year of the pandemic, according to the Global TB Report 2022.

The incidence of TB – new cases detected through the year – reduced by 18% in 2021 over the 2015 baseline, dropping to 210 cases per lakh population as compared to 256 cases per lakh population.

The incidence of drug-resistant TB also went down by 20% during the period from 1.49 lakh cases in 2015 to 1.19 lakh cases in 2021.

India accounts for 28% of all TB cases in the world, according to the Global TB Report 2022. There were 21.3 lakh cases detected in 2021 as compared to 18.05 lakh cases in 2020.

The numbers are still lower than the 24.04 lakh cases reported before the pandemic in 2019, according to data from the government’s Ni-kshay portal that can help in real-time reporting of new TB cases.

A survey conducted across 20 states pegged the incidence at a higher 312 cases per lakh population.

India’s TB elimination target

Although elimination of Tuberculosis is one of the sustainable development targets to be achieved by 2030 by the world, India has set the target of 2025.

The national strategic plan 2017-2025 sets the target of India reporting no more than 44 new TB cases or 65 total cases per lakh population by 2025. The estimated TB incidence for the year 2021 stood at 210 per lakh population.

Achieving this target is a big task as the plan had envisaged an incidence of only 77 cases per lakh population by 2023.

The programme also aims to reduce the mortality to 3 deaths per lakh population by 2025. The estimated TB mortality for the year 2020 stood at 37 per lakh population.

The plan also aims to reduce catastrophic costs for the affected family to zero. However, the report states that 7 to 32 per cent of those with drug-sensitive TB, and 68 per cent with drug-resistant TB experienced catastrophic costs.

The goals are in line with the World Health Organisation’s End TB strategy that calls for 80% reduction in the number of new cases, 90% reduction in mortality, and zero catastrophic cost by 2030.

Measures taken

To achieve the TB elimination target of 2025, the government has taken several steps including looking for cases actively among vulnerable and co-morbid populations, screening for it at the health and wellness centres, and calling on the private sector to notify all TB cases.

An online Ni-kshay portal has been set up to track the notified TB cases.

The pandemic has led to improved access to the more accurate molecular diagnostic tests like CB-NAAT and TureNat that were also used to test for Covid-19. At present, there are 4,760 molecular diagnostic machines available, covering all districts of the country. In addition, 79 line probe assay laboratories and 96 liquid culture testing laboratories have been set up for the diagnosis of multi and extremely drug resistant TB.

The government has also implemented a universal drug susceptibility test, meaning that antibiotic susceptibility of the mycobacterium is determined for all newly diagnosed cases.

Earlier, the patients were started on first line treatment and were tested for drug resistance only if the therapy did not work. Conducting a drug susceptibility test at the outset ensures that the patients are given antibiotics that will work for them from the get go.

Last year, the government also launched the community engagement programme where Ni-kshay mitras can adopt TB patients and provide them monthly nutritional support.

So far, 71,460 Ni-kshay Mitras have adopted about 10 lakh TB patients under the programme.

Improvements in treatment protocols

Newer drugs such as Bedaquiline and Delamanid for the treatment of drug-resistant TB have been included in the government’s basket of drugs provided free TB patients.

These oral drugs can replace the injectable kanamycin that was associated with serious side effects like kidney problems and deafness.

These new drugs have also been included in the new National List of Essential Medicines that gives the government power to regulate their market price as well.

Researchers have also been studying shorter three- and four-month courses of anti-tubercular drugs, instead of the existing six-month therapy. Anti-tubercular drugs have to be taken for six months to over two years depending on the susceptibility of the mycobacterium.

Long duration of treatment results in people dropping out in between, increasing their likelihood of them developing drug-resistant infections later.

BCG: A New Vaccine in Pipeline

Nearly 100 years after the existing BCG vaccine was developed, researchers are on the lookout for newer ways of preventing tuberculosis infection.

The BCG vaccine uses a weakened form of the TB bacteria to train the immune system. Although it can protect against severe forms of TB like the ones in the brain, the protection is not very good against the most common form of TB in the lungs.

It offers limited protection to adults, it doesn’t prevent people from getting the infection or re-activation of a latent infection.

Trials are underway to test the effectiveness of a vaccine called Immuvac, which was initially developed to prevent leprosy, in preventing TB. The vaccine developed using mycobacterium indicus pranii has antigens – the portions of a pathogen against which antibodies are developed – similar to those of leprosy and TB bacteria.

Researchers are also testing the vaccine candidate called VPM1002, which is a recombinant form of the BCG vaccine modified to express the TB antigens better. This results in better training of the immune system and protection against TB.

Researchers are also studying whether the existing BCG vaccine booster shot should be given to household contacts of a person with active tuberculosis.