



LETTER TO THE EDITOR

Mycobacterium tuberculosis*, how long did you walk?

***Mycobacterium tuberculosis*, quanto tempo passeaste?**

To the Editors:

Tuberculosis (TB) continues to be a major global public health problem. In 2010, 8.8 million people contracted TB and 1.4 million died from TB.¹

Early diagnosis of the disease and prompt initiation of treatment are essential for an effective tuberculosis control program. Delay in diagnosis increases the risk of death and increases the transmission of tuberculosis in the community.²

The aim of our study was to determine the time elapsed between the onset of symptoms until the first observation by a health professional and the time from the first observation until diagnosis.

We designed a questionnaire and gave it to all patients with active tuberculosis who were being followed at the Chest Diagnosis Centre of Vila Nova de Gaia outpatient TB clinic (Vila Nova de Gaia, Portugal) in the months of May and June of 2012. Data were complemented by consulting clinical files.

During the period studied 54 patients were included, 37 (68.5%) were male, and mean age 48.5 ± 14.2 years.

Diagnosis was made by passive screening in 50 patients (92.6%), radiologic findings in 3 patients (5.6%) and contact screening in 1 patient (1.8%).

The first healthcare entity that the patients consulted was: 20 patients (37%) to the emergency department, 17 patients (31.5%) to a general practitioner, 9 patients (16.7%) for a hospital appointment, 3 patients (5.5%) to a private clinic, 3 patients (5.5%) to the Chest Diagnosis Centre, 2 patients (3.7%) to a pharmacy. The median time from onset of symptoms and the observation by a health professional was 37 ± 47 days.

Patients were observed on average 3.2 times before the diagnosis was made.

Patients with symptoms of anorexia and weight loss took longer to access to health care system (53.5 versus 18.5 days, $p=0.01$ and 51.7 versus 12.1 days, $p=0.002$, respectively).

Variables like gender, age, education level, drug addiction, patients infected with human infection virus were not associated with a delayed diagnosis. From the 50 patients with symptoms, 25 patients took under 15 days to seek access to the health care system and the others took more than 15 days. Patients who took less than 15 days to access the health care system went mainly to the emergency department (48%), while patients who took over 15 days were observed mainly by a general practitioner (52%, $p=0.027$). The median time from the first appointment and diagnosis was 56 ± 87 days (minimum 1 day, maximum 512 days). Patients with respiratory symptoms had on average a quicker diagnosis than the others (37.9 versus 127 days, $p=0.013$).

In 21 patients the diagnosis was made in less than 15 days. The majority of patients in whom the diagnosis was made in under 15 days, were first observed in the emergency department (57.1%), while patients whose diagnosis took longer than 15 days were observed mainly by a general practitioner (39.4%, $p=0.026$). The median time from onset of symptoms and diagnosis was 92 ± 103 days (minimum 3 days, maximum 559 days). In our study we observed a delay between the onset of the symptoms and the first observation by a health care entity. In low-middle income countries this delay is 31.7 days and in high income countries it is 25.8 days.^{3,4} In our study we obtained an average similar to low-middle income countries.

We observed an unacceptable delay between the first observation by a health care official and diagnosis. The average time reported in low-middle income countries is 28.4 days (2–87 days) and in high income countries is 21.5 days (7–36 days),^{3,4} which are lower than our results.

These results suggest the need to revise/implement strategies for earlier diagnosis of tuberculosis. Tuberculosis diagnosis delay is very important in transmission dynamics and TB prevention.

It is important to run educational programs for the general population, so that patients can recognize symptoms and go earlier to a health care centre.

* Please cite this article as: Areias V. *Mycobacterium tuberculosis*, quanto tempo passeaste? *Rev Port Pneumol* 2013. <http://dx.doi.org/10.1016/j.rppneu.2012.12.005>.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that no patient data appear in this article.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Authors' contribution

Raquel Duarte and Vanda Areias devised the study. Vanda Areias worked up the draft manuscript. Vanda Areias and Inês Neves collected the data. Raquel Duarte and Aurora Carvalho revised the draft.

Conflicts of interest

The authors have no conflicts of interest to declare.

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