



## ADDITIONAL NOTES FOR NGO TRAINING

### **EXTENT OF THE TUBERCULOSIS PROBLEM**

Tuberculosis is an infectious disease caused by *Mycobacterium tuberculosis* and, less commonly, by other organisms of the 'tuberculosis complex'. Globally, it is estimated that 18 lakh people die from TB each year—the majority of them in developing countries. The annual incidence of new cases of all forms of TB (pulmonary and extra-pulmonary) worldwide is estimated to be approximately 88 lakhs<sup>1</sup>, of which about 95% occur in developing countries. Many TB cases in developing countries remain undetected.

In India, more than 40% of population is infected with TB bacilli.

Tuberculosis is a barrier to socio-economic development and costs the country more than Rs.12,000 crore<sup>2</sup> per year. The **greatest burden of tuberculosis incidence and mortality in India is in adults aged 15 to 60 years**, which include the most productive members of society. TB kills more women than all causes of maternal mortality.

Every year due to TB:

- More than 17 crore work-days are lost
- Nearly 3 lakh school children dropout from the schools
- More than 1 lakh women are rejected by their families

**The Objectives of RNTCP are to achieve and maintain at least 85% cure rate of new sputum smear-positive patients and to achieve and maintain detection of at least 70% of such cases in the population**

**DOTS (Directly Observed Treatment, Short Course)** is a systematic strategy which has 5 components. These are as follows:

- Political and administrative commitment
- Good quality diagnoses, primarily by sputum smear microscopy
- Uninterrupted supply of good quality drugs
- Directly observed treatment (DOT)
- Systematic monitoring and accountability

### **POINTS TO REMEMBER**

- TB is the number one killer of adults among all infectious diseases, in India.
- India tops the list of 22 high TB burden countries in terms of incidence of TB.
- DOTS is the best strategy to cut the chain of transmission in the community
- The Objectives of RNTCP are to achieve and maintain a cure rate of at least 85% among newly detected sputum smear positive cases and to achieve and maintain detection of at least 70% of such cases in the population.
- The TB Patient is the VIP of the programme and the responsibility of cure has been shifted from the patient to the health system.

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<sup>1</sup> 1 lakh = 100 000

<sup>2</sup> 1 crore = 100 lakh (= 10 000 000)

- Tuberculosis Unit covers a population of 5 lakhs.
- There is a DMC for every 1 lakh of population.
- Urgent action is warranted to avert worsening of the TB epidemic due to MDR-TB<sup>3</sup> and HIV-TB.
- A well managed TB control programme will save many lives and reduce the economic burden.

Tuberculosis (TB) affects the *lungs* in more than 85% of cases. This form of the disease is called *pulmonary tuberculosis*.

Pulmonary tuberculosis is an infectious disease. People living with or coming in close contact with a patient who has undiagnosed and untreated infectious tuberculosis (in particular, smear-positive) have the risk of getting infected. Therefore, it is very important to identify suspects who have symptoms of tuberculosis early in the course of the disease and ensure their treatment.

The main tools for diagnosing pulmonary TB are sputum smear microscopy, chest X-ray, and culture of *Mycobacterium tuberculosis* bacilli.

Sputum microscopy is easy to perform at the peripheral laboratories, not expensive and specific with low inter and intra reader variation. Therefore, this is the key diagnostic tool used for case detection in RNTCP.

X-ray as a diagnostic tool is sensitive but less specific with large inter and intra reader variations.

Culture of *Mycobacterium tuberculosis* bacilli is very sensitive and specific but is expensive as it requires a specialized laboratory set-up and results are available only after several weeks.

**Sputum smear microscopy is the primary tool for diagnosing TB as it is more specific and has less inter-reader variability than X-ray.**

Tuberculosis may also affect organs other than the lungs. This form of the disease is called extra-pulmonary tuberculosis. Methods for the diagnosis of extra-pulmonary cases depend on the system that is affected.

### **Sputum Microscopy**

- Simple not expensive, requires minimum training
- Specific with low inter-reader variation
- Can be used for diagnosis, monitoring and defining cure
- Feasible at peripheral health institutions
- Correlates with infectivity in undiagnosed pulmonary TB cases

### **X-ray**

- Supportive to microscopy
- High inter-reader variation
- No shadow is typical of TB
- 10–15% culture-positive cases remain undiagnosed
- 40% patients diagnosed as having TB by X-ray alone may not have active TB disease

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<sup>3</sup> Multi-drug resistant TB

**Tuberculin test (Mantoux)** may be useful as an additional tool for diagnosing pediatric TB.

## **PROCESS OF DIAGNOSIS**

Patients with chest symptoms and other symptoms suggestive of TB, consult medical staff at governmental, non-governmental or private general health facilities. The Medical Officer (MO) at the health facility screens the patients. All outpatients with a cough of 3 or more weeks are to be considered as tuberculosis suspects. Using the RNTCP laboratory form for sputum examination, the MO sends the suspects for sputum examination. In Medical Colleges and other hospitals, indoor patients suspected of TB should also be referred by the treating physician using the same RNTCP laboratory forms for sputum examination. In the laboratory the patient receives sputum containers with instructions to provide sputum samples, which are then subjected for sputum examination. If the health facility is not a DMC then the patient may be referred to the nearest DMC or else the patient's sputum is collected and transported to the nearest DMC.

### **Three sputum samples are collected over two consecutive days:**

- Spot sample on the first day,
- One early morning sample on second day and
- One spot sample on the second day.

### **Sputum examination and anti-TB treatment are FREE of charge at Government Facilities under RNTCP.**

The MO / health worker / laboratory technician (LT) should instruct the patient for proper sputum collection. If sputum is not collected in a correct manner and the patient has smear-positive pulmonary tuberculosis, the diagnosis may be missed, and the patient may continue to spread the infection to others.

The LT should properly label the sputum container by writing the patient's Laboratory Serial Number on the side of the sputum container and not on the lid.

- 3 sputum specimens (spot—morning—spot) should be collected over 2 consecutive days
- Sputum should be at least 2 ml in quantity and preferably mucopurulent
- Sputum samples should be transported and examined as soon as possible, and not later than seven days after collection
- Results of sputum tests should be reported within a day

If the diagnostic algorithm given below is not followed, patients not having tuberculosis may be treated unnecessarily on the basis of abnormal X-rays.

## **ADMINISTERING TREATMENT**

The objectives of treatment are:

- To decrease mortality and long-term morbidity by ensuring permanent cure, minimizing relapses and preventing development of drug resistance
- To decrease transmission of infection
- To achieve the above whilst minimizing side effects due to drugs

These objectives are achieved in RNTCP through intermittent (thrice weekly) treatment regimens given under direct observation for both pulmonary and extra pulmonary tuberculosis patients. Treatment regimens for tuberculosis have emerged as a result of controlled clinical trials in India and other parts of the world. It has been proven that thrice-a-week (intermittent) treatment is as effective as daily treatment. Originally it was believed that anti-tuberculosis drugs needed to be given every day to maintain drug concentrations continuously at inhibitory levels. However, animal experiments and *in vitro* studies demonstrated that certain drugs were also effective when the drug concentration dropped temporarily below that level and even after the drug had disappeared completely from the lesion or the medium. In vitro experiments demonstrated that after a culture of mycobacterium tuberculosis is exposed to certain drugs, in certain concentrations, for certain lengths of time, it takes several days (lag period) before new growth occurs. This **lag period** demonstrated by mycobacteria is the basis of intermittent treatment regimens. A series of experiments in an animal model demonstrated that intermittent dosing actually increased the efficacy of treatment. This is presumably because intermittent dosages allow organisms to reenter the active metabolic phase in which the bactericidal drugs are more effective.

Intermittent regimens should only be used in a programme of directly observed treatment (DOT). Lack of supervision may lead to longer drug-free periods leading to development of drug resistance. Studies throughout the world and in India have shown that if treatment is not given under direct observation, at least one third of the patients do not take medicines as prescribed. The key principle for treatment of tuberculosis worldwide, and in RNTCP, is protocol-based treatment, wherein short course standardized chemotherapy regimens are given under a programme of direct observation, called the DOTS (Directly Observed Treatment, Short-course) strategy.

#### **Advantages of intermittent regimen**

- As effective as daily treatment
- Facilitates observation
- Less adverse reactions
- Reduction in total drugs consumed
- Less expensive
- Reduction in number of patient visits

The approach of direct observation of treatment has been successful in achieving high rates of sputum conversion, high cure rates, and decrease in the infectious pool in the population, resulting in decreased transmission of infection, and prevention of drug resistance.

**Table 2: Management of TB patients on DOT in special situations**

Situation	Management
Hospitalization	<ul style="list-style-type: none"> <li>• Only extremely ill patients need hospitalization during the treatment</li> <li>• Patients with significant haemoptysis, pneumothorax or large accumulation of pleural fluid leading to breathlessness need to be hospitalized</li> <li>• Flow chart for hospitalized patients is given on page 90</li> </ul>
Tuberculous meningitis	<ul style="list-style-type: none"> <li>• Fatal if untreated</li> <li>• Patient should be referred to the hospital</li> <li>• Total duration of treatment is 8–9 months. The continuation phase should be given for 6–7 months</li> <li>• Steroids should be given initially and gradually reduced over 6–8 weeks</li> </ul>
Treatment of TB during pregnancy and postnatal period	<ul style="list-style-type: none"> <li>• Streptomycin should not be given; other drugs used in RNTCP are safe</li> <li>• Breast feeding should continue regardless of the mother's TB status</li> <li>• Advise the mother to cover her mouth, if she is smear-positive, while breastfeeding the baby</li> <li>• Chemoprophylaxis for the baby is advisable if mother is sputum smear-positive (see page 127)</li> </ul>
Treatment in patients with renal failure	<ul style="list-style-type: none"> <li>• Rifampicin, isoniazid and pyrazinamide can be safely given</li> <li>• Streptomycin and ethambutol, if given, should be closely monitored with reduced dosage</li> </ul>
Treatment in women taking oral contraceptive pills	<ul style="list-style-type: none"> <li>• Rifampicin decreases the efficiency of oral contraceptives; increase the dosage of the oral contraceptive or switch to another method of contraception</li> </ul>
TB and HIV	<ul style="list-style-type: none"> <li>• Anti-TB Treatment is same for HIV-infected people as it is for HIV negative TB patients</li> <li>• DOT assumes greater importance for HIV infected patients</li> <li>• All new TB cases who are known to be HIV positive based on voluntary sharing of results and/or history of anti-retroviral therapy are considered to be seriously ill</li> <li>• Patients with TB-HIV should complete their TB treatment prior to beginning ART (if not already on ART). If patient is already on ART, it should be modified to be rifampicin-friendly</li> </ul> <p>(For further details, refer to Annexure 2 Page130)</p>
Pediatric TB	Refer to Annexure 1 Page 125
MDR TB	<ul style="list-style-type: none"> <li>• MDR-TB is drug resistant TB caused due to bacilli resistant to Isoniazid and Rifampicin, with or without resistance to other anti TB drugs.</li> <li>• Management of MDR –TB is very complex</li> <li>• Prevention of MDR–TB rather than its treatment is the priority under RNTCP</li> </ul> <p>Refer to Annexure 4 Page 135</p>

## COMMUNICATE WITH PATIENTS

Good communication between a TB patient and the staff who treat the patient is very important. For a patient to be cured, s/he needs to:

- Be prescribed the correct treatment regimen, and
- Take all her/his prescribed drugs regularly for the total prescribed treatment period.

It is very important for the patient to know the duration of her/his treatment and understand the necessity of taking *all* her/his prescribed drugs regularly. Tell the patient that s/he will continue to spread TB if s/he does not take all her/his drugs.

Inform the patient that although TB is a life-threatening disease, if the prescribed treatment is taken for the complete duration, it is curable.

Explain to the patient that TB treatment is only effective if s/he takes all her/his drugs for the entire period prescribed. It is dangerous to take only part of the prescribed drugs because in such cases the disease may become incurable.

It is therefore very important that health education is provided to the patient so as to make her/him understand the importance of taking complete treatment. Health education should be imparted when the information is being filled in the TB Treatment Card is completed for the first time and should be given periodically during the course of treatment. The necessity of direct observation of every dose of drugs taken during the intensive phase and the first dose of the weekly blister pack during the continuation phase should be emphasized to the patient. Also explain the importance of sputum smear conversion at the end of 2(3) months and at the completion of treatment.

Reassure the patient that anti-TB drugs are generally safe. Explain to the patient that urine and tears may turn orange–red as a result of one of the pills, but that this is harmless and normal and is not permanent. Always speak respectfully to patients. Reassure them frequently that TB is curable. Emphasize that direct observation of treatment is as important as the drugs themselves. The real purpose of direct observation is to develop a human bond with the patient and not to mechanically watch the patient swallow the drugs. Remember that patients are in need of a friend; reassure them that they are being provided effective, high-quality curative care. Constantly during treatment, remind patients of how much weight they have gained, to what extent their cough has decreased, and how well they are looking now. Spend time getting to know patients' problems.

Encourage patients by telling them what proportion of the treatment they have finished. Always remind patients of the next appointment. Patients who are treated respectfully develop trust not only in their treatment observer but also in the health system as a whole and are less likely to default. **In RNTCP, the patient should be the VIP not only in theory but in practice also.**

### **Determine if a patient has been previously treated for tuberculosis**

It is very important to determine if the patient has been previously treated for TB. If the initial interview of the patient does not provide enough information on her/his medical history, s/he could be prescribed the wrong regimen. For example, a pulmonary smear-positive patient who was previously treated for TB might omit information about her/his past treatment if s/he does not understand why it is important to tell this to the interviewer. Then, instead of being prescribed the required retreatment regimen (CAT II), s/he could be incorrectly placed on a regimen for new patients (CAT I), which may lead to death or failure of treatment. It is very important to verify with the patient that the information about the “Type” of patient has been correctly recorded so that you can make sure s/he has been prescribed the correct treatment regimen.

To do this, ask the patient if s/he has been treated for TB in the past. Ask every patient if s/he has ever taken injections for more than one or two weeks (streptomycin is likely) or taken a medicine, which turned the urine orange–red (rifampicin is likely). If you think a patient is hiding her/his past treatment for TB, explain that new patients do not receive *better* drugs than retreatment patients and that wrong treatment history can lead to failure of treatment and even death. When a previously diagnosed and partially treated smear-positive patient begins treatment again, s/he must take the drugs prescribed under the retreatment regimen to be cured. The retreatment patient needs a stronger regimen than a new patient to be cured.

### **Provide health education to patients during initial contact**

During your first contact with a patient, you will give the patient essential information about her/his disease. Make sure s/he feels comfortable enough to ask you what s/he does not understand. Keep in mind that the patient is probably very sick and might still be feeling disturbed about having the disease.

Ask the patient essential questions throughout the discussion to make sure s/he understands what is being said. During later discussions with the patient, you will explain more details.

The topics to be discussed initially with the patient are as follows:

#### **1. What is tuberculosis?**

Explain in simple terms what TB is and what type of TB the patient has (for example, TB of the lungs). Reassure the patient that if the prescribed treatment is taken for the complete period, TB *is* a curable disease.

**Counseling during the initial contact is very important to ensure proper compliance to treatment.**

#### **2. TB Treatment**

Explain the TB treatment, such as:

- Duration of treatment
- Frequency of the patient’s visits to the health facility for treatment
- The place where the patient will receive treatment
- Treatment is free of charge and of high quality at DOT Centres

### ▪ **Necessity of directly observed treatment (DOT)**

Explain the importance of taking DOT. This means that the health worker watches the patient swallow all her/his drugs. Ensure that drug administration, including streptomycin injections, are properly explained.

Use a sample of blister-packs to explain the drugs that the patient will have to take. Explain that diet and rest have limited impact on outcome of treatment, but that regular drug-taking is essential.

### **3. How tuberculosis spreads**

Explain in simple terms that TB can spread when a patient sneezes or coughs. People in close contact with the patient can become infected when they breathe in these germs (tubercle bacilli). Stress the importance of taking all family members exposed to the disease (contacts) and who have symptoms of TB to the closest health facility for screening of TB. In particular, children under 6 years of age should be screened because they are at risk of developing severe forms of the disease. Also explain how to prevent TB from spreading (for example, by covering the mouth when coughing and sneezing and avoiding spitting in public).

### **4. Looking for symptoms of tuberculosis**

Describe the following symptoms of TB of the lungs to the patient so that s/he can recognize whether a family member might be a TB suspect:

A cough which lasts for 3 or more weeks is the commonest symptom. Usually, the person also has one or more of the symptoms listed below:

- Weight loss;
- Tiredness;
- Fever, rise in temperature especially in the evening;
- Night sweats;
- Chest pain;
- Shortness of breath;
- Loss of appetite; and
- Coughing up of blood-stained sputum

### **On a continuous basis**

There are several things to discuss with the patient about TB after the patient has been in the intensive phase for approximately one week. Then, this information should be repeated to the patient at least once a week during the intensive phase and once a month during the continuation phase. (This is done in privacy or within a group setting. Periodic patient-provider group meetings can be very useful for both patients as well as providers.)

When you meet with the patient, spend the first few minutes checking if s/he remembers what was previously discussed regarding the treatment. Ask the patient questions, such as 'How long will your treatment last?'

Health education topics should be discussed with the patient on a continuous basis. It is important to ask the patient questions throughout this discussion to make sure s/he understands what is being said.

### **1. Type and colour of prescribed drugs/injection**

Explain the different types of drugs the patient will be taking. Also, discuss the colours of the drugs so that the patient can identify whether s/he is being given the correct drugs.

### **2. Amount and frequency of drugs/injection**

Tell the patient the number of tablets, and dosage of each drug she/he will be taking from the blister pack, how often will be taking them, and for how long.

### **3. Possible side-effects of drugs/injection**

Explain to the patient the following side-effects of the anti-TB drugs s/he is taking. Reassure the patient that the side effects are rare.

- Skin rashes
- Skin and/or eyes turn yellow
- Flu-like symptoms (fever and chills)
- Pain and swelling of joints, particularly ankles and wrists
- Difficulty with vision (in patients taking ethambutol)
- Imbalance (in patients taking streptomycin)
- Tell the patient that if s/he experiences any of these side-effects, s/he must go to the nearest health facility immediately.

### **4. Frequency and importance of sputum smear examinations**

Explain to each pulmonary TB patient that s/he will be required to undergo sputum examinations 3-4 times during the treatment of TB. Tell the importance of bringing up sputum from deep within the lungs for examination by a laboratory technician. The laboratory technician uses a special instrument called a microscope to see whether there are TB germs in the sputum. Tuberculosis germs cannot be seen with the naked eye. If the laboratory technician sees TB germs in the sputum during microscopy after the intensive phase of treatment, the patient is still sick. If the technician does not see TB germs in the sputum during microscopy, the patient is getting better, but s/he must continue to take the drugs.

Inform the patient the intervals at which s/he will have to get her/his sputum examined. Explain the importance of finding out the results of sputum smear examinations.

These results can affect the remaining treatment, its duration as well as quantities of drugs. In simple terms, also stress the importance of sputum conversion at the end of 2(3) months and at the end of treatment.

### **5. What happens if the patient does not take all prescribed drugs?**

Tell the patient that s/he needs to take all her/his prescribed drugs together to be cured. Tell her/him if he does not take all her/his drugs, the germs might produce more germs again. After a while, the germs will be back in large numbers and the patient will become sick again. Explain that during the continuation phase also, the patient must take all her/his drugs for the entire prescribed period because the disease is not yet cured even though the patient might feel better.

## **PAEDIATRIC TB**

**DOTS is the recommended strategy for treatment in adults as well as children**

**All pediatric TB patients should be registered under RNTCP**

### **Chemoprophylaxis**

Recent infection with tubercle bacilli is one of the risk factors for disease development. The younger the child, the higher is the risk of breakdown of infection into disease. Therefore, child contacts of smear-positive TB cases, especially those below 6 years of age, must be screened for symptoms of tuberculosis. In case of symptoms being present, the diagnostic algorithm for pediatric TB should be followed and the child should be given a full course of anti TB treatment if s/he is diagnosed as a TB case. For asymptomatic children and those who are not found to be suffering from TB, chemoprophylaxis with isoniazid (5 mg per kg body wt) should be administered daily for a period of six months. This is regardless of the BCG vaccination status.

To ensure that proper preventive chemotherapy is given to children, enquire (or have the health workers enquire) from all smear positive tuberculosis patients under treatment if they have children under 6 years of age. Explain to them how children can acquire the infection which may later develop into tuberculosis.

Make sure that the children are brought to a health unit for screening.

## **MULTI-DRUG RESISTANT (MDR) TUBERCULOSIS**

Multi-drug resistant TB (MDR-TB) is a specific form of drug resistant TB due to bacilli resistant to at least Isoniazid and Rifampicin, with or without resistance to other anti TB drugs. Diagnosis of MDR-TB is a laboratory diagnosis (from a quality assured laboratory) and not a clinical diagnosis. Drug resistance arises due to improper use of anti-tuberculosis drugs during the treatment of tuberculosis patients. This improper use includes:

- Administration of inadequate treatment regimens by various health care providers.
- Wrong treatment categorization by failing to elicit the history of previous anti TB treatment
- Poor treatment management, when the treatment is not directly observed.
- Inability to educate patient to take complete and regular treatment.

Essentially, drug resistance arises in areas with poorly managed TB control programmes, which is often a reflection of the lack or improper implementation of DOTS in such areas. Regular chemotherapy under DOTS strategy can prevent the emergence of MDR-TB

## **Extent of MDR TB in India**

MDR-TB is a concern for tuberculosis control in many countries. Currently the prevalence of MDR-TB among new smear-positive cases is relatively low in the country. Studies carried out in six districts during 1999-2002 as per the WHO guidelines on drug resistance surveillance, showed that 0.5% to 3% of new cases were found to harbor multi-drug resistance bacilli. Studies amongst previously treated patients showed MDR levels of 12%.

## **Drug resistance surveillance**

In order to monitor the level of drug resistance in the country, drug resistance surveillance is being conducted among both new and previously treated cases in selected states in a phased manner using the national and state level RNTCP laboratory network. The laboratory network consists of 3 designated National Reference Laboratories (NRL), namely, The Tuberculosis Research Centre, Chennai, The National Tuberculosis Institute, Bangalore, and LRS institute of Tuberculosis and Respiratory diseases, New Delhi. State TB Demonstration Centre (STDC) of the respective states are designated as Intermediate Reference Laboratories (IRLs). RNTCP microscopy centers in each district are assigned the role of identification and enrolment of smear-positive cases for the survey. IRLs perform culture and drug susceptibility tests and NRLs provide technical support.

TRC, which is also a WHO Supra-national Reference Laboratory (SRL), will also be responsible for quality assurance.

## **Prevention of MDR-TB**

The management of MDR-TB being very complex, and its occurrence must be prevented by effective implementation of the DOTS strategy.

Proper categorization of patients by medical officer for treatment, by eliciting history of previous treatment, is very important. The diagnosed patients should be explained / educated, why it is essential to know about previous anti-TB treatment and to take drugs under direct observation. Similarly, DOT Providers should be educated and convinced about the importance of directly observed treatment (DOT). DOTS has been documented to not only prevent the emergence of multi drug resistance but also to decrease its prevalence in the community.

**Prevention of MDR-TB is given priority under RNTCP rather than its treatment**

## Management of MDR-TB

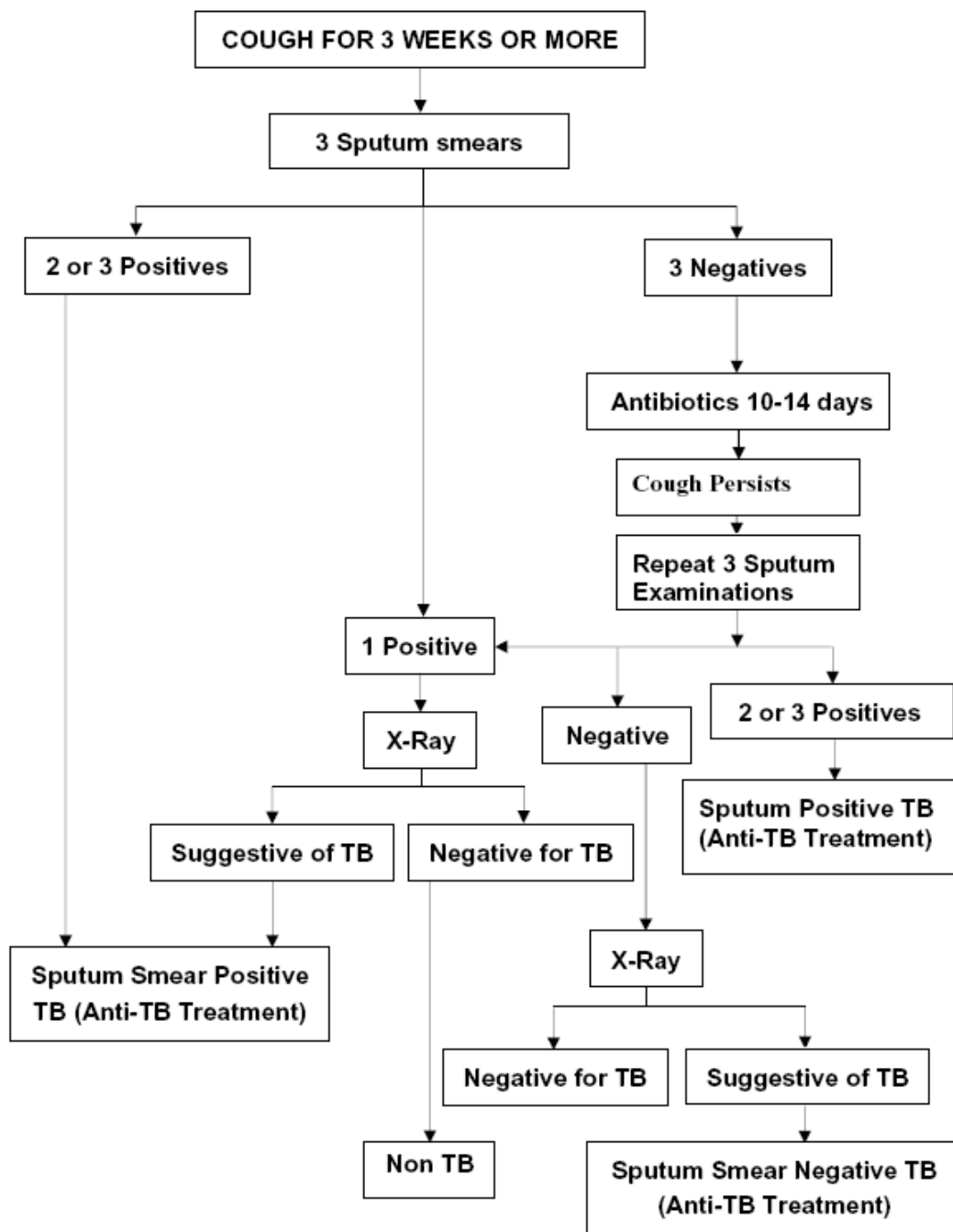
The most important cause of treatment failure is the inability to administer complete and regular treatment and not due to drug resistant bacilli. However, TB cases continuing to be smear-positive at the end of 4 months or later of the intensive phase of a CAT II treatment under RNTCP may be *suspected* of having MDR TB. Only these patients should be sent for culture and sensitivity testing of sputum to a quality assured culture and drug susceptibility testing laboratory.

STDCs are being strengthened to provide these facilities in each state. Diagnosed cases of MDR-TB should be referred to and treated only at a specialized centre.

Treatment of MDR-TB requires prolonged chemotherapy, which is very expensive and toxic. The treatment must be given for a period of 18-24 months. Moreover, the chances of treatment success are low.

In 1998, WHO and several partners around the world conceived DOTS-Plus and a working group was established in 1999. DOTS-Plus is a comprehensive management strategy that includes the five components of DOTS strategy. It takes into account specific issues, such as the use of second-line anti-TB drugs that need to be addressed in areas where there is high prevalence of MDR-TB. DOTSPPlus works as a supplement to the standard DOTS strategy, to address both drug susceptible and MDR-TB in areas with significant levels of MDR-TB. Having a successful DOTS based TB control programme in place with a default rate of <5% and availability of an accredited mycobacteriology laboratory in the state, is a prerequisite for considering DOTS-Plus in an area.

## DIAGNOSTIC ALGORITHM FOR PULMONARY TB





## Revised National Tuberculosis Control Programme Treatment Card

State Andhra Pradesh  
Name Raju

City / District with code Thiruvallur

Name of the TB unit with code \_\_\_\_\_  
Patient TB No / Year: 4299

Sex M  F  Age 52  
Complete Address Krishna Rao

Occupation \_\_\_\_\_

PHI: \_\_\_\_\_  
Name and designation of DOT provider \_\_\_\_\_  
DOT centre \_\_\_\_\_

Name and Address of Contact Person Krishna Rao, Sarpanch  
Initial home visit by \_\_\_\_\_ Date \_\_\_\_\_

Signature of MO with date \_\_\_\_\_

<p>Disease Classification</p> <p><input checked="" type="checkbox"/> Pulmonary</p> <p><input type="checkbox"/> Extra Pulmonary</p> <p>site _____</p>
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<p>Type of patient</p> <p><input type="checkbox"/> New <input type="checkbox"/> Relapse</p> <p><input type="checkbox"/> Transfer in <input type="checkbox"/> Failure</p> <p><input checked="" type="checkbox"/> Treatment after default <input type="checkbox"/> Other (Specify) _____</p>
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Month	Date	DMC	Lab No.	Smear Result	Weight
Pretreatment	4/4	A	128	2 <sup>+</sup>	
End IP/ Extended IP	29/5		246	1 <sup>+</sup>	
2 Months CP	26/7		210	NEG	
End treatment	30/9	S	506	NEG	

H/o previous Anti-TB treatment with duration \_\_\_\_\_

**I. INTENSIVE PHASE - Prescribed regimen and dosages:**

Tick (✓) the appropriate Category below

Category I

New Case  
(Pulmonary Smear-Positive,  
Seriously ill Smear Negative, or  
seriously ill extrapulmonary)

Category II

Retreatment,  
(relapses, failure,  
treatment after  
default, Others)

Category III

New Case  
(Pulmonary Smear Negative,  
not seriously ill: or extra pulmonary,  
not seriously ill)

3 times / week

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H R Z E

3 times / week

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H R Z E S

3 times / week

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H R Z

Tick (✓) appropriate date when the drugs have been swallowed under direct observation

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
April 97						S	✓		✓		✓		S	✓		0	✓		✓	S	✓		✓		✓		S	✓		✓	
May 97	✓		S	✓			✓		0	✓	S		✓		✓		✓	S	✓		✓		✓		S		0		✓		
June 97								S																							

## II Continuation Phase

Prescribed regimen  
and Dosages

Category I   
3 times / week  

H	R

Category II   
3 times / week  

H	R	E

Category III   
3 times / week  

H	R

Enter X on date when the first dose of drugs has been swallowed under direct observation and draw a horizontal line (x \_\_\_\_\_) to indicate the period during which medicines will be self administrated.

Month / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Treatment out come with date \_\_\_\_\_

Signature of MO with date \_\_\_\_\_

Details of X ray / EP tests

Contacts (Children < 6 yrs)

No	Chemoprophylaxis

Remarks \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Retrieval actions for missed doses**

Date and time	By whom	Whom contacted	Reason for missed doses	Outcome of retrieval