

Review

Fear of cancer and emotional regulation among patients with pulmonary tuberculosis: A psycho-oncological perspective

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Abstract: Pulmonary tuberculosis (TB) imposes a substantial psychological burden. Prolonged treatment, social stigma, and uncertainty can precipitate anxiety and depressive symptoms. Psycho-oncology offers transferable constructs—especially fear of cancer (including fear of recurrence) and emotion regulation—that may illuminate analogous mechanisms in TB. To synthesize evidence on (i) psychological distress, stigma, and emotion regulation among people with TB; (ii) conceptual overlaps between fear of cancer and chronic-illness anxiety; and (iii) implications for psycho-oncology-informed care pathways in TB. Narrative review guided by SANRA quality principles and informed by PRISMA-ScR transparency standards. Searches of PubMed, Scopus, Web of Science, and Google Scholar (2015–2025) combined terms for tuberculosis, fear of cancer/recurrence, emotion regulation, stigma, self-esteem, and coping. Inclusion criteria: peer-reviewed, open-access, English-language studies addressing psychosocial constructs in TB, cancer, or closely related chronic conditions. Ten eligible studies were thematically synthesized. Four convergent themes emerged. (1) Psychological distress and stigma in TB: Internalized/anticipated stigma are consistently associated with anxiety, depression, and poorer quality of life; higher self-esteem buffers these effects. (2) Fear of cancer and emotion-regulation mechanisms: Adaptive strategies (e.g., cognitive reappraisal, acceptance) reduce fear-related distress; maladaptive strategies (rumination, avoidance, self-blame) amplify it. (3) Cross-disease psychosocial parallels: Trans-diagnostic patterns link fear, control beliefs, and interpersonal regulation to resilience and adherence across TB and oncology. (4) Intervention implications: Multi-level approaches—counselling, peer/family support, stigma-reduction toolkits, and culturally attuned mind–body practices—target shared mechanisms and may improve well-being and treatment engagement. Fear-related processes and emotion regulation constitute a common psychological architecture across TB and cancer. A psycho-oncological lens clarifies how stigma, self-concept, and regulatory strategies shape distress, resilience, and adherence in TB. Integrating routine psychological screening, brief emotion-regulation interventions, interpersonal supports, and culturally sensitive practices into TB services could strengthen outcomes and advance a biopsychosocial standard of care. This review expands the psycho-oncological paradigm to infectious disease contexts.

Keywords: adherence; emotion regulation; fear of cancer; fear of recurrence; narrative review; psycho-oncology; resilience; self-esteem; stigma; tuberculosis

1. Introduction

1.1. Background and rationale

Tuberculosis (TB) remains one of the world's most persistent infectious diseases, affecting an estimated 10 million people annually and causing more than 1.4 million deaths worldwide. Beyond its physiological impact, TB carries a profound psychological burden. Long treatment duration, adverse drug reactions, social stigma, and fear of transmission frequently lead to emotional distress, anxiety, and depressive symptoms [1]. In a large-scale survey in Northeast China, 64.1% of TB patients experienced clinically relevant psychological distress, driven by high economic burden, diabetes comorbidity, and stigma [2]. Similarly, Nasir et al. [1] observed that stigma, social isolation, and inadequate mental-health support aggravated anxiety and reduced adherence among TB patients in South Asia. These findings emphasize that TB is not solely a biomedical condition but a psychosocially embedded illness requiring psychological insight and intervention.

Within chronic disease contexts, emotional regulation—the ability to modulate affective responses to stress—is increasingly recognized as a central determinant of mental health and treatment adherence. In oncology, fear of cancer recurrence (FCR) epitomizes a comparable psychological construct marked by persistent worry, intrusive thoughts, and physiological arousal despite remission. Hosseini et al. [3] demonstrated that adaptive cognitive emotion-regulation strategies, such as positive reappraisal and acceptance, substantially reduce FCR, whereas maladaptive patterns like rumination or catastrophising exacerbate it. Psychological well-being and illness perception mediated these relationships, underscoring the integrative nature of cognitive and emotional processes.

Parallels between the emotional experiences of TB and cancer patients are striking. Both groups confront chronic uncertainty, social stigma, and identity disruption, which can provoke maladaptive coping and psychosomatic sequelae. Chen et al. [4] further clarified that among TB patients, self-esteem buffers the relationship between experienced stigma and anxiety/depression, indicating that emotion regulation and self-concept act as resilience mechanisms. The overlap of such mechanisms with psycho-oncological constructs suggests a shared psychobiological substrate linking fear, coping, and immune function. Chronic pulmonary tuberculosis has also been associated with an increased risk of pulmonary malignancy due to long-standing inflammation and tissue damage. This biological vulnerability may further heighten illness-related fear, leading some patients to experience anxiety patterns resembling fear of cancer recurrence.

Recent psycho-oncology scholarship extends beyond cancer to other chronic and stigmatized diseases, advocating trans-diagnostic psychological frameworks. Zeng et al. [5], identified interpersonal emotion regulation as a key determinant of resilience and social reintegration among cancer survivors, highlighting the therapeutic potential of social connection and emotional synchrony. These insights can inform psychosocial strategies for TB populations, particularly in settings where individual psychotherapy is less accessible. Consequently, this review adopts a psycho-oncology perspective to explore how constructs, such as fear, stigma, and emotion regula-

tion intersect in TB patients. By drawing conceptual bridges between oncology and infectious-disease psychology, it seeks to illuminate how adaptive emotional regulation may mitigate distress and improve adherence in TB care. However, no previous review has explicitly examined fear-related and emotion-regulation mechanisms in tuberculosis through a psycho-oncological lens.

1.2. Objectives of the review

- 1) To synthesize empirical evidence on emotional regulation, stigma, and psychological distress among TB patients.
- 2) To examine mechanistic and conceptual overlaps between fear of cancer and emotional dysregulation in chronic infectious diseases.
- 3) To propose a psycho-oncology-informed framework for integrative psychological care in TB management.

2. Conceptual framework

2.1. Theoretical basis

Emotional responses to chronic illness have long been explained through cognitive-behavioral and biopsychosocial models. Leventhal's self-regulation model proposes that individuals form cognitive and emotional representations of illness that influence coping behavior and adjustment [6,7]. In this framework, illness perception acts as a mediator between stress and psychological outcomes. Hagger and Orbell [8] confirmed this in a meta-analysis demonstrating that illness representations predict coping style and recovery across diverse health conditions. Hosseini et al. [3] applied this model to breast cancer survivors, showing that adaptive cognitive emotion-regulation strategies—such as positive reappraisal and acceptance—improved psychological well-being and reduced fear of cancer recurrence through more balanced illness representations. These findings illustrate how cognitive appraisal and emotional processing interact dynamically within the self-regulation system.

Similarly, the Emotion-Regulation Model of Self-Esteem suggests that emotional well-being depends not only on the management of affective arousal but also on self-evaluative processes. Gross and John [9] demonstrated that individuals who habitually employ cognitive reappraisal experience greater self-esteem and social functioning, whereas those relying on suppression exhibit lower well-being. In TB patients, Chen et al. [4] found that self-esteem moderated the relationship between experienced stigma and anxiety/depression, indicating that positive self-perception buffers against maladaptive emotional reactivity. These models collectively position *emotion regulation* and *self-concept* as dynamic systems influencing how chronic illness is experienced, interpreted, and coped with.

Beyond individual cognition, interpersonal emotion regulation—the ability to coregulate affect through social relationships—has been identified as a major factor in recovery. Zeng et al. [5], demonstrated that among cancer survivors, interpersonal emotion regulation promoted resilience, social reintegration, and adaptive coping. These processes mirror what TB patients experience when supported through family or peer networks, suggesting shared psychosocial mechanisms across disease types. Parallel findings in chronic infectious disease suggest that social connectedness and

family support similarly enhance psychological adaptation among TB patients [1,10]. These shared psychosocial mechanisms reflect a cross-disease pattern in which relational regulation fosters emotional stability and treatment adherence.

In the context of TB, chronicity, stigma, and fear of deterioration often mirror the existential threat faced by cancer patients. The integration of psycho-oncological theories therefore provides a meaningful lens for understanding TB-related psychological distress. Fear of cancer, whether realistic or symbolic, becomes an archetype for chronic disease anxiety, shaped by uncertainty, bodily vigilance, and perceived loss of control [11,12].

2.2. Key constructs

The conceptual interrelations illustrated in **Figure 1** clarify how fear, emotion regulation, stigma, and self-esteem converge within a unified psycho-oncological framework.

The conceptual model illustrates shared psycho-oncological pathways linking tuberculosis and cancer through overlapping constructs of fear, stigma, self-esteem, and emotion regulation. Fear of recurrence or malignant transformation, internalized stigma, and self-esteem interact to influence emotional regulation processes, which determine psychological distress, resilience, and treatment adherence. A psychoneuro-immunology feedback loop connects chronic stress, immune modulation, and behavioral outcomes, highlighting the bidirectional relationship between mind and body.

2.2.1. Fear of cancer

Fear of cancer recurrence (FCR) represents persistent anxiety that disease may progress or return. It encompasses cognitive preoccupation, physiological arousal, and vigilance behaviors. Hosseini et al. [3] demonstrated that such fear intensifies when patients perceive illness as uncontrollable or life-threatening. Butow et al. [13] similarly found that excessive monitoring and intrusive worry are core predictors of poor adjustment among cancer survivors. Among individuals with tuberculosis, an analogous response manifests as fear of malignant transformation—a projection of chronic uncertainty and vulnerability often sustained by prolonged treatment and social stigma.

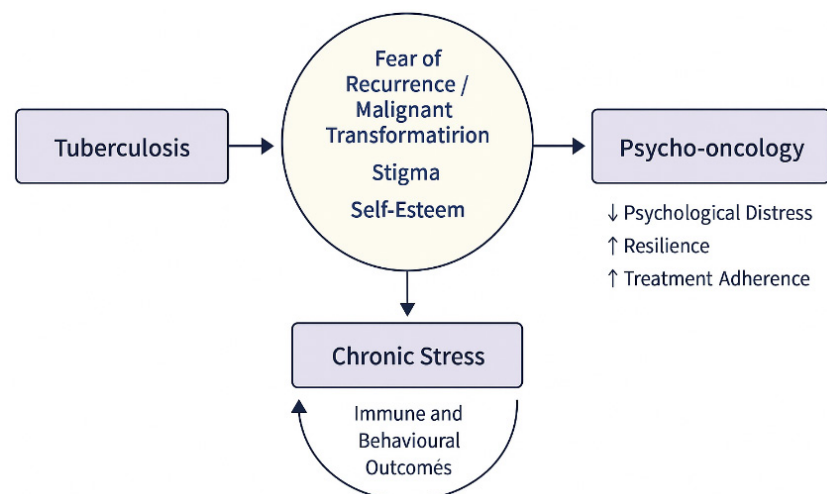


Figure 1. Integrative psycho-oncological model of fear, stigma, and emotion regulation in tuberculosis.

2.2.2. Emotion regulation

Emotion regulation moderates how patients process illness-related fear and stigma. According to Gross's Process Model [14], adaptive strategies, such as reappraisal or acceptance alleviate distress, whereas maladaptive forms—rumination, avoidance, self-blame—perpetuate psychological strain. Empirical evidence confirms that emotion-regulation mechanisms mediate the association between stigma, illness perception, and psychological outcomes in both TB and cancer populations.

2.2.3. Stigma and self-esteem

TB-related stigma generates social isolation, guilt, and internalized shame, which in turn predict anxiety and depressive symptoms. Self-esteem, indicated as a resilience factor, buffers this effect by reframing self-perception and maintaining a sense of agency. This interaction mirrors psycho-oncological findings where positive self-concept and acceptance strengthen emotional recovery and adherence to care plans [1,4].

2.2.4. Psycho-oncology perspective

The psycho-oncological domain bridges behavioral medicine, psychiatry, and oncology. It conceptualizes illness as a psychobiological continuum in which fear, stigma, and emotion regulation interact dynamically with physiological stress responses. Extending this framework to tuberculosis enables exploration of shared coping architectures—integrating biological vulnerability, psychological adaptation, and social meaning within a single model of chronic-disease resilience. This cross-disease lens enables a holistic understanding of chronic-disease resilience, positioning emotional regulation as both mechanism and therapeutic target [15].

2.3. Integrative mind–body view: Emotional balance in traditional medicine

Traditional Chinese Medicine (TCM) conceptualizes health as a dynamic equilibrium between body and mind, governed by the balance of *qi* and emotional harmony. Emotions such as anger, worry, and fear are believed to influence organ systems—particularly the lungs and heart—through energetic imbalance [16]. This ancient notion resonates with modern psychophysiological models where chronic stress and dysregulated emotion disrupt immune and inflammatory pathways [17].

Applying this mind–body framework to psycho-oncology, emotional moderation may be seen as an early form of emotion-regulation theory. Practices promoting calmness, acceptance, and relational harmony parallel modern interventions, such as mindfulness-based stress reduction and cognitive reappraisal [18,19]. For TB patients who experience prolonged fear and uncertainty, integrating culturally familiar approaches to emotional regulation—such as breathing awareness, meditative focus, or traditional healing narratives—could complement psycho-oncological counselling and enhance cultural receptivity.

3. Methodology

3.1. Design

This study employed a narrative review design guided by the principles of the Scale for the Assessment of Narrative Review Articles (SANRA) and informed

by the transparency standards of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). A narrative approach was selected because the literature concerning fear of cancer and emotion regulation among patients with pulmonary tuberculosis (TB) is conceptually diverse and methodologically heterogeneous, spanning psychology, psychiatry, behavioral medicine, and cultural health studies. Rather than pooling quantitative outcomes, this design allows for interpretive and thematic integration of empirical, theoretical, and intervention-based evidence to illuminate shared psycho-oncological mechanisms.

3.2. Search strategy

A comprehensive search was conducted in PubMed, Scopus, Web of Science Core Collection, and Google Scholar from 2015 to 2025. The following Boolean search terms were applied:

("tuberculosis" OR "pulmonary tuberculosis" OR "chronic infectious disease")
AND ("cancer fear" OR "fear of cancer" OR "fear of recurrence" OR "oncophobia")
AND ("emotion regulation" OR "emotional regulation" OR "psychological distress"
OR "stigma" OR "self-esteem" OR "coping" OR "resilience")

Additional articles were identified through reference chaining and citation tracking of key publications. All retrieved references were imported into Mendeley for de-duplication and management.

3.3. Eligibility criteria

Inclusion criteria

- 1) Peer-reviewed, open-access journal articles (original, theoretical, or review).
- 2) Published in English between 2015 and 2025.
- 3) Focus on psychological constructs, such as fear, emotion regulation, stigma, self-esteem, or coping in TB, cancer, or comparable chronic illnesses.
- 4) Human-subject research or conceptual analysis with clear psycho-social orientation.

Exclusion criteria

- Nonpeer-reviewed material (commentaries, letters, theses).
- Biomedical or pharmacological studies without psychological outcomes.
- Animal or in vitro studies.

3.4. Study selection and appraisal

All titles and abstracts were screened for relevance. Potentially eligible papers were reviewed in full text. Conceptual and methodological quality were appraised using the six-item SANRA checklist, assessing justification, theoretical coherence, referencing, data presentation, reasoning, and language quality. Because this review aims to synthesize conceptual linkages rather than estimate pooled effects, inclusion emphasized conceptual richness, theoretical contribution, and empirical credibility. Ten open-access, peer-reviewed studies met these criteria, spanning

tuberculosis psychology, cancer fear, emotion regulation, and stigma-reduction interventions (**Table 1**).

3.5. Data extraction and thematic synthesis

Key variables were extracted into a master summary matrix, including:

- Author and year
- Population and setting
- Study design and measures
- Psychological constructs addressed (fear, stigma, emotion regulation, self-esteem, coping)
- Principal findings and psycho-oncological implications

Data were then subjected to inductive thematic synthesis. Findings were organized under four analytical domains:

- 1) Psychological distress and stigma in tuberculosis
- 2) Fear of cancer and emotion-regulation mechanisms

Table 1. Summary of included studies in the narrative review.

Author (year)	Population/setting	Study type	Primary focus/constructs	Key findings	Relevance to review
Nasir A et al., 2024 [1] (<i>PLOS ONE</i>)	Adults with pulmonary TB, South Asia	Cross-sectional	Psychological burden, stigma, anxiety	High anxiety and depression linked to stigma and poor social support.	Establishes baseline TB psychological distress.
Chen X et al., 2021 (<i>BMC Infect Dis</i>) [2]	TB patients, China	Cross-sectional	Psychological distress, sociodemographic	64% showed moderate–severe distress; stigma predicted worse outcomes.	Core evidence for TB emotional burden.
Chen X et al., 2023 (<i>Sci Rep</i>) [4]	TB patients, China	Quantitative	Stigma, self-esteem, depression	Self-esteem buffered stigma’s impact on anxiety/depression.	Supports emotion-regulation and self-concept link.
Dixit K et al., 2024 (<i>BMC Glob Public Health</i>) [10]	Global TB cohort	Cross-sectional	Stigma, depression, QoL	Stigma associated with depression and lower QoL.	Broadens TB psychological evidence base.
Macdonald SHF et al., 2024 [21] (<i>BMC Glob Public Health</i>)	TB patients & HCWs	Toolkit/intervention	Self-stigma reduction	Multilevel intervention reduced self-stigma and improved empowerment.	Informs applied intervention discussion.
Hosseini S et al., 2023 [3] (<i>Arch Breast Cancer</i>)	Breast-cancer survivors	SEM model	Cognitive emotion regulation, fear of cancer recurrence	Adaptive regulation reduced fear through improved illness perception.	Core psycho-oncological mechanism.
Shen L et al., 2023 [11] (<i>Adv Cancer Epidemiol</i>)	General population	Epidemiological	Fear of cancer antecedents	Fear correlated with anxiety and perceived risk.	Defines theoretical “fear of cancer” construct.
Zeng Y et al., 2025 [5] (<i>Front Psychiatry</i>)	Cancer survivors, China	Cross-sectional	Interpersonal emotion regulation	Interpersonal regulation enhanced resilience and adaptation.	Links social regulation to resilience in chronic illness.
Cheng J et al., 2025 [22] (<i>Front Med</i>)	Poststroke patients, China	Cross-sectional	Fear of recurrence, hope, locus of control	Fear of recurrence reduced self-management; internal locus increased it.	Demonstrates trans-diagnostic fear mechanism.
Foster I et al., 2022 [20] (<i>PLOS Glob Public Health</i>)	Global TB interventions	Scoping review	Stigma-reduction interventions	Counselling/support groups reduced internal stigma; community campaigns effective.	Provides psychosocial and policy-level insights.

- 3) Cross-disease psychosocial parallels
- 4) Intervention and counselling implications

This integrative process enabled identification of shared cognitive-emotional mechanisms, cultural influences, and intervention pathways across disease contexts.

3.6. Ethical considerations

All included studies were open-access publications that had obtained ethical approval in their original research. The present review involved no new data collection or interaction with human participants; therefore, institutional review-board approval was not required.

3.7. Methodological rationale

Adopting a narrative-review design allows the integration of evidence across domains traditionally studied in isolation—infectious-disease psychology and psycho-oncology. By synthesising research on stigma, emotion regulation, fear, and self-concept, this review seeks to clarify how these constructs interact to influence mental well-being and treatment adherence among TB patients. The approach acknowledges that fear of cancer and fear of disease progression are trans-diagnostic psychological phenomena, linked through similar mechanisms of uncertainty, self-perception, and social meaning. The resulting synthesis therefore contributes a psycho-oncological framework for understanding emotional regulation and psychological adaptation in chronic infectious disease contexts.

3.8. Summary of included studies

Table 1 presents the ten eligible studies summarized by population, focus, principal findings, and relevance to the review.

The table summarizes ten open-access, peer-reviewed studies exploring psychological distress, fear, stigma, emotion regulation, and self-esteem across tuberculosis, cancer, and related chronic-disease contexts. The included research spans quantitative, qualitative, and scoping designs published between 2021 and 2025. Collectively, these studies establish the empirical and theoretical foundation for the integrative psycho-oncological framework presented in **Figure 1**, demonstrating cross-disease parallels in emotional regulation, stigma dynamics, and resilience mechanisms. The methodology adopted ensures transparency, reproducibility, and conceptual integration. Guided by SANRA and informed by PRISMA-ScR standards, this review systematically identifies, evaluates, and synthesizes multidisciplinary literature to elucidate the shared psychological mechanisms of fear, emotion regulation, and stigma that underpin both tuberculosis and cancer experiences within a psycho-oncological framework.

4. Thematic discussion and integration

4.1. Psychological distress and stigma in tuberculosis

Tuberculosis (TB) remains not only a biomedical condition but a psychosocial disease deeply embedded in cultural narratives of contagion, poverty, and shame.

Across multiple settings, stigma has been identified as the dominant psychosocial determinant of mental health in TB populations. Nasir et al. [1] reported that patients in South Asia experienced high rates of anxiety, hopelessness, and social withdrawal, primarily due to fear of contagion and rejection by family and community members. Similarly, a large-scale study in China found that 64.1% of TB patients met the threshold for clinically relevant psychological distress, with stigma and lack of social support serving as the strongest predictors [2].

Beyond internalized shame, stigma erodes self-esteem and impairs adaptive coping. Chen et al. [2] demonstrated that self-esteem moderates the relationship between perceived stigma and emotional outcomes, protecting patients from depressive and anxiety symptoms. This aligns with the emotion-regulation model, in which positive self-concept functions as a cognitive buffer against maladaptive emotional reactivity. Study conducted by Dixit et al. [10] confirmed that TB-related stigma consistently correlates with poorer quality of life and elevated depressive symptoms across diverse cultural contexts.

At the systems level, Foster et al. [20] and Macdonald et al. [21] highlight that stigma is not merely an individual burden but a structural phenomenon embedded in health-care relationships. Their intervention studies showed that counselling, peer support groups, and community education can meaningfully reduce internalized and anticipated stigma, thereby improving adherence and psychological well-being. Collectively, these findings establish stigma as both a trigger and a maintenance factor for emotional dysregulation in TB—a mechanism conceptually parallel to the fear of recurrence phenomenon widely observed in oncology.

4.2. Fear of cancer and emotion-regulation mechanisms

In psycho-oncology, fear of cancer recurrence (FCR) represents a well-characterized emotional construct encompassing worry, intrusive thoughts, and hypervigilance about disease progression. Hosseini et al. [3] provided quantitative evidence that adaptive cognitive emotion-regulation strategies—particularly positive reappraisal and acceptance—significantly reduce FCR by improving illness perception and enhancing psychological well-being. Conversely, maladaptive strategies, such as rumination, self-blame, or catastrophising amplify fear and distress.

Shen et al. [11] extended this understanding to the general population, identifying that cancer fear is influenced by perceived vulnerability, family history, media exposure, and personality traits. The emotional architecture of this fear mirrors the apprehension observed among TB patients who dread relapse or malignant transformation after prolonged illness. Both populations exhibit anticipatory anxiety and vigilance to bodily cues, reflecting shared cognitive–emotional schemas of threat and loss of control.

The process model of emotion regulation elucidates how early cognitive strategies, such as reappraisal, facilitate psychological adaptation, whereas suppression or avoidance perpetuate distress. This framework integrates seamlessly with the TB literature: internalized stigma functions as a chronic emotional stressor, and self-esteem or social support represent regulatory moderators. Consequently, the fear of cancer becomes not a disease-specific phenomenon but a model

for understanding how chronic illness shapes emotion regulation and identity reconstruction [12].

4.3. Cross-disease psychosocial parallels

Recent evidence demonstrates that emotional responses to chronic illness share trans-diagnostic mechanisms across conditions. Cheng et al. [22] found that in post-stroke patients, fear of recurrence negatively affected self-management behavior, while hope and an internal health locus of control predicted better adaptation. These findings echo psycho-oncological models in which internal agency and constructive appraisal mitigate fear and promote resilience.

Similarly, Zeng et al. [5], identified interpersonal emotion regulation—the capacity to regulate affect through social relationships—as a core determinant of resilience and social reintegration among cancer survivors. This interpersonal dimension parallels community-based coping in TB, where family and peer support help patients counteract isolation. Integrating these cross-disease findings suggests that fear, control beliefs, and relational emotion regulation form a common psychosocial triad underpinning chronic disease adaptation.

By framing TB within a psycho-oncological model, the review highlights the potential to conceptualize cancer fear as a metaphor for chronic disease anxiety. This perspective transcends organ- or pathogen-specific boundaries, emphasising the shared psychological processes of uncertainty, identity disruption, and the search for control that define the lived experience of long-term illness.

4.4. Intervention and counselling implications

The synthesis of psycho-oncology and TB research underscores the need for integrated psychosocial interventions that address emotional dysregulation, stigma, and fear simultaneously. Macdonald et al. [21] and Foster et al. [20] demonstrate that multilevel interventions—combining counselling, support groups, and community education—can reduce internal and anticipated stigma. These frameworks parallel psycho-oncological programmes, such as mindfulness-based stress reduction (MBSR) and cognitive-behavioral therapy (CBT), which target maladaptive emotion-regulation patterns.

In both cancer and TB contexts, self-esteem enhancement and interpersonal support act as therapeutic levers. Incorporating the cultural concept of emotional balance from Traditional Chinese Medicine, harmonious emotions, may further enhance cultural resonance in Asian populations. Such approaches align with contemporary integrative psycho-oncology, which values mind–body synchrony and socio-cultural sensitivity.

Practical recommendations include:

- Embedding psychological screening for distress, fear, and stigma in TB treatment protocols;
- Training nurses and counsellors in emotion-regulation-based psychoeducation;
- Implementing peer or family-based support systems to foster interpersonal regulation;

- Integrating culturally informed practices, such as breathing, mindfulness, or expressive therapies to promote emotional equilibrium.

Ultimately, bridging psycho-oncology and infectious-disease psychology could transform TB care from a purely biomedical model to a biopsychosocial framework, where emotional adaptation is recognized as integral to recovery and long-term well-being.

4.5. Summary of integrative insights

Across the ten reviewed studies, four overarching insights emerge:

- 1) Stigma and self-esteem are pivotal determinants of emotional dysregulation in TB, analogous to cognitive–emotional mechanisms driving fear of cancer.
- 2) Emotion-regulation strategies—both intrapersonal and interpersonal—mediate psychological resilience across chronic diseases.
- 3) Fear of recurrence or malignant transformation is a trans-diagnostic emotional construct rooted in uncertainty and loss of control.
- 4) Culturally adapted psycho-oncological interventions can effectively address fear and stigma in TB care, promoting holistic mind–body balance.

These insights lay the conceptual foundation for developing psycho-oncology-informed counselling protocols for TB patients, integrating evidence from oncology, behavioral medicine, and cultural psychology.

5. Conclusions and future directions

5.1. Overall synthesis

This narrative review demonstrates that fear of cancer and emotional regulation are not disease-specific phenomena but trans-diagnostic psychological processes that shape human responses to chronic illness. Evidence from ten peer-reviewed, open-access studies reveals striking conceptual convergence between tuberculosis (TB) and oncology. In both contexts, stigma, loss of control, and uncertainty provoke emotional dysregulation and self-perceived vulnerability. Conversely, adaptive emotion-regulation strategies, positive self-esteem, and interpersonal support facilitate psychological resilience and adherence to treatment. Within TB populations, internalized stigma and low self-esteem reproduce the affective pattern of cancer-related fear, creating a cycle of anxiety and social withdrawal. Psycho-oncological constructs such as fear of recurrence provide a framework for interpreting these experiences as manifestations of anticipatory threat and diminished agency. Integrating these insights expands the scope of psycho-oncology beyond malignant disease, situating it within a broader model of chronic-illness adaptation.

5.2. Clinical implications

The synthesis suggests that psycho-oncology principles can inform TB care by introducing structured psychological screening and integrative counselling within infectious-disease settings. Key recommendations include:

- 1) Routine psychological assessment: Incorporate validated tools for distress, fear, and stigma in TB treatment protocols.

- 2) Emotion-regulation-based interventions: Apply brief cognitive-behavioral or mindfulness-based programmes to strengthen adaptive coping.
- 3) Self-esteem and empowerment training: Encourage peer support and self-affirmation to counter internalized stigma.
- 4) Family and community engagement: Draw on interpersonal emotion regulation and social-support models shown to enhance resilience.
- 5) Cultural integration: Combine Western therapeutic approaches with traditional mind–body philosophies, such as emotional harmony to improve cultural acceptability and adherence.

Implementing these practices could transform TB management from a purely biomedical paradigm into a biopsychosocial model that recognizes emotional well-being as a determinant of recovery and long-term quality of life.

5.3. Research implications

Future studies should move beyond descriptive accounts of stigma or distress to test mechanistic models linking fear, cognitive appraisal, and immune outcomes. Longitudinal designs are needed to explore how emotion regulation evolves during treatment and remission, and whether targeted interventions can modulate biological markers of inflammation and stress.

Priority areas include:

- Comparative trials of emotion-regulation training in TB vs. cancer populations.
- Development of culturally adapted psycho-educational modules for TB clinics.
- Exploration of digital health platforms for remote psychological monitoring and support.
- Integration of psychoneuroimmunology frameworks to examine the bidirectional effects of emotion on immunity and disease progression.

International collaboration between psycho-oncology and infectious-disease researchers would accelerate theory-building and ensure that mental-health interventions accompany biomedical advances.

5.4. Final perspective

By reframing fear of cancer as a lens through which to understand the emotional life of TB patients, this review underscores the unity of psychological experience across illnesses. Fear, stigma, and resilience constitute a shared emotional ecology where the boundaries between oncology and infectious disease dissolve. Bridging these domains offers not only theoretical enrichment but tangible clinical benefit: a more compassionate, integrative model of care that honours both body and mind. This integrative approach underscores the relevance of psycho-oncology beyond oncology itself, reinforcing its contribution to global health psychology.

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