A Community-Based Active Tuberculosis Case Finding Program in the Philippines: Social Capital Predictors of Positive Outcomes

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ABSTRACT
Active case-finding can reduce the risk of adverse outcomes for a population where active-tuberculosis is present. International Care Ministries is a non-governmental organization in the Philippines that provides a Values, Health, and Livelihood training program for poverty reduction alongside active case finding in ultrapoor communities. Screened individuals that show symptoms are referred to local rural health units for diagnosis and treatment. An analysis of program monitoring data shows that follow-up for treatment is positively correlated with social capital of the screened individual, suggesting that development of social capital alongside screening can help combat stigma associated with certain diseases.
1. Introduction

The role of screening, or active case-finding, has become an important strategy to locate active tuberculosis (TB) in a timely manner and reduce the risk of adverse outcomes [1]. Instead of “passive case-finding”, active case-finding programs are designed to systematically screen for active TB in select populations and geographies. In this study, we examine the results of an active case-finding program implemented by International Care Ministries (ICM) in the Philippines. It is understood that for individuals living in poverty, the challenges associated with TB often cannot be overcome without the appropriate social support [2], this study will seek to describe how social capital affects active case-finding outcomes.

2. Methods

The active case-finding program is nested within ICM’s 16-week poverty reduction program, referred to as the Values, Health and Livelihood (VHL) Program. ICM Health staff carry out screening and facilitate follow-up in each of their partnering communities, and suspected cases are referred to the closest rural health unit (RHU) for testing, and treatment if needed. Program monitoring data was collected for each patient enrolled into the program, in addition to repeated cross-sectional surveys of all VHL program participants were collected through one-on-one interviews at the beginning and end of the program. This retrospective investigation was approved by the Health Sciences Research Ethics Board of the University of Toronto (Protocol Ref #30943). All analyses were conducted using R version 3.1.2.

3. Results

In this study we analyzed a subset of 2877 individuals who received screening. Of these, 693 (24%) were symptom positive and required referral to the RHU. Only 622 (90%) received referrals, of which a total of 141 (23%) successfully attended and were tested for TB. We found that characteristics such as age, household size, income, and symptoms were not significantly different between those that attended the RHU and those that did not. However, we found statistically significant differences in measures of social capital (Table 1) according to RHU attendance. This was further confirmed using multi-level regression analysis. The model isolated “Trust in Relatives” and “Family Satisfaction” as the key social capital items that affect whether or not a person attends the RHU for testing. Each increase in baseline level of trust in relatives was associated with a 5.4% increase in likelihood of attending the RHU (p<0.05), and an increase of 5.6% for each increased level of family satisfaction (p<0.01).
Table 1. Social Capital Measures, Attended RHU vs Did Not Attend RHU

<table>
<thead>
<tr>
<th>Measure</th>
<th>Attended RHU Mean (SD)</th>
<th>Did Not Attend RHU Mean (SD)</th>
<th>p-value¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Satisfaction</td>
<td>4.01 (1.01)</td>
<td>3.81 (0.95)</td>
<td>0.032</td>
</tr>
<tr>
<td>Friendship Satisfaction</td>
<td>4.08 (0.87)</td>
<td>3.91 (0.86)</td>
<td>0.042</td>
</tr>
<tr>
<td>Trust in Relatives</td>
<td>4.24 (0.85)</td>
<td>3.98 (0.87)</td>
<td>0.002</td>
</tr>
<tr>
<td>Trust in Neighbours</td>
<td>4.11 (0.96)</td>
<td>3.95 (0.86)</td>
<td>0.082</td>
</tr>
<tr>
<td>Trust in Pastor or Religious Leader</td>
<td>4.38 (0.83)</td>
<td>4.23 (0.82)</td>
<td>0.075</td>
</tr>
<tr>
<td>Trust in Local Government Official</td>
<td>4.00 (1.24)</td>
<td>3.77 (1.33)</td>
<td>0.060</td>
</tr>
</tbody>
</table>

¹ P-values calculated using Pearson’s t test

4. Discussion

These results suggest that social capital plays an important role in motivating an individual to be willing to attend a RHU for TB testing. Stigma and rejection from the community have been cited as barriers to higher screening rates, and this study provides evidence that individuals who perceive a higher sense of security within their family and relatives, would be more likely to ignore the potential adverse effects of being screening and attend the RHU for testing. Therefore, it is recommended that for active case-finding programs that target TB or other diseases where social stigma could be a barrier, it is important to account for social capital. If possible, a program that also creates social capital will more likely be successful than programs that ignore social factors.

References