



Tuberculosis elimination in India's Saharia group

India's ambitious plan to eliminate tuberculosis by 2025, well ahead of the WHO End TB timeline of 2035, is taking root. Tuberculosis-free initiatives at state and district levels are already rolled out with the aim of achieving an incidence of 44 per 100 000 population by 2025.¹ It sounds realistic and feasible to reduce the tuberculosis prevalence by one-fifth over a period of 10 years from 320 per 100 000 in 2015 to 65 per 100 000 in 2025 in India.¹ What remains challenging is to imagine a reduction from 3294 per 100 000 in 2015² to 65 per 100 000 in 2025 among Saharia—one of the particularly vulnerable tribal groups (PVTGs) in India. These figures are a stark reminder of the persistent and vicious health inequality and disproportionate disease burden characteristic of India, which is often missed in overarching national policy targets.

Considerable investment in terms of resources and research has been made by the Government for the control of tuberculosis among the indigenous population in India, including Saharias in the past decades. Still the structural and unique cultural barriers faced by tribal populations, especially Saharia and other PVTGs, makes it a huge challenge for India's tuberculosis control programme to bring down the tuberculosis prevalence to anywhere near a national average. Studies have identified the conventional risk factors associated with tuberculosis in this population—namely, malnutrition, alcohol consumption, tobacco smoking, history of asthma, and poor housing. Still more research and explorative studies are required to understand the interplay of these risk factors which amplify tuberculosis burden among PVTGs, especially Saharias.^{3,4} Furthermore, there is a need to explore the presence of any unique genetic and environmental risk factor common among the Saharia

tribe, who probably suffer the highest known tuberculosis prevalence as a subpopulation globally.

A decline in tuberculosis prevalence reported in 2019 in this indigenous population, as a result of intensified tuberculosis control measures in a defined geographical area, is a ray of hope.⁵ However, prevalence remains staggeringly high, which is a matter of concern. What needs to be done urgently is to frame a context-specific, realistic policy and action plan on the basis of existing and new scientific evidence to address the tuberculosis burden among Saharias from a long-term and holistic perspective, to bring tuberculosis elimination into reality.

We declare no competing interests.

Copyright © 2019 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.

**Jyothi Bhat, Rajiv Yadav, Ravendra K Sharma, Malaisamy Muniyandi, Vikas G Rao*
bhatdr@gmail.com

ICMR–National Institute of Research in Tribal Health, Nagpur Road, Jabalpur–482003, India (JB, RY, RKS, VGR); and ICMR–National Institute for Research in Tuberculosis, Chetpet, Chennai 600031, India (MM)

- 1 Central TB Division. National strategic plan for tuberculosis elimination 2017–2025. New Delhi: Ministry of Health with Family Welfare, Government of India, 2017.
- 2 Rao VG, Bhat J, Yadav R, Muniyandi M, Sharma R, Bhondeley MK. Pulmonary tuberculosis—a health problem amongst Saharia tribe in Madhya Pradesh. *Indian J Med Res* 2015; **141**: 630–35.
- 3 Rao VG, Bhat J, Yadav R, Sharma RK, Muniyandi M. A comparative study of the socio-economic risk factors for pulmonary tuberculosis in the Saharia tribe of Madhya Pradesh, India. *Trans R Soc Trop Med Hyg* 2018; **112**: 272–78.
- 4 Bhat J, Rao VG, Sharma RK, Muniyandi M, Yadav R, Bhondley MK. Investigation of the risk factors for pulmonary tuberculosis: a case-control study among Saharia tribe in Gwalior district, Madhya Pradesh, India. *Indian J Med Res* 2017; **146**: 97–104.
- 5 Rao VG, Bhat J, Yadav R, Sharma RK, Muniyandi M. Declining tuberculosis prevalence in Saharia, a particularly vulnerable tribal community in Central India: evidences for action. *BMC Infect Dis* 2019; published online Feb 20. DOI:10.1186/s12879-019-3815-8.