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Controlling bovine tuberculosis: a One Health challenge



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Bovine tuberculosis (bTB) is a chronic disease of cattle that affects productivity and represents a major public health threat. Despite the considerable economic costs and zoonotic risk associated with the disease, accurate estimates of bTB prevalence are lacking in many countries, including India, where national control programmes are not yet implemented and the disease is considered endemic.

To address this critical knowledge gap, we performed a systematic review of the literature and a meta-analysis to estimate bTB prevalence in cattle in India, and provide a foundation for the formulation of rational disease control strategies and the accurate assessment of economic and health impact risks.

The literature search was performed in accordance with [PRISMA](#) guidelines and identified 285 cross-sectional studies on bTB in cattle in India across four electronic databases and handpicked publications. Of these, 44 articles were included, contributing a total of 82,419 cows and buffaloes across 18 states and one union territory.

Based on a random-effects (RE) meta-regression model, the analysis revealed a pooled prevalence estimate of 7.3% (95% confidence interval [CI]: 5.6 – 9.5) (see Fig. 4 and Table 7 [in the original research article, entitled *Prevalence of bovine tuberculosis in India: a systematic review and meta-analysis* and published in *Transboundary and Emerging Diseases* \[1\]](#)), indicating that there may be an estimated 21.8 million (95% CI: 16.6 – 28.4) infected cattle in India – a population greater than the total number of dairy cows in the United States of America. The analyses further suggest that production system, species, breed, study location, diagnostic technique, sample size and study period are likely moderators of bTB prevalence in India and need to be considered when developing future disease surveillance and control programmes.

Taken together with the projected increase in intensification of dairy production and the subsequent increase in the likelihood of zoonotic transmission, the results of our study suggest that attempts to eliminate tuberculosis from humans will require simultaneous consideration of bTB control in cattle populations in countries such as India.

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DOSSIER

Prevalence of bovine tuberculosis in India

(Abstract from manuscript)

KEYWORDS

#bovine tuberculosis, #India, #meta-analysis, #prevalence, #systematic review, #*Transboundary and Emerging Diseases*.

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