revista portuguesa de
PNEUMOLOGIA
portuguese journal of pulmonology

www.revportpneumol.org

ELSEVIER
DOYMA

ORIGINAL ARTICLE

Tuberculosis: Which patients do not identify their contacts?

J. Josaphat [a,*], J. Gomes Dias [a,b], S. Salvador [a], V. Resende [a], R. Duarte [a,c,d]

[a] *Department of Clinical Epidemiology, Predictive Medicine and Public Health, Faculty of Medicine, University of Porto, Porto, Portugal*
[b] *Faculty of Science, University of Porto, Porto, Portugal*
[c] *Chest Disease Centre of Vila Nova de Gaia, Vila Nova de Gaia, Portugal*
[d] *Pulmonology Department, Hospital of Vila Nova de Gaia/Espinho – EPE, Vila Nova de Gaia, Portugal*

Abstract
Setting: It is not known what the magnitude of non-identified TB contacts is in our country, or the reasons why contacts at risk are not identified.
Objective: The purpose of this study was to analyze the determinants associated with non-identification of contacts.
Design: This cross-sectional study included all cases of pulmonary tuberculosis diagnosed and treated in the Chest Disease Centre of Vila Nova de Gaia and their contacts, from 1st January to 31st December 2010. It included information collected from patients related to the identification of contacts in risk, and the information collected by the Public Health Unit during home, work and social places visits.
Results: During the period of study, 61 cases of pulmonary TB were diagnosed: 41 cases (67.2%) identified all their contacts and 20 cases (32.8%) did not. 646 contacts were identified: 154 (23.8%) were identified only by the Public Health Unit (mean age of 40.67), and 492 (76.2%) were identified by the index cases (mean age of 33.25), ($p = 0.001$). A mean of 10.59 contacts were identified per index case, of which, 83 (19.3%) screened positive. From those identified by the Public Health Unit, 10 (9.8%) had LTBI and 5 (4.9%) had active TB, and by the index case 61 (18.6%) had LTBI and 7 (2.1%) had active TB (crude OR = 1.52; CI = 0.83–2.79). The multivariate analysis showed that employment (adjusted OR = 4.82; 95%CI = 1.71–13.54) was associated to non-identification of contacts and patients preferably tended to identify relatives and co-habitants (adjusted OR = 0.22; 95%CI = 0.10–0.47).

* Corresponding author.
  E-mail addresses: jorgejosap@gmail.com, jorgejosap@yahoo.com.br (J. Josaphat).

Conclusion: TB patients tend to identify relatives and co-habitant contacts; contact at place of employment was found to be an independent risk factor for not being identified.
© 2013 Sociedade Portuguesa de Pneumologia. Published by Elsevier España, S.L.U. All rights reserved.

Tuberculose: que doentes não identificam os seus contactos?

Resumo

Contexto: Não é conhecida a magnitude dos contactos de TB não identificados no nosso país, nem os motivos porque os contactos em risco não são identificados.

Objetivo: O objetivo deste estudo foi analisar as determinantes associadas à não-identificação dos contactos.

Materiais e Métodos: Este estudo transversal incluiu todos os casos de tuberculose pulmonar diagnosticados e tratados no Centro de Doenças Pulmonares de Vila Nova de Gaia e os seus contactos, de 1 de janeiro a 31 de dezembro de 2010. Incluiu a informação recolhida de doentes relacionada com a identificação dos contactos em risco e a informação recolhida pela Unidade de Saúde Pública durante as visitas ao domicílio, ao trabalho e a espaços sociais.

Resultados: Durante o período de estudo, foram diagnosticados 61 casos de TB pulmonar: 41 casos (67,2%) identificaram todos os seus contactos e 20 casos (32,8%) não o fizeram. Foram identificados 646 contactos: 154 (23,8%) foram identificados apenas pela Unidade de Saúde Pública (idade média de 40,67 anos) e 492 (76,2%) foram identificados pelos casos índice (idade média de 33,25, p = 0,001). Foram identificados uma média de 10,59 contactos por Caso Índice, dos quais 83 (19,3%) rastreados como positivos. Dos identificados pela Unidade de Saúde Pública, 10 (9,8%) tinham uma LTBI (infeção tuberculosa latente) e 5 (4,9%) TB ativa, e pelo Caso Índice, 61 (18,6%) tinham LTBI e 7 (2,1%) TB ativa, (OR bruto = 1,52; CI = 0,83–2,79). A análise multivariada mostrou que o emprego (OR ajustado = 4,82; 95% CI = 1,71–13,54) estava associado à não identificação de contactos e os doentes tinham tendência, preferencialmente, a identificar familiares e coabitantes (OR ajustado = 0,22; 95% CI = 0,10–0,47).

Conclusão: Os doentes com TB tendem a identificar os contactos de familiares e coabitantes; os contactos no local de trabalho foram considerados um fator de risco independente para não ser identificado.
© 2013 Sociedade Portuguesa de Pneumologia. Publicado por Elsevier España, S.L.U. Todos os direitos reservados.

Introduction

Contact screening is one of the most widely discussed public health strategies for reducing tuberculosis (TB) and the risk of transmission.[1,2] Not all contacts at risk are identified by the index case and in some studies, a high proportion (53%) of patients who developed active TB had had a previous, contact with a TB case which had not been notified.[3–5]

In previous studies, many factors have been associated with lack of identification of contacts at risk. A low level of education, fear of stigma, lack of advice, lack of collaboration, not knowing contacts' names, and reluctance to visit health care services have all contributed to some contacts not being screened.[6,7]

In Portugal, 2559 cases of TB were diagnosed in 2010 (incidence of 22.3 per 100.000 residents).[8] Vila Nova de Gaia has a population of approximately 302.092 people[9] and an incidence of TB of 30.8 per 100.000 residents in 2010.[10] According to national guidelines, contact tracing is triggered whenever a case of pulmonary TB is diagnosed.[11] Patients with confirmed diagnosis of infectious TB are interviewed and asked to report the names of contacts in the different contexts of daily activities at home, at work and socially.

In Vila Nova de Gaia, a complementary strategy was added in January 2004: after diagnosis, all cases are reported to the Public Health Units (PHU), who will screen contacts at risk already identified by the index case (IC). After the interview, the PHU begins conducting routine visits to households, workplaces, congregate settings, homeless shelters, hospitals and prisons, identifying more at-risk.[10]

It is not known what the magnitude of the number of non-identified TB contacts in our country is or the reasons for not identifying contacts at risk. The purpose of this study was to analyze determinants associated with this non-identification of contacts by the patients with confirmed diagnosis of infectious TB, during the period between January 1st, 2010 and December 31st, 2010 at the Chest Disease Centre of Vila Nova de Gaia.

Ethical approval

Screening of at-risk populations is endorsed by the National Tuberculosis Program Guidelines of the National Health Department in ''Programa Nacional de Luta contra a Tuberculose'' published in the Portuguese Official Government Gazette [(The Republic Daily/Diário da República) II