Knowledge about Tuberculosis among Brazilians

Lucas Scárdua Silva1, Jhulia Gabriela Duarte de Sousa1, Luisa Oliveira de Paiva1, Orlando Roberto1, Leonardo Filipini Pinheiro1 and Marcelo Fouad Rabahi1*

1Federal University of Goiás, Faculty of Medicine, Goiânia, Goiás, Brazil
2Federal University of Goiás, Corner of 235 Street and 5th Avenue, Goiânia, Goiás, Brazil

Abstract

Background: Tuberculosis an infectious disease responsible for 1.5 million deaths, worldwide, per year. Low levels of knowledge about TB are globally associated with a higher prevalence of latent TB infection and a low rate of treatment success. This study aimed to evaluate the level of TB knowledge of individuals at a recreational center in Goiânia, Goiás, Brazil.

Methods: We conducted 573 written structured interviews on recreational center frequenters in February and March, 2013, which included five close-ended questions and one open-ended question concerning TB. Data were analyzed with Epi Info 3.5.2.

Results: Percentages of patients who answered questions correctly were: 96.3% knew about TB (Q1); 48.5% knew that TB is caused by a bacterial infection (Q2); 73.8% knew that TB can be transmitted to people in contact with infected people (Q3); 75.4% knew that TB can be transmitted via air or droplets (saliva) (Q4); 85.5% knew that the main symptom of TB is cough (Q5); and 96.1% knew that TB is a curable disease (Q6).

Conclusion: Overall, a quarter of the population was not aware of the main symptoms, transmission mode, and transmissibility of TB. In order to control TB infection and prevent its spread, emphasis should be placed on increasing awareness of this disease among individuals.

Keywords: Tuberculosis; Structured interview; Epidemiology

Introduction

Tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosis and is the main infectious cause of deaths worldwide, especially among those with a low economic status [1,2]. TB is a curable disease and, in some countries, TB treatment has a success rate of 90% [3]. Given the TB treatment efficacy, high rates of TB infection remains an apparent paradox. According to Centers for Disease Control and Prevention, some subgroups of individuals (i.e. HIV positive individuals, alcohol consumers, and cigarette smokers) are at a greater risk of contracting the disease [4]. In addition, incorrect treatment, such as treatment abandonment [5,6], results in poor disease control.

Moreover, studies demonstrate that disease awareness can prevent therapy abandonment up to 90% of the time [7]. In addition, a higher level of education has been shown to translate to a higher level of knowledge of TB. Specifically, the 20 highest rates of TB are in countries such as Zimbabwe, Cambodia, and Afghanistan (but also Brazil, China, and Russia), which have low rates of “average years of schooling” and “expected years of schooling” [8,9]. In addition, literature shows that individuals with TB have a lower level of education than those without TB [10]. Reinforcing the importance of teaching people about Tuberculosis, World Health Organization created the Stopping TB Operational Strategy, which focused on TB education as one of its main objectives [11].

This study aimed to analyze the TB awareness in individuals in Goiânia (a Brazilian city, capital of Goiás State). This analysis was conducted through structured interviews consisting of six questions to evaluate participants’ knowledge of cognizance, cause, transmission mode, transmissibility, symptoms, and treatment of TB.

Material and Methods

This cross-sectional study included 573 frequenters of a recreational center in Goiânia, Goiás, Brazil, and was conducted during months of February and March, 2013. Six questions concerning common pulmonary TB were included, covering the following topics: cognizance, cause, transmission mode, transmissibility, main symptoms, and treatment regimen (Figure 1). Correct answers were as follows: Yes (1), Bacteria (2), Yes (3), through air or droplets (saliva) (4), Cough (5), and Yes (6). We analyzed the results, comparing percentage of correct answers with a hypothetical 100% percentage result. All data were collected, tabulated, and analyzed using Microsoft Excel 2010/2013 from Microsoft, Redmond, Washington and Epi Info 3.5.2 from CDC, DeKalb County, Georgia, USA.

Ethics

We observed the principles of autonomy, beneficence, non-maleficence, and justice requested by Brazilian Regulatory Authorities.

Results

Participants answered 573 structured interviews: 551 (96.3%) individuals had knowledge of TB. With regards to answering questions pertaining to the cause of TB, 278 (48.5%) individuals referred to bacteria; 110 (19.2%) referred to smoking; 85 (14.8%) did not know the

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*Corresponding author: Marcelo Fouad Rabahi, MD, Federal University of Goiás, corner of 235 Street and 5th Avenue, Goiânia, Goiás, Brazil, Tel: 556281210611; E-mail: mfrabahi@gmail.com

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Question 2 had the lowest correct response rate (48.5%) and answers such as pollution only accounted for 6.1% of answers. In fact, this information is not a priority for the general population; only healthcare professionals are required to have this knowledge. Main symptoms, transmissibility, and transmission mode (questions 3, 4, and 5) are the essential information for patients.

Finally, a worrying fact is that only 24.2% of those answering 'cough' were able to characterize it. Considering TB clinical diagnosis, long-term cough specificity is 95% and any-term cough specificity is 80%. Soon, long-term cough strongly suggests TB infection. Lack of awareness may prevent patients from seeking assessment from a health care professional, delaying TB diagnosis and leading to higher rates of morbidity, mortality, and transmissibility, all of which are burdens on health care systems and would increase TB prevalence [14].

Conclusion

Approximately 80% of the studied population had a good comprehension of essential questions. However, in order to change TB rates, a higher level of knowledge concerning main symptoms, transmission mode, and transmissibility is important. Emphasis in increasing awareness among individuals may help in controlling TB.

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Figure 1: Tuberculosis structured interview applied in the population of Goiânia, Goiás, Brazil. Right answers were, considering a common pulmonary TB, respectively: Yes (1), Bacteria (2), Yes (3), By air or droplets (saliva) (4), Cough (5), Yes (6).

Figure 2: The percentage of right and wrong answers per question. Right answers: Yes 96.30% (1), Bacteria 48.50% (2), Yes 73.80% (3), By air or droplets 75.40% (saliva) (4), Cough 85.50% (5), Yes 96.10% (6).
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