VOLUME 22
NUMBER 11
NOVEMBER 2018
SUPPLEMENT 2

PAGES S1–S645
ISSN 1027 3719

The International Journal of Tuberculosis and Lung Disease

The Official Journal of the International Union Against Tuberculosis and Lung Disease

ABSTRACT BOOK

49th World Conference on Lung Health of the International Union Against Tuberculosis and Lung Disease (The Union)

THE HAGUE • THE NETHERLANDS
24–27 OCTOBER 2018

but CXR suggested TB. Bacteriologically Confirmed (BC) TB if Xpert MTB/RIF® detected TB. We evaluated dormitory crowding and ventilation.
Results: We identified 35 TB case-patients (13 BC and 22 CD) among 1387 screened; overall attack rate (AR) was 2.5%. TB cases occurred among year 11 (23/145, AR=16%), year 12 students (7/79, AR=8.9%), year 13 students 1.7% (3/172) and among staff 4.3% (2/47). Males (AR=3.8%) were more affected than females (AR=1.4%). Among close contacts (dormitory and class mates) of the initial TB case-patients with chest X-rays performed, 13% (25/191) were suggestive of TB. In dormitories, average per-student living space was 3.1m^2 and the window-to-living-space area ratio was 4.5% (Ministry of Health recommended: 20%). We isolated and treated the case-patients and distributed TB prevention information.
Conclusions: TB burden was high in this school with males more affected. Congestion and inadequate ventilation might have facilitated TB transmission. We recommend strengthening TB surveillance in the school health program, improving dormitory ventilation and residential space for students.

PS28-711-26 Are classrooms and dormitories equally dangerous for tuberculosis transmission among adolescent students in Guangxi, China?

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Background: In China, adolescent TB outbreaks often occur in boarding schools. We aimed to compare the risk of TB transmission in classrooms and in dorm rooms.
Methods: A series of adolescent TB contact tracing was conducted in classrooms and dorm rooms in Guangxi, China. A similar survey was conducted in a control class randomly selected from a matched control school in the same county during November 2016 to October 2017. Contacts of both groups were investigated for active TB using chest radiograph, sputum smear and culture. Genotype of *M. tuberculosis* isolates were analyzed using 15-locus based MIRU-VNTR typing. Latent TB infection (LTBI) was detected by tuberculin skin test and QuantiFERON TB Gold In-Tube.
Results: 6263 classmates of 112 index TB and 6130 classmates of 112 controls were investigated. 1140 dorm mates of 104 index cases were also investigated (8 index cases were ambulatory students). 23 and 2 new active TB cases were detected among the classmates of index cases and of the controls, respectively. The corresponding numbers of LTBI detected were 69 and 26. Two classroom contacts and no dorm room contact had the same genotype of *M. tuberculosis* with that of their index case. Compared with contacts of the control students, odds ratio (95% CI) and population attributable fraction (PAF) for acquiring TB from exposure to an index case in the same classroom was 6.54 (1.43-29.94) and 77.9%. The respective values for TB exposure in the same dorm room was 4.69 (1.93 - 11.4) and 34.6%. For LTBI, the values for exposure TB in the classroom were (OR=1.88, 95%CI: 1.1 - 3.19), PAF=34.1%. Dorm room TB exposure was not significantly associated with increased LTBI.
Conclusions: All available data from this study suggests the need to emphasize improvement of TB prevention in the classroom although the dorm room should not be neglected.

PS28-712-26 High yield of tuberculosis case finding by mobile chest X-ray screening in Ho Chi Minh City, Viet Nam

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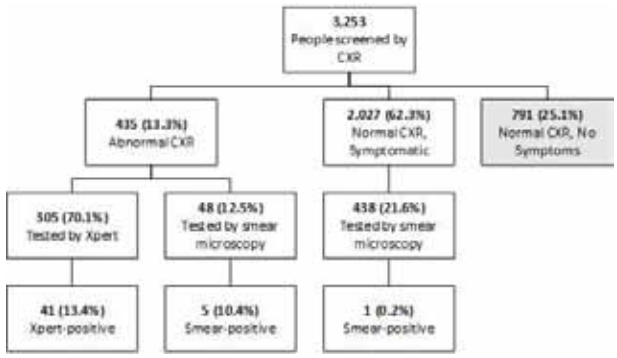
Background and challenges to implementation: Chest X-ray (CXR) are a highly-sensitive triage tool for prioritizing the use of expensive molecular assays for diagnostic testing. Yet, in many low-income countries, people face access barriers which prevent them from visiting facility-based X-ray services.
Intervention or response: One-off, mobile CXR screening camps were organized across 5 districts of Ho Chi Minh City over 6 days in Dec 2017. Household contacts and community members were invited in advance by gov't health facility staff and community health workers. All people attending the camps were screened by CXR and for TB symptoms. CXR images were interpreted by an on-site radiologist. Sputum from people with abnormal CXRs was tested with the Xpert MTB/RIF assay, while sputum from symptomatic people with normal CXRs was tested by AFB smear microscopy. All samples were transported to gov't laboratories for testing and anyone with lab-confirmed TB was linked to appropriate treatment at gov't health facilities.
Results and lessons learnt: 3,253 people were screened at the mobile camps and 435 people (13.4%) had abnormal CXR images. 305 of these people (70.1%) were tested on Xpert, resulting in the detection of 41 people with TB (13.4%). An additional 48 people with abnormal CXRs (12.5%) were tested by only AFB smear microscopy and 5 (10.4%) were smear-positive. 438 people with normal CXR images were tested by AFB smear microscopy, resulting in the detection of just one smear-

positive person (0.2%). The number needed to screen (NNS) to find one person with TB at these camps was just 69. Being male (aOR=1.5) and having productive cough (aOR=1.4), weight loss (aOR=1.4) and prior history of TB (aOR=1.9) were factors associated with lab-confirmed TB.

Conclusions and key recommendations: This mobile case finding approach achieved a high yield by eliminating individual and institutional barriers for accessing care. CXR screening effectively prioritized the use of Xpert MTB/RIF tests to maximize yields.



[Tree chart of mobile CXR screening results in Ho Chi Minh City, Viet Nam]

PS29 Active case finding

PS29-713-26 Yield of retrospective vs. prospective tuberculosis contact investigations: survey findings in four Ethiopian towns

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Background and challenges to implementation: The risk of developing TB is higher in the two years after TB infection. Since the existing prospective approach of monitoring patients for up to two years following completion of treatment is time consuming and expensive, we designed and implemented a retrospective approach to assess the comparative yield of retrospective contact investigation and its associated factors in four towns of Ethiopia.

Intervention or response: We conducted this study in four Ethiopian towns between August 2017 and January 2018. The sites were selected because of their routinely reported high TB burdens. First, we trained TB focal persons to carry out retrospective contact investigation in 14 health facilities. They listed fully treated TB cases from the past two years, then traced and screened their contacts using symptom checklists. We calculated the yield stratified by basic socio-demographic data and compared it to the yield from routine contact investigations for the period June 2016-July 2017. We did a multivariable logistic regression analysis to determine factors associated with TB diagnosis in the retrospective group.

Results and lessons learnt: The retrospective screening included 1136 contacts of 534 index cases. Women constituted 47.1% of those screened, their median (interquartile range) age was 30 (0-85), and 75.7% were contacts of bacteriologically confirmed TB cases. We identified 65 (5.7%) TB cases in the retrospective, significantly higher than the 0.8% yield in the routine system. Contacts of bacteriologically confirmed cases (AOR=0.04: 95%: 0.04-0.75), older aged index cases, (AOR=0.96; 95% CI:0.94-0.98) and workplace contacts (AOR=3.69; 95% CI: 1.28-10.66) were associated with TB diagnosis in the retrospective contact investigation.

Conclusions and key recommendations: The yield of TB in the retrospective approach was was seven times higher than that of the prospective approach. Retrospective contact investigation should be included as part of the routine TB case finding strategy especially in settings where the prospective approach is s not routinely practiced.

Variables	Retrospective	Routine/prospective
Number of index cases	534	24,043
Contacts traced and screened	1136	63,703
Number (%) of presumptive TB cases among the screened contacts	369 (32.5)	1409 (2,2)
Number (%) of TB cases among the screened contacts	65 (5.7)	507 (0.8)

[TB yield comparison of prospective versus retrospective contact investigation in four towns of Ethiopia.]

PS29-714-26 Ending the TB epidemic: role of active TB case finding using mobile units for early diagnosis of tuberculosis in Nigeria

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Background and challenges to implementation: Delayed TB diagnosis contributes to transmission of TB infection and TB mortality. In 2016, 300,000 Nigerians were not diagnosed or diagnosed but not notified. Ending the TB epidemic, entails early diagnosis and treatment