Alarming Levels of Drug-Resistant Tuberculosis in HIV-Infected Patients in Metropolitan Mumbai, India

From operations to research and back

Petros Isaakidis
- A story about a tool (OR) to support operations
- A story about an operational research project as an example

Two stories
Profile of Mumbai MSF HIV/TB project

- An exciting, niche project in a posh suburb
- Highly technical and innovative

BUT

- Highly isolated and largely invisible
- High potential, minimal output
• Time to Dream Big in Mumbai
• Focus on HIV/ Drug-Resistant Tuberculosis

An operational decision
An operational decision

- From waiting for referrals to reaching out
- From working alone to working with partners
- From “navel gazing” to “advocacy”
• We screen and treat at MOH facilities

• In collaboration with
  • NACO (national AIDS programme)
  • RNTCP (national TB programme)
  • NGOS
  • Private sector
  • Academia

• Using OR as a tool for engaging stakeholders and for advocacy

An operational decision
We aimed to assess the burden of drug-resistant tuberculosis in HIV patients attending public antiretroviral treatment (ART) centers in the greater metropolitan Mumbai, India.
The OR project: Methods

- A cross-sectional survey
- Smear microscopy, culture and drug-susceptibility-testing (DST)
- Analysis: drug-resistant tuberculosis prevalence and resistance patterns separately for new and previously treated, TB-patients
The OR project: Results

- **March 2013 - January 2014**

- **Visits at 8 ART centers** 14,135
- **Presumptive TB patients** 1,724
- **Positive TB culture** 202 (12%)

- **Overall DR-TB** 34%
- **Among new TB patients** 25%
- **Among previously treated TB patients** 44%
### The OR project: Results

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>mono-resistant</td>
<td>21%</td>
</tr>
<tr>
<td>poly-resistant</td>
<td>12%</td>
</tr>
<tr>
<td>multidrug-resistant (MDR-TB)</td>
<td>38%</td>
</tr>
<tr>
<td>pre-extensively-drug-resistant (preXDR-TB)</td>
<td>21%</td>
</tr>
<tr>
<td>extensively drug-resistant (XDR-TB)</td>
<td>6%</td>
</tr>
<tr>
<td>extremely drug-resistant TB (XXDR-TB)</td>
<td>2%</td>
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</tbody>
</table>
The OR project: Discussion

- The burden of DR-TB among HIV-infected patients in Mumbai ART-centers was alarmingly high.
- Likely representing ongoing transmission in the community and health facilities.
Consider every patient “presumptive DR-TB” rather than “presumptive TB” and offer ALL diagnostics (GeneXpert+ DST)

- Individualize the treatment regimen based on the resistance patterns
Alarming Levels of Drug-Resistant Tuberculosis in HIV-Infected Patients in Metropolitan Mumbai, India

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New study highlights DR-TB burden in people living with HIV, level of primary transmission alarming

A new study points to an alarming high burden of drug-resistant tuberculosis (DR-TB) among HIV-positive patients. The study conducted by the Indian Council of Medical Research (ICMR) and National Institute of Tuberculosis and Respiratory Diseases (NITRD) found that 1 in 4 HIV-TB patients is resistant to drugs.

MUMBAI: Several HIV-positive people in the city directly contract drug-resistant tuberculosis, especially in newly-diagnosed TB patients, said the study. The study was conducted by the BMC with support from the National Tuberculosis Control Programme (NTCP) and the National AIDS Control Organisation (NACO).

The study found that 25% of HIV patients detected with primary drug-resistant TB were already infected with the resistant form of TB bacteria which does not respond to the known anti-TB drugs. The findings were part of a new study released by international medical humanitarian organisation Médecins Sans Frontières (MSF).

Related Keywords: TB Infection | HIV-TB Patients

DNA study finds alarming rise in drug-resistant TB cases in Mumbai’s HIV care centres

MSF study finds alarming rise in drug-resistant TB cases in Mumbai’s HIV care centres

Editor’s picks

Alarming high burden of DR-TB among HIV-positive patients at ART centres in Mumbai: MSF study

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25% of HIV patients detected with primary drug-resistant TB

An alarming 25% of Human Immunodeficiency Virus (HIV) patients from the city detected with drug-resistant tuberculosis were already infected with the resistant form of TB bacteria which does not respond to the known anti-TB drugs. The findings were part of a new study released by international medical humanitarian organisation Médecins Sans Frontières (MSF).
Back to operations

- MSF invited to stay at all ART centers
- MSF invited to work with local TB programme/Municipality
- MSF invited to working groups, committees, evaluations, conferences
Lessons Learned

- Patience, “accepting slow pace”
- OR evidence is perceived of high added value in India
- Early stakeholder engagement
- Working from inside can be more effective in catalyzing change
MSF staff
ART clinics staff
National HIV programme (NACO, MSACS. MDACS)
National TB programme (RNTCP, CTD, CTO)
Mumbai Municipality (BMC)
WHO, India Country Office
The UNION
Hinduja Hospital & Research Center, Microbiology Lab
SAMU
LUXOR

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