



Active Tuberculosis Case Finding Post-Earthquake in a Slum Community in Port-au-Prince, Haiti

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Background

- Haiti is the poorest nation in the Western Hemisphere and has had the highest rate of TB in the hemisphere, with an estimated incidence of 213 per 100,000 population according to the World Health Organization.
- Active tuberculosis case finding strategies have not yet been widely implemented in Haiti and other resource-poor settings, primarily because of limited funding.
- Within one year of the 2010 earthquake, GHESKIO documented many cases of TB in IDPs living in “tent cities”. Most IDPs have since relocated into surrounding slums, including the site of this study.
- Cite de Dieu is a slum community adjacent to GHESKIO with an estimated population of 10,000 people. The residents live in extreme poverty, with crowded conditions which may have worsened post-earthquake.

Objectives

- 1) To determine the effectiveness of active case finding in the community by outreach staff
- 2) To determine the effectiveness of a TB contact tracing investigation

Methods

- From January 8 to June 30, 2013 community health agents worked at the household level in the community to identify individuals with cough >2 weeks in duration.
- Such patients were sent to GHESKIO and evaluation was conducted for those in whom the physician felt it was indicated.
- Patients with clinical presentation consistent with TB were referred for same-day TB and HIV testing. Referred patients were evaluated with a history, physical examination and chest radiograph. Most had smears for acid-fast bacilli (AFB), culture and/or GeneXpert.
- Those with TB received same day treatment whenever possible, and were asked to bring contacts.

Table 1. Socio-demographic Characteristics of Patients Identified through Active Case Finding

Characteristics	Patients Screened n=394	Patients diagnosed TB+ n=100
Sex		
Male	186 (47.2%)	59 (59.0%)
Female	208 (52.8%)	41 (41.0%)
Age (yrs)		
0 - 5	70 (17.8%)	12 (12.0%)
6 - 10	41 (10.4%)	1 (1.0%)
11 - 24	96 (24.4%)	25 (25.0%)
> 25	187 (47.5%)	62 (62.0%)
HIV (+)	21 (5.3%)	10 (10.0%)

Table 2. Socio-demographic Characteristics of Patients Identified through Contact Tracing

Characteristics	All Contacts Provided n=317	Contacts diagnosed TB+ n=44
Sex		
Male	144 (45.4%)	20 (45.5%)
Female	173 (54.6%)	24 (54.5%)
Age (yrs)		
0 - 5	30 (9.5%)	2 (4.5%)
6 - 10	27 (8.5%)	1 (2.3%)
11 - 24	93 (29.3%)	7 (15.9%)
> 25	167 (52.7%)	34 (77.3%)
HIV (+)	27 (8.5%)	6 (13.6%)

Table 3. Relationship of TB+ Contact to Index Case

Relationship of TB+ Contact to Index Case	n=44
Grandparent	2 (4.6%)
Parent	8 (18.2%)
Partner	6 (13.6%)
Child	3 (6.8%)
Sibling	7 (15.9%)
Uncle / Aunt	6 (13.6%)
Niece / Nephew	2 (4.6%)
Cousin	6 (13.6%)
Friend	4 (9.1%)

Conclusion

- 1) Our results suggest an annual TB incidence of at least 2,880 per 100,000 population, significantly higher than the WHO estimates of TB incidence for the entire country of Haiti.
- 2) The incidence of new cases identified by active case finding (ACF) was high.
- 3) The contact tracing (CT) investigation yielded a high level of TB in addition to ACF. Contacts lived in the same neighborhood as patients screened during ACF, meaning they were missed the first time. Thus, ACF must be combined with contact tracing in order to find the maximum number of infected individuals.
- 4) This model is simple and low-cost to implement; funds are being sought to reproduce this model in other high-density slum populations in Haiti.
- 5) Investment in such active case finding is clearly warranted if the TB epidemic in Haiti is to be controlled.