New treatments and approaches to Tuberculosis

Adherence and patient support

Ernesto Jaramillo
Global TB Programme
Treatment outcomes for patients diagnosed with MDR-TB

Global

<table>
<thead>
<tr>
<th>Year</th>
<th>Treatment success</th>
<th>Failure</th>
<th>Died</th>
<th>Lost to follow-up</th>
<th>Not evaluated</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>9,731</td>
<td>1,413</td>
<td>280</td>
<td>1,031</td>
<td>1,050</td>
<td>11,144</td>
</tr>
<tr>
<td>2008</td>
<td>12,321</td>
<td>2,591</td>
<td>509</td>
<td>1,149</td>
<td>1,350</td>
<td>15,912</td>
</tr>
<tr>
<td>2009</td>
<td>14,823</td>
<td>3,098</td>
<td>616</td>
<td>1,305</td>
<td>1,597</td>
<td>23,709</td>
</tr>
<tr>
<td>2010</td>
<td>17,318</td>
<td>3,513</td>
<td>684</td>
<td>1,518</td>
<td>1,940</td>
<td>35,431</td>
</tr>
<tr>
<td>2011</td>
<td>19,812</td>
<td>4,009</td>
<td>787</td>
<td>1,698</td>
<td>2,300</td>
<td>52,206</td>
</tr>
</tbody>
</table>

Percentage of cohort (%)
What is life for a person with MDR-TB?: disease, illness and treatment
A systematic review and meta-analysis of the impact of tuberculosis on health-related quality of life

M. Bauer · A. Leavens · K. Schwartzman

Accepted: 22 November 2012
© The Author(s) 2012. This article is published with open access at Springerlink.com

Abstract

Purpose To summarize the impact of tuberculosis (TB) on quantitative measures on self-reported health-related quality of life (HRQOL).

Methods We searched eight databases to retrieve all peer-reviewed publications reporting original HRQOL data for persons with TB. All retrieved abstracts were considered for full-text review if HRQOL was quantitatively assessed among subjects with TB. Full-text articles were reviewed by two independent reviewers using a standardized abstraction form to collect data on socio-demographic characteristics, questionnaire administration, and mean HRQOL scores. Meta-analyses were performed for standardized mean differences in HRQOL scores, comparing subjects treated for active TB with subjects treated for latent TB infection (LTBI). However, meaningful improvements in HRQOL throughout active TB treatment were reported by longitudinal studies.

Conclusions In a variety of studies, in different settings and using different instruments, subjects with active TB consistently reported poorer HRQOL than persons treated for LTBI. Future research on HRQOL and TB should better address social and behavioral health determinants which may also affect HRQOL.

Keywords Tuberculosis · Health-related quality of life · Systematic review · Meta-analysis

Introduction
Financial burden for tuberculosis patients in low- and middle-income countries: a systematic review

Tadayuki Tanimura, Ernesto Jaramillo, Diana Weil, Mario Raviglione and Knut Lønnroth


Correspondence: K. Lønnroth, Global TB Programme, World Health Organization, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. E-mail: lonnrothk@who.int

ABSTRACT In order to inform the development of appropriate strategies to improve financial risk protection, we conducted a systematic literature review of the financial burden of tuberculosis (TB) faced by patients and affected families.

The mean total costs ranged from $35 to $8198, with an unweighted average of $847. On average, 20% (range 0–62%) of the total cost was due to direct medical costs, 20% (0–84%) to direct non-medical costs, and 60% (16–94%) to income loss. Half of the total cost was incurred before TB treatment. On average, the total cost was equivalent to 58% (range 5–30%) of reported annual individual and 39% (4–148%) of reported household income. Cost as percentage of income was particularly high among poor people and those with multi-drug resistant TB. Commonly reported coping mechanisms included taking a loan and selling household items.

The total cost of TB for patients can be catastrophic. Income loss often constitutes the largest financial risk for patients. Apart from ensuring that healthcare services are fairly financed and delivered in a way that minimises direct and indirect costs, there is a need to ensure that TB patients and affected families receive appropriate income replacement and other social protection interventions.
What is the ethical basis for promoting adherence to TB treatment?

Taking TB medications as prescribed is the most essential aspect of TB treatment, both to protect the patient’s own health and to prevent the further spread of the disease and the development of drug-resistant strains. Partnership is an important key to success. While people with TB have an ethical duty to complete therapy, providers’ obligations to the patient and the public create a duty to support patients’ ability to adhere to treatment.
What means patient-centred care for a person with MDR-TB?
Patient-centred care

means that the health system and interventions are designed (and delivered) with respect for the patient’s rights, preferences, values and needs [...] the patient is treated as a partner rather than just as a recipient

Massaut S (Patient centered approach strategy. TBCTA)
# CHAPTER 12

Patient-centred care, social support and adherence to treatment

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1 Introduction</td>
<td>172</td>
</tr>
<tr>
<td>12.2 Patient-centred care and its role in directly observed therapy (DOT)</td>
<td>173</td>
</tr>
<tr>
<td>12.3 Social support in MDR-TB management</td>
<td>174</td>
</tr>
<tr>
<td>12.3.1 Information support on the disease</td>
<td>174</td>
</tr>
<tr>
<td>12.3.2 Information support on MDR-TB treatment</td>
<td>176</td>
</tr>
<tr>
<td>12.3.4 Material support</td>
<td>178</td>
</tr>
<tr>
<td>12.3.5 Companionship support</td>
<td>178</td>
</tr>
<tr>
<td>12.4 Planning and managing social support for MDR-TB patients</td>
<td>179</td>
</tr>
<tr>
<td>12.5 Adherence monitoring and the follow-up of the nonadherent patient</td>
<td>179</td>
</tr>
<tr>
<td>Box 12.1 Standard 9 of the International standards for TB care</td>
<td>173</td>
</tr>
<tr>
<td>Box 12.2 Tips for delivering key information to the MDR-TB patient</td>
<td>175</td>
</tr>
<tr>
<td>Box 12.3 Checklist of information and education issues to provide to patient and family caregivers before starting MDR-TB treatment</td>
<td>176</td>
</tr>
<tr>
<td>Box 12.4 Psychological support to MDR-TB patients through peer-to-peer and group support</td>
<td>177</td>
</tr>
<tr>
<td>Box 12.5 The 5 As: Assess, Advise, Agree, Assist and Arrange</td>
<td>180</td>
</tr>
</tbody>
</table>
Patients with MDR-TB should be treated using mainly ambulatory care rather than models of care based principally on hospitalization.

Evidence: cost-effectiveness modelled for all possible countries using a probabilistic analysis of real data from four countries (Estonia, Peru, Philippines, Russian Fed [Tomsk]). None were from RCTs.
CHAPTER 13

Palliative and end-of-life care

13.1 Introduction 184
13.2 Approach to suspending therapy 184
13.3 Palliative and end-of-life care for patients in whom all the possibilities of treatment have failed 185
13.4 Infection control measures and domicile considerations for the end-of-life MDR-TB patient 188
Box 13.1 End-of-life supportive measures 187
Strategies for reducing treatment default in drug-resistant tuberculosis: systematic review and meta-analysis

A. Toczek,* H. Cox,†† P. du Cros,§ G. Cooke,*∥ N. Ford∥∥

*Faculty of Medicine, Imperial College London, UK; † Médecins Sans Frontières, Cape Town; ‡ Centre for Infectious Disease Epidemiology and Research, University of Cape Town, South Africa; § Manson Unit, Médecins Sans Frontières, London, UK; ∥ Africa Centre for Health and Population Studies, University of KwaZulu-Natal, South Africa

SUMMARY

BACKGROUND: Scaling up treatment for multidrug-resistant tuberculosis is a global health priority. However, current treatment regimens are long and associated with side effects, and default rates are consequently high. This systematic review aimed to identify strategies for reducing treatment default.

METHODS: We conducted a systematic search up to May 2012 to identify studies describing interventions to support patients receiving treatment for multidrug-resistant tuberculosis (MDR-TB). The potential influence of study interventions were explored through subgroup analyses.

RESULTS: A total of 75 studies provided outcomes for 18,294 patients across 31 countries. Default rates ranged from 0.5% to 56%, with a pooled proportion of 14.8% (95% CI 12.4–17.4). Strategies identified to be associated with lower default rates included the engagement of community health workers as directly observed treatment (DOT) providers, the provision of DOT throughout treatment, smaller cohort sizes and the provision of patient education.

CONCLUSION: Current interventions to support adherence and retention are poorly described and based on weak evidence. This review was able to identify a number of promising, inexpensive interventions feasible for implementation and scale-up in MDR-TB programmes. The high default rates reported from many programmes underscore the pressing need to further refine and evaluate simple intervention packages to support patients.

KEY WORDS: default; retention; MDR-TB
Acknowledgement

Photo credits
David Rochkind
Dominic Chavez
Ernesto Jaramillo
Misha Friedman
Riccardo Venturi
Sam Nuttall