

2019

World TB Day

2019

The World TB Day is one of the 8 official campaigns for global public health marked by WHO (World Health Organization).

TB IS THE TOP INFECTIOUS KILLER IN THE WORLD

IN 2017 1.6 MILLION PEOPLE DIED FROM TB

INCLUDING 300 000 PEOPLE WITH HIV

TB is the leading killer of people with HIV and a major cause of deaths related to antimicrobial resistance

World Health Organization

END TB

IT'S TIME FOR ACTION IT'S TIME TO #ENDTB

The poster features a central graphic of a hand holding a pill, with a red ribbon symbol and a lung icon. Below this, a series of blue pills are shown in a perspective view, leading to a large blue pill at the bottom. The background is light blue with a subtle grid pattern.

Executive Officers
Drug Information Center
03/24/2019



World TB Day 2019

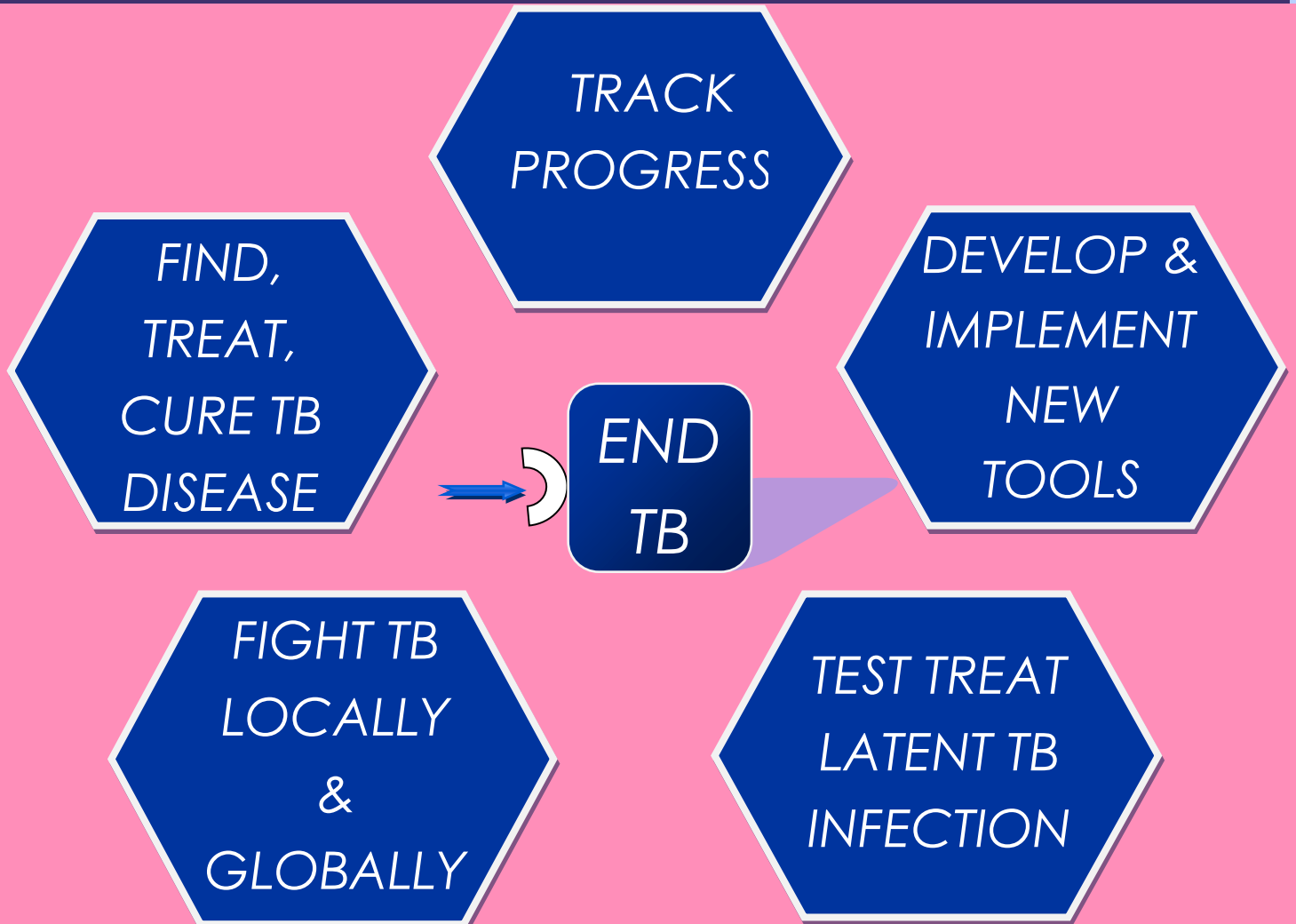
World TB Day, falls on 24 March every year, a day dedicated for public awareness on tuberculosis (TB) TB is preventable and curable, yet it is remained as an epidemic in much of the world.

The World Health Organization (WHO) estimates about 10 million patients affected by TB in 2017 and 1.6 million people died. In India around 1.9 million cases of TB notified in national portals, among them 65000 cases were estimated to be drug resistant TB.

Only 64 percent of the estimated 10 million global cases of TB were actually diagnosed and notified. Nearly 10 percent of estimated 1.9 million cases were treated successfully in India.

TB IMPACTS EVERYTHING.

Health systems, economies, infrastructure and communities. We must all act.



Pulmonary Tuberculosis

Symptoms



fever



night
sweats



persistent
cough



bloody
phlegm



chest pain or
shortness of
breath

If You Suspect TB.....

Go & Check for Following
Tests

TB culture(Gold Standard)

- Detects Extra pulmonary TB
- takes 4-6 weeks

Molecular Methods

- For Extra pulmonary TB
- Comparitively Expensive

Diagnosis of TB in Primary Care

Refer EARLY to TB services

Pulmonary TB:

- refer for CXR
and
- sputum x 3 (microscopy
for Acid Fast Bacilli &
culture)
and
- blood for FBC, ESR and
CRP

Extra-pulmonary TB

(depends on the site and
most likely conducted in
secondary care)

- fine needle aspirate
(lymph node),
- pleural tap (pleural)
- lumbar puncture
(meningitis)
- MRI scan (bone/joint)

www.thetruthabouttb.org

CXR= Chest X Ray, FBC= Full Blood Count, CRP=C Reactive Protein, ESR= Erythrocyte Sedimentation Rate

TYPES OF TB

Based On Anatomical Site:

1. Pulmonary Tuberculosis
 - * Lung Parenchyma
 - * Trachea Bronchial Tree
2. Extra Pulmonary Tuberculosis
 - * Pleura
 - * Lymph Node
 - * Intestine
 - * Genitourinary Tract
 - * Joint & Bones
 - * Meninges of Brain

Based on treatment history

1. New case
2. Previously treated patient
 - Recurrent TB Case
 - Treatment after Failure
 - Treatment after Loss of Follow Up
 - Other Previously Treated Patients
3. transferred in

Based on Drug Resistance

1. Mono Resistant -resistant to one first line Anti-TB drug(E.G. Rifampicin Resistant(RR) TB)
2. Poly Drug Resistant - resistant to more than one first line Anti-TB drug, except INH, Rifampicin
3. Multi Drug Resistant(MDR)^t – resistant to both INH & Rifampicin, with /without resistant to one first line Anti-TB drug
4. Extensive Drug Resistant(XDR) - resistant to fluoroquinolone and second line injectable Anti-TB drug

TREATMENT

GOAL OF TB TREATMENT

- Prevent Drug Resistance
- Reduce Case Fatality and Morbidity by Relapse Free Cure
- Break The Chain of Disease Transmission

Dosages of First-Line and Alternative Treatment Options [1]

Doses for Adults and Pediatric Patients 15 Years or Older or Weighing More than 40 kg*				
Drug	Daily Regimen	3 Days/Week Regimen	2 Days/Week Regimen	Once Weekly Regimen
First-Line Therapy				
Isoniazid(INH)	5 mg/kg (300 mg)	15 mg/kg (900 mg)	15 mg/kg (900 mg)	15 mg/kg (900 mg)
Rifampin(RIF)	10 mg/kg (600 mg)	10 mg/kg (600 mg)	10 mg/kg (600 mg)	--
Rifabutin	5 mg/kg (300 mg)	--	Not recommended	Not recommended
Rifapentine	--	--	--	10 to 20 mg/kg
Pyrazinamide(PZA)	40 to 55 kg: 1000 mg	40 to 55 kg: 1500 mg	40 to 55 kg: 2000 mg	--
	56 to 76 kg: 1500 mg	56 to 76 kg: 2500 mg	56 to 76 kg: 3000 mg	--
	76 to 90 kg: 2000 mg	76 to 90 kg: 3000 mg	76 to 90 kg: 4000 mg	--
Ethambutol(EMB)	40 to 55 kg: 800 mg	40 to 55 kg: 1200 mg	40 to 55 kg: 2000 mg	--
	56 to 76 kg: 1200 mg	56 to 76 kg: 2000 mg	56 to 76 kg: 2800 mg	--
	76 to 90 kg: 1600 mg	76 to 90 kg: 2400 mg	76 to 90 kg: 4000 mg	--
Second-Line Therapy				
Cycloserine (CS)	10 to 15 mg/kg (250 to 500 mg once or twice daily)	--	--	--
Ethionamide (ETD)	15 to 20 mg/kg (250 to 500 mg once or twice daily)	--	--	--
Streptomycin(STZ)	15 mg/kg	25 mg/kg	--	--
Amikacin/Kanamycin(KM)				

Drug Information Center- Gujarat State Pharmacy Council

Capreomycin(CM)				
Para-amino Salicylic Acid (PAS)	8 to 12 g/day in divided doses	--	--	--
Levofloxacin (LFX)	500 to 1000 mg	--	--	--
Moxifloxacin(MFX)/ Linezolid(LZD)	400 mg	--	--	--
*Typical doses provided in parentheses				

Doses for Pediatric Patients Younger than 15 Years				
Drug	Daily Regimen	3 Days/Week Regimen	2 Days/Week Regimen	Once Weekly Regimen
First-Line Therapy				
Isoniazid	10 to 15 mg/kg	--	20 to 30 mg/kg	--
Rifampin	10 to 20 mg/kg	--	10 to 20 mg/kg	--
Rifabutin	5 mg/kg*	--		
Rifapentine	--	--	--	12 years or older: 10 to 20 mg/kg
Pyrazinamide	35 mg/kg	--	50 mg/kg	--
Ethambutol	20 mg/kg	--	50 mg/kg	--
Second-Line Therapy				
Cycloserine	15 to 20 mg/kg in 1 or 2 divided doses	--	--	--
Ethionamide	15 to 20 mg/kg in 1 or 2 divided doses	--	--	--
Streptomycin	15 to 20 mg/kg		25 to 30 mg/kg	
Amikacin/Kanamycin				
Capreomycin				
Para-amino Salicylic Acid	200 to 300 mg/kg/day in divided doses	--	--	--
Levofloxacin	15 to 20 mg/kg*	--	--	--
Moxifloxacin	10 mg/kg OR dose to reach 2 hour post-dose levels of 3 to 5 mcL/mL*	--	--	--
*Optimal doses have not been established; provided doses are based on clinical data and expert opinion				

REFERENCE:

1. NAHID P, DORMAN SE, ALIPANAH N, ET AL: OFFICIAL AMERICAN THORACIC SOCIETY/CENTERS FOR DISEASE CONTROL AND PREVENTION/INFECTIOUS DISEASES SOCIETY OF AMERICA CLINICAL PRACTICE GUIDELINES: TREATMENT OF DRUG-SUSCEPTIBLE TUBERCULOSIS. CLIN INFECT DIS 2016; 63(7):E147-E195.

PUBMED ABSTRACT: [HTTP://WWW.NCBI.NLM.NIH.GOV/...](http://www.ncbi.nlm.nih.gov/...)

PUBMED ARTICLE: [HTTP://WWW.NCBI.NLM.NIH.GOV/...](http://www.ncbi.nlm.nih.gov/...)

TB TREATMENT REGIMEN www.tbcindia.gov.in

According to revised national TB control programmed technical operational guidelines for TB control in India; standard TB treatment regimen is as below.

TYPE OF TB	INITIAL PHASE			CONTINUATION PHASE			TYPE OF PATIENT / TREATMENT
	REGIMEN	DRUG	DURATION	REGIMEN	DRUG	DURATION	
DRUG SENSITIVE TB	DAILY	INH, RIF, PZA, EMB	8 WEEKS	DAILY	INH, RIF, EMB	16 WEEKS	NEW CASE
	DAILY	INH, RIF, PZA, EMB, STZ	8 WEEK	DAILY	INH, RIF, EMB	20 weeks	PREVIOUSLY TREATED
		INH, RIF, PZA, EMB,	4 WEEK				
MDR/ RR TB	DAILY	KM, LFX, EMB, ETD, CS, PZA, INH	6-9 MONTHS	DAILY	LFX, EMB, ETD, CS, INH	18 MONTHS	RIF RESISTANT / INH SENSITIVE / UNKNOWN
		KM, LFX, EMB, ETD, CS, PZA	6-9 MONTHS		LFX, EMB, ETD, CS	18 MONTHS	MDR TB
XDR TB	DAILY	CM, PAS, MFx, high dose INH, Clofazimine, LZD, Amoxiclav	6-12 MONTH	DAILY	PAS, MFx, high dose INH, Clofazimine, LZD, Amoxiclav	18 MONTHS	XDR TB
MONO /POLY DRUG RESISTANT TB	DAILY	Second Line Drug, Fluoroquinolone, RIF, Two Out Of (INH, EMB, STZ)	3 MONTH+ 6 MONTH EXTENSION	DAILY	Second Line Drug, Fluoroquinolone, RIF, One First Line Drug, One Out Of (PAS, ETD, CS)	6 MONTH	MONO DRUG RESISTANT PATIENTS

PREVENTION/ MEDICATIONS

The risk of infection can be reduced by using a few simple precautions:



GOOD VENTILATION:

As TB can remain suspended in the air for several hours with no ventilation



NATURAL LIGHT:

Ultraviolet light kills off TB bacteria



GOOD HYGIENE:

Covering the mouth and nose when coughing or sneezing reduces the spread of TB bacteria.



HEALTHY IMMUNE SYSTEM :

This is the best form of defense against TB: **60%** of adults with a healthy immune system can completely kill TB bacteria



INFANT IMMUNIZATION:

Infant Immunization with BCG. Bacille Calmette-Guerin is a vaccine for tuberculosis (TB) disease. Many foreign-born persons have been BCG-vaccinated. BCG is used in many countries with a high prevalence of TB to prevent childhood tuberculous meningitis.

In healthcare settings, the spread of TB is reduced through the use of protective masks, ventilation systems, keeping potentially infectious patients separate from other patients, and the regular screening of healthcare workers for TB.

Early diagnosis and treatment is the most effective way to prevent the spread of tuberculosis.