



MANAGEMENT AND TREATMENT ABANDONMENT IN ADULTS WITH TUBERCULOSIS: A SCOPING REVIEW PROTOCOL

GESTÃO E O ABANDONO AO TRATAMENTO DE ADULTOS COM TUBERCULOSE: UM PROTOCOLO DE REVISÃO DE ESCOPO

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RESUMO

Objetivo: Mapear ações de gestão do cuidado à saúde que contribuíram para a redução do abandono do tratamento de adultos com tuberculose residentes em países em desenvolvimento. **Método:** A metodologia adotada seguirá as diretrizes do JBI. A primeira busca foi realizada em 31 de maio de 2023, sem restrição temporal e em todos os idiomas. As estratégias de busca foram elaboradas por uma bibliotecária especialista e revisadas por pares. As bases selecionadas foram: MEDLINE, CINAHL, Embase, Web of Science, Scopus, LILACS e literatura cinzenta. Os critérios de inclusão adotados foram: estudos com pacientes adultos em tratamento da tuberculose; residentes em países de baixo e médio desenvolvimento; e que abordassem ações gerenciais aplicadas à redução do abandono e/ou da perda de seguimento no tratamento. Foram excluídos: adultos sem tuberculose; crianças e adolescentes com tuberculose; estudos sobre tuberculose multirresistente (por já serem amplamente abordados na literatura); estudos com adultos residentes em países desenvolvidos; e estudos desenvolvidos em cenários hospitalares. Os resultados serão apresentados por meio de tabelas, gráficos e/ou diagramas, com análises descritivas alinhadas ao objetivo desta revisão de escopo. Por fim, será disponibilizado um resumo narrativo das principais descobertas.

Descritores: Tuberculose; Perda de Seguimento; Avaliação de Resultados em Cuidados de Saúde; Falha de Tratamento; Países em Desenvolvimento.

ABSTRACT

Objective: To map health care management actions that contributed to reducing treatment abandonment among adults with tuberculosis living in developing countries. **Method:** This scoping review will follow the JBI guidelines. The initial search was conducted on May 31, 2023, with no time or language restrictions. Search strategies were developed and peer-reviewed by a librarian specializing in scientific research. The selected databases were MEDLINE, CINAHL, Embase, Web of Science, Scopus, LILACS, and gray literature. Inclusion criteria were studies involving adult patients undergoing tuberculosis treatment; living in low- and middle-income countries; and describing management actions aimed at reducing treatment abandonment and/or loss to follow-up. Exclusion criteria were adults without tuberculosis; children and adolescents with tuberculosis; studies on multidrug-resistant tuberculosis (already widely addressed in the literature); studies involving adults from high-income countries; and hospital-based studies. The results will be presented using tables, charts, and/or diagrams, with descriptive analysis aligned with the objective of this scoping review. A narrative summary of the main findings will also be provided.

Descriptors: Tuberculosis; Loss to Follow-Up; Health Care Outcome Assessment; Treatment Failure; Developing Countries.

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INTRODUCTION

Tuberculosis (TB) is an infectious disease transmitted through contact with oropharyngeal droplets. It remains a major public health problem and one of the leading causes of death worldwide⁽¹⁾. In 2020 alone, TB caused an estimated 1.5 million deaths⁽²⁻³⁾. TB is caused by the bacterium *Mycobacterium tuberculosis*, which mainly affects the lungs — the most commonly involved organs. It can be transmitted when infected individuals release the bacteria into the air, especially by coughing⁽¹⁻³⁾. Despite its severity, TB is considered both preventable and curable⁽⁴⁻⁵⁾. In addition to curing the disease, treatment also helps reduce further transmission. It is estimated that about 85% of people who develop TB can be successfully treated with a 6-month drug regimen⁽⁶⁾.

The World Health Organization (WHO) estimates that one-quarter of the global population is infected with the TB bacillus. This means a 5% to 10% lifetime risk of developing active TB, especially in the first few years after infection^(1,3-4). Around 90% of people who develop TB each year live in countries with low or medium Human Development Index (HDI), such as India, Ethiopia, Gabon, China, South Africa, Central African Republic, Indonesia, Nigeria, Pakistan, Papua New Guinea, Kenya, Mongolia, Lesotho, Liberia, Mozambique, Namibia, Myanmar, the Philippines, Sierra Leone, Thailand, Uganda, the United Republic of Tanzania, Vietnam, Zambia, Angola, Bangladesh, Brazil, the Democratic People's Republic of Korea, Congo, and the Democratic Republic of the Congo^(1-2,5). These countries are included because of their high TB incidence. TB is an ancient disease that even today is far from being eradicated. In this context, supporting best practices in health care aimed at reducing treatment interruption can provide new insights for improving public policies aligned with the global goal of eliminating TB under the “End TB” initiative. It may also help identify new tools and management models.

Currently, national and international policies aimed at reducing the costs associated with TB treatment focus on planning health interventions such as early case detection, social support for patients during treatment — to reduce income loss — and social protection actions⁽⁷⁾. The goal of these strategies is to break the link between TB and poverty and to eliminate the global epidemic by 2035, in line with WHO targets and the United Nations Sustainable Development Goals⁽⁸⁾. Recent studies show that in developing countries, such as Brazil, TB has worsened poverty among vulnerable populations. This is mainly due to the high costs of diagnosis and treatment, which lead to work absenteeism, job loss, long-term complications, and, in many cases, death^(7,9).

Health care management and care coordination involve the implementation of a set of good practices, with interdependent activities that complement each other and reflect the complexity of building high-quality services⁽¹⁰⁾. Such good practices depend on proper planning, resource forecasting and allocation, and strong collaboration among health care team members, resulting in more structured and qualified care delivery⁽¹¹⁾. Continuity of actions is also essential for participatory and integrated management. This includes setting clear guidelines, identifying barriers, and overcoming challenges throughout the process⁽¹⁰⁻¹¹⁾. A lack of coordination across the health care network and insufficient training of professionals can negatively affect both planning and the effectiveness of care⁽¹¹⁾.

Income inequality in developing countries is a major risk factor linked to treatment abandonment in TB cases. It is estimated to contribute to the emergence of around 1.9 million cases every year⁽¹²⁾. Globally, malnutrition and vitamin A deficiency have historically played a key role in the TB context. These issues are made worse by food insecurity, which can severely weaken the body's natural defense barriers⁽¹³⁾. Recent studies also suggest that vitamin D status is an important factor in both TB infection and disease progression. It can directly affect treatment outcomes and the chances of recovery⁽¹⁴⁾.

Broad and global mapping of publications on good health care practices related to TB treatment adherence is essential. Care processes are closely connected to the manager's competencies across different areas of health care delivery. Highlighting care practices aimed at populations affected by TB reinforces the relevance of this study, which aims to map health care management actions that have helped reduce treatment abandonment among adults with TB living in developing countries. The review question was developed using the PCC framework (Population, Concept, and Context), defined as follows: i) population – adults with TB; ii) concept – health care management actions that contribute to reducing loss to follow-up during TB treatment; iii) context – low- and middle-income countries.

METHOD

Study design

This study is a scoping review protocol based on the methodological approach proposed by the JBI⁽¹⁵⁾. The aim is to ensure an elevated level of methodological rigor and transparency in reporting, following the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses – Extension for Scoping Reviews (PRISMA–ScR) checklist⁽¹⁶⁾. The protocol is registered on the Open Science Framework (OSF) and is available from <https://doi.org/10.17605/OSF.IO/DE34S>.

Review question

What health care management actions have contributed to reducing treatment abandonment among adults with TB living in developing countries?

Eligibility criteria

This review will include descriptive observational studies, such as case series, case reports, and descriptive cross-sectional studies, as well as experimental and quasi-experimental studies, including randomized clinical trials, non-randomized controlled trials, and analytical observational studies — such as prospective and retrospective cohort studies, case-control studies, and analytical cross-sectional studies. Documents from Google Scholar, the CAPES Thesis and Dissertation Catalog (Brazil), systematic or scoping reviews, and publications based on manuals from the Brazilian Ministry of Health or other national and international organizations will also be considered. Studies published in any language, with no time restrictions, up to December 31, 2023 (the most recent full calendar year), will be included. This time frame is justified by the long-standing, historical nature of TB.

Participants

This review will include adult patients (aged 18 years or older) undergoing treatment for TB. The following will be excluded: adults without TB; children and adolescents (from 0 to 17 years, 11 months, and 29 days) with TB, as these age groups require specific treatment protocols based on age and weight and typically have a caregiver responsible for treatment; and patients with multidrug-resistant TB (MDR-TB) and/or HIV/AIDS, as these populations are already widely studied in literature.

Concept

This review will consider studies that describe health care management actions that contributed to reducing loss to follow-up and/or treatment abandonment in TB care. In other words, it will include health care actions that helped minimize negative outcomes in the treatment of adult patients with TB, specifically loss to follow-up or treatment failure. Studies that focus exclusively on MDR-TB cases will be excluded.

Context

This review will include studies conducted in low- and middle-income countries, as previously listed, which account for approximately 90% of TB cases worldwide. The focus will be on primary care settings — such as Basic Health Units (UBS) — and secondary-level outpatient care specifically related to TB. Studies conducted in hospital settings will be excluded.

Search strategy

The search strategy began with a preliminary search in the MEDLINE/PubMed database on May 31, 2023, following the methodological steps recommended by the JBI⁽¹⁵⁻¹⁶⁾.

The retrieved citations will be organized using the Rayyan software⁽¹⁷⁾, with duplicates removed. Two independent and blinded reviewers will screen the studies by reading titles and abstracts, based on the predefined inclusion criteria. In case of disagreement, a third reviewer will resolve the conflicts.

Full-text articles of the selected studies will be assessed for eligibility. The included studies will be presented in tables, charts, or other appropriate scientific formats. The findings will be analyzed descriptively, in line with the objective of this review, and a narrative summary will be made available to the academic community.

This search strategy was developed with the support of a scientific research specialist with experience in bibliographic searches and was peer-reviewed using the Peer Review of Electronic Search Strategies (PRESS) protocol⁽¹⁸⁾.

No current or ongoing scoping or systematic reviews addressing this study's topic were identified in the following sources: the International Prospective Register of Systematic Reviews (PROSPERO)⁽¹⁹⁾, JBI⁽¹⁵⁾, Evidence Synthesis, OSF, and the *Cochrane* Database of Systematic Reviews⁽²⁰⁾.

Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH) were used in the search strategy, combined using the Boolean operators AND/OR. The strat-

egy was designed with sensitivity, based on the main elements of the research question, using the following terms and filters: “tuberculosis” AND (“lost to follow up” OR “adverse side effects” OR “mortality” OR “treatment failure”) AND “developing countries.”

The term “*adverse side effects*” — referring to medication-related side effects during TB treatment — was included because scientific evidence links these effects to loss to follow-up.

The complete search strategy for the MEDLINE/PubMed database is available in an open-access repository (Figure 1).

Database	Platform	Strategy and search combinations used
MEDLINE E	PubMed	https://doi.org/10.1079/searchRxiv.2024.00729

Figure 1 – Search strategy – MEDLINE via PubMed. Niterói, RJ, Brazil, 2023

Sources of information

The literature search was conducted using the following databases: MEDLINE, CINAHL, Embase, Web of Science, Scopus, LILACS, and gray literature, which was searched via Google. The term gray literature refers to “information produced on all levels of government, academics, business, and industry in electronic and print formats, not controlled by commercial publishing”⁽²¹⁻²²⁾. This type of literature includes, among others: theses and dissertations; conference proceedings; newsletters; reports; government and parliamentary documents; informal communications; translations; census data; technical and research reports; standards; patents; videos; clinical trials; practice guidelines; eprints; preprints; wiki articles; emails; blogs; research data files and scientific datasets; geological and geophysical surveys; maps; and content from repositories⁽²²⁾.

Because gray literature is more informal than traditional academic publications, retrieving and reproducing it tends to be less precise and more challenging.

Study selection

The selected studies will be grouped and imported into a reference manager using Rayyan software⁽¹⁷⁾, which allows for duplicate identification and removal. Two independent reviewers will screen titles and abstracts to select the studies. In case of disagreement, a third reviewer will be consulted to make the final decision. Eligible studies will be organized into folders, read in full, and evaluated based on the predefined inclusion criteria. Studies excluded during this stage will be documented and properly justified in the scoping review. A narrative summary will be developed based on the extracted data, connecting the findings to the review's objectives and the concepts outlined in the main and sub-questions. The entire process — from identification to final inclusion — will be detailed in a PRISMA-ScR flow diagram⁽¹⁶⁾.

Data extraction

Extracted data will be organized into two separate tables. The first will include the following study information: author, title, location/country, year of publication, journal, study type, sample, objective, and main results. The second

table will classify the type of management action identified in the study (instrumental or expressive) and summarize the key findings related to reducing treatment abandonment among adults with TB living in low- and middle-income countries.

Synthesis and presentation of findings

The final content will be directly aligned with the objective of the review and will be presented in a summarized format using diagrams or tables⁽²³⁻²⁵⁾. Categories and subcategories of management actions may be created, highlighting results related to TB treatment abandonment; mapping the countries where the studies were conducted, indicating whether they are low- or middle-income; and linking findings to the incidence of TB in adults, among other data elements. By completing all stages with the proposed methodo-

logical rigor, the review aims to explore a broad range of relevant studies, organize the data with greater reliability and depth, conduct a detailed analysis, and refine the topic — contributing to the generation of new knowledge on the subject.

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CONFLICT OF INTERESTS

The authors have declared that there is no conflict of interests.

REFERENCES

1. World Health Organization. Global Tuberculosis Report 2021 [Internet]. Geneva: WHO; 2021 [cited 2024 Sep 22]. Available from: <https://www.who.int/publications/i/item/9789240037021>
2. Pan American Health Organization. Mortes por tuberculose aumentam pela primeira vez em mais uma década devido à Pandemia COVID-19 [Internet]. 2021 Oct 14 [cited 2024 Sep 22]. Available from: <https://www.paho.org/pt/noticias/14-10-2021-mortes-por-tuberculose-aumentam-pela-primeira-vez-em-mais-uma-decada-devido>
3. Nardell EA. Tuberculose (TB) [Internet]. New Jersey: Manual MSD; 2022 [cited 2024 Sep 22]. Available from: <https://www.msdmanuals.com/pt-br/profissional/doen%C3%A7as-infeciosas/micobact%C3%A9rias/TB-tb>
4. World Health Organization. Global Tuberculosis Report, 2022. Geneva: WHO; 2022 [cited 2024 Sep 22]. Available from: <https://www.who.int/publications/i/item/9789240061729>
5. World Health Organization. Global tuberculosis report 2023. Geneva: WHO; 2023 [cited 2024 Sep 22]. Available from: <https://www.who.int/teams/global-programme-on-tuberculosis-and-lung-health/tb-reports/global-tuberculosis-report-2023>
6. World Health Organization. WHO consolidated guidelines on tuberculosis. Module 1: prevention – tuberculosis preventive treatment. Geneva: WHO; 2020 [cited 2024 Sep 22]. Available from: <https://www.who.int/publications/i/item/who-consolidated-guidelines-on-tuberculosis-module-1-prevention-tuberculosis-preventive-treatment>
7. Loureiro RB, Guidoni LM, Fregona GC, Oliveira SMVL, Sacramento D, Pinheiro JS, et al. Follow-up of patients diagnosed with and treated for tuberculosis in Brazil: financial burden on the household. *J Bras Pneumol*. 2023;49(4):e20220368. <https://dx.doi.org/10.36416/1806-3756/e20220368>
8. Ministério da Saúde (BR). Secretaria de Vigilância em Saúde. Departamento de Doenças de Condições Crônicas e Infecções Sexualmente Transmissíveis. Brasil livre da tuberculose: plano nacional pelo fim da tuberculose como problema de saúde pública: estratégias para 2021-2025. Brasília: Ministério da Saúde; 2021 [cited 2024 Sep 22]. Available from: <https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/svsa/tuberculose/brasil-livre-da-tuberculose/view>
9. Maciel ELN, Negri LSA, Guidoni LM, Fregona GC, Johansen FDC, Sanchez MN, et al. The economic burden of households affected by tuberculosis in Brazil: first national survey results, 2019-2021. *PLoS One*. 2023;18(12):e0287961. <https://doi.org/10.1371/journal.pone.0287961>
10. Chistovam BP, Porto IS, Oliveira DC. Nursing care management in hospital settings: the building of a construct. *Rev Esc Enferm USP*. 2012;46(3):734-41. <https://doi.org/10.1590/S0080-62342012000300028>
11. Gomes AV, Gomes LV, Catanio PAG, Magalhães JM, Lira RCM. Gestão do cuidado ao comportamento suicida na atenção primária à saúde. *Rev. Enferm. Atual In Derme* [Internet]. 2023 [cited 2024 Sep 22]; 97(esp):e023115. Available from: <https://revistaenfermagematual.com.br/index.php/revista/article/view/1642>
12. Ministério da Saúde. Secretaria de Vigilância em Saúde. Departamento de Vigilância das Doenças Transmissíveis. Manual de recomendações para o controle da tuberculose no Brasil. 2 ed. Brasília: Ministério da Saúde; 2019 [cited 2024 Sep 22]. Available from: https://bvsms.saude.gov.br/bvs/publicacoes/manual_recomendacoes_controle_tuberculosis_brasil_2_ed.pdf
13. Wagnaw F, Alene KA, Eshetie S, Wingfield T, Kelly M, Gray D. Effects of zinc and vitamin A supplementation on prognostic markers and treatment outcomes of adults with pulmonary tuberculosis: a systematic review and meta-analysis *BMJ Global Health* 2022;7(9):e008625. <https://doi.org/10.1136/bmjgh-2022-008625>
14. Mistry N, Hemler EC, Dholakia Y, Bromage S, Shukla A, Dev P, et al. Protocol for a case-control study of vitamin D status, adult multidrug-resistant tuberculosis disease and tuberculosis infection in Mumbai, India. *BMJ Open*. 2020;10(11):e039935. <https://doi.org/10.1136/bmjopen-2020-039935>

15. Peters MDJ, Godfrey C, McInerney P, Munn Z, Tricco AC, Khalil H. Chapter 11: Scoping Reviews (2020 version). In: Aromataris E, Munn Z, editors. JBI manual for evidence synthesis from updated. JBI. 2020. <https://doi.org/10.46658/JBIMES-20-12>
16. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Lecac D, et al. PRISMA extension for scoping review (PRISMA-ScR): checklist and explanation. *Ann Intern Med.* 2018;169(7):467-73. <https://doi.org/10.7326/M18-0850>
17. Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan — a web and mobile app for systematic reviews. *Syst Rev.* 2016;5(1):210. <https://doi.org/10.1186/s13643-016-0384-4>
18. McGowan J, Sampson M, Salzwedel DM, Cogo E, Foerster V, Lefebvre C. PRESS Peer Review of Electronic Search Strategies: 2015 guideline statement. *J Clin Epidemiol.* 2016;75:40-6. <https://doi.org/10.1016/j.jclinepi.2016.01.021>
19. National Institute for Health and Care Research. PROSPERO home page [Internet]. York: University of York; c2025 [cited 2025 Feb 4]. Available from: <https://www.crd.york.ac.uk/prospero/>
20. Cochrane Library. Cochrane Database of Systematic Reviews [Internet]. London: Cochrane; c2025 [cited 2025 Feb 4]. Available from: <https://www.cochrane>
<https://www.cochrane.org>
21. Dudziak E. O que é literatura cinzenta? São Paulo: AGUIA Blog; 2021 Ago 16 [cited 2024 Sep 30]. Available from: <https://www.aguia.usp.br/noticias/o-que-e-literatura-cinzenta/>
22. Vighnesh D. Grey literature and their sources. London: Cochrane; 2021. <https://doi.org/10.13140/RG.2.2.30892.39048>
23. Pollock D, Peters MDJ, Khalil H, McInerney P, Alexander L, Tricco AC, et al. Recommendations for the extraction, analysis, and presentation of results in scoping reviews. *JBI Evid Synth.* 2023;21(3):520-32. <https://doi.org/10.11124/jbies-22-00123>
24. Santos IZ, Trigueiro TH, Oliveira FAM, Souza SRRK, Hornung H. Health care in the process of parturition of immi-grant women: a review of scope. *Online Braz J Nurs.* 2024;23:e2024673. <https://doi.org/10.17665/1676-4285.20246734>
25. Gomes MDSG, Lima MCSEC, Rufino MVC, Araújo EGO, Beserra LRM, Silva JM et al. Auxílio da ultrassonografia na punção de acesso venoso periférico: um protocolo de revisão de escopo. *Rev. Enferm. Atual In Derme.* 2024;99(4):e024399. <https://doi.org/10.31011/reaid-2024-v.99-n.4-art.2243>

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