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Elevated mortality after successful tuberculosis treatment (Editorial)

Susan van den Hof^{1,2} and Martien W. Borgdorff^{3,4}

¹KNCV Tuberculosis Foundation, The Hague, The Netherlands ²Amsterdam Institute for Global Health and Development and Academic Medical Center, Amsterdam, The Netherlands ³US Centers for Disease Control and Prevention, Kenya ⁴Department of Clinical Epidemiology, Biostatistics and Bioinformatics, Academic Medical Center, University of Amsterdam, The Netherlands

There is limited published information on mortality rates after successful completion of tuberculosis treatment. While tuberculosis treatment outcomes are routinely recorded, monitoring patients after completion of treatment is not recommended in WHO guidelines, except for one year post-treatment monitoring of drug-resistant TB patients to identify recurrent TB (1,2).

In this issue Shuldiner et al. assessed post-treatment mortality through linkage of the national TB registry and civil registry in a cohort of 3250 successfully treated Israeli TB patients who had started treatment in the period 2000–2010 (3). These successfully treated patients had a 3.7 (95% CI 3.4–4.1) times higher risk of death than the general Israeli population. The standardized mortality ratio was highest in the age group 25–44 years and somewhat higher among men (4.2) than women (3.2).

Shuldiner et al. suggest that increased mortality after successful tuberculosis treatment may be due to pulmonary impairment caused by tuberculosis and/or to shared risk factors, such as smoking, for tuberculosis and conditions such as lung cancer. Tuberculosis is more likely to occur in patients with underlying conditions such as cancer and diabetes, in patients with specific risk factors such as smoking and HIV infection, as well as in those with more general socio-economic determinants, owing to living and working conditions with a higher risk of exposure to *Mycobacterium tuberculosis* and less access to high-quality health care (4), all of which are also independently associated with increased mortality rates. Thus, it is possible that the increased mortality rates post-tuberculosis treatment would reflect the risks associated with these other risk factors and underlying conditions rather than lung damage after tuberculosis.

Unfortunately, the wide range of causes of deaths identified by Shuldiner et al. suggests that an intervention to reduce post tuberculosis mortality may not be easy to find. Further studies to determine the causes of post TB treatment mortality, including the possible role of post-tuberculosis lung damage and therefore ideally involving autopsy studies, are important to inform intervention development.

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