Treating tuberculosis as a social disease

In 1882, when Robert Koch announced that he had isolated the tubercle bacillus, he ushered in an era focusing on the microbe as the agent of tuberculosis.[1] Despite this paradigm, the germ theory of disease, some viewed the disease in a broader context. One notable figure was René Dubos (1901–82) who, despite being a microbiologist by training, wrote that tuberculosis "is a social disease…its understanding demands that the impact of social and economic factors on the individual be considered as much as the mechanisms by which tubercle bacilli cause damage to the human body".[2]

Recent epidemiological research reiterates Dubos' assertion. In March, 2014, Gerard de Vries and colleagues[3] reported the results of their cross-sectional survey, conducted in 2009 in 54 European big cities (defined as municipalities with more than 500 000 residents). As part of the Tuberculosis in European Union Big Cities Working Group, they used data from WHO national tuberculosis programmes in order to compare city-level data with national incidence estimates. They found that, even in countries with low annual incidence (fewer than 20 cases notified per 100 000 people), tuberculosis had converged in cities—27·0% of cases lived in big cities, where only 12·8% of the general population resided.[3] de Vries and colleagues further showed that within cities notification rates differed drastically, concentrating in areas where homelessness, poverty, migrants, overcrowding, and substance misuse were more common. As an example they highlighted London, UK, where annual rates per 100 000 people differed more than fourfold between boroughs, from fewer than 20 cases to over 80 cases.[3] Concurrently, the working group also published a consensus statement on tuberculosis control in European big cities. Based on a conceptual model that recognises the social, political, legal, cultural, and economic determinants of tuberculosis, many of their 32 recommendations involve tailoring interventions for urban risk groups.[4]

In the UK, which has the highest tuberculosis rates in western Europe,[5] addressing these social determinants of health is a focus of Public Health England's collaborative tuberculosis strategy for 2014–15. The strategy[6] states that "tackling TB requires the co-ordinated action of many partners, working together across local authority and NHS boundaries". One of these crucial partners, as the working group notes, could be "link workers" who integrate health and social care by resolving issues such as housing, welfare benefits, and immigration, together with clinical management issues.[4,7,8] As the history of tuberculosis shows, only through such an integrated effort can we address the biosocial determinants of tuberculosis. In the decades between Koch's pronouncement and the introduction of antituberculosis drugs, tuberculosis mortality rates fell in the industrialised world. As Dubos[2] recognised, this decline was largely due to social measures that improved overall living standards,[1] demonstrating that, although tuberculosis is an infectious disease, it is also—and remains to this day—a biological expression of social inequality.

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