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Prevalence of tuberculosis in China

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The findings of the study by Lixia Wang and colleagues (June 14, p 2057)¹ about tuberculosis prevalence should be interpreted with caution. The 2010 survey was smaller than previous surveys and diagnosed only 188 smear-positive cases from 176 sites.^{2,3} The strategy of the 2000 survey³ was to select individuals in proportion to population size, whereas an even split between rural and urban participants was prioritised in 2010. The present analyses¹ were not standardised for age or urbanisation. Differences also existed in residency requirements, duration of cough (symptom screen), and number of sputa cultured. The diagnostic algorithms differed between the surveys, making comparisons difficult. The authors claim that the absence of a decrease in overall pulmonary tuberculosis is explained by greater sensitivity of radiography compared with fluoroscopy. The 2000 survey provides an opportunity to address this claim. Excluding radiographs from the algorithm, the prevalence dropped by less than 6%.³ A much greater difference is needed to explain the 2010 results (>35%).

A substantial decrease in the prevalence of known, but not new, laboratory-confirmed tuberculosis cases was reported.¹ The decrease in known tuberculosis cases suggests improved clinical care, whereas no decrease in new cases suggests insufficient measures to prevent *Mycobacterium tuberculosis* transmission. Together, these results imply a case detection problem. In this study, sputum quality⁴ might have affected the results. We note that 54% of culture-positive cases were sputum-smear positive compared with more than 70% in the past surveys.^{2,3}

Tuberculosis indicators can decrease in the absence of chemotherapy.⁵ The estimated annual decrease in tuberculosis prevalence in China during 1990–2010 was similar to the 1979–90 period.^{1,3} With ongoing human development, which inversely associates with tuberculosis indicators,⁶ cohort effects should be considered, and an accelerated decrease in tuberculosis prevalence is needed to indicate effectiveness of directly observed therapy short-course.

References

1. Wang L, Zhang H, Ruan Y, et al. Tuberculosis prevalence in China, 1990–2010; a longitudinal analysis of national survey data. *Lancet* 2014; 383: 2057–64. [PubMed: 24650955]

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2. Ministry of Public Health. Nationwide random survey of the epidemiology of tuberculosis in 1990. Beijing: Ministry of Public Health China, 1990.
3. China Tuberculosis Control Collaboration. The effect of tuberculosis control in China. *Lancet* 2004; 364: 417–22. [PubMed: 15288739]
4. Sakundarno M, Nurjazuli N, Jati SP, et al. Insufficient quality of sputum submitted for tuberculosis diagnosis and associated factors, in Klaten district, Indonesia. *BMC Pulm Med* 2009; 9: 16. [PubMed: 19426477]
5. McKeown T, Record RG. Reasons for the decline of mortality in England and Wales during the Nineteenth Century. *Popul Stud* 1962; 16: 94–122.
6. Dye C, Lonnroth K, Jaramillo E, Williams BG, Raviglione M. Trends in tuberculosis incidence and their determinants in 134 countries. *Bull World Health Organ* 2009; 87: 683–91. [PubMed: 19784448]