

Training and Transport Improve TB Referral of Almajiri Youth by Qur'anic Teachers in Residential Schools of Kano State, North-western Nigeria

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BACKGROUND

- Tsangaya boarding Qur'anic schools are widely distributed across northern Nigeria and some parts of West Africa and house 9.5 million children between the ages of 7 and 18.
- The school pupils (almajiris) are typically boys from poor families. Isolated from family, they often have limited access to healthcare, are undernourished and may be harmed during child labor (urban begging or rural farm tasks). They live in congregate, communal structures with substandard hygiene and sleeping conditions conducive to the spread of TB and other diseases.
- It was conducted in collaboration with TB DOTS centres in Kano state, North-Western Nigeria, local religious leadership, and carried out in the context of an operational research course.

PROJECT AIMS & OBJECTIVES

To assess the effectiveness of an intervention to improve recognition of TB screening and referral behavior of Quranic school teachers of their school pupils to DOTS centres in North-Western Nigeria.

METHODOLOGY

Multi-stage sampling was employed to randomly select 4 Local Governments Areas(LGA) of Kano State and 57 schools across the LGAs. Within the selected schools, the head teacher and two other teachers were purposefully selected. Structured KAP questionnaires were administered by trained multilingual Hausa Muslim data collectors. Pre- and post-intervention referral and diagnostic data were collected in log books.

INTERVENTION

A total of 95 massans from 29 schools (95% invited) across the 2 LGAs (serving over 8,000 almajiris) were trained in use of child TB registers and referral forms and asked to refer symptomatic youth. After 28 days in the control condition, the massan were then given an additional training on pediatric TB symptoms, pediatric TB diagnostics, and treatment. They were offered transportation reimbursement for almajiris exhibiting symptoms. A second cohort of 53 teachers from 29 schools from 2 LGAs were trained to recognize and refer in a replication phase.

RESULTS

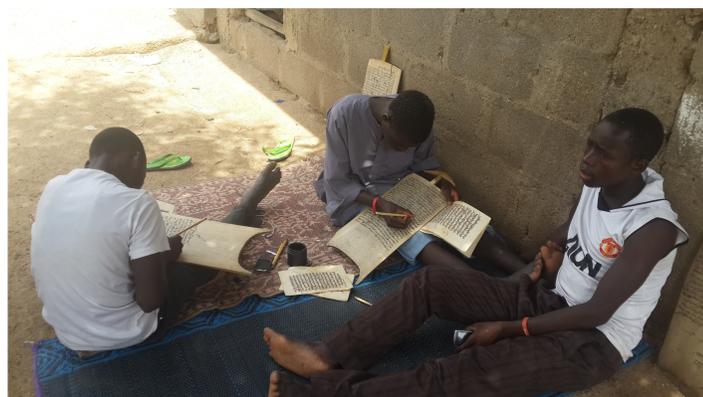
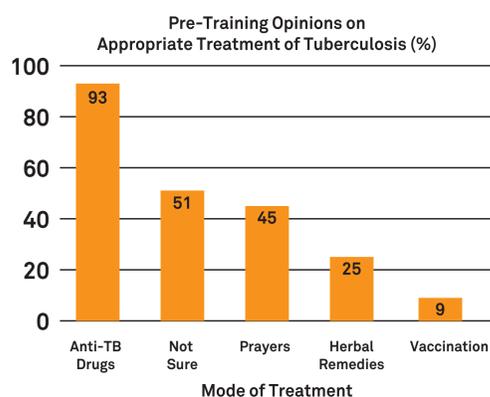
Islamic educational leaders were open to training and keen to improve health access for almajiris. Prior to the training, half of the massan (49.3%) did not know the factors that contribute to the spread of TB, 34(23%) believed that a dusty environment played a role in TB. One quarter (22.3%) were not sure what to do if their pupil were to develop TB. Only 18 (12.2%) knew of a TB treatment center in their local government area. Referrals increased and included both almajiris but also massans and their family members. As the proportion of TB-specific child referrals increased, the proportion deemed worthy of sputum investigation by the TB program declined. Few children received chest x ray or TST or other tests due to diagnostic fee barriers. One smear-positive TB case was diagnosed in the 31 day intervention window. The number needed to refer (NNR) to diagnose 1 TB smear positive case was 111.

DISCUSSION

Training of Qur'anic school teachers on TB symptoms and providing transport reimbursement improved referral behavior for both non-TB and TB symptoms. However, it is not clear why such a large proportion of referred symptomatic children were not tested for TB. User fees for chest x ray and lack of access to child-friendly diagnostics remain barriers to TB care in Northern Nigeria.

CONCLUSION

Culturally appropriate training and incentives can reach this vulnerable pediatric population. Religious leaders are open and willing to engage in the fight against TB. Policy reforms are needed to reduce costs to TB diagnostics for children in order to improve case detection in vulnerable under-served youth.



TB Referral and Diagnosis Before and After Intervention

	Control period 29 schools	Intervention period 29 schools	Expansion phase 25 schools	p value
Mean child referrals per day per school	.025	.058	.064	.006
Total child referrals	20	100	105	
Mean TB-specific referrals per day (SE)	.007	.025	.039	.007
Total TB-specific referrals	6	44	67	-
Total sputum collected tested by the TB program	5 (83%)	20 (45%)	44 (66%)	.0086
Presumptive TB clients diagnosed with TB	0	1	0	
Number needed to refer to diagnose one TB case	--	111		



Box Plot of the mean referrals and TB cases per day/ per school in the control and intervention groups.

