Community vs. facility-based Directly Observed Treatment for tuberculosis in Tanzania’s Kilimanjaro Region

J. van den Boogaard¹, R. Lyimo¹, C. Irongo², M. Boeree³, H. Schaalma⁴†, R. Aarnoutse⁵, G. Kibiki¹

¹ Kilimanjaro Clinical Research Institute / APRIORI, Tanzania. ² Tanzanian National TB and Leprosy Programme. ³ University Centre for Chronic Diseases Dekkerswald, the Netherlands. ⁴ Maastricht University, the Netherlands. ⁵ Radboud University Nijmegen Medical Centre, the Netherlands
Introduction: DOT for TB

- Directly Observed Treatment (DOT): a strategy for improvement of adherence to tuberculosis (TB) treatment \(^1\)

- DOT provided at healthcare facilities labour-intensive and costly

- Community-based DOT proved cost-effective \(^2-^5\)

Introduction: DOT in Tanzania

- 1986 – 2006 Facility-based DOT
- 2007 Patient Centred Treatment (PCT)
- PCT Patients empowered to choose for facility or community-based DOT
- Facility-based DOT daily at healthcare facility
- Community-based DOT treatment supporter supervised treatment at home regular clinic visits
Introduction: DOT in Tanzania

- Treatment outcomes of community-based DOT evaluated in experimental settings ¹,²

- Current study: evaluation of PCT approach
  - Treatment outcomes community vs. facility-based DOT
  - Factors related to patient’s choice for DOT

¹ Lwilla, et al., 2003, TM&IH. ² Wandwalo, et al., 2004, IJTLID.
Methods

• Setting: Kilimanjaro Region (six districts; total population of 1.3 million)

• Design: Retrospective data-analysis
  TB registers 2007
  Data: Sex, age, district of residence
  TB classification & diagnosis
  HIV status
  Type of DOT
  Treatment outcome
Results (1)

• 2769 patients: 63% male / 11% children
83% new TB cases
41% smear + TB
31% HIV +
59% community-based DOT
Results (2)

- Choice for community-based DOT independently associated with:
  
  Sex: female > male
  
  Age: children > adults
  
  District of residence
  
  Newly diagnosed TB
  
  Smear-negative TB
Results (3)

- Treatment success (all cases):
  81 / 70 % community / facility-based DOT
  (adjusted OR: 1.8; 95% CI 1.5-2.3)

- Treatment success also independently associated with:
  smear + TB   (OR: 1.4; 95% CI: 1.1-1.7)
  HIV-         (OR: 1.4; 95% CI: 1.1-2.0)
Results (4)

• Cure rates (smear + cases; n=1126):
  73 / 72 % community / facility-based DOT (OR: 1.1; 95% CI: 0.8-1.4)

• Unfavourable treatment outcomes (all cases):
  - Transferred out: 10%
  - Death: 9%
  - Lost to follow up: 9%
  - Default: 0.4%
  - Failure: 0.2%
Conclusion & discussion (1)

- Community-based DOT in PCT approach effective in terms of treatment outcome

- Results confirm findings from experimental settings ¹,²

- Community-based DOT a cost-effective strategy ³

¹ Lwilla, et al., 2003, TM&IH. ² Wandwalo, et al., 2004, IJTLD.
• Patient empowerment keystone of PCT approach:
  – Women and children opt for community-based DOT
  – Physician and diagnosis related factors also contribute to choice of DOT
  – From community-based DOT to self-administered treatment?
Conclusion & discussion (3)

- Community-based DOT:
  Short-term solution to problems of non-adherence and overburdened healthcare systems

- Long-term solution:
  Shorter TB treatment with a simplified regimen
Asanteni
Thank you