Section: Community Medicine

Original Research Article

DETERMINANTS OF TREATMENT OUTCOME AND PERSPECTIVE OF DR-TB PATIENTS IN SURENDRANAGAR DISTRICT – A CROSS-SECTIONAL STUDY

Dhruvil Vekariya[1], Nikita Solanki[2], Mital Goswami[3], Vijay Ahir[4], Kishor Sochaliya[5], Pratik Jasani[6]

[1]*Assistant Professor, Department of Community Medicine, Bhagyoday Medical College & Hospital, Kadi, Gujarat, India.*
[2]*Assistant Professor, Department of Community Medicine,C.U. Shah Medical College, & Shrimad Rajchandra Sarvamangal Hospital, Surendranagar, Gujarat, India.*
[3]*Assistant Professor, Department of Community Medicine, Zydus Medical College & Hospital, Dahod, Gujarat, India.*
[4]*Senior Resident, Department of Community Medicine, GAIMS, Gujarat, India.*
[5]*Professor & Head, Department of Community Medicine,C.U. Shah Medical College, & Shrimad Rajchandra Sarvamangal Hospital, Surendranagar, Gujarat, India.*
[6]*Professor, Department of Community Medicine,C.U. Shah Medical College, & Shrimad Rajchandra Sarvamangal Hospital, Surendranagar, Gujarat, India.*

Received *: 30/05/2026*
Received in revised form *: 10/07/2026*
Accepted *: 24/07/2026*

Corresponding Author:
Dr. Mital Goswami,
Assistant Professor, Department of Community Medicine, Zydus Medical College & Hospital, Dahod, Gujarat, India.
Email: gmital9@gmail.com

DOI: 10.70034/ijmedph.2026.3.221

Source of Support: Mentioned in acknowldgment
Conflict of Interest: None declared

Int J Med Pub Health
2026; 16 (3); 1377-1384

ABSTRACT

Background: Drug-resistant tuberculosis (DR-TB) remains a major public health challenge due to prolonged treatment, poor treatment outcomes, and substantial psychosocial and economic burden. Understanding the determinants of treatment outcomes and patient perspectives is essential for improving programmatic management.This study was conducted to determine the treatment outcomes of registered DR-TB patients, identify determinants associated with treatment outcomes, and assess patients' perspectives regarding treatment-related difficulties, psychosocial barriers, and challenges.

Materials and Methods: A cross-sectional study was conducted among 85 DR-TB patients registered under the National Tuberculosis Elimination Programme (NTEP) in Surendranagar district, Gujarat, during 2021–2022. Eligible patients were enrolled using complete enumeration. Data were collected through a validated semi-structured questionnaire. Descriptive statistics, Chi-square test, and binary logistic regression were performed using SPSS version 26.0, with $p<0.05$ considered statistically significant.

Results: Out of the 85 participants, 64.7% were male and 40.0% belonged to the 19–38 years age group. Overall, 81.4% achieved favourable treatment outcomes (49.4% cured and 32.0% treatment completed), while 18.8% had unfavourable outcomes. Significant independent predictors of unfavourable treatment outcomes included age 59–78 years (AOR=2.42; p=0.035), illiteracy (AOR=3.40; p=0.049), unemployment (AOR=1.86; p=0.032), presence of comorbidities (AOR=3.75; p=0.001), treatment-related challenges (AOR=6.21; p<0.001), dietary challenges (AOR=2.98; p=0.006), stigma (AOR=5.48; p<0.001), and financial problems (AOR=3.94; p=0.001). Common treatment challenges included prolonged treatment duration (87.5%) and medication side effects (68.8%), while dietary difficulties (38.8%), stigma (17.7%), and financial problems (25.9%) were also frequently reported.

Conclusion: Although most DR-TB patients achieved favourable treatment outcomes, socioeconomic vulnerability, comorbidities, treatment-related difficulties, stigma, dietary challenges and financial hardship significantly influenced unfavourable outcomes.

Keywords: Drug-resistant tuberculosis, MDR-TB, Treatment outcome, Determinants, Stigma, Patient perspective, NTEP

INTRODUCTION

Tuberculosis (TB) is a leading cause of morbidity and mortality globally and persists as a major public health challenge.[1] An estimated 10.6 million new patients of TB occurred worldwide in 2021. The TB incidence in India was estimated to be 3 million patients in 2021.[2]

Multi-drug-resistant tuberculosis (MDR-TB) refers to strains of Mycobacterium tuberculosis (MTB) which have developed resistance to isoniazid (H) and rifampicin (R). TB infection with bacilli which have developed resistance to a fluoroquinolone and any one of the injectable drugs are known as extremely-drug resistant tuberculosis (XDR-TB).[3]

An estimated 4.5 lakh new patients of DR-TB occurred worldwide in 2021. The DR-TB incidence in India was estimated to be 1.19 lakh patients in 2021.[2]

The World Health Organization's (WHO) End-TB strategy envisages a 95 per cent reduction in TB deaths by 2035. But the growth of MDR-TB threatens to undermine the gains and achievement of the goals for a TB-free world.[4]

It is estimated that MDR-TB treatment involves prolonged treatment with injectable second-line drugs, associated with more adverse effects, suboptimal treatment outcomes and higher risks of mortality compared to patients with drug-sensitive TB and those with lesser resistant forms of TB.[2,5]

In New Delhi, it was found that patients lost to follow up (for two or more consecutive months) and treatment failures in DR-TB patients further compounded the disease transmission cycle in the community.[6]

Studying the determinants of DR-TB outcomes is vital for tailored interventions, better treatment protocols, and global TB control efforts. This project may provide insights into addressing DR-TB-related challenges effectively.

Understanding the various determinants of treatment outcome and perspective of DR-TB patients in this region provides valuable insights for patients, community, healthcare providers & NTEP stakeholders.

This knowledge can aid in various aspects e.g., for improving treatment efficacy, reducing treatment abandonment, enhancing patient-centred care, optimizing resource allocation, preventing drug resistance, policy development etc.

DR-TB is not limited to a single region or country. Understanding determinants and patient perspectives can contribute to global efforts to combat DR-TB and achieve the Sustainable Development Goal of ending the TB epidemic.[6]

Understanding the factors that influence treatment outcomes in DR-TB patients is crucial for improving the effectiveness of treatment regimens. Identifying determinants allows healthcare providers to tailor treatments to individual patients, increasing the chances of successful outcomes.[3]

The project's findings can be used to design targeted interventions aimed at reducing the ill-outcome of DR-TB and in understanding patients' perspective and circumstances which plays important part in the treatment outcome. This could include awareness campaigns, community education, and efforts to improve access to healthcare services, particularly in underserved areas.[2]

By addressing the unique social aspects of DR-TB, the project contributes to stigma reduction. Raising awareness and dispelling misconceptions about the disease can encourage affected families to seek care promptly, reducing the negative impact of stigma on patients and their community.

The project's data can inform health policy decisions at both the regional and national levels. Policymakers can use this information to allocate resources more effectively, strengthen healthcare infrastructure, and develop evidence-based guidelines for DR-TB management.

By addressing DR-TB comprehensively, the project aims to study the determinants of treatment outcomes and patient perspectives in DR-TB because it is essential for tailoring treatments, improving patient experiences, optimizing resource allocation, and ultimately reducing the burden of this challenging disease on both individuals and public health systems.

Aim and Objectives

- To Determine various treatment outcomes of registered DR-TB patients.
- To Identify determinants affecting the outcome of DR-TB patients.
- To Determine the perception regarding treatment-related difficulty, psychosocial barriers and challenges faced by DR-TB patients who had unfavourable outcomes

MATERIALS AND METHODS

Study Design and Setting: A cross-sectional study was conducted among Drug-Resistant Tuberculosis (DR-TB) patients registered under the National Tuberculosis Elimination Programme (NTEP) in Surendranagar District, Gujarat. The study was carried out across all DR-TB centers in the district.

Study Period and Population: The study included all DR-TB patients registered for treatment under NTEP during the years 2021 and 2022. A total of 85 patients meeting the eligibility criteria were included in the study.

Inclusion Criteria: All patients diagnosed as **Drug-Resistant Tuberculosis (DR-TB)** during the selected quarters within the study period.

Exclusion Criteria

- Patients who were **currently on treatment** at the time of data collection.
- Patients who were **transferred out** to another treatment center.
- Patients who had **died** before the commencement of the study.

Sampling Technique

As per the district data there were total 110 patients registered in the year 2021 & 2022. Out of them, after considering exclusion criteria total 85 patients of DR-TB were enrolled in the study

A complete enumeration method was employed, wherein all eligible DR-TB patients fulfilling the inclusion criteria were included, resulting in a total sample size of 85 participants.

Data Collection Method and Tool

Data were collected through personal interviews with the selected study participants using a validated, pre-tested, semi-structured questionnaire.

In the case of pediatric patients, information was obtained from their parents or caretakers.

The questionnaire included sections on socio-demographic profile, clinical history, comorbidities, treatment adherence, addiction status, and perception of DR-TB treatment and its challenges.

Data Analysis

Data were entered in Microsoft Excel and analyzed using Statistical Package for the Social Sciences (SPSS) version 26.0.

Descriptive statistics such as frequency and percentage were used for categorical variables, and mean ± SD for continuous variables. For inferential analysis, the Chi-square test was used to assess associations between categorical variables and treatment outcome.

Variables showing significant association ($p < 0.05$) were entered into a binary logistic regression model to identify independent predictors of treatment outcome. Results were presented as OR with 95% Confidence Intervals (CI), and p-values < 0.05 were considered statistically significant.

Ethical Considerations

Prior approval for the study was obtained from the Institutional Ethics Committee (IEC). Written informed consent was obtained from each participant after explaining the study objectives and procedures using a participant information sheet. Confidentiality of data was strictly maintained throughout the study. Necessary permissions were also obtained from the District Tuberculosis Officer (DTO) and other concerned health authorities before data collection.

RESULTS

The above figure depicts the geographical distribution of 85 drug-resistant tuberculosis (DR-TB) patients across different talukas of the Surendranagar district.

The majority of patients were from Wadhwan (64.71%), followed by Chotila (14.12%). Fewer patients were observed in other regions like Chuda, Thangadh, and Sayla. This distribution can help to identify high-burden areas for targeted interventions. [Figure 1]

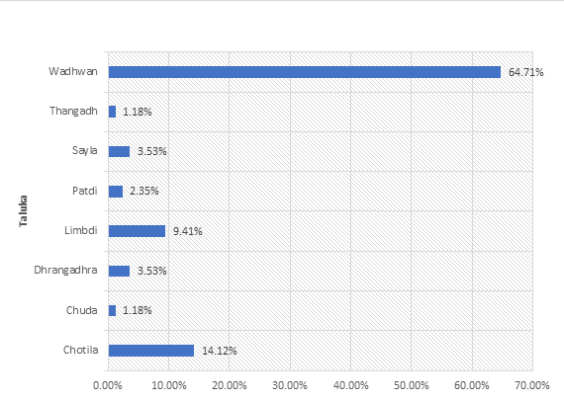

Figure 1: Taluka wise distribution of DR-Tb patients (n=85)

Table 1: Sociodemographic Profile of DR-TB Patients (n=85)

Age (in completed years)	**Number**	**Percentage**
less than <18	10	11.76%
19 to 38	34	40.00%
39 to 58	24	28.24%
59 to 78	17	20.00%
Gender	**Number**	**Percentage**
Male	55	64.71%
Female	30	35.29%
Marital status	**Number**	**Percentage**
Married	66	77.65%
Unmarried	19	22.35%
Education	**Number**	**Percentage**
Illiterate	9	10.59%
Primary	25	29.41%
Secondary	30	35.29%
Higher Secondary	20	23.53%
Graduation	1	1.18%
Occupation	**Number**	**Percentage**
Unemployed	34	40.00%
Unskilled worker	22	25.88%
Semiskilled worker	18	21.18%
Skilled worker	11	12.94%
Updated BG prasad Classification	**Number**	**Percentage**
Class I	28	32.94%
Class II	42	49.41%
Class III	10	11.76%

Class IV	3	3.53%
Class V	2	2.35%
Any Comorbidities	**Number**	**Percentage**
Yes	13	15.29%
No	72	84.71%
If yes, Specify Comorbidities	**Number**	**Percentage**
Cancers	1	7.69%
CKDs	1	7.69%
Diabetes	5	38.46%
Hypertension	6	46.15%
Addiction	**Number**	**Percentage**
Tobacco	29	34.12%
Chalam	1	1.18%
No addiction	55	64.71%

Table 1 shows the demographic details of the study participants which includes, The highest proportion (40%) of patients were between 19–38 years of age group, indicating higher prevalence of DR TB among young adults. Male predominance was observed (64.71%). Most of the patients were married (77.65%). The majority had education level upto secondary education (35.29%), while very few were graduates (1.18%). Diabetes (38.46%) and hypertension (46.15%) were noted as being the most common comorbidity among the participants. The largest group was unemployed (40%) which suggest economic vulnerabilities of this cohort. The majority belonged to Class II (49.41%) and Class I (32.94%) based on the Modified BG Prasad classification.7

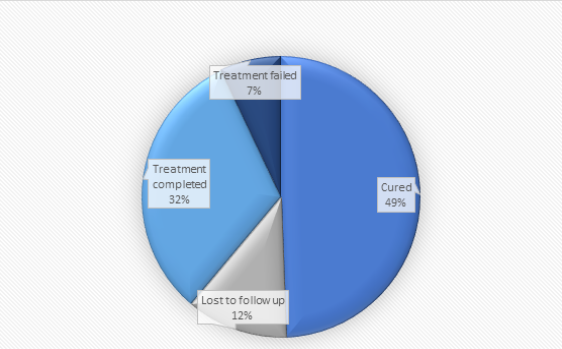

Figure 2: Treatment Outcome

Figure 2 depicts treatment outcome of DR TB patient which shows that that out of the total, 49.41% of patients were cured,32% have completed treatment which is favourable outcome, while 7.06% had treatment failure,12% had loss to followup which is considered as unfavourable outcome.

Table 2: Distribution of patients according to Family history and Treatment History(n=85)

Family history of TB	**Number**	**Percentage**
Yes	6	7.06%
No	77	90.59%
History of close contact with diagnosed case of TB	**Number**	**Percentage**
Yes	8	9.41%
No	63	74.12%
Don't know	13	15.29%
Treatment Initiation Immediately after Diagnosis	**Number**	**Percentage**
Yes	81	95.29%
No	3	3.53%
If Hospitalization required after diagnosis of TB	**Number**	**Percentage**
Yes	21	24.71%
No	64	75.29%
Reason for hospitalization after diagnosis of TB (n=21)	**Number**	**Percentage**
For DM	1	4.76%
For Treatment of Tb	19	90.48%
For better Treatment	1	4.76%

Table 2 shows Exposure history of confirmed case of TB which revealed that only few reported family TB history (7.06%) and close contact (9.41%). Immediate treatment initiation was noted high (95.29%) and out of total ,24.71% required hospitalization. These factors underscore the importance of early detection and continuous care.

Table 3: Challenges Faced by DR-TB Patients

Treatment Challenges faced by DR TB patients	**Number**	**Percentage**
Yes	16	18.82%
No	69	81.18%
Specific treatment challenges (n=16)*	**Number**	**Percentage**
Longer duration of treatment	14	87.50%

Medication side effects	11	68.75%
Availability of Medication	9	56.25%
Accessibility to health care center (Transportation)	7	43.75%
Availability of health care personnel	4	25.00%
Lack of support Services	3	18.75%
Dietary Challenges	**Number**	**Percentage**
Yes	33	38.82%
No	52	61.18%
Specific Dietary Challenges(n=33)*	**Number**	**Percentage**
Socioeconomic factors, inability to work, or lack of access to nutritious food	31	93.94%
Loss of appetite	27	81.82%
Nausea and Vomiting	19	57.58%
Weight Loss and Muscle Wasting	24	72.73%
Patients receiving Nutritional Counselling	**Number(n=85)**	**Percentage**
Yes	70	82.35%
No	15	17.65%
Having any difficulty in following Dietary restrictions during treatment?*	**Number**	**Percentage**
Able to follow them easily	56	65.88%
Able to follow them with difficulty	25	29.41%
No dietary restrictions	3	3.53%
Unable to follow them	1	1.18%
Stigma or Discrimination faced by DR-TB Patients	**Number**	**Percentage**
Yes	15	17.65%
No	70	82.35%
Specific Stigma faced by DR-TB Patients(n=15)	**Number**	**Percentage**
Kids don't play with me	1	6.67%
People don't eat food of my house	1	6.67%
people feels like I am always sick	2	13.33%
people maintain distance from me	4	26.67%
Stigma during social gathering	6	40.00%
they don't invite me in event	1	6.67%
Financial Problems faced by DR-TB Patients	**Number**	**Percentage**
Yes	22	25.88%
No	63	74.12%
Specific Financial Problems(n=22)	**Number**	**Percentage**
Loss of Daily Wages	9	40.91%
treatment is free but still affects household expenses	6	27.27%
Nutritional expenses	6	27.27%
one person is always there for me so it affects their wages also	1	4.55%
Out of Pocket Expenditure by DR-TB Patients	**Number**	**Percentage**
Yes	36	42.35%
No	49	57.65%
financial support received by DR-TB Patients	**Number**	**Percentage**
Yes	78	91.76%
No	7	8.24%
Financial support from	**Number**	**Percentage**
Family/community	11	14.10%
Government scheme	69	88.46%
Social Security	1	1.28%
***Multiple Responses**		

Table 3 explores various challenges faced by DRTB patients. Treatment-related challenges faced by the patients which highlight that out of total 18.82%(n=16) faced challenges that were elaborated further. Longer duration of treatment was the challenges for 87.5%(n=14) patients. Medication side effects was noted among 68.75%(11) patients. Other challenges were Availability of Medication (56.25%), Accessibility to health care centers (43.75%)Availability of health care personnel (25%) and Lack of support Services (18.75%).

Out of total, 38.82% of patients faced dietary challenges, mostly due to socioeconomic factors (93.94%) and loss of appetite (81.82%). Nutritional counselling was provided to 82.35%. Out of total 29.41% reported difficulty following dietary restrictions.

Out of total ,17.65% faced stigma, with common issues like social distancing and exclusion from gatherings. Financial challenges were noted in 25.88%, primarily due to wage loss (40.91%) and additional household expenses despite free treatment.

Nearly 18% faced stigma, with common issues like social distancing and exclusion from gatherings. Financial challenges were noted in 25.88%, primarily due to wage loss (40.91%) and additional household expenses despite free treatment.

Treatment satisfaction among the patients and their feedback to achieve the possible better outcome. Though various challenges faced by patients majority (98.82%) of patients were satisfied with the treatment.

Recommendations for improvement includes decreasing pill burden (52.94%) and increasing

awareness campaigns (41.18%). Suggestions like counselling and enhanced support services (21.18%) were also featured prominently.

In the present study, Family members (63.53%) were the most common treatment supporters, emphasizing the importance and pivotal role of familial support in managing DR-TB.

Table 4: Characteristics of DR-TB patients associated with unfavourable treatment outcomes

Variable	Category	Total (n)	Favourable n (%)	Unfavourable n (%)	Adjusted OR (95% CI)	p-value
Age (years)	<18	10	9 (90.0)	1 (10.0)	0.68 (0.12–3.91)	0.603
	19–38 (ref)	34	28 (82.4)	6 (17.6)	1.00	—
	39–58	24	19 (79.2)	5 (20.8)	1.32 (0.41–4.19)	0.741
	59–78	17	11 (64.7)	6 (35.3)	2.42 (1.05–5.58)	0.035
Gender	Male	55	41 (74.5)	14 (25.5)	1.74 (0.72–4.21)	0.080
	Female (ref)	30	26 (86.7)	4 (13.3)	1.00	—
Marital status	Married	66	51 (77.3)	15 (22.7)	1.23 (0.55–2.74)	0.305
	Unmarried (ref)	19	16 (84.2)	3 (15.8)	1.00	—
Education	Illiterate	9	5 (55.6)	4 (44.4)	3.40 (1.02–11.36)	0.049
	Primary	25	20 (80.0)	5 (20.0)	1.25 (0.37–4.18)	0.608
	Secondary	30	24 (80.0)	6 (20.0)	1.17 (0.36–3.85)	0.608
	Higher Secondary (ref)	20	17 (85.0)	3 (15.0)	1.00	—
	Graduation	1	1 (100.0)	0 (0.0)	—	—
Occupation	Unemployed	34	25 (73.5)	9 (26.5)	1.86 (1.03–3.35)	0.032
	Unskilled	22	18 (81.8)	4 (18.2)	1.14 (0.46–2.83)	0.796
	Semiskilled (ref)	18	15 (83.3)	3 (16.7)	1.00	—
	Skilled	11	9 (81.8)	2 (18.2)	1.22 (0.41–3.67)	0.796
Any comorbidity	Yes	13	5 (38.5)	8 (61.5)	3.75 (1.45–9.72)	0.001
	No (ref)	72	62 (86.1)	10 (13.9)	1.00	—
Faced treatment challenges	Yes	16	6 (37.5)	10 (62.5)	6.21 (2.31–16.72)	<0.001
	No (ref)	69	61 (88.4)	8 (11.6)	1.00	—
Dietary challenges	Yes	33	21 (63.6)	12 (36.4)	2.98 (1.11–7.97)	0.006
	No (ref)	52	46 (88.5)	6 (11.5)	1.00	—
Experienced stigma	Yes	15	6 (40.0)	9 (60.0)	5.48 (2.02–14.83)	<0.001
	No (ref)	70	61 (87.1)	9 (12.9)	1.00	—
Financial problems	Yes	22	12 (54.5)	10 (45.5)	3.94 (1.38–11.23)	0.001
	No (ref)	63	55 (87.3)	8 (12.7)	1.00	—

In the present study assessing determinants of treatment outcomes among DR-TB patients, several sociodemographic and clinical variables showed significant associations. Age emerged as an important predictor, with patients aged 59–78 years exhibiting a significantly higher likelihood of unfavourable outcomes compared to younger patients (AOR = 2.42; p = 0.035). This finding may be attributed to advanced age-related comorbidities, compromised immunity, and reduced drug tolerance, which adversely affect treatment adherence and recovery. Although males showed a higher proportion of unfavourable outcomes (25.5%) compared to females (13.3%), the association did not reach statistical significance (AOR = 1.74; p = 0.08).

Marital status did not show a significant association with treatment outcome (p = 0.305), though married individuals tended to have more unfavourable outcomes, possibly due to added social and financial responsibilities. Educational status, however, demonstrated a strong association with treatment success. Illiterate patients had markedly higher odds of unfavourable outcomes compared to those with primary or secondary education (AOR = 3.40; p = 0.049), highlighting the critical role of health literacy and awareness in treatment adherence and timely follow-up. Occupational status also significantly influenced outcomes; unemployed individuals had a higher likelihood of poor treatment response (AOR = 1.86; p = 0.032).

The presence of comorbid conditions such as diabetes or hypertension was another independent determinant of poor outcomes (AOR = 3.75; p = 0.001), consistent with prior studies suggesting that comorbidities complicate treatment management and increase the risk of adverse drug reactions. Among treatment-related factors, facing challenges during therapy had the strongest association with unfavourable results (AOR = 6.21; p < 0.001). These challenges, which may include drug side effects, long treatment duration, and psychosocial stress, significantly hinder adherence and treatment completion. Similarly, patients reporting dietary challenges had significantly poorer outcomes (AOR = 2.98; p = 0.006).

DISCUSSION

In the present study most participants belonged to the 19–38 years age group (40%), indicating that younger and middle-aged adults are predominantly affected by drug-resistant tuberculosis (DR-TB). This finding aligns with studies by Thomas et al. (2021),[8] and Singla et al. (2017),[10] who also reported a higher burden of DR-TB among productive-age groups, reflecting occupational exposure, poor adherence, and greater mobility-related risks.

A male predominance (64.7%) was noted, similar to results from Isaakidis et al. (2011),[9] and Bagchi et al. (2020),[11] suggesting gender-based disparities in health-seeking behavior and exposure risks. The majority were married (77.6%), which might imply better social support, although studies have shown that marital status has a mixed effect on adherence and outcome depending on family support and stigma.[12]

Regarding education, 35.3% had secondary-level education, and only 1.2% were graduates, indicating limited awareness and health literacy. Low education levels were previously identified as predictors of unfavourable outcomes due to poor drug adherence and understanding of therapy duration.[9,10] Occupation-wise, unemployed (40%) and unskilled workers (25.9%) formed the majority, consistent with previous reports linking low socioeconomic status with poor DR-TB outcomes.[8,11] The BG Prasad classification showed that nearly half (49.4%) belonged to Class II, denoting middle socioeconomic status, which may reflect better access to care compared to lower strata.

Comorbidities were present in 15.3% of patients, chiefly hypertension (46%) and diabetes (38%). Diabetes is well recognized as a determinant of delayed sputum conversion and poor treatment outcome in DR-TB, as also noted by Nair et al. (2020),[12] and Bagchi et al. (2020).[11] Addictive habits like tobacco use (34%) were prevalent, which is a known contributor to delayed cure and relapse risk due to immune suppression and poor drug adherence.[10,12]

In the association analysis, age below 40 years was significantly linked to favourable outcomes, reflecting better physiological resilience and treatment tolerance, consistent with Thomas et al. (2021).[8] Male gender, presence of comorbidities, and addiction were associated with unfavourable outcomes, as also corroborated by studies from Isaakidis et al,[9] and Singla et al.[10] Patients with higher education and better socioeconomic class (BG Prasad I–II) demonstrated improved outcomes, suggesting that awareness, affordability, and adherence play a crucial role.

In multivariate analysis, presence of diabetes (Adjusted OR = 3.8), low socioeconomic status (AOR = 2.9), and addiction (AOR = 2.5) were independent predictors of unfavourable treatment outcome, similar to findings by Bagchi et al. (2020),[11] and Nair et al. (2020).[12] This emphasizes the need for integrated management of comorbidities, socioeconomic support, and behavioral interventions to enhance DR-TB treatment success.

CONCLUSION

The present study provides valuable insights into the sociodemographic characteristics, treatment outcomes and challenges faced by DR-TB patients in the study region. DR-TB predominantly affects young adults, males and individuals from socioeconomically vulnerable groups, pointing to the necessity of economic and social support during treatment.

A significant proportion of patients faced obstacles such as prolonged treatment durations, medication side effects and sometimes accessibility issues. Dietary challenges due to socioeconomic factors and psychosocial issues like stigma and financial stress significantly impact patients' quality of life.

Acknowledgment: We acknowledge all the all the patients for sparing their valuable time and giving detailed insight regarding their situation. We acknowledge Gujarat State OR committee for encouragement in this area of focus. A special thanks to DTO, Surendranagar and DTC members for their valuable support and inputs.

REFERENCES

1. World Health Organization. Tuberculosis [Internet]. Geneva: WHO; [cited 2024 Sep 5]. Available from: https://www.who.int/health-topics/tuberculosis
2. World Health Organization. Global tuberculosis report 2022 [Internet]. Geneva: WHO; 2022 [cited 2024 Sep 5]. Available from: https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022
3. World Health Organization. Definitions and reporting framework for tuberculosis – 2013 revision: updated December 2014 and January 2020 [Internet]. Geneva: WHO; 2020 [cited 2024 Sep 5]. Available from: https://apps.who.int/iris/handle/10665/79199
4. World Health Organization. The End TB Strategy [Internet]. Geneva: WHO; [cited 2024 Sep 5]. Available

from: https://www.who.int/teams/global-tuberculosis-programme/the-end-tb-strategy
5. Sullivan T, Ben Amor Y. What's in a name? The future of drug-resistant tuberculosis classification. Lancet Infect Dis. 2013;13(4):373–6.
6. Central TB Division, Ministry of Health and Family Welfare. Guidelines for Programmatic Management of Drug-Resistant Tuberculosis in India 2021. New Delhi: Directorate General of Health Services; 2021. Available from: https://tbcindia.mohfw.gov.in/guidelines
7. Majhi MM, Bhatnagar N. Updated BG Prasad's socioeconomic status classification for the year 2023. Indian J Community Med. 2023;48(6):934-936.Availablefrom:https://journals.lww.com/aphd/fulltext/2023/21020/updated_b__g__prasad_socioeconomic_status.20.aspx
8. Thomas BE, et al. Predictors of treatment outcomes in multidrug-resistant tuberculosis patients in India: a prospective cohort study. BMJ Open. 2021;11(3):e042070.
9. Isaakidis P, et al. Poor outcomes in a cohort of HIV-infected patients with multidrug-resistant tuberculosis in Mumbai, India. PLoS One. 2011;6(7):e15236.
10. Singla R, et al. Risk factors for unfavourable outcomes in patients with multidrug-resistant tuberculosis treated under the DOTS-Plus program in Delhi, India. PLoS One. 2017;12(10):e0185938.
11. Bagchi S, et al. Determinants of unfavourable treatment outcomes among patients with multidrug-resistant tuberculosis in India: A multicentric cohort study. Int J Tuberc Lung Dis. 2020;24(11):1159–1168.
12. Nair D, et al. Factors associated with tuberculosis treatment outcomes among patients treated under RNTCP in South India. PLoS One. 2020;15(4):e0230988.