



## The Goal of TB-Free India by 2025 and All the Big Challenges

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The goal of TB-free India by 2025 and all the big challenges (Special article on World Tuberculosis Day, 24 March 2024)

Every year, we celebrate World Tuberculosis Day on 24 March. The event commemorates the date March 24, 1882, when German physician Dr. Robert Koch discovered *Mycobacterium tuberculosis*, the bacterium that causes tuberculosis (TB). The discovery of *Mycobacterium tuberculosis* made the diagnosis and treatment of TB much easier. German physician Robert Koch was awarded the Nobel Prize in 1905 for this discovery. This is why every year the World Health Organization has been celebrating World Tuberculosis Day to spread public awareness about the social, economic and health-harmful consequences of TB and to accelerate efforts to eliminate TB from the world. Hundred years after the discovery of *Mycobacterium tuberculosis*, the World Health Organization (WHO) first started celebrating World Tuberculosis Day on 24 March 1982, since then every year on 24 March, World Tuberculosis Day is celebrated all over the world.

TB (tuberculosis) is a fatal infectious disease caused by the bacterium *Mycobacterium tuberculosis*. TB (tuberculosis) usually attacks the lungs most often, but it can affect other parts of the body besides the lungs. This disease spreads through air. When a person suffering from tuberculosis coughs, sneezes or speaks, infectious droplet nuclei are produced which can infect another person through the air. These droplet nuclei remain active in the environment for several hours. When a healthy person comes in contact with these *Mycobacterium tuberculosis* droplet nuclei dissolved in the air, he can become infected. Tuberculosis occurs in latent and active stages. Infection occurs in the latent state but the TB bacteria remain in an inactive state and no symptoms are visible. If a patient with latent TB does not get treated, latent TB can turn into active TB. But latent TB is not very contagious and fatal. According to an estimate by the World Health Organization, more than 2 billion people in the world have latent TB infection. Talking about active TB, in this stage the TB bacteria remains in an active state in the body; this condition makes the person sick. An active TB patient can also infect other healthy people, therefore, an active TB patient should talk with a mask or cloth over his mouth and cough and sneeze with his hand over his mouth. If TB bacteria infect the lungs then it is called pulmonary TB (pulmonary tuberculosis). TB bacteria affect the lungs in more than 90 percent of cases. Talking about the symptoms, they usually include prolonged cough, chest pain, mucus, weight loss, fever and night sweats. Sometimes people infected with pulmonary TB cough up a small amount of blood. In more than 25 percent of cases, no symptoms are seen.

If the TB bacteria affect other parts of the body instead of the lungs, then this type of TB is called extra pulmonary TB. Extrapulmonary TB can also occur with pulmonary TB. In most cases, the infection spreads beyond the lungs and affects other parts of the body. Due to which other types of TB other than lungs occur. TB occurring in organs other than the lungs is collectively referred to as extrapulmonary TB. Extrapulmonary TB is more common in immunocompromised people and young children. Among people living with HIV, extrapulmonary TB occurs in more than 50 percent of cases.

Nowadays, treating drug sensitive TB is not a challenge. If any person is a TB patient then he can become healthy by taking TB treatment for 6-9 months. The biggest challenge today is the treatment of drug resistant TB, which is of two types: multi-drug resistant TB and extensively drug resistant TB. In multi-drug resistant TB, first line drugs have no effect on the TB bacteria (*Mycobacterium tuberculosis*). If the TB patient does not take TB medicine regularly or when the TB medicine is taken incorrectly by the patient or the medicine is given to the patient in the wrong way and or the TB patient leaves the TB course midway. (In case of TB, there is a risk if the medicine is missed even for a day) then the patient may have multi-drug resistant TB. Therefore, a TB patient should take TB medicines regularly as per the doctor's instructions. In multi-drug resistant TB, first line drugs like isoniazid and rifampicin have no effect on the patient because the TB bacteria (*Mycobacterium tuberculosis*) is resistant to the drugs isoniazid and rifampicin.

Extensively drug resistant TB is more deadly than multi drug resistant TB. In extensively drug-resistant TB, the TB bacteria are resistant to the second-line drugs used to treat multi-drug resistant TB. In extensively drug-resistant TB, TB bacteria are resistant to the first-line drugs isoniazid and rifampicin, as well as to the second-line drugs, none of the fluoroquinolone drugs (levofloxacin and moxifloxacin) and bedaquiline/linezolid. If a patient suffering from multi-drug resistant TB does not consume or take second line drugs properly and on time, then the possibility of extensively drug resistant TB increases. In this type of TB, treatment is done with extensive third line drugs for more than 2 years. But treatment of extensively drug resistant TB is the most challenging. At present, three types of regimens are being used for the treatment of drug resistant TB – H/Mono poly regimen (6 or 09 months), shorter regimen (9-11 months) and all oral longer regimen (18-20 months). The new TB drug bedaquiline is also being used to treat drug-resistant TB (MDR and XDR), given as an add-on to other TB drugs for six months. Bedaquiline medicine is being provided to all the patients in the country free of cost by the government. Research has shown that Bedaquiline is increasing the cure rate of drug resistant TB. But Bedaquiline drug also cannot be given to every patient; it also has its limitations. Delamanid drug is also a new drug for the treatment of drug-resistant

TB. Apart from this, trials of modified BPAL (bedaquiline, pretomanid and linezolid) regimen are going on in India for the treatment of drug resistant TB. Our country India has the highest number of TB patients compared to the entire world. India accounts for approximately 28 percent of TB cases in the world. India also has the highest number of drug resistant TB patients. If a TB patient does not get timely treatment, an active TB patient produces at least 15 new patients in a year. The infection caused by a drug resistant TB patient is also drug resistant which is a challenging situation. Therefore, it is important that drug resistant TB patients should be specially monitored and people in contact with them should also be examined, so that other new drug-resistant TB patients can be prevented from forming.

Today, the government is giving Rs 500 every month for nutrition to TB patients through Nikshay Poshan Yojana, along with this; the government is also giving reward money to those who identify TB patients. This is also a step in the direction of a TB-free India. It is a very big step. Along with this, the guidelines issued by the government for private doctors and medical stores related to TB patients, these steps also strengthen the National Tuberculosis Elimination Program (NTEP), under these guidelines every private doctor is required to provide information regarding TB patients. Information about patients will have to be given to the government. At the same time, medical store owners will have to give accounts to the government related to the medicines given to TB patients. If these guidelines are violated, fine and punishment can be imposed on the culprits. Apart from this, under the Prime Minister TB Free India Campaign, the government is motivating people and social organizations to adopt TB patients by making them Nikshay Mitras, so that TB patients can get proper nutrition and care.

The TB Free Panchayat initiative has been launched by Prime Minister Shri Narendra Modi in the World Tuberculosis Day program organized in Varanasi last year on 24 March 2023. Under the TB Free Panchayat initiative, special efforts will be made by the Government to make every small geographical area/Panchayat TB free, so that the broader goal of TB elimination can be achieved. Under the TB-free Panchayat initiative, some special standards have been set by the Central TB Division. Whichever Gram Panchayat meets these standards, that Gram Panchayat will be declared TB free Panchayat. This year, hundreds of gram panchayats in the country are going to become TB free under this initiative. The TB-free Panchayat initiative will prove to be a milestone in the future for the TB-free India campaign. Certificate for TB Free Panchayat, with validity of one year, will be issued to eligible Gram Panchayats by the District Magistrate/District Collector on World TB Day i.e. 24th March every year. Along with the certificate, a small statue of Mahatma Gandhi will also be provided to the TB Free Gram Panchayat as a symbol of their approach towards healthy villages.

The TB free panchayat for the first year will be honored with a bronze colored statue of Mahatma Gandhi, the panchayat which remains TB free for two consecutive years will be honored with a silver colored statue and the panchayat which remains TB free for three consecutive years will be honored with a golden colored statue. The TB Mukht Panchayat Award will be displayed in the respective Gram Panchayat building.

Any patient who gets cured by taking complete treatment of TB is called TB Champion. With the participation of these TB Champions under the National Tuberculosis Elimination Program (NTEP), awareness about TB can be created in the society and the country. All the educated TB Champions should be screened out of all the TB Champions in every city of India. After this, all the TB Champions should be given TB related training by the District TB Team in physical mode in the district, so that TB Champion can have information related to TB. If the TB Champion is trained and educated, the TB Champion can help the government in accelerating the detection of TB patients through awareness campaigns in densely populated areas, slums and among the people living around them. TB Champions can help in creating holistic awareness on TB and remove the discrimination TB patients face in the society associated with the disease. The inferiority complex that is prevalent in the society regarding TB disease and the people who see this disease as a stigma can be eliminated by TB Champions through public awareness. TB Champions can be linked to NTEP for counseling TB patients and if the TB Champions are provided employment or financially strengthened through the program, it will definitely increase the interest of the TB Champions towards the TB program. TB Champions should be encouraged from time to time, which will boost their morale and increase their interest in the program and will help in spreading awareness in the society and the country.

Along with this, the government should make it a mass movement by running active tuberculosis detection campaign 365 days a year through various teams. Health workers, various NGOs and social institutions or organizations should be involved in this active tuberculosis detection campaign. So that which TB patients in the country can be detected and they can be given treatment at the right time. Only then can the country achieve the goal of TB-free India by 2025. If we say, the goal of TB-free India by 2025 is a big challenge for India. But it is said that every goal can be achieved with positivity and hard work. Along with this, the target of TB-free India by 2025 is set by Prime Minister Narendra Modi, 5 years ahead of the target of making the world TB free by 2030. If the Prime Minister of the country expresses commitment to make the country TB free by 2025, then definitely in the coming years the government will take more stringent steps towards making TB free India and these steps will go a mile towards making TB free India by 2025. Along

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with this, the National Tuberculosis Elimination Program (NTEP) should be reviewed from time to time. The Government should periodically analyze and evaluate the shortcomings of the National Tuberculosis Elimination Program towards a TB-free India, so that these shortcomings can be converted into strengths and India can reach the last TB patient. And as per time the target of TB free India can be achieved by 2025.

