



Messages

S. M. Wajeehuddin
Country Manager, Pfizer, Pakistan



Dr Iqtidar Ahmed
Executive Secretary, Stop TB Partnership, Pakistan



Dr Syed Sharaf Ali Shah
Vice Chairman, Stop TB Partnership, Pakistan



In the early 1900s, tuberculosis (TB), a bacteria that settles in the lungs and eats them away, continued to be among the deadliest diseases, killing one in seven people in the US and Europe¹. Unfortunately, it still continues to be a major public health concern in Pakistan and countries around the world. It is the second leading infectious disease after COVID-19; killing 1.5 million people in 2020, globally². Over 95% of cases and deaths are reported in developing nations². Sadly enough, Pakistan ranks 5th amongst high TB burden countries³. World Health Organization (WHO) estimates that 44,000 Pakistani citizens died from TB in 2018, the highest number from any infectious disease³.

The socioeconomic and psychological impacts of TB are multifold. While the impact is most often measured as the direct costs of treatment (including the costs of medicines, personnel, and facilities used), the economic burden is considerably higher⁴. The largest indirect cost of TB for a patient is the loss of income; earnings lost from illness and death are commonly much greater than the direct costs of treatment, besides in some cases impacting the patients socially also.

At Pfizer, we are committed to addressing these challenges by developing therapies to treat or prevent disease spread and improve the quality of life for patients. We have always stood by the fight to combat TB by joining hands with all relevant stakeholders, including government authorities, NGOs, and medical community. We continue to produce quality medicines as per WHO standards and make them available at affordable prices to ensure easy access to the patients. We are constantly working towards educating healthcare professionals on ways to improve their diagnostic and management capabilities, while at the same time creating mass level awareness amongst general public.

Each year, we commemorate World TB Day on March 24 to raise public awareness about the devastating health, social and economic consequences of TB, and to step up efforts to end this endemic.

Let's Join Hands to Eradicate TB!

References:

- 1) Mysteries, Female Pioneers: Meet the Biochemist Who Tackled One of TB's Great. <https://www.pfizer.com/news/articles/female-pioneers-meet-biochemist-who-tackled-one-of-tb%E2%80%99s-great-mysteries>. Accessed on 17-March-2022.
- 2) Tuberculosis, Key Fact by WHO, 14 Oct 2021. https://www.who.int/news-room/fact-sheets/detail/tuberculosis. Accessed on 17 March 2022.
- 3) Pakistan Chest Society, A National Clinical Guidelines for Diagnosis & Management of Drug Susceptible Tuberculosis, March 2020.
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TB spreads from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air and may infect another person. Common symptoms of active lung TB are cough with sputum and blood for two weeks or more, chest pains, weakness, weight loss, fever and night sweats.

The common diagnostic test for TB includes sputum microscopy and chest Xray. TB is 100 per cent treatable and curable, and its treatment is freely available in government hospitals. If left untreated or not managed as advised by physician, simple TB may convert into resistance TB which may be life threatening.

World TB Day is commemorated on March 24th of every year. As per the theme of World TB Day and to eradicate TB from the world, we should spread awareness about this disease, educate people that how they can prevent themselves from getting this disease, make easy access to anti TB drugs and for early diagnosis and proper take care of TB patients.

Stop TB Partnership Pakistan is serving as bridge among the patients and the available resources for the management of TB. So, we request Industrialist/ business community and government authorities to join hands with us for the complete eradication of this contagious deadly disease. ■

To effectively control TB in Pakistan, working in collaboration with communities is mandatory. It is necessary to remove barriers or hindrances in diagnostic process and make easy access to TB treatment for everyone.

For complete eradication of TB, it is compulsory to diagnose every infected person and ensure their complete treatment. Collaborative efforts of any society play vital role to control any disease particularly TB. The role of all important stakeholders (physician, cured patients, social worker and community leaders) is crucial in eradication of TB from our country.

Each year approximately 500,000 people get infected with TB across Pakistan. Pakistan is estimated to have 5th highest prevalence of multidrug resistance TB which is due to improper, inadequate, incomplete treatment and discriminating behavior of the society with the TB patient.

According to the theme of World TB Day 2022, we need to invest more on the awareness of TB, its diagnosis and treatment so to eradicate this lethal disease from all over the world.

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Invest to end TB and save lives

Dr. Shahina Qayyum



World TB Day is commemorated on March 24th of every year. The objective of observing this day is to create awareness that Tuberculosis is a treatable and preventable disease.

The anti TB drugs are available since last one century but still a total of 1.5 million people died from TB in 2020. About one-quarter (two billion persons) of the world's population has a TB infection. In spite of availability of effective treatment facilities, 1.3 million persons failed to register for the treatment.

Unfortunately, the situation in Pakistan is not much different from other high TB burden countries, although we have diagnostic and treatment facilities available across country, out of estimated 570,000 patients having TB in 2020, 241,688 failed to register for the treatment. The situation becomes grave when we see that 21,000 out of 25,000 drug resistant TB cases were not brought for treatment. People with active TB can infect 5-15 other people through close contact over the course of a year if left untreated. This situation even became more worse due COVID epidemic.

Some possible facts for neglecting TB Treatment:

1. Not recognising the TB presumptive
Any individual who has following symptoms should be considered as TB presumptive:
Cough for more than two weeks

- Blood in sputum
- Low grade fever
- Loss of appetite
- Cold sweats
- Loss of weight
- TB mostly in the lungs but it can involve any part of body. Derangement of function of any system of body can be due to tuberculosis

2. Not getting tested for tuberculosis
All presumptive should be tested for tuberculosis.

Free testing facilities for TB investigations are available across country in public and private sector.

Following tests are done for diagnosis of tuberculosis:

- Sputum microscopy**
Gene Xpert test: this is done for molecular diagnosis of tuberculosis on sputum and other body secretions. This gives information about presence of TB bacteria and also about presence of drug resistance against very potent drug rifampicin used for treatment of TB
- Culture and sensitivity test for TB:** this is done on sputum and other body secretions this is done to see the viable bacteria and their sensitivity and resistance against drugs used for TB X-ray chest, histopathology and sometime serological tests are done to get the supporting evidence

3. Not getting treatment for tuberculosis
Mostly all diagnosed cases of sensitive tuberculosis need to be treated

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2- Facts, 20 March 2016. Accessed on 25 January 2022. <https://www.cdc.gov/tb/topic/basics/default.htm>.
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WORLD TB Day is observed on 24th March every year to commemorate the discovery of Mycobacterium tuberculosis by Dr Robert Koch's, it is the bacillus that causes tuberculosis (TB). TB is one of the most common lethal diseases in the world and Pakistan ranks

Dr Essa Lab offering low-cost tests for TB patients

5th amongst the highest-burden countries in the world afflicting people. We also have the fourth-highest rate of Multidrug-resistant TB.

The theme of World TB Day 2022 - 'Invest to End TB. Save Lives.' — deliv-

ers the message of the dire need to make use of all our resources in the fight against TB. This is especially important in this era since the Covid-19 pandemic has greatly affected the progress made to curb TB. Tuberculosis (TB) is a bacterial infection and mostly affects the lungs. Kidneys, spine, or the brain may also be affected. This disease is spread in an airborne manner, such as coughing and sneezing. Personal items or a handshake, a toilet, or other items that a person with TB has touched cannot be a source of spread. Good ventilation is the requirement to prevent the transmission of TB. Wearing a face mask and not trying to stay in a small enclosed space with poor ventilation. People at a high risk to encounter people with TB, such as healthcare workers, should be routinely tested for TB. A childhood vaccine is often given in countries where TB is more common.



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Diagnostic tests for TB are therefore very necessary for people at high risk, such as health care professionals or people living in confined and poor ven-



tilation areas. These tests include a TB skin test, called Mantoux tuberculin skin test or a TB blood test that can diagnose the disease.

The majority of our society belongs to the lower socioeconomic class. Patients' knowledge about their disease is limited, and they have very limited health education. Our society faces problems with access to treatment. Potential reasons because of increasing TB cases appears to be more closely linked to deficiencies in treatment provision rather than patients' non-compliance. Because of the perception of TB being incurable, people usually do not disclose that they are undergoing or have gone through TB treatment. This



gives rise to a vicious cycle where cases only increase. It is vital to break this cycle in order to end TB.

Treatment exactly as recommended is necessary to cure the disease and prevent its spread to other people.

Dr Essa lab stands steadfast in the face of any calamity, providing high-quality professional services catering for our honorable patients. Our diagnostic and testing services include MTB skin test services and Blood Tests as well as complete radiology services such as chest X-Rays that would help TB patients. On this World TB Day, we are offering special discounted packages for important diagnostic tests necessary in TB. ■

Message

Prof (Dr) Mohammad Saeed Quraishy (TI)
Meritorious Professor of Surgery
Vice-Chancellor, Dow University of Health Sciences

WORLD Tuberculosis Day is commemorated on the 24th of March with the objective of observing to create awareness that Tuberculosis is a treatable and preventable disease. The anti TB drugs are available for about a century, but still the death toll in the world due to TB is more than 1.5 million. TB infects two billion people which is one-fourth population of the world. Despite the availability of effective treatment facilities, 1.3 million people across the world failed to register for treatment.

Unfortunately, the situation in Pakistan is not different as the country has the 5th largest burden of TB patients. Pakistan is included among those countries where diagnostic and treatment facilities are available throughout the country. If left untreated, one case of TB infects 10 to 20 people in a year and one untreated drug-resistant TB case will transmit drug-resistant infection, which is difficult to manage.

A TB sanatorium was established in 1939 in the form of five cottages by the family of Mr. Deep Chand Ojha, who was a well-known philanthropist, who donated his property for the relief of TB patients. It was extended to 65 Huts in 1942 by the AYUVEDIC TB Relief Association. In 1973, it was upgraded from a Sanatorium to Ojha Institute of Chest Diseases, as it is referred to today. The OICD is now recognised by the World Health Organisation.

The Ojha Institute of Chest Diseases (OICD) is providing quality services free of charge for better care of TB and chest diseases for all the patients in the community. The laboratory of OICD is designated as a Provincial Reference Laboratory for Tuberculosis. OICD has four chest clinics functioning in the periphery of Karachi located at Nazimabad, Lyari, Malir, and Ojha. Unfortunately, TB is still considered a stigma. Together all of us should spread information about symptoms of the disease so the patient can be diagnosed and treated early.

We look forward to our interested donors coming forward and helping Dow University Hospital facilitate the patients in need and make our services and facilities available to all those seeking quality healthcare at an affordable price. ■

TB is highly contagious but can be treated

Prof (Dr) Fuzia Perveen

Acting Director Ojha Institute of Chest Diseases
Dow University of Health Sciences

EACH year, we commemorate World Tuberculosis (TB) Day on March 24 to raise public awareness about the devastating health, social and economic consequences of TB, and to step up efforts to end the global TB epidemic. Mycobacterium Tuberculosis was discovered by Robert Koch on March 24, 1882 as a cause of Tuberculosis. TB bacteria spread through the air from one person to another. Tuberculosis is a highly contagious infection, transmitted to other healthy persons by infected droplets generated by coughing or sneezing of a patient having active pulmonary Tuberculosis disease. These tiny droplets dry rapidly, remain suspended in the air for several hours. They infect persons by inhaling these particles.

Patients with Pulmonary Tuberculosis can present with cough for more than two or more weeks, low-grade fever, blood in sputum, loss of appetite, and weight loss those patients presenting with these symptoms are called presumptive cases of TB.

Presumptive TB cases are diagnosed on sputum microscopy

GeneXpert MTB & Radiology. Treatment of Tuberculosis is of six-month duration composed of the intensive phase of two months followed by a continuation phase of four months.

Drug-resistant TB is a form of TB in which TB germs are resistant to usual TB drugs so the treatment is prolonged and with more toxic drugs. Causes of drug resistance are related to poor compliance, irregular treatment, and poor quality of drugs.

Ojha Institute of Chest Diseases, DUHS is involved in many research projects in the diagnosis & treatment of Pulmonary Tuberculosis. There has been research on the diagnosis of TB, Such as the utility of gene Xpert in smear-negative TB cases, sensitivity of gene Xpert MTB in cases of TB Lymphadenopathy.

There are ongoing research in different aspect of TB like peripheral blood technique in PTB patient and relationship with treatment responses. ■

Invest to end TB and save lives

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for tuberculosis for six months. During this period, according to body weight even a combination of up to four drugs to be given. During treatment sputum microscopy is done for three times. Anti TB drugs are available free of cost by the government but in spite all efforts one-third of TB patients do not seek treatment.

Following are few possible reasons of this:

TB is still considered as stigma: TB patients fear discrimination that they will be treated as untouchables. Society will disown them and they will be treated differently and will have to live in isolation away from everybody. In order to avoid all the hassles, patients usually try to hide the disease and avoid seeking treatment. Although TB, like any other disease, is caused by a germ and it has nothing to do with sins or evil deed.

Fear of financial burden may refrain to seek TB treatment: The information about the free treatment facility may get from nearby public or private clinics/ or hospitals. It should be publicised that TB treatment in public sector is free and many private clinics under public private mix.

Fear of TB drugs side effects refrain patients to seek treatment. Usually no side effects of anti TB drugs been observed in 95 per cent of the cases and even these drugs are safe and can be given to pregnant patients and children. In few instances if mild side effects appeared may control easily.

We may contribute towards its spread if do not seek proper treatment for TB. Do remember, TB infects the ones who are around us, the ones most dear to us and this cycle goes on. A grave problem regarding tuberculosis is Resistant tuberculosis. This is the result of improper, inadequate and incomplete treatment. Sometimes medicines prescribed are

not quality assured means these drugs have not undergone bioequivalence or bioavailability tests. Sometimes medicine prescribed are not according to body weight or treatment not taken for full duration. Due to these reasons TB bacteria learn to resist medicine and drug resistant TB develops and these patients become the source to transfer drug resistant TB. The treatment of drug resistant TB needs special medications which are more expensive and are required to be taken for much longer duration.

Role of TB control programme: To control tuberculosis in Pakistan we have well placed national and provincial TB control programmes. They are integrated with other TB infection control programmes and also

epidemic in 2020.

For this reason, the theme for World TB Day for this year is: INVEST TO END TB - SAVE LIVES

Investment to end TB is required in many sectors:

Development of new and effective drugs which are cost effective, free of side effects and can decrease the doses and duration of treatment. Development of Vaccination which are equally effective for HIV infected and non-infected person.

Diagnostics test for TB that can differentiate between drug resistant, drug sensitive and latent TB. Operational Research. Investment in operational research, for finding new TB cases and effective and innovative ways for treatment, plays crucial role in controlling TB.

Covid epidemic harmed the entire

Dr Shahina Qayyum is a renowned pulmonologist serving TB patient since last 35 years. She is a trustee of 'Stop TB Partnership Pakistan' and a governing council member of 'Pakistan Chest Society'. She is among those who introduced the DOTS programme in Pakistan, she also served in Jinnah Postgraduate Medical Center (JPMC) and OJHA institute. Currently she is affiliated with Bridge Consultant Foundation. This foundation is working as a bridge between private and public sector for TB control. She has multiple research publications in her field.

responsible for planning, implementation and monitoring of TB control activities, spreading of information regarding the diagnosis and treatment of TB. TB control Programme is also responsible for coordinating activities with NGOs, private and public sector.

To control TB in Pakistan, around \$135 million are required but after pooling every resource including global fund only \$50.3 million made available. To control TB in Pakistan more investment is needed. This situation has worsened due to Covid

health and economic system of the world and has adversely affected the TB control activities, but the lesson learned is that if proper investment in prevention and treatment is made than epidemic of infectious disease can be controlled.

Tuberculosis is also an infectious disease and thus it can effectively controlled if effective investment is made in prevention and treatment of TB leading to saving precious lives and preventing economic losses due to disease. ■

LET'S END TB

WORLD TUBERCULOSIS DAY 24th MARCH

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