The importance of asking the right question

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TO THE EDITOR,

In 2014, the World Health Organization adopted The End TB (tuberculosis) strategy, which "targets tuberculosis prevention, care, and control after 2015". The main goals were to reduce tuberculosis deaths by 95%, to reduce new cases of tuberculosis by 90% between 2015 and 2035, and to guarantee that no family will face ruinous costs due to tuberculosis by 2035.[1]

Contact investigation is an essential tool to find additional tuberculosis cases in the community, preventing the progression to active disease and helping initiate chemoprophylaxis in children and immunosuppressed patients. Active case finding has a better yield in detecting tuberculosis cases than passive case detection.[2-4]

Although Portugal has shown a reduction in the notification and incidence rate of tuberculosis in the past 10 years and achieved, in 2015, the goal of lowering the incidence of the disease (20 cases per 100,000 inhabitants per year), it is still one of the EU countries with the largest incidence rates of tuberculosis (16.5 cases/100,000 inhabitants).[5]

Tuberculosis outpatient centers are differentiated health units specialized in the approach of TB. These units are responsible for diagnosing, treating, and screening populations at high risk for the disease.

Usually, contact tracing is founded on forward tracing, which is based on finding contacts after infection which the index case may have infected. On the other hand, backward contact tracing identifies how the index case became infected. This strategy looks back in time and recalls where and when the exposure to the infectious organism occurred. This approach improves the number of traceable individuals and promotes the epidemiological understanding of high-risk settings, since transmission locations with a common origin are more likely to be identified.[6]

In this study, we used both contact tracing strategies to investigate and understand the differences between the number of contacts at risk identified by the patients.

All patients with pulmonary tuberculosis treated at a tuberculosis outpatient center in Gaia, Portugal, between March 2019 and March 2021 were analyzed. Only those with infectious tuberculosis (lung involvement) were included. The contagious period was considered the 3 months prior to symptomatic presentation, positive sputum smear, or X-ray with lung cavitation. If the diagnosis was established by a positive culture, the infectious time was considered as the 4 weeks before the sample was collected.[7]

Data collection was carried out by phone call inquiry, and all patients remotely consented to participate in the study. The data analysis was conducted using the IBM SPSS Statistics 25.0 software. Categorical variables were presented as frequencies and percentages, and continuous variables as means and standard deviations. The difference between the two questions regarding the number of contacts and the public places visited was evaluated using the T-test, with a p-value of 0.05 indicating statistical significance.

A total of 76 patients were eligible for the study; however, nineteen were excluded (6 died, 12 were uncontactable, and one was minor of age). This subgroup presented similar characteristics to the included patients: mean age of 50.9 years (SD ± 26.7 years), most were male (73.7%), and the majority had isolated pulmonary tuberculosis (78.9%), followed by disseminated tuberculosis (21.1%). Two patients were HIV positive (10.5%).

Our final sample included 57 patients, with a mean age of 45.1 years (SD ± 16.4 years), most of whom were male (68.4% versus 31.6% female patients). Regarding HIV infection, five were positive (8.8%). Most patients had pulmonary tuberculosis (n = 47, 82.5%), followed by the disseminated form of the disease (n = 6, 10.5%). Two patients had pleuropulmonary tuberculosis and two pulmonary tuberculosis, with local lymphatic dissemination. The majority of patients had drug-susceptible tuberculosis (96.5%).

When using forward contact tracing, the mean number of contacts identified per patient was 5.4 (SD ± 6.7), with a minimum of 0 contacts and a maximum of 40. Therefore, most patients had had contact with 2 (n = 10) or 4 (n = 10) individuals. The majority (78.9%) did not refer having been in public areas during the infectious period; the patients' mean number of public places visited during the contagious phase was 0.3 (SD ± 0.7).

Meanwhile, when using backward contact tracing, the patients identified a mean risk of contact with 11 people (SD ± 9.3) and 1.5 public spaces (SD ± 1.0), regarding their presence in public areas where other people had a risk of exposure.

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There was a significant statistical difference (p - value < 0.001) between the number of contacted people and the public places visited, obtained by the two different questions made in the phone call inquiry.

In this study, the patients identified more at-risk contacts when the backward contact tracing strategy was used. This type of contact investigation can be applied routinely, enabling a greater and more expeditious identification of cases, thus preventing the emergence of more cases in the community.

Asking the right questions can make a difference in achieving the goals of the End TB strategy and, ultimately, end the global TB epidemic.

AUTHOR CONTRIBUTIONS

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