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PSYCHOSOCIAL WELLBEING OF MULTIDRUG RESISTANT PULMONARY TUBERCULOSIS FEMALE PATIENTS OF PUNJAB: INFLUENCE OF SOCIAL SUPPORT; A KEY FACTOR

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ABSTRACT

Background: Multidrug-resistant tuberculosis (MDR-TB) poses a major public health threat in Pakistan, where socio-demographic and psychosocial factors significantly influence treatment outcomes. This study assessed the clinical profile, social support, and psychological experiences of MDR-TB patients from multiple healthcare facilities in Punjab.

Methods: A cross-sectional analysis was conducted on 342 MDR-TB patients from five major hospitals in Punjab: Nishtar Hospital Multan, Jinnah Hospital Lahore, Gulab Devi Hospital Lahore, Sheikh Zayed Hospital Rahim Yar Khan, and DHQ Hospital Sargodha. Data were collected through structured interviews and medical records, focusing on age, education, income, comorbidities, treatment side effects, social support, and stigma-related experiences. Statistical associations between age groups and psychosocial factors were analyzed using chi-square tests, with significance set at $p < 0.05$.

Results: The 21–40 age group represented the highest patient proportion (37.6%). Most participants were unemployed (98.3%) and from urban settings (65.5%). The most reported symptoms were cough (14%), weight loss (5.2%), and fever (1.7%). Among co-morbidities, diabetes (13.1%) and hepatitis B/C (10.5%) were most common. A high percentage of patients (94.8%) were aware of MDR-TB. Treatment side effects included GI disturbances (55.9%), psychiatric disorders (16.6%), and joint pain (17%). Psychosocial analysis showed a significant association between age groups and availability of household help ($p = 0.002$), community support ($p = 0.04$), and feelings of being a burden on others ($p = 0.05$). Emotional support ($p = 0.36$), family moral support ($p = 0.27$), and problem-sharing tendencies ($p = 0.16$) varied across age groups, with middle-aged patients receiving the most support. Discrimination at hospitals ($p = 0.31$), stigma from illness ($p = 0.01$), and job-related effects ($p = 0.001$) were also recorded, particularly affecting younger and older patients.

Conclusion: The study highlights that MDR-TB patients in Pakistan experience not only severe physical symptoms but also a substantial psychosocial burden. Age plays a key role in determining the level of support and stigma patients receive. Targeted interventions addressing emotional care, stigma reduction, nutritional support, and improved healthcare counselling are urgently needed to enhance patient outcomes.

Keywords: MDR-TB, psychosocial support, stigma, age groups, p-values, Pakistan, treatment side effects, healthcare discrimination.

INTRODUCTION

Tuberculosis (TB) is regarded as a significant public health concern, with an estimated 10.4 million new cases globally. 1 Of the reported cases, 5.9 million are attributed to males, 3.5 million to women, 1.0 million to children, and 2.1 million to those living with HIV, encompassing all new tuberculosis cases (1,2). Moreover, in conjunction with HIV/AIDS, tuberculosis is a significant cause of global mortality and imposes the greatest burden on the most impoverished and vulnerable segments of society. Between 2006 and 2014, Pakistan had the highest incidence rate in South Asia, recorded at 276 per 100,000 individuals (3). Three Pakistan is ranked fifth among high-burden countries and constitutes around 61% of the tuberculosis burden in the Eastern Mediterranean area. Annually, almost 0.42 million new tuberculosis cases are reported, with half of these cases being sputum smear

positive. Pakistan is predicted to possess the fourth highest prevalence of multidrug-resistant tuberculosis worldwide (4–6).

The gradual decrease in tuberculosis indicates that a solely biological strategy will be inadequate for eradicating the epidemic and meeting eradication objectives. A growing consensus acknowledges that social determinants of tuberculosis are crucial in combating this disease. Despite established treatment protocols, tuberculosis continues to pose a public health challenge, disproportionately impacting impoverished and marginalized groups, including migrants and the homeless, who often lack access to social support(7). When patients receive meticulous care and monitoring from family and the community, it may lead to higher compliance with therapy and improved psychological well-being. Seven Conversely, instances of noncompliance with tuberculosis therapy, prevalent in numerous cases today, might result in drug resistance, extended infection, and mortality(8). A study indicated that the primary factors contributing to drug-resistant TB include improper drug regimens, insufficient focus on TB, and poor care and social support for patients, hindering the complete adherence to prescribed treatment(9).

Tuberculosis has been associated with several adverse social consequences for patients. For example, owing to the infectious nature of tuberculosis, individuals tend to avoid close contact with those infected and perceive themselves as potentially affected. Furthermore, in the early phases of active tuberculosis, individuals under medical supervision must maintain physical isolation for a minimum of two weeks or longer while undergoing treatment to confirm they are no longer infectious(10,11). Nonetheless, regardless of an individual's contagious status, the stigma initially generated by this adverse consequence persists. In the community, individuals remember when someone near is afflicted with a life-threatening illness. Patients with tuberculosis are sometimes described as being quietly ostracized by the community, and interactions with them are commonly evaded. For example, individuals are declining to consume tea presented by patients during social events and are refraining from personal greetings when seeing patients. Eleven Isolation and other social implications are identified as key contributors in delaying the diagnosis of tuberculosis, particularly among female patients(12,13). In Thailand, 65% of patients experience significant stigma associated with tuberculosis (TB). Consequently, owing to these varied repercussions, tuberculosis has multifaceted effects on both individual and home levels(14).

Studies indicate that social integration and social support contribute positively to health outcomes. Thirteen Individuals with tuberculosis have many medical and non-medical requirements that must be addressed to effectively treat the condition. If patients are not meticulously treated and monitored by family and community, it may result in treatment non-compliance. Non-adherence to tuberculosis therapy may result in drug resistance, extended infectiousness, and mortality. (15)A meta-analysis revealed that social support and interpersonal relationships affect mortality risk. Fourteen Moreover, it has been observed that robust social links enhance the probability of survival by 50% relative to individuals lacking social connections. The odds ratios were 1.9 for social integration, 1.5 for social networks, 1.4 for perceived social support, and 1.2 for received social support. Fourteen A study on the socioeconomic ramifications of tuberculosis is done in Pakistan. A further study has been conducted on the necessity of a comprehensive approach to tackle all facets of tuberculosis(16). While recognizing the significance of integrating non-medical care with medical therapy, prior research has evaluated social support either by measuring social ties or through various qualitative dimensions. limited studies have specifically evaluated the care and social support afforded to tuberculosis patients in Pakistan, and no prior research, despite its contributions, has directly examined the social support received by these patients.

METHODOLOGY

Study Setting: This study was conducted in Punjab, the second-largest province in Pakistan, comprising 36 districts and a population of over 110 million. Punjab is culturally diverse due to migration from across the country, offering a varied sample for research on MDR-TB.

Study Participants: Female patients aged 12 and above were selected through non-probability convenience sampling. Participants under 18 provided guardian consent. Mentally compromised individuals who couldn't respond effectively were excluded. Verbal consent was obtained from all participants.

Participant Selection: Data were collected from five major hospitals with PMDT sites: Gulab Devi Hospital (Lahore), Jinnah Hospital (Lahore), Nishtar Hospital (Multan), Sheikh Zayed Hospital (Rahim Yar Khan), and DHQ Hospital (Sargodha). These hospitals serve wide catchment areas, enabling access to diverse, mostly low-income populations. Only patients, not attendants, were interviewed for candid responses.

Sample Size: Using a 50% prevalence assumption, 90% confidence level, 5% margin of error, and a 10% non-response rate, the calculated sample size was 261. After exclusions, 229 participants were included using a systematic convenience sampling approach.

Nature of Study: This was a quantitative study using a self-administered structured questionnaire based on previous international studies. The design was chosen for its objectivity and statistical reliability, reducing researcher bias.

Tools for Data Collection: A 44-question Urdu-translated questionnaire was used. Cronbach's Alpha for reliability was 0.78. Questions were categorized as:

- Knowledge about MDR-TB (10 questions)
- Social support (10 questions) based on Zimet's scale

- Stigmatization (7 questions)
- Impact on daily life and healthcare experience (11 questions)
- Religious and emotional wellbeing (5 questions)
- Discrimination and psychological distress (6 questions)

These questions explored participants' understanding of the disease, social experiences, and the support system around them.

Pre-Testing: The questionnaire was pre-tested on 10 participants in non-sampled areas. Feedback was used to revise and refine the final version.

Data Collection Procedure

The data collection process was carefully planned and executed to ensure accuracy, ethical compliance, and participant comfort. After obtaining formal written or verbal permission from the administrative authorities of each selected hospital, the researcher approached female patients diagnosed with MDR-TB for participation in the study.

Before starting the interviews, each potential participant was informed about the purpose, nature, and significance of the study. The voluntary nature of participation was emphasized, and verbal consent was taken from all participants or, in the case of minors under 18, from their legal guardians. Participants were assured that their identity and responses would remain strictly confidential and that the data would only be used for research purposes. No participant was forced or financially compensated for their involvement, in order to avoid bias and maintain ethical standards. Most of the participants had low levels of formal education, with many having not completed basic schooling (under matriculation). Because of this, the data collection process did not rely on written questionnaires alone. Instead, interviews were conducted individually using an interviewer-administered approach. This ensured that participants fully understood the questions, and it allowed for clarification where needed. The researcher read each question aloud in Urdu and recorded the responses based on the participant's answers. Each interview took approximately 8 to 10 minutes, including the time taken to explain the study and obtain consent. The interviews were conducted within the hospital premises either in the inpatient wards or outpatient areas depending on what was most convenient and comfortable for the participant. The setting was kept as private and quiet as possible to encourage openness and honest responses, especially since the topic involved sensitive issues such as stigmatization and personal health.

To begin each interview, basic demographic and contact information was collected, including the patient's name, age, address, contact number, marital status, education level, and occupation. Following this, the researcher proceeded with the structured questionnaire, asking questions in a logical sequence that covered knowledge about MDR-TB, social support, stigmatization, and the impact of the disease on various aspects of life. It was made clear to each participant that they had the right to skip any question they did not feel comfortable answering or to withdraw from the interview at any time without any consequences. Great care was taken to maintain a respectful and empathetic tone throughout the data collection process. In some cases, the researcher had to wait or revisit the patient later if the patient was tired, in distress, or undergoing treatment during the initial approach. By employing this thorough, respectful, and culturally sensitive method of data collection, the study was able to gather rich, reliable information while protecting the dignity and rights of all participants.

Data Analysis

The collected data was analyzed using the Statistical Package for Social Sciences (SPSS version 20) program. The data was first analyzed using the calculation of frequencies, percentage and descriptive statistics by using Chi square test. After the data entry into SPSS, the data was checked for any discrepancy or error. Any kind of outlier was excluded from the data. Each socio-demographic characteristic was associated with the level knowledge of the disease, the attitude towards the disease and the behavioural response by the participant towards MDR TB. Associations of psychological distress and social support were identified using logistic regression analyses. Following each univariate regression, multivariable regression models were constructed. Independent variables from the univariate analyses were entered into the multivariable model if significant at $P < 0.05$ level. Probability below 0.05 was regarded as statistically significant.

RESULT

The study included 229 MDR-TB patients, with the majority aged between 21–40 years (37.6%) and 41–60 years (35.8%). Most were treated at Nishtar Hospital, Multan (50.2%), followed by Jinnah Hospital, Lahore (23.6%). The population was predominantly Muslim (97.4%) and mostly married (67.2%). A large portion was illiterate (43.7%) or had only primary education (45.9%), and the majority had a monthly income between PKR 20,001–40,000 (75.1%). Most participants came from urban areas (65.5%) and nuclear families (52.4%). A striking 98.3% were unemployed, and 43.7% had 3–4 children. Regarding addiction, 96.5% reported no substance use. Overall, the demographic data indicate a socioeconomically disadvantaged group with limited education, high unemployment, and strong dependence on public health services.

Table 1: Demographic Characteristics

Variables	Characteristics	Number (%)

Age (years)	12-20	61 (26.6%)
	21-40	86 (37.6%)
	41-60	82 (35.8%)
Hospital	Gulab Devi Hospital, Lahore	24 (10.5%)
	Jinnah Hospital, Lahore	54 (23.6%)
	Nishtar Hospital, Multan	115 (50.2%)
	Sheikh Zayed hospital, RYK	35 (15.3%)
	DHQ hospital, Sargodha	1 (0.4%)
Religion	Muslim	223 (97.4%)
	Non-Muslim	6 (2.6%)
Marital status	Single	63 (27.5%)
	Married	154 (67.2%)
	Divorced	1 (0.4%)
	Widow	11 (4.8%)
Education	Illiterate	100 (43.7%)
	Primary	105 (45.9%)
	Metric	20 (8.7%)
	Intermediate	2 (0.9%)
	Graduate and above	2 (0.9%)
Monthly Income	1-20000	30 (13.1%)
	20001-40000	172 (75.1%)
	40001-60000	27 (11.8%)
Residential background	Urban	150 (65.5%)
	Rural	79 (34.5%)
Family type	Joint	109 (47.6%)
	Nuclear	120 (52.4%)
Profession	Unemployed	225 (98.3%)
	Employed	3 (1.3%)
	Business	1 (0.4%)
Number of children	None	68 (29.7%)
	1-2	60 (26.2%)
	3.4	100 (43.7%)
	Above 5	1 (0.4%)
Addiction	None	221 (96.5%)
	Smoking	7 (3.1%)
	Alcohol	1 (0.4%)

The findings reveal that the vast majority of participants (94.8%) had knowledge about MDR-TB, although 45% were unsure about the source of their infection. Household transmission was reported by 40.6%. Most patients (77.3%) experienced the full spectrum of MDR-TB symptoms, including cough, fever, and weight loss. While 73.4% had no comorbidities, diabetes (13.1%) and hepatitis B/C (10.5%) were notable among the rest. Extra-pulmonary TB was reported in 35.8%, with most cases unspecified. More than half (58.5%) had no previous TB treatment, but 27.9% reported relapse. Side effects of MDR-TB treatment were common, particularly gastrointestinal issues (55.9%) and joint pain (17%). A significant majority (72.1%) had received the BCG vaccine, though only 13.5% had a visible scar. Preventive practices were strong, with 98.7% following all recommended measures. Regarding treatment response, 60.3% initially felt worse but later felt better, while 37.1% felt relaxed during treatment, suggesting overall treatment effectiveness despite side effects.

Table 2: MDR Pulmonary Tuberculosis Characteristics

Variables	Characteristics	Number (%)

Knowledge about MDRTB	**No**	12 (5.2%)
	Yes	217(94.8%)
Source of MDRTB	**Household**	93 (40.6%)
	Relatives	23 (10.0%)
	Neighbors	10 (4.4%)
	Unknown	103 (45.0%)
Symptoms	**Cough**	32 (14.0%)
	Fever	4 (1.7%)
	Weight loss	12 (5.2%)
	All	177 (77.3%)
	None	2 (0.9%)
	Enlarged lymph nodes	2 (0.9%)
Comorbidity	**None**	168 (73.4%)
	Diabetes	30 (13.1%)
	HIV/Aids	1 (0.4%)
	Hepatitis B/C	24 (10.5%)
	Asthma	6 (2.6%)
Extra pulmonary TB	**None**	146 (63.8%)
	Brain	1 (0.4%)
	Others	82 (35.8%)
Past TB treatment	**No**	134 (58.5%)
	Relapse	64 (27.9%)
	Defaulter	9 (3.9%)
	Shifted to MDR treatment	18 (7.9%)
	Mismanaged	4 (1.7%)
Side effects of treatment	**None**	15 (6.6%)
	GI disturbance	128 (55.9%)
	Psychiatric disorders	38 (16.6%)
	Joint pains	39 (17.0%)
	Others	9 (3.9%)
BCG	**No**	27 (11.8%)
	Yes	165 (72.1%)
	Don’t remember	5 (2.2%)

	Scar mark present	31 (13.5%)
	Scar mark absent	1 (0.4%)
Preventive measures	**None**	2 (0.9%)
	Living in isolation and ventilated room	1 (0.4%)
	All measures	226 (98.7%)
Response of treatment	**No change**	5 (2.2%)
	Relaxed	85 (37.1%)
	Feeling worse	1 (0.4%)
	Initially worse now relax	138 (60.3%)

The data highlights the distribution of various psychosocial and support-related factors among MDR-TB patients across different age groups (12–20, 21–40, 41–60 years), along with their statistical significance. A significant association was found between age and having a helper for household tasks ($p = 0.002$), with a notably higher percentage of younger patients (12–20 years) lacking such support. Community support also showed a statistically significant association with age ($p = 0.04$), suggesting older patients may receive more community-based assistance. Other support variables—including emotional support, family or friends for moral support, ability to share problems, and nutritional support—did not show significant differences across age groups. Nearly all participants (98.7%) reported support from healthcare professionals, and suicidal thoughts were rare (only 1 case, 0.4%), with no clear age-related trend. Overall, while most forms of support were relatively stable across age groups, household help and community involvement varied significantly by age.

Table 3: Different Characteristics of Social Support verses age groups

Variables	Characteristics	Total Number (%)	Age in years 12-20	Age in years 21-40	Age in years 41-60	p-value
Helper for household	**No**	59 (25.8%)	6 (10.2%)	30 (30.8%)	23 (31.0%)	0.002
	Yes	170 (74.2%)	55 (32.4%)	56 (42.9%)	59 (39.7%)	
Friends for moral support	**No**	156 (68.1%)	43 (27.6%)	31 (29.3%)	58 (39.2%)	0.58
	Yes	73 (31.9%)	18 (14.7%)	55 (36.5%)	24 (31.9%)	
Family for moral support	**No**	85 (37.1%)	18 (21.2%)	32 (27.6%)	35 (22.2%)	0.27
	Yes	144 (62.9%)	43 (29.9%)	54 (37.5%)	47 (35.6%)	
Emotional support	**No**	92 (40.2%)	20 (21.7%)	38 (41.3%)	34 (34.0%)	0.36
	Yes	137 (59.8%)	41 (29.9%)	48 (45.0%)	48 (37.0%)	
Problem sharing	**No**	125 (54.6%)	37 (29.6%)	40 (32.0%)	48 (38.4%)	0.16
	Yes	104 (45.4%)	24 (23.1%)	46 (35.2%)	34 (32.7%)	
Support from healthcare professional	**No**	3 (1.3%)	1 (13.3%)	1 (33.3%)	1 (33.3%)	0.99
	Yes	226 (98.7%)	60 (46.5%)	85 (57.6%)	81 (55.8%)	
Support from community	**No**	67 (29.3%)	11 (16.4%)	25 (31.3%)	31 (36.3%)	0.04
	Yes	162 (70.7%)	50 (30.9%)	61 (37.7%)	51 (41.5%)	

Nutritional support	**No**	27 (11.8%)	3 (11.1%)	10 (37.0%)	14 (31.9%)	0.08
	Yes	202 (88.2%)	58 (28.7%)	76 (57.6%)	68 (53.7%)	
Suicidal thoughts	**No**	228 (99.6%)	61 (26.8%)	86 (37.7%)	81 (35.5%)	0.41
	Yes	1 (0.4%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	

The data reflects the psychosocial experiences of MDR-TB patients, categorized by age groups (12–20, 21–40, 41–60 years), revealing key associations. Discrimination at hospitals was minimal, with 97.4% reporting no such experiences, and no significant age-based differences ($p = 0.31$). However, the impact of the disease on employment showed a strong and statistically significant association with age ($p = 0.001$), where older patients (especially 41–60 years) reported more frequent job-related effects. Feelings of being a burden on others also approached significance ($p = 0.05$), with older individuals (41–60 years) more likely to report this. Notably, age was significantly associated with being blamed for illness ($p = 0.01$), as older groups more frequently experienced blame. Although abuse due to the disease was rare, its occurrence was borderline significant ($p = 0.05$), particularly affecting the youngest group (12–20 years). No significant age-related differences were found in the impact of discrimination on treatment ($p = 0.66$). Overall, the data highlights that while overt discrimination is rare, older patients are more vulnerable to psychosocial burdens like job impact, blame, and feelings of being a burden.

Table 4: Different Characteristics of Social Support verses age groups

Variables	Characteristics	Total Number (%)	Age in years 12-20	Age in years 21-40	Age in years 41-60	p-value
Discrimination at Hospital	**Often**	1 (0.4%)	0 (0.0%)	11 (100.0%)	0 (0.0%)	0.31
	Seldom	3 (1.3%)	2 (66.7%)	0 (0.0%)	1 (33.3%)	
	Not at all	223 (97.4%)	58 (26.0%)	85 (38.1%)	80 (35.9%)	
	Others	2 (0.9%)	1 (50.0%)	0 (0.0%)	1 (50.0%)	
Effect on Job	**Seldom**	86 (37.6%)	7 (81.1%)	38 (44.2%)	41 (47.7%)	0.001
	Not at all	143 (62.4%)	54 (37.8%)	48 (33.6%)	41 (28.7%)	
Feeling of Burden on Others	**Often**	13 (5.7%)	1 (7.7%)	5 (38.5%)	7 (53.8%)	0.05
	Seldom	154 (67.2%)	36 (23.4%)	59 (38.3%)	59 (38.3%)	
	Not at all	62 (27.1%)	24 (38.7%)	22 (35.5%)	16 (25.8%)	
Blame for Illness	**Often**	29 (12.7%)	2 (6.9%)	13 (44.8%)	14 (48.3%)	0.01
	Seldom	125 (54.6%)	30 (24.0%)	45 (36.0%)	50 (40.0%)	
	Not at all	75 (32.8%)	29 (38.7%)	28 (37.3%)	18 (24.0%)	
Effect of Discrimination on Treatment	**Often**	2 (0.9%)	1 (50.0%)	0 (0.0%)	1 (50.0%)	0.66
	Seldom	8 (3.5%)	3 (37.5%)	2 (25.0%)	3 (37.5%)	
	Not at all	219 (95.6%)	57 (26.0%)	84 (38.4%)	78 (35.6%)	
Abuses Due To Disease	**Often**	3 (1.3%)	3 (100.0%)	0 (0.0%)	0 (0.0%)	0.05
	Seldom	19 (8.3%)	3 (15.8%)	10 (52.6%)	6 (31.6%)	
	Not at all	207 (90.4%)	55 (26.6%)	76 (36.7%)	76 (36.7%)	

DISCUSSION

This study focused on analyzing the socio-demographic, clinical, and psychosocial profiles of 342 patients diagnosed with multidrug-resistant tuberculosis (MDR-TB) across five hospitals in Punjab, Pakistan. The majority of the patients fell within the 21–40 age group (37.6%), followed by 41–60 years (35.8%), and the youngest group of 12–20 years (26.6%). In terms of hospital representation, the highest number of patients (50.2%) came from Nishtar Hospital in Multan, highlighting its importance as a central treatment facility for MDR-TB. Other significant contributors were Jinnah Hospital Lahore (54%), Gulab Devi Hospital (24%), and Sheikh Zayed Hospital (35%), whereas DHQ Sargodha had the lowest number of registered cases (1%). This geographical

spread demonstrates the widespread nature of MDR-TB across both urban and semi-urban regions and the key role of tertiary care hospitals in managing the disease(17).

The socio-demographic characteristics of the patients revealed that a vast majority (97.4%) identified as Muslim, and over two-thirds (67.2%) were married, showing that the disease affected individuals who were likely to have family responsibilities. Educational attainment was relatively low; 45.9% had only primary-level education, and 43.7% were completely illiterate, which may have implications for health literacy and treatment adherence. In terms of economic status, 75.1% had a monthly income between Rs. 20,001 and 40,000, indicating that the disease predominantly impacted low- to middle-income households(18,19). Most patients (65.5%) resided in urban settings, and 52.4% came from nuclear families, which might affect the level of support available during treatment. Alarmingly, 98.3% of the patients were unemployed, which not only reflects the debilitating nature of the illness but also hints at the potential financial burden it imposes on families. Interestingly, 96.5% of the participants had no addiction history, and 94.8% were aware of MDR-TB, suggesting effective awareness programs, although only 72.1% had received the BCG vaccine(20).

The clinical profile of patients showed that the most commonly reported symptoms were cough (14%), fever (1.7%), weight loss (5.2%), and other overlapping complaints. Co-morbid conditions were also prevalent 13.1% of patients had diabetes, 10.5% had Hepatitis B or C, and 0.4% were HIV-positive. A very small percentage (0.4%) reported extra-pulmonary TB affecting the brain. Regarding their TB history, more than half of the participants (58.5%) had never had TB before, whereas 27.9% were relapse cases, 3.9% had defaulted on earlier treatments, and 1.7% were cases of previous mismanagement. Drug-resistant TB treatment is known for its severe side effects, and this study confirmed that; 55.9% of the patients experienced gastrointestinal issues, 17% reported joint pain, and 16.6% suffered from psychiatric complications, which emphasizes the importance of holistic patient care, including mental health support(21).

The psychosocial aspects revealed notable differences across age groups, especially in terms of family and community support. Patients aged 21–40 years consistently received the highest level of emotional, financial, and household support from family, friends, and healthcare providers. This could be attributed to their status as primary breadwinners or central family members. On the contrary, younger patients (12–20 years) were found to receive minimal assistance at home and reported fewer instances of moral support or emotional encouragement. They also had the least access to nutritional support and were the least likely to share their problems, possibly due to lack of maturity or limited communication channels. Patients in the 41–60 age group also showed signs of social isolation and neglect, which may be influenced by age-related stigma or chronic illness fatigue among caregivers. Despite these challenges, no suicide attempts were reported among any of the participants, though the risk factors for depression were present, particularly in younger patients(22).

Social stigma and discrimination emerged as major themes in this study, particularly affecting younger and older patients. Some individuals in the 12–20 and 41–60 age brackets reported being blamed for their illness or described feeling like a burden to their families. Among the 12–20 age group, a small number even disclosed experiences of abuse related to their health status, which is a serious concern that highlights the need for protective social measures. Many patients also experienced economic consequences, including job loss or reduced work capacity due to prolonged treatment and physical weakness, especially among the working-age population. Although the 21–40 age group generally had better treatment adherence and family support, the study underscores the urgent need for age-specific psychological counseling, nutritional programs, and community-based interventions to ensure a more inclusive and supportive environment for all MDR-TB patients(23,24).

CONCLUSIONS

The study revealed that many MDR-TB patients, especially women, suffer from psychological stress and low family support, yet benefit significantly from healthcare-provided support. Young unmarried women living with parents had better psychological outcomes, while married women often faced discrimination and a lack of assistance with household responsibilities. Despite these challenges, treatment adherence was high due to awareness, free medication, and positive interactions with healthcare staff. Overall, the study suggests that MDR-TB has a serious psychological, social, and financial impact. Psychological interventions should be integrated into treatment programs. Structural improvements in healthcare, combined with social and financial support, are necessary to reduce distress and improve outcomes. The importance of spiritual belief and healthcare worker empathy also played a role in patients' coping mechanisms.

Limitations

This study has several limitations. Not all aspects of social support were explored, and the semi-quantitative design may not fully capture patients' lived experiences. The use of close-ended tools limited the depth of insight into stigma, emotional impact, and social dynamics. A qualitative study is recommended to further investigate issues like perceived stigma, symptom burden, and illness perception. Additionally, certain psychosocial variables such as the severity of symptoms and mental health conditions were not measured.

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