


Screening for Latent TB among Migrants in Italy

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Agenda

1. The rationale for Italy to screening for latent TB in migrants
2. Address the choice of diagnostic test/algorithm, latent TB therapy, and linkage to care processes in place to ensure screening uptake and treatment completion.

Conflict of interest

In the last year I have been a consultant or I presented talks for:

Janssen

Qiagen

Quidel

Agenda

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National Institute for Infectious Diseases L. Spallanzani, Rome, Italy

HIV: 6,800-7,000 (300 new infection)

HCV: 1,500-2,000

HBV: 800-1,000

Active TB: 300-350, LTBI: 200-300

Ebola: 2 cases (2014-2015)

Echinococcosis: 40 followed (10-15 new cases)

yearly




Outpatient Clinic of Pneumology

Translational Research Unit

LTBI definition from a pragmatic point of view





Screening for LTBI in adult migrants in Italy

The TST offer is recommended or, alternatively, the IGRA test (in cases of previous vaccination) to all asymptomatic subjects from high TB endemic countries (estimates of incidence of TB> 100/100,000), guests at reception centers with a stay of at least 6 months.

(NICE 2016; HPSC 2015; WHO 2015; PHA 2014; Sanneh et al. 2014; Pottie et al. 2011; Ministero del Lavoro, della Salute e delle Politiche Sociali 2010) Grade A

Treatment for LTBI in adult migrants in Italy

Treatment for latent tuberculosis infection should be offered to all TST-positive or IGRA-positive individuals with a chest Xray negative for active TB lesions, to prevent new cases of illness. (ASID, RHeaNA 2016; PHA 2014) Grade A

Screening for LTBI in children migrants in Italy

Screening must be performed using TST in children <5 years of age.

(ASID, RHeaNA 2016, NCEZID / CDC 2012) Grade A

Agenda

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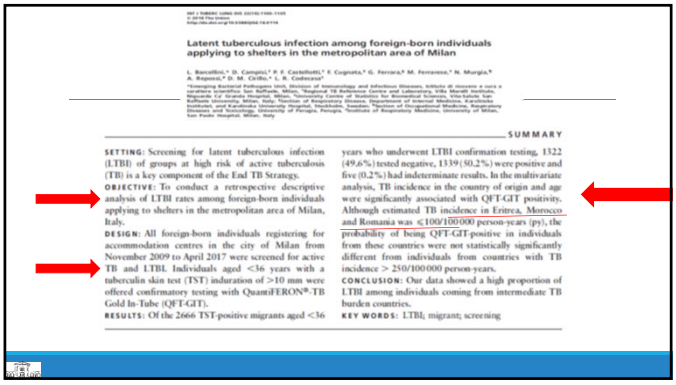
2. Address the choice of diagnostic test/algorithm, latent TB therapy, and linkage to care processes in place to ensure screening uptake and treatment completion.

In those TST+ and/or IGRA positive: chest xRay procedures in migrants in Italy

TST positive subjects (diameter ≥10mm) or IGRA must undergo X -ray radiography chest (and any further diagnostic tests) to exclude active tuberculosis. The diameter ≥5mm is considered clinically significant in cases of severe malnutrition and HIV seropositivity.

(ASID, RHeaNA 2016; NCEZID / CDC 2012; Ministry of Labor, Health and Social Policies 2010) Grade A



Latent tuberculous infection among foreign-born individuals applying to shelters in the metropolitan area of Milan

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SUMMARY

SETTING: Screening for latent tuberculous infection (LTBI) of groups at high risk of active tuberculosis (TB) is a key component of the End TB Strategy.

OBJECTIVE: To conduct a retrospective descriptive analysis of LTBI rates among foreign-born individuals applying to shelters in the metropolitan area of Milan, Italy.

DESIGN: All foreign-born individuals registering for accommodation centres in the city of Milan from November 2009 to April 2017 were screened for active TB and LTBI. Individuals aged <36 years with a tuberculin skin test (TST) induration of >10 mm were offered confirmatory testing with QuantiFERON®-TB Gold In-Tube (QFT-GIT).

RESULTS: Of the 2666 TST-positive migrants aged <36 years who underwent LTBI confirmation testing, 1322 (49.6%) tested negative, 1339 (50.2%) were positive and five (0.2%) had indeterminate results. In the multivariate analysis, TB incidence in the country of origin and age were significantly associated with QFT-GIT positivity. Although estimated TB incidence in Eritrea, Morocco and Romania was ≤100/100 000 person-years (py), the probability of being QFT-GIT-positive in individuals from these countries were not statistically significantly different from individuals from countries with TB incidence > 250/100 000 person-years.

CONCLUSION: Our data showed a high proportion of LTBI among individuals coming from intermediate TB burden countries.

KEY WORDS: LTBI; migrant; screening

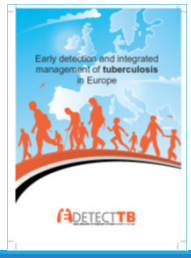
TB incidence and QFT-IT positivity by country of origin

Country*	TB Incidence§	Number tested	% QFT Positive
Ethiopia	247	40	82.50%
Somalia	286	198	73.74%
Eritrea	93	141	64.54%
Senegal	137	107	64.49%
Morocco	103	191	64.40%
Guinea	178	66	63.64%
Nigeria	108	172	63.37%
Gambia	284	114	60.53%
Romania	94	137	59.12%
Camerun	238	46	58.70%
Ivory Coast	172	121	52.07%
Mali	60	103	51.46%
Afganistan	189	144	48.61%
Pakistan	231	125	47.20%
Ghana	72	59	40.68%
Bangladesh	225	120	38.33%
Tunisia	31	65	30.77%
Serbia	23	42	21.43%
Egypt	17	228	16.23%
Albania	16	70	11.43%

>50% QFT-positive

Barcellini et al, IJTLD, 2018 in press

What is E-DETECT TB about?

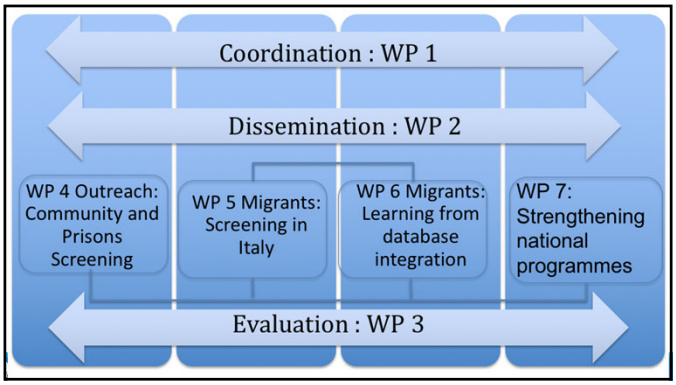


"A practical programme of translational research"

It brings partners together, share their experiences and exploit new technologies and advances in knowledge to TB control.

Main message…

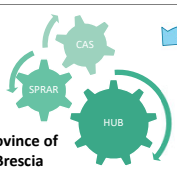
The application of Italian National Guideline which recommend screening for LTBI in migrants from countries with a TB incidence more than 100 per 100.000 persons-year would leave undiagnosed and at risk of reactivation about the 30% of our population.



A research approach

DETECTTB

Asylum seekers arrive in Brescia



Province of Brescia

Early detection and integrated management of tuberculosis in Europe: E-detect TB

Work-package 5: To reduce the TB prevalence in asylum seekers at their first arrival on Italian coasts by early TB detection (active TB and LTBI)

To develop and implement a digital recording and reporting system on TB and LTBI screening activities among asylum seekers in the Province of Brescia to measure:

- indicators of performance
- Indicators of impact

Brescia: screening for LTBI in a replacement area. *Results of a retrospective analysis 2015-2016*

LTBI screening is offered at **a first site**, and screening positive individuals are referred to a **second site** for chest Xray.

LTBI screening was based on the administration of the tuberculin skin test (TST), with 5 IU of PPD

TST was considered positive with induration of ≥10 mm

Individuals with positive TST and no radiological abnormalities were considered and eventually offered preventive therapy (INH 6Mo). Additional investigation are conducted on **a third site**

Screening and treatment of the infection

Testing strategy

- IGRA, TST, or sequential IGRA after TST

Treatment regimens

- **Isoniazid** daily for 6 months,

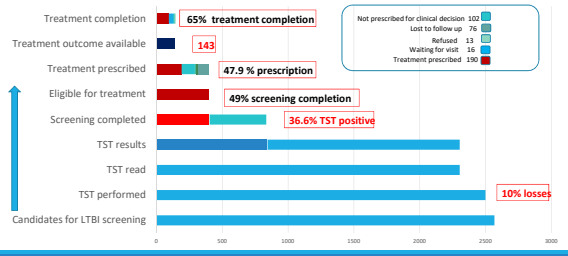
Brescia: screening for LTBI in a replacement area. *Results of a prospective analysis 2018*

LTBI screening (TST) performed at **a centralized site** and asylum seekers are asked to return for reading.

Those with positive TST are immediately tested with IGRA and checked with Chest X-ray at the same site.

Those with a positive IGRA and negative chest X-ray are considered and eventually offered preventive therapy (INH 6Mo).

Results (data censoring May 2017)



Brescia: screening for LTBI in a replacement area. *Results of a prospective analysis 2018 (8 months)*

144 asylum seekers tested

141 completed the screening process

✓ **Screening pick-up from 49% to 98% (↑ 100%)**

Of 41 eligible asylum seekers 36 initiated treatment

✓ **Treatment initiation rate from 48% to 88% (↑ 83%)**

WP5 - Key achievements to date

- LTBI screening and treatment uptake initially affected by significant losses, mainly attributable to the fragmentation of health care services coupled with the absence of a recording and reporting system
- The health services structure should be modified in order to achieve high screening completion rate and treatment initiation rate

Conclusion

- Declining TB incidence determines concentration of the disease in hard-to-reach populations eliciting innovative prevention and management strategies
- Political commitment declines requiring persistent efforts to keep TB on the political agenda
- The E-DETECT project combines:
  - Efforts from most robust research and public health institutions in Europe
  - Translational research in the area of new tools (WP4, WP5) with implementation research in public health interventions (WP4, WP5, WP6)
  - Impact on policy makers at national and regional levels (WP7)

GRAZIE!

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Grazie!