Exploring tuberculosis treatment outcome distribution by gender in Afghanistan, 2009–2011: A retrospective cohort

Authors: G. Qader¹, M. Rashidi¹, S.D. Mahmoodi³, M. Seddiq¹, A. Hamim¹, P.G. Suarez², E. Enayatullah⁴

Affiliations: ¹TB CARE I, Management Science for Health (MSH), Kabul, Afghanistan; ²TB CARE I, Management Science for Health (MSH), Arlington, Virginia, United States of America; ³National Tuberculosis Control Program (NTP), Kabul, Afghanistan; ⁴Leprosy Control (LEPCO), Kabul, Afghanistan

Introduction

Afghanistan:
- Is among world’s 22 countries with the highest burden of tuberculosis (TB);
- Has a TB incidence rate of 189 cases per 100,000 people;
- Has a TB prevalence rate of 351 per 100,000 people; and
- Has a TB treatment success rate of 90%.

TB and gender
- In 2012, 66% of all reported TB cases in Afghanistan were among women.
- However, gender-specific treatment outcomes were unknown and, in turn, TB control strategies were not designed to target patients by gender.

Methodology

In 2013, the USAID-funded TB CARE I project and its implementer, Management Sciences for Health (MSH), began working with the National TB Program (NTP) to determine treatment outcomes among female TB patients.
- Their goal was to identify gender-specific TB treatment outcomes that could inform the design of TB control strategies tailored to men and women.

Methodology (cont.)
- The project team collected TB outcome data that had been reported in 7 provinces, from 2009–2011.
  - Total sample size: 4,085
  - Total female patients: 2,681
  - Total male patients: 1,404
  - Confidence interval: 99%
  - Precision: 2.9%
  - Prevalence of outcome: 50%
  - Total sputum smear positive TB cases: 39,000

Using this data, the team determined treatment outcome for male and female TB patients.

<table>
<thead>
<tr>
<th>Patient Gender</th>
<th>Total cases evaluated (%)</th>
<th>Treatment success rate (%)</th>
<th>Cure rate (%)</th>
<th>Completion rate (%)</th>
<th>Failure rate (%)</th>
<th>Death rate (%)</th>
<th>Default rate (%)</th>
<th>Transfer out rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>2,681 (2,440)</td>
<td>91%</td>
<td>89.7%</td>
<td>1.4%</td>
<td>3.6%</td>
<td>2.8%</td>
<td>1%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Male</td>
<td>1,404 (1,229)</td>
<td>87.5%</td>
<td>85.5%</td>
<td>2%</td>
<td>2.4%</td>
<td>5%</td>
<td>3%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Results

TB outcomes among female patients:
- Treatment success rate: 91% (2,440 women)
- Treatment cure rate: 89.7% (2,405 women)
- Treatment completion rate: 1.4% (36 women)
- Treatment failure rate: 3.6% (97 women)
- Death rate: 2.8% (75 women)
- Default rate: 1% (27 women)
- Transfer out of treatment rate: 1.5% (40 women)

TB outcomes among male patients:
- Treatment success rate: 87.5% (1,229 men)
- Treatment cure rate: 85.5% (1,200 men)
- Treatment completion rate: 2% (28 men)
- Treatment failure rate: 2.4% (34 men)
- Death rate: 5% (70 men)
- Default rate: 3% (42 men)
- Transfer out of treatment rate: 2.1% (29 men)

Conclusions & Recommendations

- Treatment cure, success, and failure rates were significantly higher among female TB patients than male TB patients.
- Death rates were significantly higher among male TB patients than female TB patients.
- The NTP and implementing partners should identify underlying causes of high death rates among male TB patients and high treatment failure rates among female TB patients and develop corresponding, gender-specific strategies to improve these outcomes.
- These stakeholders should also explore factors that contribute to high treatment cure rate and treatment success rates among women so they can develop tailored treatment strategies for men.

Acknowledgment:
The Government of the United States of America through the United States Agency for International Development (USAID) for funding the TB CARE I project and assisting Afghanistan’s National TB Program.

For more information, please contact:
Dr. Ghulam Qader, TB CARE I Afghanistan, Senior Technical Advisor, gqader@msh.org