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Tuberculosis screening at social solidarity institutions: a new protocol



KEYWORDS

Tuberculosis;
Latent tuberculosis infection;
Treatment;
Preventive

Dear Editor,

The diagnosis and treatment of latent infection with *Mycobacterium tuberculosis* (LTBI) significantly reduces the risk of developing active tuberculosis and disease transmission in the community. LTBI screening must include the exclusion of active disease (medical evaluation with

a clinical history and chest radiography) and the assessment of immune response to *Mycobacterium tuberculosis* through currently available tests such as the tuberculin skin test and the IGRA test (interferon-gamma release assay).

Certain clinical and social conditions are associated with a higher risk of progression from latent infection to active disease, namely HIV infection, homeless people, alcoholism and drug use. Therefore, the diagnosis and treatment of LTBI are part of a strategy to eradicate tuberculosis and prevent new cases in the future.^{1,2}

Long-term studies with isoniazid showed that administration at 3, 6 or 12 months reduced the risk of disease progression by 21%, 65% and 75% respectively.³ Adherence to treatment has been recognized as a key parameter, and its efficacy is greater when associated with taking at least 80% of dose.^{3,4} In order to improve treatment adherence and simultaneously treat the infection by isoniazid resistant species, several other regimens have emerged namely four months of rifampicin (R), three months of rifampicin

and isoniazid (HR), and three months of rifapentine and isoniazid.⁵

The Center of Pneumological Diagnosis of Coimbra has implemented, since 2009, a protocol for screening tuberculosis in social solidarity institutions in order to eradicate tuberculosis and prevent new cases in this risk population. The objective of our study was to analyze the results of Tuberculosis screening in residents and employees of several social solidarity institutions in Coimbra, namely "Farol Institution", "Caritas", "Integrar", "Sol Nascente", "Casa Abrigo", "Ateneu" and "Cozinha Económica", over 10 years.

Our study was a retrospective analysis of the clinical processes of residents and employees of these institutions, submitted to screening from the beginning of the project (10 years). Demographic and clinical data were analyzed. Statistical analysis was done using Microsoft Excel.

We included 601 individuals (559 residents and 42 employees), 58.2% male, aged 19–67 years. In our sample the risk factors for tuberculosis were HIV infection (n=39; 7%), alcoholism and drug use (n=246; 44%) and homelessness (n=274; 49%). LTBI screening was done excluding active disease (medical evaluation with a clinical history and chest radiography) and the assessment of immune response to *Mycobacterium tuberculosis*. To diagnosis LTBI we used both tuberculin skin test and the IGRA test.

There were 115 cases (19.1%) of LTBI and 6 of active disease (1%). Ten individuals (1.7%) did not attend screening. All cases of LTBI and active disease were found in residents of those institutions. No cases of LTBI and active disease were observed in the employees.

The majority of the individuals with LTBI (n=99; 86%) completed the treatment. Three individuals are still ongoing therapy, 6 were lost to follow-up and 7 developed pharmacological toxicity, namely hepatotoxicity to isoniazid.

Regarding treatment for LTBI, 68.7% (n=79) started the regimen with HR, and 94.9% (n=75) completed the therapy. Thirty six (31.3%) initiated only H, and 66.6% (n=24) completed the therapy. Regarding treatment for active disease, five individuals completed the treatment with HRZE (isoniazid, rifampicin, pyrazinamide and ethambutol) and 1 HIV + person with rifabutin instead of rifampicin.

In conclusion, our study shows that the majority of the diagnoses of screening of tuberculosis in this risk population were classified as LTBI. Therapeutic adherence was better with the HR regimen. The diagnosis and treatment of LTBI should be properly controlled, and the screening of social solidarity institutions with risk populations could be a move forward in the approach to tuberculosis, as it could help

to avoid new cases in the future and, consequently, reduce the transmission of the disease. The choice of treatment regimen should take into account the efficacy, compliance and associated side effects.

Conflicts of interest

The authors have no conflicts of interest to declare.

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Insights into tuberculosis: A survival analysis of time to recurrence in Portugal, between 2002 and 2009



Recurrence of TB has been associated with poor adherence to treatment, smoking, alcoholism, unemployment, drug abuse, the severity of pulmonary cavitation, HIV infection and duration of treatment.¹ However, the risk factors

can vary considerably across countries and between studies. Since little is known about risk factors for recurrence in Portugal, we aimed to identify predictors of treatment recurrence in the country. Surveillance data on TB for the period of 2002–2009 was provided by SVIG-TB, a database from the Portuguese National Health System. For this analysis, only cases of confirmed TB disease were considered, and patients that had information on the first and second TB episodes. The variables studied were chosen as TB risk