

HEALTHY PRACTICES AND THEIR RELATIONSHIP WITH KNOWLEDGE AND TREATMENT ADHERENCE IN PATIENTS WITH TUBERCULOSIS: A SYSTEMATIC REVIEW OF THE LAST 10 YEARS

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ABSTRACT

This article aims to analyze the scientific evidence published over the last 10 years regarding the management of patients undergoing tuberculosis treatment, focusing on healthy practices, knowledge about the disease, treatment adherence, and associated factors. A systematic and exhaustive search was conducted following the PRISMA 2020 methodology across databases such as Scopus, SciELO, and Google Scholar. After applying established inclusion and exclusion criteria, 40 scientific articles were selected for analysis. The findings show that treatment adherence is influenced by multiple factors, including the level of knowledge about the disease, healthy practices, family support, guidance from healthcare personnel, and patients' socioeconomic and psychological conditions. It was further identified that poverty, depression, stigma, adverse drug effects, and difficulties in accessing healthcare services increase the risk of treatment discontinuation. In conclusion, the reviewed scientific evidence confirms that adherence to tuberculosis treatment depends on the interplay of individual, family, social, and institutional factors; therefore, it is essential to strengthen health education strategies, promote healthy practices, and develop comprehensive interventions that foster treatment continuity and contribute to disease control.

KEYWORDS: Tuberculosis; Treatment adherence; Healthy practices; Knowledge.

INTRODUCTION

Tuberculosis (TB) remains one of the leading infectious diseases worldwide and represents a major public health problem, particularly in low- and middle-income countries. Despite advances in diagnosis and treatment, the disease continues to cause high morbidity and mortality rates due to factors such as late diagnosis, poor treatment adherence, and the emergence of drug-resistant strains. The World Health Organization (WHO, 2023) reports that tuberculosis remains among the leading causes of death from infectious diseases and continues to pose a challenge for health systems.

Adherence to anti-tuberculosis treatment is one of the main determinants of therapeutic success, since it enables cure, reduces the risk of relapse, and prevents the emergence of drug-resistant tuberculosis. In this regard, Perlaza et al. (2023) reported that lack of disease knowledge, poverty, inequality, and deficiencies in health service delivery hinder treatment continuity and favor its discontinuation. Likewise, Alves et al. (2021) identified that limited disease knowledge, a weak social support network, treatment duration, and adverse drug effects are factors that reduce therapeutic adherence.

Patient knowledge about tuberculosis is a determining factor in adopting behaviors favorable to therapeutic compliance. Adequate understanding of the causes, transmission mechanisms, importance of treatment, and consequences of discontinuation strengthens patients' active participation in their recovery process. In this regard, healthy practices related to self-care, hygiene, adequate nutrition, and preventive measures contribute to comprehensive disease management and favor treatment adherence. Merino et al. (2021) reported that treatment discontinuation generates negative consequences, such as deterioration of health status, increased drug resistance, and persistent tuberculosis transmission, highlighting the need to strengthen health education and self-care-oriented interventions.

Beyond factors linked to knowledge and healthy practices, several studies have identified social and psychological factors that influence therapeutic adherence, including economic status, unemployment, lack of family support, social

stigma, and emotional disorders such as depression. In this context, Jonis et al. (2021) found that economic limitations, low educational level, and the presence of depressive symptoms are associated with greater difficulty in sustaining anti-tuberculosis treatment. Likewise, Pratiwi (2024) showed that depression is a factor related to lower adherence and a higher risk of treatment failure, while Ruiz et al. (2020) reported its association with higher rates of discontinuation and mortality among tuberculosis patients.

In the Peruvian context, tuberculosis remains a priority public health problem due to social determinants that hinder disease control. The Ministry of Health (MINSA, 2023) reported that factors such as poverty, food insecurity, social exclusion, lack of basic services, and unfavorable working conditions contribute to the persistence of tuberculosis and affect treatment continuity. Understanding the factors involved in therapeutic adherence is therefore essential for developing comprehensive, patient-centered strategies.

Although several studies have addressed healthy practices, knowledge, and treatment adherence in tuberculosis patients, the findings remain scattered and vary according to study context and population characteristics. It is therefore necessary to integrate and analyze the available scientific evidence to understand the relationship between these variables and identify the main factors linked to treatment adherence.

Accordingly, the general objective of this study was to analyze the scientific evidence published over the last 10 years on the management of patients undergoing tuberculosis treatment, through a systematic literature review based on the PRISMA 2020 statement. The specific objectives were: to analyze the scientific evidence on healthy practices in tuberculosis patients; to analyze the scientific evidence on tuberculosis patients' knowledge of their disease and treatment; to analyze the scientific evidence on treatment adherence in tuberculosis patients; and to analyze the scientific evidence on the relationship between associated factors and treatment adherence in tuberculosis patients.

MATERIAL AND METHODS

Methodological design

This study is a systematic literature review aimed at analyzing the scientific evidence published over the last 10 years on the management of patients undergoing tuberculosis treatment. To ensure methodological rigor, the study followed the guidelines established by the PRISMA statement (2020), which is widely used in systematic reviews for its transparency and reproducibility (Arias, 2020).

The design of the study is theoretical and documentary in nature, as it is based on the identification, selection, critical analysis, and synthesis of previously published scientific studies. It also follows a qualitative synthesis approach aimed at interpreting and organizing the reported findings on healthy practices, knowledge, and treatment adherence in tuberculosis patients (Quesada et al., 2018).

The review was based on studies published between 2016 and 2026, considering that greater evidence on the factors influencing therapeutic adherence and the role of healthy practices in tuberculosis control has been generated during this period. Finally, the information collected was analyzed through a thematic categorization process that made it possible to identify trends, associated factors, and the main findings related to the study variables (Naupas et al., 2018).

Eligibility criteria

Inclusion criteria

- Original scientific articles published between 2016 and 2026.
- Studies published in English or Spanish.
- Research conducted in patients with tuberculosis.
- Studies evaluating healthy practices, knowledge about tuberculosis, and/or treatment adherence.
- Research with a quantitative, qualitative, or mixed approach.
- Articles with full-text access.
- Studies indexed in recognized scientific databases.

Exclusion criteria

- Duplicate or repeated articles across different databases.
- Studies conducted in populations other than tuberculosis patients.
- Research focused exclusively on microbiological, pharmacological, or diagnostic aspects without evaluating healthy practices, knowledge, or treatment adherence.
- Editorials, letters to the editor, book chapters, theses, narrative reviews, systematic reviews, and conference abstracts.
- Studies with insufficient methodological information.
- Articles without full-text access.

Information sources

The information sources used were scientific databases internationally recognized for their quality and impact in the field of health sciences. The databases consulted included SciELO, Scopus, Alicia, and Dialnet, among others.

The selection of these sources allowed access to relevant research related to healthy practices, knowledge, and treatment adherence in tuberculosis patients, ensuring the currency and quality of the scientific evidence gathered.

Search strategy

The literature search was conducted using structured search strings in English and Spanish, employing Boolean operators (AND and OR), in order to retrieve studies related to the research variables.

English-language search string

("Tuberculosis" OR "TB") AND ("Healthy practices" OR "health practices" OR "self-care") AND ("Knowledge" OR "health knowledge") AND ("treatment adherence" OR "adherence" OR "compliance")

Spanish-language search string

("tuberculosis") AND ("prácticas saludables" OR "autocuidado") AND ("conocimiento" OR "educación en salud") AND ("adherencia al tratamiento" OR "cumplimiento del tratamiento")

Study selection process

The study selection process was conducted following the phases established by the PRISMA (2020) statement: identification, screening, eligibility, and inclusion.

During the identification phase, records were compiled from the different databases. Duplicate documents were subsequently removed, and an initial review of titles and abstracts was carried out. Relevant articles were assessed through full-text reading to verify compliance with the inclusion and exclusion criteria.

Finally, the selected studies were incorporated into the systematic review and used for the analysis and synthesis of the scientific evidence.

Data processing and analysis

The information obtained was organized using a data extraction matrix designed for this study. This matrix recorded variables such as author, year of publication, country, study objective, methodology, sample, variables analyzed, and main findings.

A thematic analysis of the selected studies was subsequently performed, and the findings were grouped into categories identified from the scientific literature.

The main categories of analysis were: healthy practices in tuberculosis patients, level of knowledge about tuberculosis, adherence to anti-tuberculosis treatment, factors associated with therapeutic adherence, and the relationship between healthy practices, knowledge, and treatment adherence.

Data collection technique and instrument

The technique used was documentary analysis, understood as the systematic procedure of searching, selecting, evaluating, and analyzing scientific documents related to the study objective.

The instrument used was the data extraction matrix developed by the researcher, which allowed relevant information from each selected article to be recorded in an organized manner, facilitating its subsequent analysis, comparison, and interpretation.

Ethical considerations

This study did not involve the direct participation of human subjects or the handling of personal data. As a literature review, it was based exclusively on information from publicly available scientific sources.

Likewise, ethical principles related to academic integrity, transparency in the study selection process, and appropriate recognition of authorship through proper citation of consulted sources were respected.

RESULTS

Table 1. Scientific evidence on healthy practices in tuberculosis patients.

Author (Year)	Country	Methodology	Healthy practices
Cajachagua et al. (2022)	Peru	Quantitative, correlational, cross-sectional. 100 patients with TB (PNCT).	Self-care among TB patients (3ransmi, personal care, treatment compliance).

Author (Year)	Country	Methodology	Healthy practices
Lee et al. (2020)	Peru	Qualitative with quantitative components. 39 newly diagnosed adults with TB.	Food choices, dietary intake, and eating behaviors during TB treatment.
Hao et al. (2023)	China	Analytical cross-sectional study. 334 patients with TB.	Eating habits, dietary diversity, food consumption, and nutritional status.
Jiang & Luo (2026)	China	Prospective study in 61 newly diagnosed patients with pulmonary tuberculosis.	Treatment self-management, 4ransmisión prevention, nutrition, and healthy habits.
Togatorop & Siregar (2025)	Indonesia	Action research with 22 patients with tuberculosis.	Treatment compliance, 4ransmisión prevention, adequate nutrition, and strengthening of self-care.
Li et al. (2022)	China	Methodological study with 462 patients with tuberculosis to develop and validate a self-management scale.	Treatment adherence behavior, 4ransmisión-prevention behaviors, and supportive therapies.
Yu et al. (2026)	Asia	Qualitative study with 15 patients with TB.	Use of home treatment 4ransmisión, 4ransm to digital health resources, motivation to return to work, and strong social support.

Note. Own elaboration 4ransmis the reviewed articles.

Table 1 shows that healthy practices among tuberculosis patients mainly comprise self-care behaviors, adequate nutrition, 4ransmisión prevention, and treatment self-management. The reviewed studies highlight the importance of health education, continuous follow-up, and social support as strategies to strengthen these practices and favor therapeutic continuity.

Table 2. Knowledge of tuberculosis patients regarding their disease and treatment.

Author (Year)	Country	Methodology	Knowledge
Tito et al. (2019)	Ecuador	Non-experimental, descriptive, observational, cross-sectional.	Patients recognize tuberculosis as a contagious disease and are aware of its symptoms, which favors positive attitudes toward treatment; however, they show a lack of knowledge regarding family and community preventive measures, evidencing deficiencies in healthy practices.
Nina & Martínez (2019)	Bolivia	Mixed quantitative-qualitative, cross-sectional. 28 patients with TB under treatment.	65.5% know about the disease; 71.2% recognize symptoms; 93.3% know the mode of 4ransmisión; 78.5% feel well informed.
Flores & Panchana (2023)	Ecuador	Cross-sectional, analytical, quasi-experimental study.	Patients had a low level of knowledge about anti-tuberculosis treatment. After an educational intervention by health personnel, a significant increase in knowledge level was observed in the post-test.
Negrete et al. (2025)	Ecuador	Qualitative, descriptive, cross-sectional study. Documentary review of 20 clinical records of tuberculosis patients.	Knowledge about tuberculosis and 4ransm to health services are essential elements for disease prevention and control. The study also highlighted the need to strengthen health education campaigns and promote healthy habits in at-risk groups.

Author (Year)	Country	Methodology	Knowledge
Belchior et al. (2016)	Bogotá	Observational, analytical case-control study. 42 patients lost to treatment follow-up (cases) and 84 patients who completed the sixth month of treatment (controls).	Patients who discontinued treatment showed lower knowledge about tuberculosis and its treatment compared with those who completed therapy. The authors conclude that strengthening health education improves disease understanding and favors treatment continuity.
González et al. (2022)	Mexico	Methodological study on the adaptation and validation of the EMPODERA-TB instrument in 49 patients with pulmonary tuberculosis.	The instrument assessed patient empowerment across three dimensions: knowledge acquisition, information-sharing skills, and 5ransmis-making capacity. It showed adequate internal consistency ($\alpha = 0.885$), demonstrating that knowledge and active patient participation are relevant components in tuberculosis management.

Note. Own elaboration 5ransmis the reviewed articles.

Table 2 shows that although many patients recognize basic aspects such as 5ransmisión and symptoms, limitations persist regarding preventive measures, treatment, and self-care. It also highlights that educational interventions strengthen knowledge and favor disease understanding, contributing to better therapeutic continuity.

Table 3. Scientific evidence on treatment adherence in tuberculosis patients.

Author (Year)	Country	Methodology	Findings
Bereda (2021)	Ethiopia	Prospective institutional cross-sectional study in 168 patients with TB.	The prevalence of poor adherence to anti-tuberculosis treatment was 27.4%. Significantly associated factors included age ≥ 45 years, rural residence, distance greater than 5 km from the health facility, presence of treatment side effects, HIV-negative status, and no formal education.
Jira et al. (2022)	Ethiopia	Analytical cross-sectional study with 403 patients with tuberculosis.	46.7% of tuberculosis patients presented delayed health-care-seeking behavior. This delay was significantly associated with fear of COVID-19, rural residence, low knowledge level, low income, and longer travel time to the health facility.
Zhang et al. (2020)	China (Tibet)	Analytical study assessing patients with pulmonary tuberculosis.	Low disease knowledge, limited self-management capacity, and misperception of health status.
Montiel et al. (2020)	Paraguay	Observational analytical study with 3,034 tuberculosis cases.	72.1% of patients achieved successful treatment and 27.9% had unsuccessful treatment. Factors associated with a worse outcome were male sex, indigenous population membership, TB/HIV coinfection, illicit drug and alcohol use, prior treatment history, and lack of treatment supervision (OR = 4.92).
Hernández et al. (2016)	Mexico	Observational, descriptive, retrospective, cross-sectional study. 169 clinical records of TB patients were reviewed.	4% of patients discontinued anti-tuberculosis treatment, while most achieved complete disease remission.

Author (Year)	Country	Methodology	Findings
Valarezo et al. (2024)	Ecuador	Quantitative, descriptive, cross-sectional study. Sample: 77 patients with TB.	24.62% of patients had a low economic level, 13.85% had no formal education, and more than half had no health insurance coverage.
Jonis et al. (2021)	Peru	Non-experimental, analytical, retrospective cohort study. Clinical records of patients with drug-susceptible TB were analyzed.	The frequency of treatment discontinuation was 18.3% and poor adherence was 42.5%.
Peinado et al. (2022)	Peru	Prospective descriptive observational study. Follow-up of 9 patients with TB.	Implementation of video-observed treatment (VDOT) showed 100% adherence among patients with drug-susceptible tuberculosis. Eight of nine patients completed treatment, and only one was transferred before completing follow-up.
Varela et al. (2023)	Colombia	Retrospective, analytical, observational cohort study. 605 patients with pulmonary TB readmitted to the program.	60% were readmitted due to incomplete treatment and 40% due to relapse. Factors associated with treatment failure included homelessness, drug dependence, TB/HIV coinfection, diabetes mellitus, and history of prior non-adherence.
Herrera et al. (2025)	Colombia	Observational, retrospective, analytical study. 1,133 patients with microbiologically confirmed TB.	Therapeutic adherence was 89%, lower among patients without health insurance and those with pulmonary tuberculosis. The most frequent comorbidities were malnutrition and HIV coinfection.
Castañeda et al. (2016)	Peru	Analytical study with an intervention group and a historical control group. Sample: 30 intervened patients and 72 controls.	The group that received nursing counseling achieved 100% adherence, whereas the control group showed 86% adherence. A significant 14% increase in adherence was observed ($p = 0.032$).
Calle et al. (2017)	Colombia	Observational, analytical, cross-sectional study. Based on 837 TB patients registered in the Medellín Health Secretariat's information system.	The study found a treatment success rate of 77.1%. Factors associated with therapeutic success included female sex, contributory health insurance scheme, absence of comorbidities, and prolonged permanence in the tuberculosis program.
Tatés et al. (2019)	Ecuador	Retrospective cohort study. Patients with RR/MDR-TB treated under the WHO 18–24-month regimen.	The incidence of loss to follow-up among patients with rifampicin-resistant/multidrug-resistant tuberculosis was 39.6%, while treatment success was 50.4%.
Tapia et al. (2023)	Peru	Observational, analytical, case-control, retrospective, cross-sectional study. Cases: 13 patients who discontinued treatment. Controls: 117 patients who completed treatment.	Treatment discontinuation was associated with health-care-related factors, including incomplete multidisciplinary assessment, treatment irregularity during phases I and II, number of missed days, and delayed follow-up visits.

Author (Year)	Country	Methodology	Findings
Llanos & Ponce (2019)	Peru	Observational, descriptive, prospective study. Sample: 50 patients with pulmonary TB in the first phase of treatment.	38% of patients were non-adherent to anti-tuberculosis treatment, and depression was present in 76% of cases.
Castro et al. (2020)	Peru	Descriptive, correlational study. Sample: 38 patients with TB.	Regarding adherence, 47.4% showed moderate compliance and 29% showed low adherence.
Ortiz et al. (2017)	Peru	Basic, descriptive study. Total population: 23 patients with TB.	More than 52% of tuberculosis patients showed poor adherence to anti-tuberculosis treatment.
Soriano et al. (2024)	Peru	Observational, analytical, retrospective cohort study.	18.1% of patients with drug-susceptible tuberculosis had unsuccessful treatment. The most consistently associated factor was treatment irregularity.
Rivera et al. (2019)	Peru	Analytical case-control study (80 cases and 180 controls).	Multiple factors were strongly associated with non-adherence to tuberculosis treatment, including lack of disease knowledge (OR = 23.10), disbelief in cure (OR = 117.34), lack of social support (OR = 19.16), perceiving the clinic schedule as inconvenient (OR = 78.13), and not receiving laboratory results (OR = 46.13).
Meza et al. (2018)	Peru	Observational, analytical, prospective, cross-sectional study in patients with pulmonary tuberculosis; adherence assessed with the Morisky-Green-Levine test and analyzed using Fisher's exact test.	42% of patients showed poor adherence to anti-tuberculosis treatment. Factors associated with non-adherence were related to the therapy itself, health care, and patient characteristics.

Note. Own elaboration based on the reviewed articles.

Table 3 shows that adherence to anti-tuberculosis treatment varies among tuberculosis patients, with discontinuation, non-compliance, and loss to follow-up. The reviewed studies indicate that adherence is influenced by individual, clinical, and health-service-related factors, such as adverse treatment effects, socioeconomic conditions, access difficulties, comorbidities, lack of supervision, and limited disease knowledge. Educational interventions, nursing counseling, and treatment-supervision strategies were shown to favor greater adherence and better therapeutic outcomes.

Table 4. Scientific evidence on the relationship between associated factors and treatment adherence in tuberculosis patients.

Author (Year)	Country	Methodology	Relationship
Cajachagua et al. (2022)	Peru	Quantitative, correlational, cross-sectional. 100 patients with TB (PNCT).	Significant relationship: greater social support → better self-care (p = 0.000).
Suescún et al. (2024)	Colombia	Retrospective descriptive study in 402 patients with tuberculosis.	Treatment adherence was 96.5%. Non-adherence was mainly related to patient disinterest, frequent change of residence, termination of health-insurance coverage, and hepatotoxicity.

Author (Year)	Country	Methodology	Relationship
Alinaitwe et al. (2025)	Uganda	Cross-sectional study across 5 TB treatment centers. Sample: 147 patients with pulmonary TB on first-line treatment.	A significant association was found between family size and the level of perceived and actual support, with the model explaining 63.9% of the variance in perceived support ($p < 0.0001$).
Molina et al. (2020)	Chile	Descriptive, cross-sectional, correlational study. Sample of 90 patients with tuberculosis.	Multiple biopsychosocial factors were significantly related to treatment adherence, including age, history of mental illness, self-esteem, relationship status, membership in at-risk groups, alcohol consumption, drug addiction, and homelessness.
Rivera & Bonilla (2020)	Peru	Mixed-methods study with 120 patients with tuberculosis.	An association was found between adherence and fear or embarrassment about attending the health facility, distrust of health personnel, perceived poor quality of care, lack of disease awareness, adverse drug effects, and the number and size of pills.
Castro et al. (2020)	Peru	Descriptive, correlational study. Sample: 38 patients with TB.	A statistically significant relationship was found between family support and the level of adherence to anti-tuberculosis treatment.
Robles et al. (2016)	Peru	Descriptive, cross-sectional study. Sample: 30 patients from the TB program.	Family functioning influences treatment adherence, attendance at follow-up visits, and compliance with anti-tuberculosis treatment.
Perlaza et al. (2023)	Colombia	Operational research with a case-control design. 224 patients with tuberculosis were included.	Discontinuation of anti-tuberculosis treatment is associated with individual factors and health-service-related factors that favor non-adherence and hinder continuity of care.
Martínez et al. (2017)	Colombia	Observational, descriptive, prospective study. Included 91 patients with tuberculosis under the DOTS strategy in three Colombian cities.	Patients incurred high out-of-pocket costs, mainly for transportation and diagnostic aids, despite receiving free treatment; these costs constitute a barrier to treatment continuity.
Puerto et al. (2021)	Colombia	Analytical study in 128 patients with MDR-TB. Logistic regressions and focus groups with health personnel were conducted.	Treatment success was associated with HIV-negative status, contributory insurance scheme membership, and care from nursing professionals with adequate knowledge of MDR-TB.
Caminero et al. (2020)	Spain	Review and update of an evidence-based clinical guideline.	New oral regimens with bedaquiline, fluoroquinolones, and linezolid reduce toxicity and favor therapeutic continuity; specialized supervision is key.
Maquera et al. (2023)	Peru	Quantitative, basic, explanatory study with a non-experimental, cross-sectional design. 40 patients with tuberculosis participated.	Family support significantly influenced patients' adaptation to tuberculosis treatment ($\chi^2 = 28.619$; $p = 0.000$).
Latorre et al. (2022)	Chile	Retrospective cohort study in 81 adult patients with	The total delay in diagnosis and treatment initiation had a median of 59 days; patient-related delay

Author (Year)	Country	Methodology	Relationship
		confirmed pulmonary tuberculosis.	factors included educational level, prior TB contact, and smoking.
Oscanoa et al. (2022)	Peru	Retrospective study in hospitalized patients with MDR-TB and anti-tuberculosis drug-induced liver injury (DILI).	Drug-induced liver injury occurred during the first month of treatment and constituted a complication affecting therapeutic continuity; pyrazinamide was the most frequently implicated drug.
Guaygua et al. (2024)	Ecuador	Quantitative, descriptive, cross-sectional study in patients with confirmed pulmonary tuberculosis.	Comorbidities such as HIV, diabetes, anemia, and respiratory diseases were identified, which may increase treatment complications and affect therapeutic response.
Álvarez et al. (2020)	Mexico	Cross-sectional study in 46 adults with confirmed pulmonary tuberculosis (SF-36v2 quality-of-life questionnaire).	Deterioration of quality of life was observed among patients, mainly women, patients in the intensive treatment phase, and those with comorbidities.
Dueñas & Cardona (2016)	Colombia	Descriptive cross-sectional study based on 174 program records and 15 semi-structured interviews.	Treatment compliance was 94.8%; non-compliance was associated with drug intolerance, lack of family support, job loss, economic impact of the disease, and dissatisfaction with care.
Montiel et al. (2019)	Paraguay	Retrospective, descriptive, cross-sectional study in 72 hospitalized adult patients with tuberculosis (2008–2018).	Clinical factors associated with treatment complexity included HIV coinfection (55.5%), diabetes mellitus, malnutrition, alcohol use, smoking, and corticosteroid use.
Toledano et al. (2020)	Cuba	Descriptive, retrospective study in 124 patients with extrapulmonary tuberculosis (2007–2017).	Epidemiological factors associated with extrapulmonary tuberculosis predominantly included male sex, young adults, and smoking as the main risk factor.

Note. Own elaboration based on the reviewed articles.

Table 4 shows that adherence to anti-tuberculosis treatment is determined by the interaction of multiple individual, family, social, economic, and health-service-related factors. Family and social support favors treatment continuity, while factors such as stigma, fear of attending health facilities, adverse drug effects, economic difficulties, access barriers, substance use, and deficiencies in health care are associated with lower adherence and a higher risk of treatment discontinuation.

DISCUSSION

The present systematic review aimed to analyze the scientific evidence published over the last 10 years on the management of patients undergoing tuberculosis treatment, through a systematic literature review based on the PRISMA 2020 statement.

Regarding healthy practices, the scientific evidence agrees that self-care plays an essential role in tuberculosis management. Cajachagua et al. (2022) showed that greater social support is related to better self-care practices, evidencing that the family and social environment positively influences compliance with therapeutic recommendations. This finding is consistent with the study by Togatorop and Siregar (2025), who found that interventions aimed at strengthening self-care favor treatment compliance, transmission prevention, and the adoption of healthy habits.

Nutrition was also identified as a determining healthy practice for patient recovery. Lee et al. (2020), in Peru, and Hao et al. (2023), in China, highlight that adequate nutrition and greater dietary diversity contribute to improving nutritional status and strengthening the immune response during anti-tuberculosis treatment. Despite the geographic and cultural

differences between the two studies, the results are similar and show that nutrition is an indispensable component of comprehensive care strategies for tuberculosis patients.

Likewise, Jiang and Luo (2026) and Li et al. (2022) highlight the importance of treatment self-management, noting that active patient participation in therapeutic compliance, transmission prevention, and the adoption of healthy habits favors better clinical outcomes. In a complementary way, Yu et al. (2026) identified that home follow-up, access to digital health resources, and social support strengthen self-care and facilitate treatment continuity. These results reflect the need to promote interventions that focus not only on medication administration but also on developing skills that allow patients to properly cope with their disease.

Regarding knowledge about tuberculosis, the review shows that this is a determining factor for therapeutic adherence. Tito et al. (2019) and Nina and Martínez (2019) found that most patients recognize tuberculosis as a communicable disease and identify its main symptoms; however, both studies agree in pointing out deficiencies related to preventive measures within the family and community environment. These findings indicate that, although basic disease knowledge exists, gaps remain that may limit the adoption of preventive practices and favor tuberculosis transmission. On the other hand, Flores and Panchana (2023) showed that an educational intervention developed by health personnel significantly increased patients' knowledge level regarding anti-tuberculosis treatment, confirming the effectiveness of health education as a strategy to strengthen adherence. These results are consistent with those reported by Belchior et al. (2016), who observed that patients who discontinued treatment had lower disease knowledge compared with those who completed therapy. Similarly, Negrete et al. (2025) highlight that knowledge and timely access to health services are essential elements for tuberculosis prevention and control.

Regarding treatment adherence, the scientific evidence shows that it continues to be one of the main challenges for tuberculosis control. Although some studies reported high percentages of therapeutic success, others showed significant levels of discontinuation and non-compliance, reflecting that adherence depends on multiple factors. Herrera et al. (2025), Calle et al. (2017), and Hernández et al. (2016) reported high treatment success rates, whereas Bereda (2021), Jonis et al. (2021), and Ortiz et al. (2017) found a high frequency of poor adherence. These differences may be attributed to the sociodemographic characteristics of the populations studied, health service access conditions, and the strategies implemented in each context for patient follow-up.

Several studies agree that individual and clinical factors significantly influence treatment continuity. Bereda (2021) identified that older age, rural residence, low educational level, distance to the health facility, and adverse drug effects increase the risk of therapeutic non-compliance. Likewise, Jira et al. (2022) reported that low knowledge level, low income, and difficulties accessing health services delay health-care-seeking, while Llanos and Ponce (2019) found that depression is associated with lower treatment adherence. These findings show that adherence does not depend solely on patient willingness but also on the social, economic, and health conditions faced throughout the therapeutic process.

The review also shows that interventions developed by health services can considerably improve adherence. Peinado et al. (2022) demonstrated that video-observed treatment achieved 100% adherence, while Castañeda et al. (2016) found that nursing counseling significantly increased therapeutic compliance. Similarly, Tapia et al. (2023) reported that multidisciplinary assessment, timely follow-up, and continuous supervision reduce the risk of treatment discontinuation.

On the other hand, several studies identified that barriers related to health services and socioeconomic conditions negatively affect adherence. Rivera and Bonilla (2020) reported that distrust of health personnel, perceived poor-quality care, and drug side effects reduce treatment continuity. Likewise, Martínez et al. (2017) showed that transportation costs and other indirect expenses represent significant obstacles, while Molina et al. (2020) identified factors such as mental illness, alcohol and drug use, low self-esteem, and homelessness as conditions that increase the risk of treatment discontinuation. Similarly, Perlaza et al. (2023) concluded that both individual factors and health-service limitations favor treatment interruption.

Overall, the reviewed scientific evidence shows that adherence to tuberculosis treatment does not depend on a single factor but on the interaction between patient knowledge, healthy practices, family and social support, socioeconomic conditions, and the quality of health services.

CONCLUSIONS

The reviewed scientific evidence shows that healthy practices are an essential component of comprehensive tuberculosis management. Self-care, adequate nutrition, treatment self-management, and transmission prevention favor patient recovery and contribute to strengthening therapeutic continuity.

It was also found that knowledge about the disease and its treatment positively influences therapeutic adherence. Patients with a higher level of information show better self-care behaviors and greater commitment to treatment, while educational interventions developed by health personnel strengthen disease understanding and favor compliance with the therapeutic regimen.

Regarding treatment adherence, the review showed that it continues to be one of the main challenges for tuberculosis control. Although several studies report high percentages of therapeutic success, cases of discontinuation and non-compliance persist, associated with individual, social, economic, psychological, and health-service-related factors. Finally, the scientific evidence confirms that treatment adherence depends on the interaction of multiple factors, including family and social support, knowledge level, healthy practices, socioeconomic conditions, accessibility to health services, and the quality of care provided by health personnel. Consequently, it is necessary to strengthen comprehensive, patient-centered strategies that include continuous health education, biopsychosocial support, timely follow-up, and actions aimed at reducing barriers to treatment access, with the purpose of improving therapeutic outcomes and contributing to tuberculosis control as a public health problem.

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