A critical analysis of the decreasing trends in tuberculosis cure indicators in Brazil

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DEAR EDITOR:

"A critical analysis of the decreasing trends in tuberculosis cure indicators in Brazil, 2001-2022"[1] is an interesting article. In brief, the study examined the longitudinal development of tuberculosis cure indicators between 2001 and 2022 in Brazil. The data show that, throughout most of the country, there was a considerable decline in the cure indicators for patients with pulmonary tuberculosis or tuberculosis/HIV coinfection, as well as for those undergoing tuberculosis retreatment. In addition, according to national statistics, the mean annual percentage change in cure rates for those categories showed a consistent downward trend. These results point to a worrisome pattern that calls into question the efficacy of the current tuberculosis treatment programs in the country.

The study has some potential flaws, because it relies too heavily on administrative data, which may not be entirely accurate or complete. To ensure the validity of the findings, the study could have profited from adding other data sources or validation techniques. In addition, individual-level characteristics that may affect the effectiveness of tuberculosis treatment may not be fully taken into account by an ecological time-series design. In order to gain a deeper understanding of the factors influencing the observed trends in cure indicators, future studies could incorporate more thorough analyses at the individual level.

Further investigation into the effects that socioeconomic variables, health care service accessibility, and the caliber of tuberculosis treatment programs have on cure rates in Brazil could be an avenue for future research. The efficacy of the efforts to control tuberculosis in the country could be increased by identifying the obstacles to effective treatment and devising solutions to overcome them. Research endeavors could also concentrate on assessing the execution of particular measures or regulations aimed at improving tuberculosis treatment results, such as closely monitored therapy and patient assistance initiatives. Future studies may be able to fill these gaps and help create more focused and efficient methods of controlling tuberculosis in Brazil.

AUTHOR CONTRIBUTIONS

HD and VW both contributed to the conception of the article. HD analyzed the data and wrote the article. VW supervised the drafting of the article. Both authors approved the final version to be published.

CONFLICTS OF INTEREST

None declared

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Authors' reply

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We appreciate the attention our recently published article in the *Jornal Brasileiro de Pneumologia*[1] has received. Our goal in addressing the concerning trend toward a decease in tuberculosis cure indicators in Brazil was to stimulate debate on this subject. However, appropriate conceptual definitions are crucial to ensure that the debate is appropriate. Albeit a suitable design to respond to the objective of the study, an ecological approach has some limitations. It is crucial to avoid the fallacy of attributing collective inferences to the individual level, and it was beyond the scope of the study to infer effectiveness or efficacy of tuberculosis control programs. We hope our study stimulates further detailed research and discussions.

We concur that the body of knowledge on the subject is still evolving. We recognize that our findings present a valuable opportunity to guide new, original, and unprecedented research. This approach can be pursued from various angles, such as using an ecological design that incorporates contextual and programmatic variables to evaluate their influence on the primary outcome and employing individual data sources (e.g., cohort and case-control studies) to develop a framework underpinning all tuberculosis control actions in the country. Continued research from diverse perspectives is essential for a comprehensive understanding of tuberculosis.

Concerns surrounding the utilization of administrative data in our research, particularly those relating to underreporting and filling errors within the information system, were acknowledged as factors that could influence the interpretation of the results[1]. However, this information system has been extensively studied, and the consistency of its attributes has been confirmed in previous studies[2]. Consequently, we are confident that this did not affect the results presented, which are also supported by operational publications[3]. Addressing data accuracy and reliability is vital for robust conclusions in tuberculosis research and policy development.

Discussions like these underscore the importance of addressing the complex problem of tuberculosis in depth and diligently. We believe that suggestions to explore other data sources and consider individual and contextual factors—as we partially did by segmenting by occurrence location and specific groups (e.g., people with pulmonary tuberculosis, people living with HIV, and people in retreatment)—are pertinent. They can unveil unexplored knowledge and contribute to eliminating the epidemic in our country. Ongoing dialogue and research are crucial for effective tuberculosis control strategies and achieving public health goals in Brazil.

Finally, it is worth reiterating that our findings indicated a concerning trend in the Brazilian context[1,3]: a decline in tuberculosis cure indicators. Therefore, we hope our article will continue to spark debate on the topic and serve as a launching pad for more detailed studies and the development of more assertive and robust policies. By acknowledging the existing reality, we can point out paths, trajectories, and trends. We should also consider the efforts of the Brazilian National Tuberculosis Program to implement policies and actions that bring us closer to the desired goal of eliminating tuberculosis as a public health problem—a commitment shared by all.

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