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Helping the TB Smokers to Stop Smoking

*Jean Perriot**

Department of Respiratory Medicine, University of Auvergne, France

Editorial

Tobacco smoking and tuberculosis are two major public health problems worldwide. In 2013, tuberculosis was the cause of 9 million incident-cases and 1.5 million deaths worldwide [1]. Each year the tobacco, of which 80% is consumed in emerging countries, is causing 6 million deaths; in 2030 it could be the source of 9 million deaths [2]. If the major drivers of the tuberculosis epidemic are the spread of HIV/AIDS and the emergence of multi/extensively drug resistant tuberculosis, other risk factors are involved among which tobacco smoking; it is estimated that 13% to 20% of tuberculosis cases worldwide can be attributed to tobacco smoking [3]. A systematic review and meta-analysis based on the data from the literature highlighted that compared with people who do not smoke, active or passive smokers have approximately two fold risk of infection if exposed to *Mycobacterium tuberculosis*, a significant increase in risk of having active TB if infected (adults and children) as well as dying of TB [4].

Tobacco smoke impairs the lung defense mechanisms against infection including the decrease of mucociliary clearance, phagocytic function of alveolar macrophages and of the activity of natural killer cells; nicotine is involved in a reduced production of proinflammatory cytokines such as TNF-alpha, IL-1, IL-6, IL-8, IL-12 [5,6].

Active smoking increases the severity of pulmonary tuberculosis (clinical and radiological presentations with more frequent sputum positivity at the time of diagnosis and after 2 month of treatment) [7]. Active smoking increases the risk of tuberculosis recurrence after treatment; it highlights a loss of therapeutic adherence in patients most tobacco dependent or co-infected with HIV and in the lowest socio-economic population [7,8]. The World Health Organization has recommended a co-ordination between national TB and tobacco control programs as well as the registration of people with TB using tobacco; helping smokers to quit smoking may have an important impact on the incidence of TB [9]. However, specific studies are required to specify the contribution of the smoking cessation interventions for pulmonary tuberculosis treatment outcomes in context of the stop TB strategy [10].

All smokers with TB should be helped stopping smoking. Heath professionals are trained to manage smoking cessation and to record follow up data in individual patient files. Smoking cessation interventions are not complicated nor time-consuming; there are several modalities: the brief advice to stop smoking, the following five steps called 5As approach that facilitates counseling, cognitive and behavioral strategies to reinforce the motivation to quit smoking and the ability to control craving; in patients with high level of tobacco dependence, medication treatments (nicotine replacement therapies (NRT), bupropion (Bp), and varenicline), effectively decrease withdrawal syndrome and craving [11]. Several studies conducted in different countries demonstrated that compared with TB smokers only cared by directly observed treatment (DOT), the combination of DOT with brief advice [12] or brief advice and NRT [13] or Bp [14] increases the abstinence rate at the end of the follow up. Therefore at the end of the TB treatment (6 months) there were significantly lower rates of treatment default and failure in patients with the combination of TB and smoking treatments [12,13].

The tobacco epidemic is developing in the emerging countries where the prevalence of tuberculosis is the highest while in developed nations the incidence of tuberculosis is high in the lowest socio-economic population in which tobacco smoking is widespread. These findings justify the involvement in smoking cessation interventions of health professionals engaged in the management of TB.

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Correspondence:
Jean Perriot, Department of Respiratory Medicine, University of Auvergne, Centre Emile Roux, 11 rue Vaucanson, 63100 Clermont-Ferrand, France, E-mail: jean.perriot@puy-de-dome.fr

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