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Review Article

Exploring the Impact of Social Support on Tuberculosis Treatment: A Thematic Review

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Abstract

Aims: Tuberculosis (TB) remains a critical global health issue, characterized by significant morbidity and mortality rates. Recent research highlights the potential of social support interventions to enhance TB treatment outcomes and improve patient quality of life. This study examines the positive effects of social support interventions on TB patients throughout their treatment process.

Method: Utilizing a traditional review approach, this study applies thematic analysis to synthesize findings from the literature. The review encompasses 17 articles selected from reputable databases, including PubMed, Wiley Online Library, ProQuest, and Google Scholar, based on predefined inclusion criteria. These articles underwent quality assessment using the Critical Appraisal Skills Programme (CASP) tool. The PRISMA flowchart provided transparency in the selection process.

Results: Key themes identified through the analysis include treatment adherence, psychological well-being, motivation to recover, health-related quality of life, prevention of TB transmission, successful TB treatment, and self-efficacy to recover.

Conclusion: The findings suggest that social support interventions can play a crucial role in addressing the persistent challenges of TB management globally.

Keywords:

Quality of Life, Social Support, Thematic Analysis, Treatment Adherence, Tuberculosis

INTRODUCTION

Tuberculosis (TB) remains a significant global health challenge, with increasing morbidity and mortality. The World Health Organization (WHO) reported approximately 10.6 million new TB cases in 2021, an increase of around 600,000 cases from 2020 (1). Of these, 6.4 million cases were reported and are currently under treatment, while an estimated 4.2 million

cases remain undiagnosed or unreported. This underscores a significant gap in TB detection and treatment efforts worldwide, highlighting the urgent need for improved strategies to identify and manage undiagnosed cases to curb disease spread.

In Indonesia, which ranks second globally for TB burden after India, the situation is particularly concerning (1). The estimated number of cases rose by 17% in 2021 to

969,000 from 824,000 in 2020, highlighting an urgent need for intensified TB control measures. Effective TB control incorporates various strategies—promotive, preventive, curative, and rehabilitative to reduce morbidity and mortality, interrupt transmission, and mitigate adverse outcomes (2)(3). Critically, treatment adherence is essential, with non-adherence often resulting from factors such as complex treatment regimens, low health literacy, and insufficient social support (4). Thus, early detection and comprehensive support, including medical and social, are vital for successful TB management (5–7).

Social support, encompassing emotional, informational, and practical assistance from family, friends, and community members, plays a critical role in overcoming treatment barriers and managing daily challenges associated with TB (8). Social support interventions can be delivered through various channels, including family members, community networks, peers with similar experiences, and healthcare providers (9). Peer support, in particular, can be facilitated through self-help groups, where members share experiences, offer encouragement, and provide mutual support, thereby enhancing treatment adherence and patient well-being (10). These groups foster a sense of solidarity and practical assistance, which can be instrumental in navigating the complexities of TB treatment.

Research has demonstrated that family support, especially through Drug Swallowing Supervisors (PMOs), is a crucial factor in improving treatment adherence among TB patients (11,12). A special program established by the Ministry of Health of the Republic of Indonesia to support the treatment of tuberculosis patients is through the PMO. The main task of the PMO is to ensure TB patients take medication regularly until treatment is completed, as well as to provide support and encouragement for patients to undergo treatment with discipline (3). PMOs play a

significant role in monitoring medication adherence, providing motivation, reminding patients about essential tests, and educating families about TB symptoms and prevention (13). This literature review aims to explore the positive impacts of social support interventions on TB patients, emphasizing the benefits of these approaches during the treatment process.

METHODS

This study employs a Traditional Review approach to analyze the positive impact of social support interventions on Tuberculosis (TB) patients during their treatment. This approach is chosen over a systematic review due to the heterogeneous nature of the existing literature, which includes quantitative, qualitative, and review studies. Traditional Review allows for a broader synthesis of diverse findings, enabling a comprehensive understanding of the themes emerging across various study designs (14). Although the Traditional Review does not typically involve quality assessment of individual studies (15,16), this study integrates quality appraisal using the Critical Appraisal Skills Programme (CASP) tool (17), adapted to the study designs reviewed.

Inclusion Criteria

Inclusion criteria for the review comprised:

- Studies involving TB patients as research subjects.
- Detailed reports on social support interventions used during TB treatment, specifying the types of support such as emotional, informational, practical, or community-based interventions.
- Evidence of the positive impacts of these interventions on treatment adherence, quality of life, or psychological well-being of TB patients.
- Articles published in English between 2013 and 2022.
- Original research articles from both quantitative and qualitative

backgrounds, as well as relevant review articles including systematic reviews and meta-analyses.

Exclusion Criteria

Studies were excluded based on:

- Non-compliance with the inclusion criteria.
- Samples that were not representative of the TB patient population.
- Lack of relevant information pertinent to the study's objectives.

Data Collection and Selection

The data collection process was illustrated using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flowchart to ensure systematic study selection (18). The process involved:

1. Searching databases such as PubMed, Wiley Online Library, ProQuest, and Google Scholar for studies meeting the inclusion criteria.
2. Selecting relevant articles that report on social support interventions and their positive impacts on TB patients.

3. Applying exclusion criteria to refine the selection, focusing on representative and relevant studies.

The final selection comprised 17 articles that met the inclusion criteria. These articles underwent quality assessment using the CASP tool (17). The PRISMA flowchart provided transparency in the selection process (Figure 1).

Data Analysis

Thematic analysis was used to synthesize findings from the literature (19). The process involved:

- Rigorous and repeated reading of the articles.
- Identification of methodologies, data collection techniques, and results within each study.

Extraction and synthesis of patterns, common findings, and interconnected themes into thematic categories, offering a comprehensive view of the roles and impacts of social support in TB treatment.

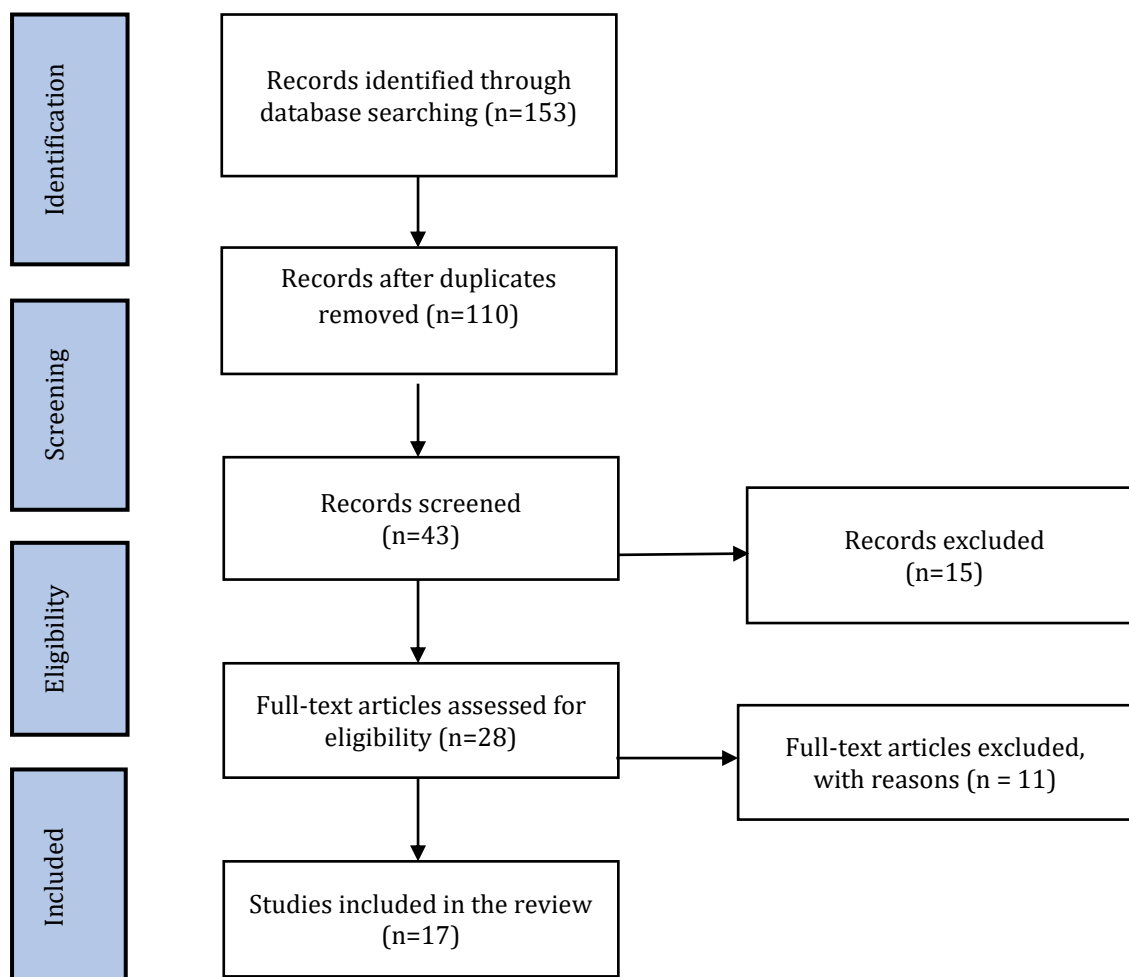


Figure 1. Flowchart of Article Search and Selection

Additionally, the PICO (Population, Intervention, Comparison, Outcome) framework was used to formulate clear and specific research questions (Table 1). This approach facilitated the identification of key elements in the research question, thereby streamlining the literature search and analysis process (20). The use of Medical Subject Headings (MeSH) further refined the search strategy to enhance relevance and accuracy.

Table 1. PICO Criteria in this Study

Variable	Information	Keywords
Population	Refers to the target population or group that is the focus of the article or study; in this case, it is tuberculosis patients or individuals receiving tuberculosis-related diagnoses or treatments.	Tuberculosis Patients OR Tuberculosis Diagnosis OR Tuberculosis Treatment
Intervention	Refers to the various types of interventions or actions given to TB patients obtained during TB treatment	Social Support OR Emotional Support OR Instrumental Support OR Informational Support AND Support Group AND Counseling

		AND Community-based Interventions
Comparison	N/A	N/A
Outcome	The impact or results of Social Support interventions felt by TB patients during treatment	Effects OR Impact OR Results OR Management OR Treatment success OR Mortality Rate OR Quality of Life OR Adherence to Treatment OR Disease Progression

RESULTS

Article search results from the online database found 17 (seventeen) articles that met the criteria for researchers to be reviewed. Here is a table of extracted results from selected articles:

Table 2. Results of Article Extraction

No	Author and Year of Publication	Journal Name	Research Design	Core Data
1	Nirmal et al., 2021 (21)	Global Public Health	Descriptive qualitative research	Social support is crucial in overcoming treatment barriers and improving medication adherence.
2	Li et al., 2018 (22)	Journal of Epidemiology and Community Health	Quantitative research with a community-based trial approach	Comprehensive social support interventions impact medication adherence and patient treatment outcomes.
3	Khanal et al., 2017 (23)	PLoS ONE	Qualitative and quantitative mixed-methods research	Social support interventions can enhance the psychological well-being of TB patients.
4	Yin et al., 2018 (24)	Tropical Medicine & International Health	Mixed-methods research qualitative and quantitative	Social support influences treatment success and alleviates the psychological burden of TB patients.
5	Chen et al., 2016 (25)	Patient Preference and Adherence	Quantitative research with a cross-sectional approach	Social support affects adherence to TB treatment regimens. .
6	Paz-Soldán et al., 2013 (26)	BMC Health Services Research	Descriptive qualitative research	Family social support increases health behaviors and motivation for TB patients to complete treatment.
7	Chen et al., 2021 (27)	Scientific Reports	Quantitative research with a cross-sectional approach	There is a relationship between social support, stigma, psychological distress, and quality of life

				for TB patients.
8	Arifin et al., 2019 (28)	IOP Conference Series: Materials Science and Engineering	Quantitative research with a cross-sectional approach	Informational support is related to medication adherence in TB patients.
9	Saqib, Ahmad, and Panezai, 2019 (29)	Family Medicine and Community Health	Quantitative research with a cross-sectional approach	Family and community support are crucial in addressing treatment non- adherence among TB patients.
10	Van Hoorn et al., 2016 (30)	PLoS ONE	Systematic Review and Meta-Analysis	Psycho-emotional and socioeconomic support improves TB treatment adherence.
11	Skiles et al., 2018 (31)	PLoS ONE	Descriptive analytics with a cohort approach	Provided social support contributes to the control of TB transmission.
12	Hasanah et al., 2019 (32)	IOP Conference Series: Earth and Environment al Science	Quantitative research with a quasi-experimental approach	Peer group support influences medication adherence in TB patients.
13	Zarova et al., 2018 (33)	BMC Research Notes	Quantitative research with a cross-sectional approach	The relationship between social support and quality of life related to TB patient health.
14	Yin, 2016 (34)	Dissertations Publishing	Systematic Review and Meta-Analysis	Recommendations for social support to improve TB treatment success..
15	Van De Berg et al., 2018 (35)	PLoS ONE	Systematic Review and Meta-Analysis	Support from healthcare workers, such as health education and TB-specific counseling, can affect the success of TB treatment.
16	Baniqued et al., 2020 (36)	Public Health Nursing	Descriptive analytics with a cohort approach	Nurse social support (emotional and instrumental) is associated with medication adherence in TB patients.
17	Jauhar et al., 2019 (37)	The International Journal of Health, Education and Social (IJHES)	Quantitative research with a quasi-experimental approach	Peer group support interventions affect TB patients' self-efficacy to adhere to treatment.

After analyzing and synthesizing the selected articles, several key themes emerged from this literature review on social support interventions in TB patients. Table 3 outlines the thematic analysis, highlighting the positive impact of social support interventions on various aspects of TB patient care.

Table 3. Thematic Analysis of the Positive Impact of Social Support Interventions on Tuberculosis Patients

Theme	Theme Description	References
Treatment Adherence	Treatment adherence refers to the extent to which TB patients follow their prescribed treatment plans. Social support can enhance adherence by providing encouragement, attention, and relevant information. Patients who feel supported by family, friends, or the community are generally more motivated to comply with treatment protocols.	(21,22,24,25,28,29,32,36)
Psychological Well-Being	Psychological well-being encompasses the emotional and mental states of TB patients. Social support interventions provide a safe environment for patients to express their feelings, concerns, and anxieties about TB. Enhanced social support can lead to improved psychological well-being by reducing stress, depression, and anxiety levels during treatment.	(23)
Motivation to Recover	Social support interventions can increase patients' motivation to recover. Support from family, friends, or support groups can help patients find hope and purpose in their recovery journey. The encouragement and motivation provided by the social environment can drive patients to combat the disease and remain committed to their treatment.	(26)
Health-Related Quality of Life	Health-related quality of life refers to how patients perceive their health status and its impact on their overall life. Social support can enhance quality of life by providing emotional, physical, and practical assistance. Feeling supported and cared for can lead to greater patient satisfaction and happiness during treatment and recovery.	(27,33)
Prevention of TB Transmission	Social support can help prevent the transmission of TB to patients and their communities. By emphasizing the importance of adherence to medication and preventive measures, support can reduce the risk of TB transmission. It also assists patients in identifying steps to protect others	(31)

	from potential TB exposure.	
Successful TB Treatment	Successful TB treatment involves evaluating the effectiveness of treatment in addressing TB infection and symptoms. Social support plays a crucial role in achieving treatment success. A positive support environment encourages patients to adhere to treatment, minimizing disruptions and increasing the likelihood of recovery.	(30,34,35)
Self-Efficacy to Recover	Self-efficacy to recover refers to a patient's belief in their ability to overcome TB. Social support can enhance self-efficacy through consistent encouragement, praise, and support. Higher levels of self-efficacy enable patients to face treatment challenges with confidence and persistence.	(37)

DISCUSSION

This study investigates the positive impacts of social support interventions on Tuberculosis (TB) patients during treatment. Analysis of 17 selected articles revealed seven key themes highlighting the benefits of social support: Treatment adherence, Psychological well-being, Motivation to recover, Health-related quality of life, Prevention of TB transmission, Successful TB treatment, and Self-efficacy to recover. Effective TB control encompasses a range of health efforts, focusing on both promotive and preventive aspects while addressing curative and rehabilitative needs. The objectives include maintaining and protecting public health, reducing morbidity, preventing disability or death, interrupting transmission, preventing drug resistance, and mitigating the negative impacts of tuberculosis (3). Within this framework, social support interventions are crucial (24,38). Social support, which encompasses emotional, informational, and practical assistance from family, friends, and community members, is essential for helping individuals manage challenges and stressors, including those related to health conditions (8).

The findings of this study underscore the crucial role of social support in enhancing

adherence to treatment regimens among patients with tuberculosis (TB). Comprehensive social support interventions, including health education, psychotherapy, and familial as well as community support, have been identified as pivotal in fostering treatment adherence (22). Social support is recognized as an integral element of health and well-being, encapsulating the perception of being cared for, valued, and supported by others (25). Conversely, insufficient social support has been identified as a significant risk factor for non-adherence, which may result in disease progression, the development of drug-resistant strains, and other adverse health outcomes (24). Consequently, ensuring that TB patients receive adequate social support is essential for promoting adherence, enhancing motivation, and improving overall quality of life throughout the treatment process.

Non-adherence to prescribed treatment regimens is a critical challenge in the management of various diseases, including TB. Patients who fail to adhere to their treatment protocols are at heightened risk of experiencing disease exacerbation, the emergence of drug resistance, and additional health complications (39). Social support has been consistently highlighted as a key determinant in improving patient

adherence (21). Therefore, providing sufficient social support is imperative for fostering patient adherence to treatment. The emotional and practical support extended by family members, friends, and the community serves as a vital motivator for patients to maintain consistent treatment engagement and to navigate the obstacles that may arise during the recovery process. Such support not only increases the likelihood of successful treatment outcomes but also enhances the patient's overall quality of life.

Social support interventions are instrumental in fostering psychological well-being among TB patients. These interventions create a supportive environment where patients can share their concerns and anxieties, mitigating the risk of mental health disorders such as depression and anxiety (23). Psychological well-being, characterized by emotional balance and supportive relationships, is crucial for managing the stress and challenges associated with TB (40). Enhanced social support can improve patients' mental health, thereby contributing to a more effective treatment experience (41).

The theme "Motivation to Recover" underscores the significant impact of social support on patients' motivation to recover. Support from family and community—through encouragement, reminders, and attention to needs—plays a vital role in boosting patients' motivation and helping them navigate treatment challenges (26). Social support enhances patients' resolve to adhere to treatment and seek better education about TB, contributing to their overall recovery (42).

Social support significantly improves the health-related quality of life for TB patients. Through emotional, physical, and practical support, social networks enhance patients' satisfaction and happiness during treatment (27,33). Quality of life encompasses various dimensions, including physical, mental, and social well-being, as well as environmental

factors (43). Adequate social support helps patients perceive their quality of life more positively, reducing stress and discomfort associated with treatment.

The theme "Prevention of TB Transmission" highlights the role of social support in preventing the spread of TB. Effective transmission prevention is critical to protect others, curb widespread transmission, reduce drug resistance, and support TB control efforts (44). Social support encourages adherence to preventive behaviors, such as handwashing, mask-wearing, physical distancing, and avoiding crowds (45). Social support factors significantly influence adherence to these preventive measures (31).

The theme "TB Treatment Success" underscores the importance of social support in achieving successful treatment outcomes. Success is defined by the achievement of negative bacteriological results and completion of therapy (1). Psycho-emotional support has been shown to significantly improve treatment success rates (30). Social support helps patients maintain a positive outlook on their treatment, contributing to successful outcomes (34).

Finally, the theme "Self-Efficacy to Recover" demonstrates that social support influences patients' beliefs in their ability to recover from TB (37). Self-efficacy refers to one's belief in their capability to perform specific health behaviors successfully (46). TB patients with high self-efficacy exhibit greater confidence and are better able to overcome treatment challenges (47).

In the context of community-based interventions for tuberculosis (TB) patients, Self-Help Groups (SHGs) emerge as an effective strategy for providing social support. SHGs are designed as health promotion initiatives aimed at empowering individuals by fostering increased expectations and offering consistent support throughout the care process (48). The establishment of SHGs facilitates the expansion of social networks among

members, enabling them to access valuable information and receive emotional support from peers who share similar health challenges (49). This communal support structure is particularly beneficial in the management of TB, as it helps to mitigate feelings of isolation and provides a platform for the exchange of experiences, coping strategies, and mutual encouragement (10). Consequently, SHGs contribute significantly to improving treatment adherence and overall well-being among TB patients by reinforcing a supportive community environment.

One of the major limitations of this study is the use of secondary data, which may not capture important contextual variables essential for assessing the effectiveness of social support. Additionally, the variability in the types of social support interventions explored across different studies can affect the ability to generalize the results. Therefore, further empirical research with more homogeneous designs and primary data is needed to verify and expand these findings to broader contexts.

CONCLUSION

This study demonstrates that social support plays a crucial role in improving TB treatment outcomes, significantly influencing treatment adherence, psychological well-being, recovery motivation, and health-related quality of life. These findings support the importance of integrating comprehensive social support systems into TB treatment protocols, which include emotional, informational, and practical support from family, friends, and communities. Given the substantial impact of social support on the success of TB treatment, it is highly recommended for healthcare providers to implement family-based support programs and peer group interventions as part of their treatment strategies. Policymakers also need to support the development of policies that facilitate the integration of social support interventions into public health systems.

Further research is needed to explore the application of these findings across diverse demographic and geographical contexts, to ensure their effectiveness universally.

Ethical Considerations

This research is a literature study that does not involve the collection of primary data; therefore, ethical approval is not required. However, the authors ensure that all data from the literature used is presented transparently to comply with ethical standards.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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