



Latent tuberculosis screening and treatment among asylum seekers: a mixed-methods study

To the Editor:

We are pleased with the article by SPRUIJT *et al.* [1] on screening for latent tuberculosis (TB) infection (LTBI) among asylum seekers in the Netherlands. It is a remarkable work ensuring a migrant-centred approach that suggests the existence of differences in approach among low TB incidence countries in the European Union (EU).

Comparing the screening intervention with the one used in our study in Milan [2], despite obvious differences, results are similar. The approach used in the Dutch study was based on a single-step interferon- γ release assay (IGRA) while ours relied on a double-step tuberculin skin test followed by IGRA in case of positivity. Both studies selected high risk subsets among recently arrived asylum seekers. SPRUIJT *et al.* [1] used an epidemiological cut-off: inviting for screening only individuals from countries with a TB incidence of >200 TB cases per 100 000 population. They also used a bilingual questionnaire to assess symptoms and level of information on TB, LTBI and screening purpose. This may have introduced a bias in favour of those who are likely to be more adherent to screening procedures and LTBI treatment. Our own intervention in Milan may have introduced a selection bias with the decision to use IGRA only in persons under 35 years of age.

The prevalence of LTBI among asylum seekers was similar in both studies: 25% among Dutch asylum seekers and 28% among ours in Milan. Likewise, the prevalence of active TB was extremely high in both populations, at 560 per 100 000 population in the Dutch cohort and 1236 per 100 000 population in the Milan cohort, and consistent with previous studies [3, 4], prompting the conclusion that there is indeed an urgent need to prevent and manage TB in this at-risk population. An additional consideration is that asylum seekers in the Netherlands might have been previously screened for LTBI and TB in other EU Member States where they originally arrived, leading to a lower, albeit high, TB prevalence as a result of early detection and treatment of subjects with TB and LTBI.

The intervention in the Netherlands is a good example of an interdisciplinary approach, with deployment of specialised staff to educate and support adherence among asylum seekers tested for LTBI. Not by chance SPRUIJT *et al.* [1] highlighted how important it is to address information barriers in accessing healthcare facilities for the foreign-born, especially when using written information rather than verbal education. Examples are clearly shown in the reports of asylum seekers' interviews, with rumours regarding the amount of blood collected and the volume of tablets to take [1]. We experienced similar problems in Milan where there was a greater heterogeneity of asylum seekers' origin. For instance, problems in collecting patients' blood occurred mainly among West Africans and were attributed to cultural beliefs (*e.g.* blood as equivalent to soul stealing/selling). The Dutch study shows unequivocally the importance of addressing social and anthropological aspects by employing professional interpreters and peer educators and by using digital tools such as WhatsApp to enhance the participation of asylum seekers. In Milan, critical attritions were the result of a not well-structured organisation and cooperation among the various private non-governmental organisations, public health institutions and clinical services involved in the screening procedures. Therefore, both organisational and anthropological aspects should be considered to avert losses during the process. The observed rate of acceptance for LTBI treatment in the



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These two experiences emphasise the urgency of data sharing and common policies when addressing TB prevention and care in a highly mobile population in countries of first arrival and final destination <http://bit.ly/2PG0qfA>


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Dutch study (84%) was high, although slightly lower than the one in our intervention (92%), despite the use of the same regimen. This difference may result from the alternative option to LTBI treatment available in their study (*i.e.* chest radiograph follow-up every 6 months for 2 years). Treatment completion rate for LTBI in both interventions was high, at 91% in the Netherlands and 94% in Milan, as opposed to the findings reported in one meta-analysis [5], which described a high risk of preventive treatment discontinuation in migrant populations. A possible explanation may be attributable to the short rifamycin-based regimens used, mostly rifampicin plus isoniazid for 3 months, which have displayed higher completion rates compared to long lasting isoniazid-monotherapy [6].

Planning to expand the intervention with the inclusion of asylum seekers from countries with TB incidence ≤ 200 per 100 000 population would require more resources and higher costs. Therefore, we suggest that an economic analysis to determine how far social interventions can be implemented in screening activities is necessary to produce a new shared policy. To document feasibility and sustainability, such an analysis should be complemented by operational research that can also gather information on healthcare providers' willingness to act as facilitators of screening and treatment activities.

Moreover, planning national or subnational policies to address the TB and LTBI screening procedures among asylum seekers, even if strongly associated to reduced TB incidence in new-entrants [7], may be insufficient to properly manage cross-border mobility. The importance of developing a shared EU-wide strategy to screen such highly mobile populations, thus identifying cases that elude the first screening at arrival in Europe cannot be overemphasised. Therefore, combining in a single database health and administrative data, as aimed at by the E-DETECT TB project [8], related to migratory routes, could be a major advance in handling the challenge.

These two experiences emphasise the urgency of data sharing and common policies when addressing TB prevention and care in a highly mobile population in countries of first arrival and final destination.

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References

- 1 Spruijt I, Haile DT, Suurmond J, *et al.* Latent tuberculosis screening and treatment among asylum seekers: a mixed-methods study. *Eur Respir J* 2019; 54: 1900861.
- 2 Villa S, Codecasa LR, Faccini M, *et al.* Tuberculosis among asylum seekers in Milan, Italy: epidemiological analysis and evaluation of interventions. *Eur Respir J* 2019; 54: 1900896.
- 3 Pareek M, Watson JP, Ormerod LP, *et al.* Screening of immigrants in the UK for imported latent tuberculosis: a multicentre cohort study and cost-effectiveness analysis. *Lancet Infect Dis* 2011; 11: 435–444.
- 4 Sarivalasis A, Zellweger JP, Faouzi M, *et al.* Factors associated with latent tuberculosis among asylum seekers in Switzerland: a cross-sectional study in Vaud County. *BMC Infect Dis* 2012; 12: 285.
- 5 Alsdurf H, Hill PC, Matteelli A, *et al.* The cascade of care in diagnosis and treatment of latent tuberculosis infection: a systematic review and meta-analysis. *Lancet Infect Dis* 2016; 16: 1269–1278.
- 6 Villa S, Ferrarese M, Sotgiu G, *et al.* Latent tuberculosis infection treatment completion while shifting prescription from isoniazid-only to rifampicin-containing regimens: a two-decade experience in Milan, Italy. *J Clin Med* 2020; 9: 101.
- 7 Berrocal-Almanza LC, Harris R, Lalor MK, *et al.* Effectiveness of pre-entry active tuberculosis and post-entry latent tuberculosis screening in new entrants to the UK: a retrospective, population-based cohort study. *Lancet Infect Dis* 2019; 19: 1191–1101.
- 8 Abubakar J, Matteelli A, de Vries G, *et al.* Towards tackling tuberculosis in vulnerable groups in the European Union: the E-DETECT TB consortium. *Eur Respir J* 2018; 51: 1702604.

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From the authors:

We thank S. Villa and colleagues for their compliments on our work and are pleased to read that in Milan the latent tuberculosis (TB) infection (LTBI) screening and treatment of asylum seekers reach similar successful results.



We endorse that a culturally sensitive migrant-centred approach is crucial to a successful LTBI screening and treatment programme. Furthermore, we would like to emphasise the differences in approaches needed when working with different migrant groups. Our previously published paper on LTBI screening and treatment among regular immigrants, *i.e.* those applying for a non-tourist visa, showed different barriers, often related to a short planned stay of the immigrant in the Netherlands, to LTBI treatment acceptance and completion than those identified among asylum seekers [1].

By comparing the successful implementation in both the Dutch and the Italian setting, the authors show that indeed, and perhaps somewhat unexpected considering previous studies, LTBI screening and treatment among asylum seekers can be feasible and reach high levels of LTBI treatment acceptance and completion. Additionally, our recently accepted study among high-TB-risk migrants in the communities showed that although they are harder to reach for LTBI screening, LTBI treatment initiation and completion among those with LTBI diagnosis are also high [2]. We are currently analysing the cost-effectiveness of LTBI screening and treatment intervention, and will also assess if a similar approach among immigrants and asylum seekers from countries with a lower TB incidence would be cost-effective.

S. Villa and colleagues raise an important concern: the mobility of asylum seekers. We acknowledge the importance and necessity of a shared European Union (EU)-wide strategy to optimise effectiveness of tackling the high TB incidence among asylum seekers. As they recommend, a single database shared between European countries, such as already collected for four countries in the E-DETECT TB project, enables evaluation of the screening policies and comparison of the effectiveness of the approaches in various countries [3]. However, the current General Data Protection Regulation in the EU will not allow a shared data base through which patient follow-up can be achieved. Therefore, other solutions for cross-border collaboration and treatment support will be needed.

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Europe-wide collaboration for the identification and treatment of latent tuberculosis infection is important to further address and prevent tuberculosis among high-risk asylum seekers. To achieve this, existing barriers need to be addressed. <https://bit.ly/2JoFiqx>

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References

- 1 Spruijt I, Erkens C, Suurmond J, *et al.* Implementation of latent tuberculosis infection screening and treatment among newly arriving immigrants in the Netherlands: a mixed methods pilot evaluation. *PLoS One* 2019; 14: e0219252.
- 2 Spruijt I, Haile DT, Erkens C, *et al.* Strategies to reach and motivate migrant communities at high risk for TB to participate in latent tuberculosis infection screening program: a community-engaged mixed methods study among Eritreans. *BMC Public Health* 2020; 20: 315.
- 3 Abubakar I, Matteelli A, de Vries G, *et al.* Towards tackling tuberculosis in vulnerable groups in the European Union: the E-DETECT TB consortium. *Eur Respir J* 2018; 51: 1702604.

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