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Original Article

Tuberculosis in congregate settings: Policies and practices in various facilities in Mumbai, India

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ABSTRACT

Congregate settings and correctional facilities have high risk of transmission of tuberculosis. They should have capacity to identify and diagnose cases early and initiate prompt treatment to prevent spread to inmates and staff. Appropriate interventions should ensure completion of treatment, documentation and reporting, and prevention of reactivation of successfully treated cases. This requires support from local health authorities. Although international policies and guidelines for infection control in congregate settings are available, there is very little information on how these are practiced in such settings. Our investigation highlights the policies and practices of various congregate facilities in the city of Mumbai.

1. Introduction

Being an airborne infection, the risk of transmission of tuberculosis is high in overcrowded, poorly ventilated settings.[1,2] Malnourished individuals,[3,4] people living with HIV/AIDS, diabetes mellitus,[5,6] elderly persons,[7] and children[8] are at increased risk of infection due to poor immunity. TB prevalence is expected to be high in homes for the aged, orphanages, shelters, prisons, and correctional facilities. Mumbai is one of the most populated cities in the world with more than 60% people living in slums. Rates of TB are high in Mumbai with high proportion of drug-resistant TB (DR TB).[9] Inmates of congregate facilities in Mumbai are likely to be from vulnerable settings and thus may be at significant risk of acquiring TB and also DR TB.

Congregate settings should have the potential to identify and detect cases of tuberculosis early, prevent transmission to others, prevent reactivation of the disease, and liaise with public health authorities for case notification and management.

Numerous international[10] and national guidelines[11] are available for prevention of TB transmission in facilities including health facilities and correctional and congregate settings. These guidelines lay down the principles of prevention of transmission. However, not many countries have legal provisions to ensure the adherence of various facilities to these guidelines.

There are numerous reports on TB in prisons.[12–14] However, in contrast, literature on other congregate settings is scanty. We undertook this study with the objective of assessing the policies, practices, and infrastructure for management of TB in congregate and few correctional facilities.

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2. Methodology

In the absence of a comprehensive directory, a list of 123 facilities was compiled by scanning directories published by various NGOs, through internet search and interviewing key informants from the relevant authorities. Of these, only 70 had valid contact information and were contacted telephonically and briefed about the study. We included 35 consecutively consenting organizations for the study between April and June 2013. These facilities were visited by prior appointment. At the time of the visit, interviews of key informants, who were in charge of administration of the facilities, were conducted using a semi-structured questionnaire. The questions related to the type and number of beneficiaries, admission policies, health screening of staff and inmates, and linkages if any with the public health facilities. TB-specific issues such as periodic screening, management of identified cases, and follow-up were enquired. Wherever possible, a detailed assessment of the facilities was carried out with the help of a checklist to assess the overall hygiene, ventilation, etc. Registers and other documents related to TB were seen.

Data and analysis: Data were entered in Excel and analyzed using SPSS. Frequencies and cross-tabulations were used for the purpose.

The study was approved by the Institutional Ethics Committee of The Foundation for Medical Research: FMR/IEC/TB/01/2012.

2.1. *Observations*

The types of facilities studied and their TB management practices are summarized in Table 1.

Residential capacity of the centers ranged from 6 to 850 with an average of 157 and a median of 60; correctional facilities were overcrowded with 94–248% more inmates than their capacity at the time of the survey. On an average there was one staff member for every 9 inmates (median – 4 inmates; range 1–53 inmates).

Although 28 of the 35 (80%) settings had in-house health facilities, only 2 conducted pre-employment general health screening of the staff; however, none screened specifically for tuberculosis (data not shown); with 15/28 (54%) conducting preadmission screening of the beneficiaries. Centers that did not have in-house healthcare facilities did not have any policy of pre-entry screening of staff or inmates.

Seventy-one percent of settings (25/35) had cases of TB in the last five years. Whether this TB was drug susceptible or resistant could not be ascertained, as this was not documented by the facilities. Also, they did not conduct regular periodic screening of staff and inmates for TB. Contact examination through symptom screening, X-rays, or Tuberculin Skin Test (TST) was not performed by any of the facilities following identification of a case. Facilities referred symptomatics for X-rays, and sputum and tuberculin skin tests sometimes to private but largely to public health facilities.

Nineteen (54%) facilities maintained records of TB cases and 13 (37%) facilities had linkage with the local DOT center for treatment.

Four of the 25 facilities with at least one tuberculosis case in last five years assisted their inmates in getting transfer forms and linking them to the new DOT center after release from the facility; in cases of transfer, all facilities claimed to provide complete health and treatment records to the transferred facility in order to ensure continuation of TB treatment course. Eight shelter homes for children (data not shown) released

Table 1 – Health management practices of the facilities.

		Home for aged	Orphanage	Shelter	Shelter for women	Correctional facility	Others	Total (%)
(a) Type of facilities	Public	0	1	4	0	3	2	10 (29)
	Private	6	5	8	2	1	3	25 (71)
	Total	6	6	12	2	4	5	35
(b) Settings with in-house healthcare facilities	Public	0	1	3	0	3	2	9
	Private	3	4	7	1	1	3	19
	Total	3	5	10	1	4	5	28 (80)
(c) Visiting Physician (full time/weekly)	Public	0	1	1	0	3	2	7
	Private	2	4	4	1	1	2	14
	Total	2	5	5	1	4	4	21 (60)
(d) Availability of TB Records (prior 5 years)	Public	0	1	2	0	1	1	5
	Private	3	4	4	1	1	1	14
	Total	3	5	6	1	2	2	19 (54)
(e) Facilities with TB cases in past 5 years	Public	0	1	2	0	2	2	7
	Private	4	5	4	1	1	3	18
	Total	4	6	6	1	3	5	25 (71)
(f) Practice of Isolation of TB patients among (e) above	Public			1				1
	Private	1	3	4			1	9
	Total	1	3	5	0	0	1	10 (40)
(g) Masks provided to cases among (e) above	Public							0
	Private	1	3	4	1		2	11
	Total	2	6	8	2	0	2	11 (44)