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## Research Progress on Social Alienation among Young Adults with Pulmonary Tuberculosis

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### Abstract

This review systematically examines the concept, formation mechanisms, research status, assessment methods, influencing factors, and intervention measures of social alienation among youth with tuberculosis infection, aiming to provide theoretical support and practical reference for clinical interventions.

### Full Text

## Research Progress on Social Alienation Among Young Pulmonary Tuberculosis Patients

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### Abstract

This systematic review examines the concept, formation mechanisms, research status, assessment methods, influencing factors, and intervention strategies related to social alienation among young pulmonary tuberculosis (TB) patients, aiming to provide theoretical support and practical guidance for clinical interventions targeting this population.

**Keywords:** Pulmonary tuberculosis; Social alienation; Nursing care; Review

Social alienation refers to an individual's inability to interact effectively with the external world, characterized by unmet social needs accompanied by negative emotions such as loneliness and helplessness, which subsequently manifest as withdrawal and rejection behaviors [1]. These maladaptive patterns can lead to depressive psychology, and research has confirmed a positive correlation between depression severity and social alienation—higher depression levels correspond to stronger feelings of social alienation [2]. Social alienation not only increases

emotional distress but may also elevate risks of suicide and mortality in severe cases [3][4]. This psychological issue is particularly pronounced among young TB patients [5], profoundly affecting their quality of life, recovery trajectory, and social functioning. These impacts can reduce treatment adherence, compromise therapeutic outcomes, prolong disease course, and ultimately hinder TB control efforts [6]. Currently, research on social alienation among young people remains relatively scarce. Given this gap, we provide a comprehensive review of the concept, mechanisms, research status, assessment methods, influencing factors, and interventions for social alienation in young TB patients, offering theoretical and practical reference points for clinical intervention.

## 1 Concept of Social Alienation

The concept of social alienation was initially proposed by American scholar Biordi [7] to describe an individual's experienced state of estrangement and detachment from self, others, and broader society, encompassing both subjective emotional and objective behavioral dimensions. Subjectively, it involves negative feelings such as loneliness and helplessness; objectively, it manifests as significant changes in environmental interactions, including social avoidance, contracted social networks, reduced interaction frequency, and potential social dysfunction. This phenomenon reflects how individuals develop negative attitudes for various reasons, which subsequently influence their social behaviors and culminate in a psychological and behavioral pattern of self-estrangement and isolation [9].

## 2 Mechanisms of Social Alienation in Young TB Patients

The causes of social alienation among young TB patients are complex, involving disease-related factors, discrimination, reduced social engagement, and psychological issues that collectively damage physical and mental health. Physiologically, alienation triggers negative emotions such as helplessness and loneliness, stimulating the amygdala and hypothalamus and activating the sympathetic nervous system, leading to hyperarousal. Chronically, individuals experience sustained stress with continuous activation of the HPA axis and sympathetic nervous system, disrupting neurotransmitter and hormonal balance, exacerbating anxiety and depression, and weakening immunity. This not only compromises mental health but also reduces treatment adherence, triggers social withdrawal, and diminishes quality of life [10]. For young patients specifically, a critical developmental period, isolation treatment may damage self-confidence, restrict social opportunities, and intensify stigma and self-alienation [11]. Therefore, addressing the psychological status of young TB patients through timely psychological support and intervention is essential to mitigate the negative impacts of alienation.

### 3 Current Status of Social Alienation Among Young TB Patients

Epidemiological characteristics reveal that individuals aged 20–40 years show the highest incidence and proportion of cases [12], indicating that young TB patients constitute the largest demographic group. Social alienation is particularly prevalent among young TB patients because adolescence represents a critical period for social role formation and interpersonal relationship establishment, which TB infection can disrupt, indirectly exacerbating social alienation. Social alienation correlates closely with patients' psychological emotions, interpersonal relationships, cognitive levels, and negative life events; if unaddressed, it creates a vicious cycle that ultimately produces additional comorbid symptoms [13]. Consequently, research on social alienation among young TB patients holds significant importance [14].

#### 3.1 Domestic Research Status

Wu et al. investigated social alienation in 321 young newly-treated TB patients, reporting a mean score of 41 points [11]; Xie et al. studied 400 TB patients, finding a score of  $(40.38 \pm 6.10)$  points [15]. Both results exceed the scale's midpoint of 37.50, indicating moderate-to-high alienation levels. Additional research demonstrates that stigma prevalence reaches 57.1% among TB patients, substantially increasing psychological burden and undermining interpersonal confidence [16]. Furthermore, studies indicate that social alienation serves as a significant predictor of negative emotions in TB patients, further intensifying their psychological distress [17].

#### 3.2 International Research Status

While social alienation represents a global phenomenon, international investigations specifically targeting young TB patients remain scarce, leaving a deficit of empirical data from abroad.

## 4 Assessment Methods

### 4.1 General Alienation Scale (GAS)

Developed by Crowther et al. in 1977 [18], GAS is a widely used psychological and sociological assessment tool measuring negative feelings of unease, loneliness, and helplessness in social relationships. The scale comprises four dimensions—social isolation, helplessness, self-alienation, and meaninglessness—with 15 items rated on a four-point Likert scale from “strongly disagree” to “strongly agree” (1–4 points). Total scores range from 15 to 60, with higher scores indicating greater alienation [19]. With a Cronbach's  $\alpha$  of 0.81, GAS serves as an effective psychological assessment instrument in mental health research, social support network analysis, and disease rehabilitation, enabling deeper understanding of patients' physiological and social needs to inform targeted interventions.

## 4.2 Adolescent Student Alienation Scale (SAS)

Designed by Yang Dong, Zhang Jinfu, and Huang Xiting [20], this scale comprehensively assesses adolescent alienation across three domains: social, interpersonal, and environmental. Social alienation comprises four dimensions—meaninglessness, self-alienation, oppression, and uncontrollability; interpersonal alienation encompasses loneliness, estrangement from family, and social isolation; and environmental alienation includes nature and life alienation [21]. The instrument contains 52 items, including six lie-detection items to ensure validity, scored on a seven-point Likert scale (1 = “completely disagree” to 7 = “completely agree”), where higher scores indicate greater alienation. Cronbach’s  $\alpha$  coefficients are 0.92, 0.82, and 0.85 for the three subscales, respectively, with an overall  $\alpha$  of 0.95, demonstrating robust reliability and validity [22]. Scores enable classification of alienation levels to guide appropriate interventions.

## 4.3 Symptom Checklist-90 (SCL-90)

The SCL-90 [23] represents an authoritative mental health assessment tool comprising 90 self-evaluation items covering nine dimensions: psychoticism, paranoid ideation, phobic anxiety, hostility, anxiety, depression, interpersonal sensitivity, obsessive-compulsive symptoms, and somatization. Using a five-point rating system (5 = “severe” to 1 = “none”), higher scores indicate more severe symptoms and poorer mental health. The scale demonstrates excellent reliability with Cronbach’s  $\alpha$  coefficients ranging from 0.84 to 0.94 [24]. Applicable to adults over 16, it effectively distinguishes individuals with psychological symptoms and, due to its comprehensive coverage, can identify specific causes of social alienation to inform evidence-based interventions.

# 5 Influencing Factors of Social Alienation in Young TB Patients

Social alienation among young TB patients originates from multiple sources, including disease-related stigma, misunderstanding, discrimination, treatment challenges, and insufficient disease knowledge that generates fear and anxiety. The following analysis examines demographic, disease-related, psychological, and social factors.

## 5.1 Demographic Factors

Demographic factors—including age, gender, education, economic status, and marital status—profoundly influence social alienation [25]. Young adulthood represents a critical developmental stage where high expectations for self-identity, social needs, and role definition become more vulnerable post-infection. Gender differences reveal that men, facing traditional cultural pressures for independence and self-reliance, may be more prone to social isolation when encountering difficulties [26]. Educational disparities affect stress-coping abilities, resource-seeking, and social network development; lower education correlates with cogni-

tive limitations, weaker psychological resilience, and heightened vulnerability to alienation [27]. Poor economic conditions restrict treatment access, worsening both disease severity and social alienation [28]. Unmarried individuals lack family and social network support, increasing alienation risk [29], while occupational instability creates life turbulence, narrow social circles, and inadequate support, intensifying alienation [30]. Comprehensive medical, psychological, and social support must therefore address these demographic factors.

## 5.2 Disease-Related Factors

The infectious nature of TB closely correlates with social alienation. Fear and rejection stemming from misunderstanding and prejudice lead to discrimination, reduced interpersonal contact, and diminished social participation, ultimately fostering alienation. Additionally, alienation associates closely with disease symptoms, physical pain, fever, and fatigue, which impair social behavior and increase needs for emotional support. This bidirectional relationship between disease status and social alienation necessitates personalized interventions tailored to each patient's disease characteristics to facilitate recovery and mitigate alienation's negative effects.

## 5.3 Psychological Factors

Psychological factors include stigma, anxiety and depression, low self-esteem, loneliness, and inadequate social support. TB patients often face “infectious source” labeling, resulting in differential treatment and pronounced social exclusion [31]. Such discrimination generates stigma, causing patients to avoid social situations and exacerbating alienation. Moreover, those with heavier disease burdens experience greater psychological vulnerability, self-doubt, and inferiority, ultimately losing interest in social activities and intensifying alienation [32]. Healthcare providers must recognize the critical role of psychological factors and deliver appropriate psychological support and interventions.

## 5.4 Social Factors

Social factors influencing alienation include economic pressure, public disease awareness, societal prejudice and discrimination, and lack of social support. High treatment costs create financial strain and marginalization, intensifying alienation. Variable public understanding of TB leads to discrimination and social withdrawal. Social support negatively correlates with alienation—higher support corresponds to lower alienation [33]. Therefore, implementing healthcare security systems, strengthening TB knowledge dissemination, and establishing family-social support networks are crucial for reducing alienation and improving quality of life.

## 6 Intervention Strategies

### 6.1 Peer Support

Peer support involves communication, emotional sharing, and skill exchange among individuals of similar age and shared disease experiences [34]. For young TB patients, peer support provides an understanding, accepting environment that reduces discrimination, offers non-judgmental space for sharing anxiety and depression, alleviates psychological pressure, and enhances resilience. Through sharing treatment, rehabilitation, and prevention information, patients improve self-management capabilities, learn coping strategies, and strengthen confidence in recovery. Peer support also helps patients collectively navigate challenges and reduce social alienation, demonstrating significant applied value.

### 6.2 Exercise Therapy

Exercise therapy shows positive effects on social alienation in TB patients. Physical activity promotes release of endorphins and dopamine, regulating mood [35], countering negative emotions, and improving overall mental health [36]. Exercise stimulates endorphin release, reduces pain, alleviates psychological stress, enhances vestibular balance, and boosts self-confidence [37]. Suitable activities for TB patients include Baduanjin, radio calisthenics, and Tai Chi, which strengthen respiratory muscles, improve pulmonary function, enhance immunity, and promote recovery. Additionally, exercise increases social support and understanding, reducing psychological burden and improving quality of life. Exercise therapy thus improves physical condition, relieves psychological stress, strengthens social connections, and reduces social alienation.

### 6.3 Narrative Therapy

Narrative therapy is a psychological healing approach that bridges past experiences, present states, and future visions through story construction and reconstruction. It guides individuals to reinterpret life narratives, fostering positive self-identity and injecting positive energy [38], thereby relieving social anxiety and enhancing social adaptation [39]. For young TB patients, narrative therapy helps re-examine their stories, reduce negative self-identification, and construct positive, healthy, and integrated self-images. Therapists provide emotional support through listening and understanding, alleviating psychological pressure and enhancing self-identity and self-esteem [40], thus reducing social alienation. The approach also encourages patients to re-examine values, beliefs, and goals, recognizing their potential and worth to face challenges more confidently. However, practitioners require credential verification and professional training, and long-term intervention effects await empirical validation.

### 6.4 Mindfulness-Based Therapy

Mindfulness-based stress reduction is a unique pressure-regulation technique employing meditation to encourage conscious, non-judgmental focus on breathing

rhythms, emotional fluctuations, bodily sensations, and behaviors [41]. This approach promotes stress release through concentrated attention on natural bodily states, enabling patients to better understand psychological pressures and negative emotions, thereby effectively alleviating stress-related health problems. Recent research reveals that mindfulness behavioral nursing significantly accelerates clinical recovery, with symptom resolution times markedly shorter than control groups, demonstrating mindfulness interventions' positive effects on clinical recovery, lesion management, and quality of life improvement [42]. Implementing mindfulness behavioral therapy for young TB patients can significantly relieve clinical symptoms, enhance quality of life, and improve overall treatment outcomes.

### 6.5 Other Interventions

Innovative strategies such as refined management and “Internet+” interventions can enhance treatment motivation and facilitate social reintegration, reducing alienation. Studies confirm that refined nursing models for TB patients significantly improve negative emotions, foster positive social reintegration attitudes, and enhance quality of life [43]. Additionally, WeChat-based follow-up interventions enable timely communication between patients and healthcare providers, effectively alleviating anxiety, improving disease awareness, and facilitating social reintegration to reduce alienation.

## Conclusion

Young TB patients, as a vulnerable population, commonly face social alienation challenges that affect their quality of life and recovery trajectory. As a complex, multidimensional psychological phenomenon, social alienation is gaining increasing attention in nursing research, though associations between certain influencing factors and alienation remain controversial. Research and practice addressing social alienation in young TB patients remain in early exploratory stages within public health. While awareness of its profound impacts on mental health, disease recovery, and social integration is growing, challenges persist in designing and implementing effective interventions. Future research should validate and extend these findings, advancing theoretical innovation and practical application in nursing. Utilizing group organizations, public welfare institutions, and psychological agencies may help reduce social alienation, improve quality of life, and promote recovery among young TB patients.

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