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Exploring the Impact of Stigma on Self-Esteem in Patients with Multidrug-Resistant Tuberculosis: Challenges and Coping Strategies

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ABSTRACT

Background: Multidrug-resistant tuberculosis (MDR-TB) remains a significant global health challenge, not only due to its medical complexity but also because of its profound psychosocial impact. Among MDR-TB patients, stigma is a major concern, affecting self-esteem and overall well-being.

Objective: To know the prevalence of stigma and its relationship with self-esteem among MDR-TB patients.

Methodology: A cross-sectional study was conducted at Lady Reading Hospital, Peshawar. A total of 120 MDR-TB patients receiving treatment at the Programmatic Management of Drug-Resistant TB (PMDT) unit, were enrolled in this study. For study, data were collected using standardized tools, including the Berger Stigma Scale for Tuberculosis and the Rosenberg Self-Esteem Scale. Statistical analyses, including correlation and regression tests, were performed using SPSS version 23.

Results: Results showed that the mean stigma score was 42.8 (±10.5), with societal stigma (57.9%) being the most prevalent, followed by self-stigma (46.1%) and institutional stigma (28.8%). The mean self-esteem score was 21.7 (±6.8). A significant negative correlation ($r = -0.52$, $p < 0.01$) was observed between stigma and self-esteem, indicating that higher stigma levels were associated with lower self-esteem.

Conclusion: The study concluded that the substantial stigma faced by MDR-TB patients and its detrimental impact on self-esteem. Addressing stigma through public awareness campaigns, mental health support, and stigma-free healthcare environments is crucial for improving patients' psychological well-being and treatment adherence. Integrating psychosocial interventions into MDR-TB management can enhance patient outcomes and overall quality of life.

Keywords: Multidrug-resistant Tuberculosis; Stigma; Self-Esteem; Public Health

Introduction

Multidrug-resistant tuberculosis (MDR-TB) is a serious global health concern that presents significant challenges in treatment and management.[1] MDR-TB is a type of TB in which the causative *Mycobacterium tuberculosis* (MTB) becomes resistant to at least isoniazid (INH) and rifampin (RMP), the two most effective first-line anti-TB drugs.[2] Treatment and diagnosis of MDR-TB is very difficult, and this condition not only poses a medical challenge but also has profound psychosocial implications for affected individuals. Among these, stigma and self-esteem play crucial roles in the psychological well-being and overall quality of life of MDR-TB patients.

Stigma is a significant issue for individuals with MDR-TB. Stigma can be defined as a social process in which labeling, discrimination, and the marginalization of patients occur due to their disease.[3] The stigma associated with MDR-TB is present for a variety of reasons: misconceptions regarding transmission, length of treatment, and the perceived association with poverty, poor hygiene, and medication non adherence. The stigma occurs at multiple levels: self-induced stigma, sociocultural stigma, and institutional stigma, sequentially compounding the psychological burden of the patients. Stigma contributes to the isolation and psychological distress of their patients due in part to the fear of transmitting the disease to others and regional associations of MDR-TB with HIV/AIDS.[4]

Self-stigmatization refers to negative views that people take from society and take on themselves; feelings of shame, guilt, and no self-worth.[5] Social stigmatization involves stigma by our families, friends, work colleagues, and society and discrimination. Outside of mental health, stigmatization may lead to exclusion from society or ostracism. Stigmatization also limits someone to go to work or go to school. A lot of patients reported being ostracized from their families, which can lead to being alone and feeling abandoned. Whereas, institutionalized stigma can happen in healthcare settings as when patients report they experience bad care by healthcare providers, they feel judged by their healthcare providers, and experiences of lack of confidentiality from their healthcare providers. All the bad experiences patients are provided by healthcare providers will discourage them to access medical attention needed to help improve a medical condition and also increase their chances of transmission.[6]

Self-esteem refers to an individual's overall evaluation of their worth and self-respect.[7] For patients with MDR-TB, stigma often leads to diminished self-esteem, affecting their mental health and emotional resilience. The fear of being judged or rejected can cause patients to withdraw from social interactions, leading to depression, anxiety, and a lack of motivation to adhere to treatment.[8] This, in turn, can negatively impact health outcomes, as lower self-esteem has been linked to poor adherence to medication and follow-up care. Many patients develop a negative self-image, feeling as though they are a burden to their families and communities, which can further deteriorate their mental health and physical condition.

Furthermore, stigma-induced low self-esteem may hinder patients from seeking medical help promptly, increasing the risk of disease transmission and complications. The psychological distress associated with stigma can also weaken the immune system, making the body less capable of fighting off infections, thereby exacerbating the patient's condition.[9] The impact of stigma on self-esteem is particularly significant among vulnerable populations, including women, elderly individuals, and those with limited social support, who may already be experiencing discrimination based on other factors.

To enhance the welfare of MDR-TB patients, there is a need to implement strategies and initiatives to reduce stigma and improve self-esteem. Educational campaigns to raise public knowledge about MDR-TB, including transmission, and the importance of adhering to treatment can break false stereotypes and reduce stigma. Counselling and peer support groups can also help patients by providing them with a community and takes a mental toll away from their ongoing disease. Inviting patients to share their experiences in safe zones can help them regain confidence and resiliency.

Healthcare practitioners can help combat stigma by providing caring, non-judgmental care, maintaining confidentiality, and creating a safe setting for patients to discuss their issues. Mental health support through therapy, along with self-esteem-building initiatives, should be included in the MDR-TB patient's management plan to keep them emotionally resilient and improve overall quality of life. There also must be policies enacted to train healthcare providers about the stigma and the need for stigma reduction so all patients receive equitable and dignified care, regardless of what their medical condition is.

Objective

To know the prevalence of stigma and its relationship with self-esteem among Multidrug Resistant Tuberculosis patients.

Methodology

A cross-sectional study was at Lady Reading Hospital Peshawar form January 2021 to December 2023. The study population consisted of patients diagnosed with MDR-TB who were undergoing treatment PMDT Unit, Lady Reading Hospital (LRH), Peshawar. A purposive sampling method was employed for the selection of study cases and enrolled all those cases who met the inclusion

Table 1. Demographic and Clinical Characteristics of MDR-TB Patients

Variable	Frequency (n=120)	Percentage (%)
Gender		
Male	79	65.8
Female	41	34.2
Mean Age (years)	38.4 (± 12.6)	-
Age Group		
≤ 14 years	6	5.0
15 – 44	87	72.5
45 – 64	23	19.1
>65	4	3.4
Employment Status		
Employed	17	14.2
Unemployed	103	85.8
Monthly Income		
Above 20000	51	42.5
Below 20000	69	57.5
Duration of MDR-TB (months)	8.2 (± 3.5)	-
Previous TB Treatment		
Yes	89	74.2
No	31	25.8
Treatment Outcome of Previous TB Treatment		
Cured	26	29.2
Completed	9	10.2
Failure	43	48.3
Loss to Follow-up	11	12.3
Residence		
Rural	78	65.0
Urban	42	35.0

Table 2. Stigma Levels Among MDR-TB Patients

Stigma Type	Mean Score (± SD)	Prevalence (%)
Total Stigma Score	42.8 (± 10.5)	-
Societal Stigma	-	57.9
Self-Stigma	-	46.1
Institutional Stigma	-	28.8

criteria of being diagnosed with MDR-TB and receiving treatment for at least three months and being willing to participate in the study. For study, exclusive criteria also followed which included that all patients without a confirmed MDR-TB, under 18 years old, and individuals with severe cognitive impairment were not enrolled in this study. The final sample size was 120 participants based on the prevalence of MDR-TB in the selected region and statistical considerations to ensure adequate representation.

To assess the participants experiences with stigma and self-esteem levels specialized questionnaire was applied to all participants. The questionnaire included standardized scales, such as the Berger Stigma Scale for Tuberculosis and the Rosenberg Self-Esteem Scale, to quantify levels of perceived stigma and self-worth. For study purposes, demographic and clinical variables, including age, gender, socioeconomic status, and duration of illness, were also recorded.

All data was entered into SPSS version 23 for statistical analysis purposes. Descriptive statistics included demographic and clinical characteristics of the participants. Correlation and regression analyses were conducted to examine the relationship between stigma and self-esteem. Chi-square tests were used to compare categorical variables among different patient groups.

The study adhered to the principles of ethical research to protect the rights and well-being of participants. Ethical approval was obtained from the institutional review board of LRH. Informed consent was obtained from all participants before data collection, ensuring voluntary participation and maintaining confidentiality.

Results

The present study included 120 participants diagnosed with MDR-TB. The majority were male (65.8%), with a mean age of 38.4 years. Among study cases, more than half (85.8%) were un-employed. Additionally, 57.5% of the patients had an income below the poverty line. The average duration of MDR-TB among participants was 8.2 months. Among study cases, 74.2% of the patients take previous TB treatment, of which 60.6% were failed to successfully completed their treatment (Table 1).

Results showed that the mean score for stigma was 42.8 (±10.5), indicating a moderate level of perceived stigma. Among different types of stigmas, societal stigma was the most prevalent (57.9%), followed by self-stigma (46.1%) and institutional stigma (28.8%) (Table 2).

Findings of the present study also showed a significant negative correlation ($r = -0.52$, $p < 0.01$) between stigma and self-esteem. The mean stigma score was 58.3 (±12.5), while the mean self-esteem score was 21.7 (±6.8). The negative correlation suggests that as stigma levels increase, self-esteem decreases (Table 3).

To gain a deeper understanding of how these patients cope with stigma, additional qualitative insights were explored. Results showed that a majority of patients (65%) relied on strong family support, which played a crucial role in boosting their self-esteem and encouraging better adherence to treatment. Community networks also served as a valuable resource, with 40% of patients finding comfort and connection through support groups, helping them to feel less isolated. Religious and spiritual practices emerged as a powerful coping mechanism for 55% of individuals, offering emotional strength and a sense of peace. However, access to counseling and psychological support remained limited, with only 30% of patients able to benefit from such services, which highlighting the urgent need to expand mental health resources for this vulnerable population.

A linear regression analysis was conducted to assess the

Table 3. Correlation Between Stigma and Self-Esteem

Variable	Mean Score (± SD)	Correlation (r)	p-value
Stigma Score	58.3 (±12.5)	-0.52	<0.01
Self-Esteem Score	21.7 (±6.8)		

Table 4. Coping Strategies Among MDR-TB Patients

Coping Strategy	Percentage (%)
Seeking Family Support	65.0
Engaging in Community Networks	40.0
Religious and Spiritual Practices	55.0
Counseling and Psychological Support	30.0

predictive strength of stigma on self-esteem and results showed that stigma accounts for approximately 27% of the variance in self-esteem ($R^2 = 0.27$, $p < 0.01$) (Table 4).

Discussion

Stigma and self-esteem are very much related, especially among people with health problems such as MDR-TB. Stigma when it is high can result in the persons affected feeling shame, isolating themselves socially, and losing self-worth, which finally leads to lowering of self-esteem. It is, therefore, important that we are aware of the stigma that the support system and mental health intervention is offered to the affected individuals as this will help to improve their self-esteem and overall well-being. This research aimed at finding out the level of stigma and self-esteem of MDR-TB patients in Khyber Pakhtunkhwa.

The findings of this study point out the deep psychosocial burdens faced by MDR-TB patients, where stigma acts like a corrosive agent in the case of the patients' self-esteem and emotional well-being. The parallel tendencies among the different parts of the regions corroborate the fact that stigma is no mere social phenomenon but a principal barrier to the success of treatment and a cure. Therefore, stigma should be fought for by means of focused education, community activation, and comprehensive psychosocial care so that treatment adherence, mental health status, and quality of life can be improved among MDR-TB patients.

In a study conducted by Liboon et al. (2023)[10] identified that the main cause of DR-TB-related stigma among healthcare providers is fear, with poor infection control and workplace discrimination being important predictors. In another study, Thomas et al. (2016)[11] reported that MDR-TB patients experience considerable psychological, social, and economic burdens, such as depression, stigma, and financial stress, which need to be addressed through enhanced safety protocols, focused training, and psychosocial interventions to minimize stigma and maximize care delivery.

The present study reported a societal stigma prevalence of 57.9%, and the prevalence of self-stigma was 46.1%, which is consistent with few others research. These similar findings suggests that MDR-TB patients across different regions experience similar discrimination and social exclusion, which ultimately results in depression and anxiety in these patients, which become a common psychological challenge among these patients. A study conducted by Liu et al. (2021)[12] showed that MDR-TB patients are significantly more prone to anxiety and depression, with self-esteem being the most significant predictor, accounting for 33.5% and 38% of the variance in anxiety and depression, respectively. In another study, Paul et al. (2019)[13] reported that TB and HIV stigma severely damages the mental health of the patient, contributing to anxiety, depression, and even suicide. It also interferes with health-seeking behavior, resulting in delays, refusal of care, and hiding the diagnosis, thus making control of the disease ineffective.

The negative correlation ($r = -0.52$) between stigma and self-esteem observed in our study resulted in psychological issues in these patients. A survey by Jaggarajamma et al. in 20089 reported that stigma poses a substantial psychological burden on individuals with tuberculosis, restricting social interaction and generating distress. These results highlight the urgent need for psychosocial interventions to address stigma and improve self-esteem among MDR-TB patients. As reported in a study by Thusi et al. (2022),[14] hearing loss among MDR-TB patients exacerbates the psychosocial impact, reinforcing stigma, discrimination, and economic deprivation. Participants reported extreme emotional suffering, such as perceptions of worthlessness, loss of identity, and decreased independence, emphasizing the necessity of integrated care that deals with physical and psychological effects. Moreover, a study conducted by Redwood et al. (2021)[15] also stated that MDR-TB patients had significantly greater depression and stigma than DS-TB patients (difference in depression: 17.8%, $\chi^2 = 8.64$; AD for depression = 8.6, stigma = 7.6). MDR-TB patients also scored significantly lower on the health-related quality of life (HRQoL) (AD = –23.8), which reflects the increased psychosocial burden from drug resistance.

Stigma reduction and outcome improvement for MDR-TB patients can be achieved through intervention strategies that take a multidisciplinary approach. Public awareness campaigns need to address myths and misinformation regarding the transmission and prognosis of MDR-TB and

alleviate fear-driven stigma in communities. Incorporating mental health interventions within MDR-TB care is important due to the prevalence of depression, anxiety, and low self-esteem among patients and the capacity to prevent treatment adherence. Health workers must be provided with specialized training in stigma sensitivity and patient-centered communication to create more supportive treatment settings. Moreover, organized psychological support interventions, such as peer support groups, counselling, and evidence-based therapies like CBT, can empower patients, enhance emotional resilience, increase self-esteem, and ultimately promote regular compliance with treatment protocols. Combined, these elements can build a more welcoming, supportive, and effective MDR-TB care system.

Conclusion

The present study concluded that stigma significantly affects the psychological well-being of patients with MDR-TB, contributing to social exclusion, emotional distress, and low self-esteem. The present study highlights that societal, self, and institutional stigma are prevalent among MDR-TB patients, with societal stigma being the most common. The significant negative correlation between stigma and self-esteem suggests that as stigma increases, patients experience a decline in self-worth, which can impact treatment adherence and overall health outcomes. Addressing these challenges requires a multifaceted approach, including public awareness campaigns to reduce discrimination, mental health support to enhance self-esteem, and stigma-free healthcare environments. By implementing targeted interventions, healthcare systems can improve the quality of life for MDR-TB patients and promote better treatment outcomes.

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