



**Karolinska
Institutet**

**From the Division of Global Health (IHCAR), Department of
Public Health Sciences**

Improving Adherence:

**An evaluation of the Enhanced Tuberculosis
Adherence model in Cape Town, South Africa**

ACADEMIC DISSERTATION

som för avläggande av medicine doktorsexamen vid Karolinska
Institutet offentligen försvaras i Rockerfellersalen, Nobels väg 11

At 09.00 on Thursday 10th February 2011

Salla Atkins

Main supervisor:

Anna Thorson, Associate Professor
Division of Global Health
Department of Public Health Sciences
Karolinska Institutet
Stockholm, Sweden

Faculty opponent:

John Porter, Professor
London School of Hygiene and Tropical
Medicine
London, United Kingdom

Co-supervisors:

Karin C. Ringsberg, Professor
Nordic School of Public Health
Göteborg, Sweden

Simon Lewin, Senior Researcher
Medical Research Council,
Cape Town, South Africa
and
Preventive and International Health Care Unit,
Norwegian Knowledge Centre for the Health
Services, Oslo, Norway

Examination board:

Anna-Karin Hurtig, Associate Professor
Public Health and Clinical Medicine,
Division of Epidemiology and Global Health
Umeå University, Umeå, Sweden

Maria Emmelin, Professor
Social Medicine and Global Health,
Department of Clinical Sciences
Lund University, Lund, Sweden

Inger Julander, Professor Emerita
Karolinska Institutet
Stockholm, Sweden

Stockholm 2011

ABSTRACT

BACKGROUND: Patient adherence to tuberculosis (TB) treatment continues to be problematic despite the wide implementation of directly observed therapy (DOT). In many settings with high HIV and TB co-infection, the two diseases continue to be treated differently: antiretroviral (ARV) programmes often use a patient support and empowerment approach to treatment, while TB programmes use DOT.

AIM: To evaluate changing a TB treatment model from DOT to an approach based on the community antiretroviral therapy (ART) model in Cape Town, South Africa.

METHODS: Four studies were conducted as part of the evaluation of a new model called the Enhanced Tuberculosis Adherence (ETA) programme in primary health clinics. A mixed method approach was used. Study I: Seven key informants involved in the development or implementation of the ETA, or knowledgeable of TB treatment policies in South Africa, were interviewed. Data were analysed using thematic content analysis, and examined for their relation to the Kingdon framework of agenda setting to explore why the ETA was developed. Study II: Six nurses and five adherence counsellors were interviewed, and 64 treatment supporters were included in focus group discussions in order to explore their experiences of the ETA. Data were analysed using thematic content analysis and examined for their relation to the normalization process model. Study III: 28 patients on the ETA intervention and 31 patients in comparison clinics were included in focus group discussions in order to explore their experiences of TB treatment. Two non-adherent patients were interviewed. Data were analysed using thematic content analysis. Study IV: Using a time series design, TB treatment outcome data on 19 357 patients from five intervention and five comparison clinics were collected from the electronic TB register from 1 January 2005 to 31 March 2008. Outcomes were analysed using Poisson regression.

FINDINGS: Study I: The intervention was developed due to problems in TB management, the availability of an alternative model in the community ART treatment programme, political changes (including a focus on empowerment), and impending large-scale ART roll-out. The change was facilitated by key individuals. Study II: The main issues hindering the normalization of the programme within clinics related to hierarchical relationships, teamwork, training needs, insufficient internalisation of the empowerment approach by staff, and logistical and management issues. Study III: Intervention patients seemed to have more positive opinions of TB treatment than comparison clinic patients. There was some indication that ETA patients were more ready to take control over their health, although there was little evidence of patient empowerment. Study IV: There was a significant improvement in smear conversion rates at 2 and 3 months in intervention clinics relative to comparison clinics. There was no significant difference in TB cure or treatment success rates.

CONCLUSION: The ETA seems to be an approach that is feasible to implement in primary health clinics. It achieved results not significantly different from those of DOT, but was appreciated by patients. Further efforts are needed to empower TB patients. Overall, the ETA is a promising approach that now needs to be tested on a wider scale, and that could pave the way towards integrating TB treatment programmes with ART programmes in South Africa and other high-burden settings.

Keywords: Tuberculosis, directly observed therapy, patient empowerment, adherence, South Africa

ISBN: 978-91-7457-220-9