LTBI Management in Korea

Progress, Challenges and The Way forward

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PROBLEMS

- Korea faces a considerable TB burden
- about 35,000 people falling ill with TB and 2,300 people dying of the disease each year
SOLUTIONS

Recommendation from international consultation in 2011

1. Government commitment
2. Information system strengthening
3. Public-public and public-private links strengthening
4. Diagnosis and laboratory network strengthening
5. Treatment, care and patient support
6. Support for MDR-TB
7. Expansion of management programme for Vulnerable and high risk groups (contacts, immigrants, prisoners, etc...)
8. Research


- TB Elimination Vision, Goal, and Strategies

<table>
<thead>
<tr>
<th>Vision</th>
<th>TB Free Society, Healthy Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>50% reduction in TB Incidence by 2020</td>
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</tbody>
</table>

**Strategies**

- **Strategy 01**: Early detection of TB patients
  - Expanded screening of vulnerable or high-risk groups
  - Strengthening of TB surveillance
  - Prevention of TB among foreigners

- **Strategy 02**: Comprehensive TB patient management
  - Patient treatment and support
  - Intensive care for infectious TB patients
  - Strengthening Latent TB Infection (LTB) treatment

- **Strategy 03**: Enhancement of the infrastructure for TB Control
  - Improvement of institutional system laws
  - Enhancement of TB awareness and national promotion for behavioral change
  - Enhancement of TB information management

Legal Base: Tuberculosis Prevention Act (Article 5)

Local Governments in Korea: establishing and executing the local TB control plan under the Tuberculosis Prevention Act
LTBI Management – background


[Source: Korea National Health and Nutrition Examination Survey. 2015]
PROGRESS

Expansion of targets for contact examination

*Korea CDC Guidelines

- 2004: HIV (+), Household contacts (<6 yrs), High risk individuals
- 2008: Close contacts (6-18 yrs), High risk individuals
- 2010: Household and Close contacts (focus on the aged < 25 yrs), priority in some congregate settings (Day care, School, Military, High risk workplace, etc.)
- 2013: Household and close Contacts, in congregate settings (for all age groups), including day care center, School, Hospital, Workplace, Correctional institute, Long-term health care facility, etc.
- 2016:
Korea TB Epidemic Investigation Service; KTEIS

- 27 field investigators of KCDC arranged across the country
- To support and implement contact investigation performed since 2013
Investigation Response Vehicle

• Rapid contact investigation by operation of investigation response vehicles
Contact Investigation (CI) in Household contacts

Household contacts of AFB(+) index cases (2015)

- No. of total contacts : 16,135
- No of contacts tested : 15,754
- LTBI testing Rate : 97.6%
- No of LTBI diagnosed : 1,710
- Rate of LTBI(%) : 11%
- No of new cases : 130
- % of TB cases detected : 0.8%
## Contact Investigation in Congregate Settings

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Investigation</th>
<th>No. of Contacts</th>
<th>No. of Cases detected</th>
<th>No. of Latent TB infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1,200</td>
<td>149,071</td>
<td>259</td>
<td>14,286 (9.6%)</td>
</tr>
<tr>
<td>2014</td>
<td>1,500</td>
<td>143,546</td>
<td>351</td>
<td>11,930 (8.3%)</td>
</tr>
<tr>
<td>2015</td>
<td>2,821</td>
<td>130,451</td>
<td>336</td>
<td>12,723 (9.8%)</td>
</tr>
</tbody>
</table>
Contact Investigation in Day-care centers

• Index TB cases in Day-care

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Total institutions</th>
<th>No. of institutions TB detected</th>
<th>No. of TB cases</th>
<th>Proportion of staff cases among TB cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>52,326</td>
<td>91 (0.2%)</td>
<td>91</td>
<td>87 (95.6%)</td>
</tr>
</tbody>
</table>

• Results of Contact Investigation

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of CI</th>
<th>No. of Contacts investigated</th>
<th>No. of Cases found</th>
<th>No. of Latent TB infection (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>42</td>
<td>2,136</td>
<td>0</td>
<td>217 (10.2%)</td>
</tr>
<tr>
<td>Year</td>
<td>No. of CI</td>
<td>Total No. of Contacts investigated</td>
<td>No. of cases found</td>
<td>LTBI (%)</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
<td>-----------------------------------</td>
<td>--------------------</td>
<td>----------</td>
</tr>
<tr>
<td>2013</td>
<td>426</td>
<td>93,930</td>
<td>110</td>
<td>7,180 (7.6%)</td>
</tr>
<tr>
<td>2014</td>
<td>407</td>
<td>75,353</td>
<td>58</td>
<td>5,378 (7.1%)</td>
</tr>
<tr>
<td>2015</td>
<td>349</td>
<td>53,227</td>
<td>69</td>
<td>3,415 (6.4%)</td>
</tr>
</tbody>
</table>
## Contact Investigation in Schools (2)
(Elementary to high schools)

### No of schools with TB cases

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Elementary School</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of total school</td>
<td>No. of School detected TB</td>
<td>%</td>
<td>No. of total school</td>
</tr>
<tr>
<td>2015</td>
<td>11,526</td>
<td>836</td>
<td>7.3</td>
<td>5,978</td>
</tr>
</tbody>
</table>

### Proportion of Student cases among index TB cases in Schools

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Elementary School</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>770 (79.1%)</td>
<td>41 (29.1%)</td>
<td>178 (80.2%)</td>
<td>551 (90.2%)</td>
</tr>
</tbody>
</table>
Latent TB Infection treatment (2013-2014)

- Completion rate of treatment by regimens (aged < 35 years)

<table>
<thead>
<tr>
<th>Regimens</th>
<th>To initiate TX.</th>
<th>To complete TX.</th>
<th>Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>10,822</td>
<td>8,985</td>
<td>83.0%</td>
</tr>
<tr>
<td>3HR</td>
<td>3,157</td>
<td>2,791</td>
<td>88.4%</td>
</tr>
<tr>
<td>4R</td>
<td>930</td>
<td>820</td>
<td>88.2%</td>
</tr>
<tr>
<td>9H</td>
<td>6,735</td>
<td>5,374</td>
<td>79.8%</td>
</tr>
</tbody>
</table>

* LTBI aged < 35 years: Initiation rate of treatment 75.9% among 14,267 persons
CHALLENGES

• To Improve LTBI treatment adherence and completeness
  • Shorter duration of treatment
  • Monitoring adverse drug reactions
  • Education and public relation against stigma

• To communicate with all personnel (parents, employee, staffs, etc) to minimize misinformation and anxiety

• To Keep the quality management of contact investigation
THE WAY FORWARD

1. Legal framework require TB and LTBI screening among:

   • Health care workers
   • Workers in maternity units
   • Teachers in educational institutions
     (including daycare center, preschools, schools)

   (Tuberculosis Prevention Act, Article 11, implementation will start from August 2016)

   (LTBI screening for newly employed workers and teachers)
2. LTBI examinations incorporation with existing TB screening programme at 15 years old and 40 years old

3. Strengthening of recommendation for high risk group including diabetics and smokers
4. Reinforce TB examinations for elderly

• Patients more than 65 years of age accounted for 35% of the total new TB cases

• **Strengthening of TB examinations** in institutions and high risk areas
  
  ✓ Strengthen "mobile checkup" in community settings
  ✓ Strengthen medical examination at sanatoriums and senior welfare centers

* TB cases in sanatoriums and senior welfare centers: 382 new TB cases, 197 investigations (As of Sep 2015)

* The elderly (65 years and over) have a low TB screening rate: 61%
  
  (2014 medical examination inspection rate: 20~30s: 83%, 40~60s: 74%, 60s plus: 61%)
5. Managing patients and support

• **Supporting** management and treatment for LTBI

  • Free treatment (Since July 2015)

  • Strengthen application & management
    ✓ Register the results of the LTBI test and treatment records
    ✓ Development of **registration system** (1st half 2016)
LESSONS LEARNED

1. **Political commitment** is important

2. **Contact investigation** is basis for LTBI management programme

3. **TB Contact Investigation Team** is unique in Korea, and defined vulnerable groups

4. **Support for cost of examination and treatment** facilitates the implementation of LTBI programme

5. Need **research and development** for (1) better diagnosis and treatment, (2) programme operation

6. Importance of **communication** with public
Thank you!