Review of RNTCP in Goa

STO, Goa
TB Control Programme
Nearly one third of the world’s population is infected with TB bacilli, i.e. have latent TB, of these 10% have a lifetime risk of developing the active disease.

Poor living conditions, debility and malnutrition predisposes population to disease.

There are an estimated 9.2 million new cases and 1.3 million deaths reported due to TB, and over 90% of these occur in the low and middle income countries.
India is one of the highest TB burden country globally.

Nearly 40% of the Indian population is infected with the TB bacillus.

Each year, 1.9 million new cases of TB occur in the country, of which about 0.8 million are infectious new smear positive pulmonary TB cases.
Everyday:

> 40,000 people get infected with TB
> 5000 develop TB
> 1000 die of TB per day

Annually about 18 lakhs new cases of which 8 lakhs are sputum positive.

2 TB deaths every three minutes
INDIA IS THE HIGHEST TB BURDEN COUNTRY ACCOUNTING MORE THAN ONE FIFTH OF THE GLOBAL INCIDENCE

Global annual incidence = 9.2 million
India annual incidence = 1.96 million

India is 17th among 22 High Burden Countries (in terms of TB incidence rate)

Source: WHO Geneva; WHO Report 2009: Global Tuberculosis Control; Surveillance, Planning and Financing
RNTCP IN GOA
### Review of Goa State

<table>
<thead>
<tr>
<th>Name of State:</th>
<th>GOA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population:</td>
<td>15,05,812 (HIB)</td>
</tr>
<tr>
<td></td>
<td>16,75,000 (CTD)</td>
</tr>
<tr>
<td>No. of TB Unit:</td>
<td>04</td>
</tr>
<tr>
<td>No. of DMCs in the State:</td>
<td>20</td>
</tr>
<tr>
<td>No. of DOTS Centre:</td>
<td>1615</td>
</tr>
</tbody>
</table>
RNTCP has been operationalised in Goa from September, 2004. In the rest of the country, the programme was implemented in phases from 1997, thus covering the entire country by 2006. However, National TB Control programme has been existing in the country since 1962. The programme was thoroughly revised and thus RNTCP came into being in 1997.
Objectives of RNTCP

- To achieve and maintain a cure rate of at least 85% among newly detected infectious (new sputum smear positive) cases.

- To achieve and maintain detection of at least 70% of such cases in the population.
Structure of RNTCP at State level

State TB Cell

- STO, Deputy STO
- MO, Accountant
- IEC Officer, SA, DEO

District TB Centre

- DTO, MO-DTC, LT
- DEO, Driver

Tuberculosis Unit

- MO-TC
- STS, STLS

Microscopy Centre

- MO, LT

DOT Centre

- DOT Provider – MPW, NGO, PP, Comm Vol

Nodal point for TB control

One/ 5 lakh (2.5 lakh in hilly/ difficult/ tribal area)

One/ lakh (0.5 lakh in hilly/ difficult/ tribal area)
DESIGNATED MICROSCOPY CENTRES

GOA STATE

PANAJI TU
1. CHC PERNEM
2. DTC PANAJI
3. PHC CANDOLIM
4. ASILO HOSP.
5. TB & CHEST DISEASES HOSP
6. GOA MEDICAL COLLEGE

PONDA TU
1. CHC PONDA
2. PHC SANKHALI
3. CHC VALPOI
4. PHC BICHOLIM
5. PHC BETKI
6. CENTRAL HOSP. TISK

MARGAO TU
1. TB HOSP. MARGAO
2. ESI HOSP. MARGAO
3. CHC COTTAGE HOSP.
4. MPT HOSP. VASCO.

CURCHOREM TU
1. CHC CURCHOREM
2. PHC QUEPEM
3. PHC SANGUEM
4. CHC CANACONA
5. PHC BALLI
## Prevalence Estimated

- **Per lakh population** → 203
- **New Sputum positive** → 75
- **New Sputum negative** → 75
- **Re-treatment** → 38
- **Extra Pulmonary** → 15
## Registered TB Cases for Goa State

<table>
<thead>
<tr>
<th>Year wise</th>
<th>No. of TB Patients Registered for treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1731</td>
</tr>
<tr>
<td>2006</td>
<td>2037</td>
</tr>
<tr>
<td>2007</td>
<td>2105</td>
</tr>
<tr>
<td>2008</td>
<td>1975</td>
</tr>
<tr>
<td>2009</td>
<td>1896</td>
</tr>
<tr>
<td>2010 (Upto 2Q 2010)</td>
<td>1051</td>
</tr>
</tbody>
</table>
Break-up of Registered TB cases of Goa State for 2010 (Upto June)

<table>
<thead>
<tr>
<th>Category</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSP</td>
<td>376</td>
</tr>
<tr>
<td>NSN</td>
<td>181</td>
</tr>
<tr>
<td>EP</td>
<td>303</td>
</tr>
<tr>
<td>Retreatment + Others</td>
<td>191</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1051</strong></td>
</tr>
</tbody>
</table>
## Case Detection Rate

*Expected 70%*

<table>
<thead>
<tr>
<th>Year wise</th>
<th>NSP Case Detection Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>48%</td>
</tr>
<tr>
<td>2009</td>
<td>48%</td>
</tr>
<tr>
<td>2010 (Upto 2Q 2010)</td>
<td>56%</td>
</tr>
</tbody>
</table>
## Conversion Rate

**Expected 90%**

<table>
<thead>
<tr>
<th>Year wise</th>
<th>NSP Sputum Conversion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>90%</td>
</tr>
<tr>
<td>2009</td>
<td>93%</td>
</tr>
<tr>
<td>2010</td>
<td>91%</td>
</tr>
<tr>
<td>(4Qtr 09 &amp; 1Qtr 10)</td>
<td></td>
</tr>
</tbody>
</table>
## Cure Rate
### Expected 85%

<table>
<thead>
<tr>
<th>Year wise</th>
<th>NSP Cure Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 (Cohort 2008)</td>
<td>83%</td>
</tr>
<tr>
<td>2010 (Cohort 1st &amp; 2nd Qtr 2009)</td>
<td>85%</td>
</tr>
</tbody>
</table>
## Death Rate

Expected <5%

<table>
<thead>
<tr>
<th>Year</th>
<th>Death Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>5% (21)</td>
</tr>
<tr>
<td>2009</td>
<td>5% (20)</td>
</tr>
<tr>
<td>2010 (Upto June)</td>
<td>5% (9)</td>
</tr>
</tbody>
</table>
Trend in TB suspects examined per lakh in the state for last 3 years

<table>
<thead>
<tr>
<th>Year</th>
<th>Suspects Per Lakh</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>736</td>
</tr>
<tr>
<td>2009</td>
<td>728</td>
</tr>
<tr>
<td>2010 (upto June)</td>
<td>384</td>
</tr>
</tbody>
</table>
Types of TB Cases

Tuberculosis cases

- Pulmonary (85%)
  - Smear positive
  - Smear negative

- Extra-pulmonary (15%)
  - Lymph nodes
  - Bones, joints
  - Urogenital tract
  - Nervous system
What are the 5 components of TB?

☐ Political and administrative.

☐ Good quality diagnosis, primarily by sputum microscopy.

☐ Uninterrupted supply of good quality drugs

☐ Directly observed treatment.

☐ Systematic monitoring and accountability.
## TREATMENT REGIMENS

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat I</td>
<td>New sputum +ve pulmonary; New sputum –ve pulmonary seriously ill; New extra-pulmonary seriously ill; All new TB cases with known HIV +ve</td>
<td>2H3R3Z3 E3 / 4H3R3</td>
</tr>
<tr>
<td>Cat II</td>
<td>Sputum +ve relapse cases; Sputum +ve failure cases; Sputum +ve treatment after default cases; Others; Extra pulmonary relapse or failure</td>
<td>2H3R3Z3 E3S3 / 1H3R3Z3 E3 / 5H3R3E3</td>
</tr>
<tr>
<td>Cat III</td>
<td>New sputum –ve pulmonary, not seriously ill; New extra-pulmonary, not seriously ill</td>
<td>2H3R3Z/4H3R3</td>
</tr>
</tbody>
</table>
Intensive Phase

- Aims for a rapid killing of bacilli.
- A state of non-infectiousness within 2 weeks.
- Quick relief of symptoms.
- Smear negativity by 2 months.
- Prevent development of drug resistance $\Rightarrow$ multi-drug regimens and DOT.
Continuation Phase

- Aims to eliminate remaining bacilli.
- Killing of “persisters” prevents relapses.
- Multi-drug regimens and DOT necessary (unless R not used) even though risk of emergence of drug resistance is less as fewer bacilli remain.
# Duration of Treatment in RNTCP..2

<table>
<thead>
<tr>
<th>CAT</th>
<th>Intensive phase (IP) (In Months)</th>
<th>Continuation phase (CP) (In months)</th>
<th>Total Treatment (In months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT- I</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>CAT- II</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>CAT- III</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>
Trend of NSP case detection

- NSP Case Detection Rate
Why low case detection

- About 45% are either
  a) Go to Private sector.
  b) Floating population.
  c) Missed cases that remain undiagnosed.
Develop partnership with private sector where in the patient continue in private sector.
DOTS Strategy

A strategy to ensure treatment completion in which:

- Treatment observer (DOT provider) must be accessible and acceptable to the patient and accountable to the health system.

- DOT provider administers the drugs in intensive phase.

- Ensures that the patient takes medicines correctly in continuation phase.

- Provides the necessary information and encouragement for completion of treatment.
Advantages of intermittent treatment

- As effective as daily treatment.
- Less adverse reactions.
- Total drugs consumed is less.
- Less costly.
- Less number of doses \(\Rightarrow\) facilitates treatment observation as less number of patient visits required and prevents concealed irregularity.
Modalities

- Identify a DOT Provider/Co-ordinator at each hospital/clinic.
- Training for DOT Provider/Co-ordinator.
- Training for Lab. Tech. on microscopy for AFB and grading wherever required.
- Liaison with respective Health Officer.
- Medicines/Records keeping monitored by STS.
Facilities to be contacted

- TB Control Programme, Panaji
- PHC Corlim/Betki/Cansarvanem/Candolim/Siolim/Aldona/Colvale/Corlim/Sankhali/Bicholim/Madkai/Shiroda
- UHC Panaji/ UHC Santa Cruz/UHC Mapusa
- CHC Pernem/CHC Valpoi/CHC Ponda
- RHC Mandur
- Goa Medical College
- Asilo Hospital
- TB & Chest
- Central Tisk Usgao
Universal Access to TB cases

- Screening TB patients for HIV.
- Diabetic patients.
- Elderly patients.
- Associate with anti-smoking programme-chromic smokers.
- Malnutrition & other chromic diseases.
Intermediate Reference Laboratory – Culture and Drug Sensitivity

MDR TB – Kanamycin (inj), Levofloxacin, Ethionamide, Pyrazinamide, Ethambutol & cycloserine during intensive phase of treatment which lasts for 6-9 months. This is followed by a continuation phase of 18 months comprising of 4 drugs i.e Levofloxacin, Ethionamide, Ethambutol & Cycloserine.
MICROSCOPY IS A MORE SPECIFIC TEST THAN X-RAY FOR TB DIAGNOSIS

Influence of HIV on TB

Lifetime Risk of TB

- PPD+/HIV-negative: 10%
- PPD+/HIV+: 60%
## TB-HIV Co-ordination Activities for 2009 (July - Dec)

<table>
<thead>
<tr>
<th>TU</th>
<th>Patients Registered</th>
<th>Tested for HIV</th>
<th>HIV - Positive</th>
<th>CPT initiated</th>
<th>ART initiated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panaji</td>
<td>266</td>
<td>208 (78%)</td>
<td>16 (8%)</td>
<td>16 (100%)</td>
<td>02 (13%)</td>
</tr>
<tr>
<td>Ponda</td>
<td>253</td>
<td>172 (68%)</td>
<td>06 (3%)</td>
<td>05 (83%)</td>
<td>02 (40%)</td>
</tr>
<tr>
<td>Margao</td>
<td>274</td>
<td>200 (73%)</td>
<td>19 (10%)</td>
<td>19 (100%)</td>
<td>03 (16%)</td>
</tr>
<tr>
<td>Curchorem</td>
<td>151</td>
<td>86 (57%)</td>
<td>05 (6%)</td>
<td>05 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Goa State</td>
<td>944</td>
<td>666 (71%)</td>
<td>46 (7%)</td>
<td>45 (98%)</td>
<td>07 (16%)</td>
</tr>
</tbody>
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## TB-HIV CO-ORDINATION ACTIVITIES FOR 2010 (Upto June)

<table>
<thead>
<tr>
<th>TU</th>
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</thead>
<tbody>
<tr>
<td>Panaji</td>
<td>335</td>
<td>296 (88%)</td>
<td>22 (7%)</td>
<td>20 (91%)</td>
<td>18 (90%)</td>
</tr>
<tr>
<td>Ponda</td>
<td>277</td>
<td>230 (83%)</td>
<td>15 (7%)</td>
<td>14 (93%)</td>
<td>09 (64%)</td>
</tr>
<tr>
<td>Margao</td>
<td>294</td>
<td>249 (85%)</td>
<td>33 (13%)</td>
<td>31 (94%)</td>
<td>24 (77%)</td>
</tr>
<tr>
<td>Curchorem</td>
<td>145</td>
<td>124 (86%)</td>
<td>07 (6%)</td>
<td>07 (100%)</td>
<td>03 (43%)</td>
</tr>
<tr>
<td>Goa State</td>
<td>1051</td>
<td>899 (86%)</td>
<td>77 (9%)</td>
<td>72 (94%)</td>
<td>40 (56%)</td>
</tr>
</tbody>
</table>
TB PATIENT SWALLOWING TABLETS UNDER DIRECT OBSERVATION
Thank you