



FACTORS INFLUENCING SELF-CARE AMONG PATIENTS WITH PULMONARY TUBERCULOSIS: A LITERATURE REVIEW

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ABSTRACT

Self-care is an essential component of pulmonary tuberculosis (TB) management. Various individual, social, psychological, and treatment-related factors may be associated with self-care. This literature review aimed to identify factors associated with self-care among patients with pulmonary TB. A literature review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Searches were performed in Google Scholar, PubMed, ScienceDirect, and Taylor & Francis Online using “Tuberculosis” AND “Self-Care” AND (“Factors” OR “Correlation” OR “Associated Factors”). Articles published between 2021 and 2025 in English or Indonesian were screened by title and abstract, followed by full-text assessment based on predetermined criteria. Study quality was assessed using the Joanna Briggs Institute (JBI) critical appraisal tools. Eight articles met the inclusion criteria. The reviewed studies identified knowledge, family support, social support, psychological conditions, self-efficacy, sociodemographic characteristics, and treatment-related factors as associated with self-care. Knowledge, family and social support, and self-efficacy were associated with self-care engagement. Depression, drug resistance, previous treatment discontinuation, and alcohol consumption were also associated with self-care, while findings on sociodemographic characteristics were inconsistent. Self-care among patients with pulmonary TB is associated with multiple individual, social, psychological, and clinical factors.

Keywords: associated factors; pulmonary tuberculosis; self-care; self-efficacy; social support

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INTRODUCTION

Tuberculosis (TB) is a serious public health problem because it is a chronic, highly transmissible disease that requires long-term treatment. It is caused by *Mycobacterium tuberculosis* and is transmitted through the air when individuals with pulmonary TB release bacteria-containing particles while coughing, sneezing, or speaking. Although TB is preventable and curable, successful treatment requires adherence to a prolonged treatment regimen and continuous care. Approximately 25% of the global population is estimated to have been infected with TB bacteria, mostly in the latent form, with approximately 5–10% of infected individuals at risk of developing active TB. Infants and children are at a higher risk of developing the disease following infection.

In 2024, TB caused approximately 1.23 million deaths worldwide, including 150,000 deaths among people living with HIV, and remained one of the leading causes of death from infectious diseases. An estimated 10.7 million new TB cases occurred in the same year, comprising 5.8 million men, 3.7 million women, and 1.2 million children. Approximately 67% of global cases were concentrated in eight countries, including Indonesia, which accounted for around 10% of cases worldwide (WHO, 2026). Indonesia ranked second globally in terms of TB burden, with an estimated incidence of 387 cases per 100,000 population in 2023, equivalent to approximately 1.09 million cases (WHO, 2026). Data from the Ministry of Health of the Republic of Indonesia showed that TB case detection increased from 821,200 cases in 2023 to 831,328 cases in 2024, reaching only 76.1% of the target of 900,000 cases (Ministry of Health of the Republic of Indonesia, 2024). In West Java,

84,802 TB cases were identified between January and May 2024, with the highest number reported in Bogor Regency. The high number of cases highlights the need to strengthen TB case detection and management efforts on an ongoing basis (ANTARA, 2024).

Tuberculosis requires long-term treatment and active patient involvement in care, making self-care an essential aspect of disease management. Self-care refers to patients' ability to independently perform care-related activities to maintain health, manage their condition, and support successful treatment outcomes. Subkhan et al., (2026) reported that self-care capacity plays an important role in the success of TB treatment, while Sukartini et al (2019) identified self-care as an important aspect to consider in the management of patients with pulmonary TB. The implementation of self-care is not only associated with the disease itself but is also influenced by various individual and environmental factors that support patients throughout treatment.

Knowledge is one of the factors associated with self-care behaviors among patients with pulmonary TB. Knowledge about TB can help patients understand their condition, the purpose of treatment, modes of transmission, and the care practices required during therapy. This understanding can serve as a foundation for patients to make informed decisions and maintain self-care behaviors consistently. Halawa et al., (2025) demonstrated that knowledge was associated with the implementation of self-care among patients with pulmonary TB. Similarly, Sukartini et al., (2019) identified knowledge as an aspect that should be considered in the management of self-care among patients with pulmonary TB.

Family support is an important environmental factor that may help patients maintain self-care behaviors throughout TB treatment. Family members can provide practical assistance, remind patients to take their medication, and offer guidance when difficulties arise during treatment. Such support may also encourage patients to remain motivated and actively involved in their care. Falah et al. (2024) demonstrated that family support was associated with self-care among patients with TB. Halawa et al., (2025) also reported an association between family support and the implementation of self-care among patients with pulmonary TB. These findings suggest that family involvement may contribute to patients' ability to maintain consistent self-care practices.

Social support is another factor associated with self-care among patients with pulmonary TB. Support from friends, healthcare professionals, and the wider social environment can provide emotional encouragement and help patients feel supported throughout treatment. Sukartini et al., (2019) found that social support was associated with self-care behaviors among patients with pulmonary TB. In addition, Castro et al., (2022) reported that patients with adequate social support were more likely to demonstrate adequate self-care. Social support may therefore help patients cope with the challenges of treatment and maintain their involvement in self-care.

Psychological conditions may also influence patients' ability to perform self-care during TB treatment. Un & Kyung, (2022) reported that depression was negatively associated with self-care, whereas social support was positively associated with this ability. Depression may be accompanied by reduced motivation and energy, potentially making it more difficult for patients to maintain medication and self-care routines. These findings highlight the importance of considering psychological well-being when examining self-care among patients with pulmonary TB. Psychological conditions may affect how patients cope with the demands of treatment and sustain their daily care practices.

Self-efficacy, defined as confidence in one's ability to perform specific actions, is another factor associated with self-care behaviors among patients with pulmonary TB. Greater self-efficacy may help patients feel more capable of managing their condition, adhering to treatment, and taking measures to prevent TB transmission. Pokkhrong & Songthap, (2025) found that perceived self-

efficacy in preventing TB transmission was a positive predictor of self-care, whereas alcohol consumption was a negative predictor. These findings are consistent with Sukartini et al., (2019), who identified self-efficacy as one of the factors associated with self-care among patients with pulmonary TB. This suggests that patients' confidence in their ability to manage their condition may support their active involvement in self-care.

Sociodemographic characteristics have also been reported to be associated with variations in self-care levels among patients with pulmonary TB. Subkhan et al., (2026) found that age, sex, educational level, and income were associated with self-care levels, whereas marital status and employment were not significantly associated. These characteristics may be related to differences in access to health information, healthcare services, and the resources needed during treatment. However, Castro et al., (2022) reported different findings, indicating that age, sex, educational level, and marital status were not associated with self-care among patients with pulmonary TB. These inconsistent findings suggest that the relationship between sociodemographic characteristics and self-care remains unclear and may vary according to the characteristics and context of the study population.

Treatment-related factors are also important in understanding self-care behaviors among patients with pulmonary TB. Castro et al., (2022) reported that the type of treatment regimen was associated with self-care, with patients with drug-resistant TB more frequently demonstrating inadequate self-care. More complex treatment regimens may increase the demands of care and the need for patient adaptation throughout therapy. In addition, Fauziah et al., (2026) found that medication adherence was associated with self-care behaviors among patients with pulmonary TB. These findings indicate that treatment-related demands and patients' ability to adhere to medication regimens are important considerations in understanding self-care during TB treatment.

Overall, previous studies have reported associations between knowledge, family support, social support, psychological conditions, self-efficacy, sociodemographic characteristics, and treatment-related factors and self-care among patients with pulmonary TB. However, these factors have often been examined separately, and the findings remain inconsistent, particularly regarding sociodemographic characteristics. This highlights the need for a more comprehensive understanding of the various factors associated with self-care among patients with pulmonary TB. Therefore, this literature review aims to identify and examine the factors associated with self-care among patients with pulmonary TB.

METHOD

This study employed a literature review design following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to identify, appraise, and synthesize research findings on factors associated with self-care among patients with pulmonary tuberculosis (TB). The literature review involved an examination of relevant primary research articles to provide a comprehensive overview of factors associated with self-care among patients with pulmonary TB. The literature search was conducted using four electronic databases: Google Scholar, PubMed, ScienceDirect, and Taylor & Francis Online. The search was limited to articles published between 2021 and 2025 that were available in full-text format and written in either English or Indonesian. The search strategy was developed based on the main components of the study, namely pulmonary tuberculosis, self-care, and associated factors. The keywords used included "Pulmonary Tuberculosis," "Self-Care," "Factors," "Correlation," and "Associated Factors." The keywords were combined using the Boolean operators AND and OR to identify articles relevant to the research focus. The search strategy used was "Tuberculosis" AND "Self-Care" AND ("Factors" OR "Correlation" OR "Associated Factors"). Study selection was conducted in several stages, beginning with the screening of titles and abstracts, followed by a full-text assessment of potentially relevant articles. Articles retrieved from all databases were first screened to identify and remove

duplicate publications. The titles and abstracts were then reviewed based on the relevance of the population, self-care variable, and factors associated with self-care among patients with pulmonary TB. Articles that met the initial screening criteria were subjected to full-text assessment to determine their final eligibility. The study selection process was conducted according to the predetermined inclusion and exclusion criteria and was documented in accordance with the PRISMA guidelines. The inclusion criteria were: (1) research articles involving patients with pulmonary TB as the study population; (2) studies examining self-care among patients with pulmonary TB; (3) studies investigating factors associated with self-care, including knowledge, family support, social support, psychological conditions, self-efficacy, sociodemographic factors, or treatment-related factors; (4) studies employing cross-sectional, systematic review, or path analysis designs; (5) articles published between 2021 and 2025; (6) articles written in English or Indonesian; (7) articles available in full-text format; and (8) articles published in academic journals. Articles were excluded if they: (1) did not involve patients with pulmonary TB; (2) did not examine self-care as an outcome; (3) did not assess factors associated with self-care; (4) did not match the predetermined research focus or keywords; (5) were not available in full-text format; (6) were duplicate publications; (7) were published outside the 2021–2025 period; or (8) were not published in academic journals.

Data were systematically extracted from eligible articles, including authors, publication year, study design, population and sample characteristics, factors associated with self-care, measurement instruments, main findings, and conclusions. The extracted data were organized and compared, followed by a narrative synthesis to identify patterns in factors associated with self-care among patients with pulmonary TB. The methodological quality of the included studies was assessed using the appropriate Joanna Briggs Institute (JBI) Critical Appraisal Tools according to study design. The appraisal considered the clarity of study criteria, participant and setting descriptions, measurement validity and reliability, confounding factors, and statistical analysis. A total of nine articles met the eligibility criteria and were included in the final synthesis.

RESULT

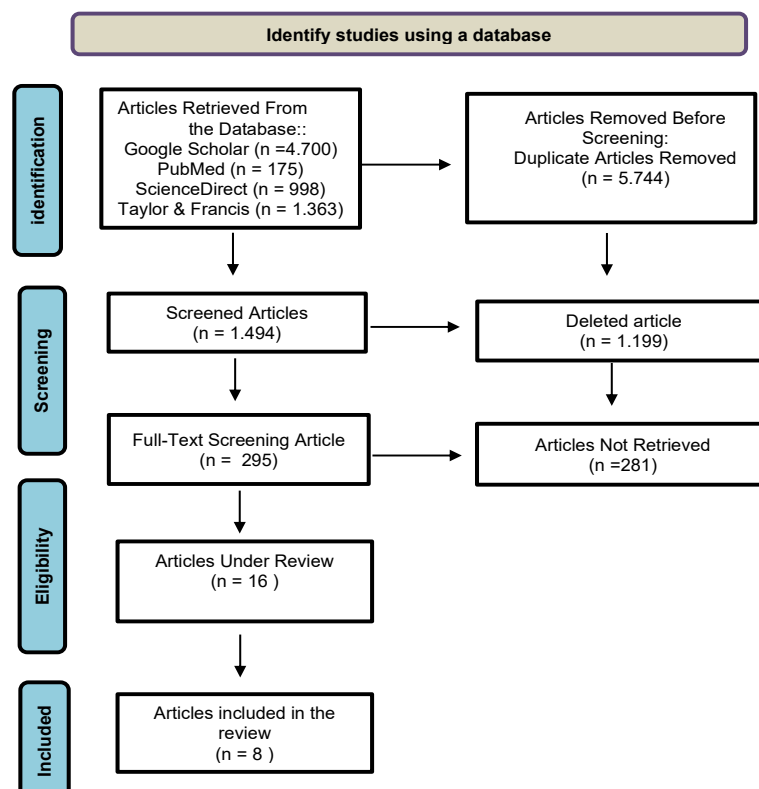


Figure 1. PRISMA Flowchart

The initial literature search yielded 7,236 articles using relevant keywords across various databases. Subsequently, 5,744 duplicate articles were removed. After duplicate removal, title and abstract screening was conducted, resulting in 1,494 articles relevant to the research topic. Of these, 295 articles were assessed for eligibility, while 281 articles were inaccessible or had no full-text available. A total of 16 articles were then evaluated through full-text review, of which 8 did not meet the inclusion criteria or were not aligned with the research objectives. Consequently, 8 articles that met the inclusion criteria were included as the primary sources for this literature review, as presented in Table 1

Table 1.
Characteristics of the Articles Analyzed

Author Name and Title	Research Design	Result	Conclusions
Subkhan et al., (2026) Factors Associated With Self-Care Ability Among Tuberculosis Patients: A Cross Sectional Study	Cross-Sectional.	The Chi-square test showed that age ($p = 0.000$), gender ($p = 0.003$), education ($p = 0.000$), and income ($p = 0.000$) were significantly associated with self-care. Meanwhile, marital status ($p = 0.201$) and occupation ($p = 0.073$) were not significantly associated with self-care.	Self-care among TB patients is influenced by age, gender, education, and income.
Sukartini et al (2019) Knowledge, Family and Social Support, Self Efficacy and Self-Care Behaviour in Pulmonary Tuberculosis Patients	Cross-Sectional.	The Spearman's rho test showed that knowledge ($p = 0.048$), family support ($p = 0.036$), and social support ($p = 0.022$) were significantly associated with self-care behavior. Knowledge ($p = 0.003$) and family support ($p < 0.001$) were significantly associated with self-efficacy, whereas social support was not ($p = 0.106$).	Knowledge, family support, and social support are associated with self-care behavior among patients with pulmonary tuberculosis (TB).
Halawa et al., (2024) Pengetahuan dan Dukungan Keluarga dengan Self Care pada Pasien TB Paru	Cross-Sectional.	Statistical analysis showed that knowledge ($p = 0.022$) and family support ($p = 0.002$) were significantly associated with self-care.	Knowledge and family support are significantly associated with self-care among patients with pulmonary tuberculosis (TB).
Falah et al. (2024) Relationship Between Family Support with Self-Care Adherence Among Tuberculosis Patients	Cross-Sectional.	The Chi-square test showed a significant association between family support and self-care adherence ($p = 0.005$).	Family support is significantly associated with self-care adherence among TB patients.
Un & Kyung, (2022) Effects of Depression, Social Support of Tuberculosis Patients on Self-Care	Cross-Sectional.	Pearson correlation analysis showed that depression was negatively associated with self-care ($p < 0.001$), whereas social support was positively associated ($p < 0.001$). Regression analysis identified social support ($p < 0.001$) as a positive predictor, while depression ($p < 0.001$), previous medication discontinuation ($p < 0.001$), and drug resistance ($p < 0.001$) were negative predictors. The model explained 62% of the variance in self-care.	Social support is positively associated with self-care, whereas depression, previous medication discontinuation, and drug resistance are associated with lower levels of self-care.
Castro et al., (2022) Social Support and Self-Care in Patients with Pulmonary Tuberculosis Lima Este Hospital, 2020, Peru	Cross-Sectional.	The Chi-square test showed that gender, age, education, and marital status were not significantly associated with self-care ($p > 0.05$). The drug-sensitive TB regimen was significantly associated with self-care ($p = 0.000$); 100% of patients with drug-sensitive TB had adequate self-care, whereas 69.2% of patients with MDR-TB had inadequate self-care. Social support was also significantly associated with self-care ($p = 0.000$); 83.3% of patients with adequate social support demonstrated adequate self-care.	Social support and treatment regimen type were associated with <i>self-care</i> , whereas demographic characteristics showed no significant association.

Author Name and Title	Research Design	Result	Conclusions
Pokkhrong & Songthap, (2025) Factors Affecting Self-Care Behaviors Among Tuberculosis Patients, Phichit Province	Cross-Sectional.	The stepwise multiple regression analysis showed that <i>perceived self-efficacy</i> in preventing TB transmission was a positive predictor of <i>self-care</i> ($\beta = 0.601$; $p < 0.001$), whereas alcohol consumption was a negative predictor ($\beta = -0.125$; $p = 0.013$). Together, these two variables explained 37.1% of the variance in <i>self-care behavior</i> .	Social support and treatment regimen are associated with self-care, whereas demographic characteristics show no significant association.
(Fauziah et al., 2026) Hubungan Dukungan Keluarga dan Kepatuhan Minum Obat terhadap Perilaku Perawatan Diri (Self-Care Behavior) pada Pasien Tuberkulosis Paru	Cross-Sectional.	The Chi-square test showed significant associations between family support and medication adherence with self-care behavior ($p < 0.001$).	Family support and medication adherence are associated with self-care behavior among patients with pulmonary tuberculosis (TB).

DISCUSSION

Self-care is an essential component of pulmonary tuberculosis (TB) management, as patients are required to maintain their care practices throughout the course of treatment. Self-care behavior depends not only on patients' individual abilities but is also influenced by knowledge, self-efficacy, social support, psychological conditions, individual characteristics, and treatment-related experiences Sukartini et al., (2019). The reviewed literature suggests that self-care is associated not only with patients' understanding of their illness but also with the support they receive and their ability to cope with the demands of treatment.

Knowledge is one of the factors associated with self-care among patients with pulmonary TB because an understanding of the disease can provide a basis for determining appropriate care practices. Sukartini et al., (2019) explain that knowledge about TB, together with family and social support, is an important component related to self-efficacy. This suggests that knowledge is associated not only with patients' understanding of the disease but also with their confidence in their ability to perform self-care. When patients understand their condition and care requirements, this knowledge can serve as a foundation for carrying out self-care practices more effectively. These findings are consistent with Halawa et al., (2025), who also examined knowledge as a factor associated with self-care among patients with pulmonary TB. Therefore, health education should help patients understand their illness while also strengthening their confidence in applying appropriate care practices in daily life.

Family support plays an important role in helping patients maintain self-care behavior during treatment. Sukartini et al., (2019) explain that family support is associated not only with self-care behavior but also with patients' self-efficacy, which refers to their confidence in their ability to perform self-care. Family support may strengthen this confidence through the care, encouragement, and assistance provided throughout treatment. An article published by Universitas Airlangga further explains that family support may help patients feel calmer, develop a more positive attitude toward treatment, accept their condition, and regulate their emotions more effectively. The article also describes practical forms of support, such as family members preparing high-protein meals and accompanying patients to obtain medication when their supply runs out. Such assistance may help patients meet their care needs and continue treatment until completion.

These explanations are supported by Halawa et al., (2025), who describe inadequate family support as being associated with less optimal self-care among patients with pulmonary TB. Meanwhile, Falah et al., (2024) examined family support in relation to self-care adherence. Family support can

therefore be understood as a source of assistance that helps patients implement care practices in their daily lives, rather than merely providing emotional encouragement. When family members help meet patients' needs and support their treatment, they create an environment that may facilitate the continued practice of self-care.

Family support is also connected to broader social support, which patients receive from people and groups in their surrounding environment. Sukartini et al., (2019), Castro et al., (2022) and Un & Kyung, (2022) examined social support as a factor associated with self-care among patients with pulmonary TB. Social support may provide emotional encouragement, a sense of being cared for, and assistance in dealing with challenges throughout treatment. A supportive social environment may help patients feel less alone in coping with their illness and maintain their involvement in care. These findings highlight the importance of considering social support as part of efforts to promote self-care among patients with pulmonary TB.

Social and family support should also be considered alongside patients' psychological conditions, particularly depression. Castro et al., (2022) examined social support in the context of self-care among patients with TB, highlighting the relevance of the social environment in supporting patient care. Social support may provide encouragement and assistance when patients encounter difficulties during treatment, reducing their reliance on their own resources alone (Sukartini et al., 2019). Understanding the social support available to patients is important for developing self-care promotion programs and guiding nursing care. Adequate social support may serve as a resource that helps patients carry out care practices, while inadequate self-care practices may be associated with unsuccessful treatment (Castro et al., 2022). Strengthening social support and promoting responsible self-care are therefore considered important in supporting successful TB treatment.

Similarly, Un & Kyung, (2022) examined depression and social support as factors associated with self-care among patients with TB. The authors explain that educational programs and nursing interventions should be developed to strengthen social support and reduce depression in order to improve patients' self-care abilities. This indicates that social support should be understood not only as assistance from the surrounding environment but also as an aspect that can be strengthened through nursing care. When patients face challenges during treatment, support from others may serve as a resource that helps them continue their care practices. Therefore, social support should be considered alongside patients' psychological conditions when addressing self-care.

In addition to psychological conditions, patients' beliefs about their own abilities, or self-efficacy, are also associated with self-care behavior. Sukartini et al., (2019) examined self-efficacy as a factor related to self-care behavior among patients with pulmonary TB. Pokkhrong & Songthap, (2025) identified perceived self-efficacy in TB transmission prevention as a factor supporting self-care behavior. Confidence in one's ability to perform care practices may be associated with patients' engagement in self-care and their ability to prevent transmission independently. Strengthening knowledge and family support may therefore be part of an approach to enhance patients' confidence in performing self-care.

Patients' ability to perform self-care may also be associated with their sociodemographic characteristics. Subkhan et al., (2026) identified age, gender, education, and income as characteristics associated with self-care, whereas Castro et al., (2022) reported that several demographic characteristics were not associated with the behavior. These differing findings indicate that the relationship between sociodemographic characteristics and self-care is not consistent across studies. Individual characteristics may be related to access to health information, resources, and healthcare services needed during treatment. However, these characteristics should be considered alongside other factors, as they do not necessarily reflect patients' self-care abilities comprehensively.

Treatment-related factors are also important in understanding self-care behavior among patients with pulmonary TB. Castro et al., (2022) identified treatment regimens as a factor associated with self-care, particularly in the context of differences between patients with drug-susceptible TB and drug-resistant TB. Un & Kyung, (2022) also identified previous treatment discontinuation and drug resistance as factors associated with lower self-care. In addition, Pokkhrong & Songthap, (2025) identified alcohol consumption as a factor associated with self-care behavior. These findings suggest that treatment experiences and health-related behaviors should be considered when examining patients' ability to maintain self-care throughout TB therapy.

CONCLUSION

Overall, the literature indicates that self-care among patients with pulmonary TB is associated with the interaction of individual, social, psychological, and clinical factors. Knowledge, family support, social support, and self-efficacy are aspects that support patients' engagement in self-care, whereas depression, previous treatment discontinuation, drug resistance, and alcohol consumption are associated with factors that may hinder it. Meanwhile, findings regarding sociodemographic characteristics remain inconsistent across studies.

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