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NIGERIA**

ASSESSMENT OF FOOD PREFERENCES, EATING PRACTICES, AND NUTRITIONAL STATUS OF MULTI-DRUG RESISTANT TUBERCULOSIS PATIENTS IN OSUN STATE, NIGERIA

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ABSTRACT

Introduction: Multi-drug-resistant tuberculosis (MDR-TB) is a public health crisis throughout the world particularly due to its complexities in diagnosis, longer treatment regimen, and adverse drug reaction. This study aims to assess the nutritional practices and factors influencing nutritional status of resistant tuberculosis patients in Osun State.

Methods: This was a cross-sectional descriptive survey that used multistage sampling technique to select 100 respondents. Data was collected using questionnaire constructed based on study objectives through review of previous literature. SPSS (v 25) was used for the descriptive and inferential analysis of data collected. Level of significance was set at $p=0.05$.

Results: The majority of respondents were females (58%), married (68%), and unemployed (57%). The prevalence of malnutrition stood at 41%. Notably, a significant portion of respondents aged 10-19 years were underweight compared to older age groups ($P < 0.05$). A significant majority of respondents prioritize the expiry date (84%) over cost (16%) and actual food consumption (10%) when buying food, indicating a strong preference for food safety and freshness. Occupation emerged as the sole characteristic with a statistically

significant relationship to respondents' nutritional practices ($X^2 = 7.324$, $p = 0.026$). Additionally, age exhibited statistically significant relationship with respondents' BMI ($X^2 = 29.121$, $p = 0.004$).

Conclusion: Prevalence of malnutrition was high among the respondents, particularly among younger age groups. These findings underscore the importance of heightened health promotion efforts on nutrition among MDR TB clients in Osun State.

Key words: MDR-TB, nutritional practice, food preference, eating practice.

INTRODUCTION

Tuberculosis is a major public health problem in developing countries. There has been an increase in the number of cases due to inadequate treatment. Patients' compliance is often poor and the consequences are grave, including increased risk of infecting other people, high relapse rate, development of multi-drug-resistant tuberculosis (MTR TB), and avoidable death. This has far-reaching implications for the individual, the community and for the global attempts at controlling the disease.¹ A rising threat to public health is multi-drug-resistant tuberculosis. A high incidence of resistance is correlated with poor patient compliance with

treatment. The cost of treating MDR-TB patients is higher than that of preventing it.²

One of the 30 high burden countries for tuberculosis is Nigeria.³ Globally, an estimate of ten million people was reported to have been infected with TB in 2017. In 2018, TB incidence was 219/100,000 population, and it was estimated that 407,000 developed TB with barely 100,000 notified amounting to treatment coverage of 24%.⁴ In Nigeria, tuberculosis is the leading cause of death from infectious diseases.⁵ Globally, the World Health Organization reports that about 5,000 TB related deaths are recorded daily, of which 95% occur in low and middle-income countries.⁵ The World Health Organization (WHO) introduced a standardized, directly observed treatment, short-course (DOTS), and Stop TB Strategy to scale up TB prevention and control. Nigeria adopted these initiatives in 1993 and 2006, respectively.⁶

Several efforts have been made to eliminate tuberculosis in Osun state and Nigeria at large but it remains to pose a significant threat to public health. Findings have showed that feeding and nutrition is a major determinant of successful TB treatment.^{7,8} Tuberculosis and nutrition have a complex relationship.⁹ The risk of acquiring Tuberculosis increases due to the immunodeficiency caused by under-nutrition.¹⁰ Tuberculosis can cause under-nutrition through increased metabolism and decreased appetite. The deficiency of vitamins may make the disease worse or delay recovery.¹¹ A key guiding principle of the World Health Organization guidelines on nutritional care and support for patients with tuberculosis is that 'an adequate diet, containing all essential macro and micro-nutrients, is necessary for the well-being and health of all people, including those with TB infection or TB disease'.⁵ However, owing to limited available evidence, there is still no evidence-based nutritional guidance specific to adults and children who are being treated for active tuberculosis.⁹

In many parts of the world, especially in underdeveloped regions, malnutrition and tuberculosis are intertwined challenges that

affect countless lives. It's crucial to grasp how these two issues interact.³ A bidirectional association exists between tuberculosis and malnutrition, wherein under-nutrition increases susceptibility to tuberculosis infection, while the disease, being catabolic in nature, further deteriorates nutritional status and contributes to wasting.³

METHODS

Study Area

The study was conducted in Osun State, located in southwestern Nigeria. Created in 1991, the state comprises 30 Local Government Areas (LGAs) grouped into three senatorial districts, with Osogbo as the capital city. It has an estimated population of about 4.4 million people.

Osun State operates an extensive tuberculosis (TB) control network, consisting of over 200 DOTS centers. The State Specialist Hospital, Asubiaro, Osogbo, serves as the primary referral and treatment hub for TB cases. The TB burden in the state has increased in recent years, with 6,599 cases recorded in 2020 and over 22,000 by 2022. Currently, more than 25,000 individuals are enrolled in TB treatment programs, with a treatment success rate above 80%, though challenges persist in detecting and managing drug-resistant TB.³

Research Design

This was a cross-sectional descriptive survey.

Study population

The target population consist of resistant tuberculosis patients enrolled in treatment centres in all Local Government Areas of Osun-state.

Sample size calculation

$$n = z^2 pq / d^2$$

Where:

Z is the standard normal deviate at 95% confidence interval which is 1.96

P is the proportion of MDR TB patient with malnutrition from previous study = 82.4% (Sayem et. al. 2020).¹²

$$q \text{ is } 1-p = 1- 0.83 = 0.17$$

d is the error margin which is 5% (0.05)

$$n= z^2pq /d^2$$

$$n= \frac{1.96 \times 1.96 \times 0.824 \times 0.176}{0.05 \times 0.05}$$

$$N= 222.$$

Sampling technique

Multistage sampling technique was used in selecting 100 MDR TB clients recruited for the study

Stage 1 – Clients were selected from the 6 decentralized MDR TB clinics in Osun State based on proportional allocation according to the load of clients in each center.

Stage 2- Final selection was then made using simple random sampling on the clinic days until all the required numbers are recruited.

Data Collection Techniques

For the purpose of this research, a self-administered questionnaire was constructed based on study objective through review of previous literature. This questionnaire was divided into 4 sections based on research objective.

Section A- Background characteristics

Section B- Nutritional practices of respondents

Section C- Food preferences and eating habits among respondents

Section D: Anthropometric measurement of respondents (Weight in Kg, Height in meters)

Validity of the Instrument

The questionnaire was given to the researchers' supervisor with a lot of experience in studies related to Tuberculosis research as well as other expert in the field for testing and measurement in order to ascertain the content validity of the instrument. The comments of the experts with those of the

researcher's supervisor were taken into consideration to produce final instrument.

Data Analysis and Management

Data after correction for error was entered into Statistical Product for Social Solution (SPSS version 25). Descriptive statistics including means and standard deviations was done for continuous variables with normal distribution after testing for normality while frequencies, percentages were generated for categorical variables relating to social demographic variables. Inferential statistics was done using chi-square to assess and compare the relationships among the categorical variables (Independent) with the overall Nutritional status (Dependent variable).

Ethics considerations

This was sought and obtained from the health research and ethics committee of Osun State Ministry of Health.

Consent: Participation of the respondent in the study was completely voluntary as verbal consent taking from those willing to participate in the study.

Confidentiality: All information supplied by the patients was handled with strict confidentiality.

Study limitation

Questionnaire was used to gather information on nutritional practices of respondents which is prone to recall bias.

RESULTS

This study examined the socio-demographic attributes and nutritional practices of 100 respondents, encompassing an extensive analysis of dietary patterns and their associations with demographic factors.

The mean age of respondents is approximately 41 years, indicating that most participants are middle-aged adults. We had more female (58%) respondents than male. Marital status indicated a prevalence of married individuals within monogamous family structures. Notably, unemployment

Table 1: Socio-demographic characteristics of respondents (n=100, \bar{x} =40.9 yrs)

Variable	Sub Variable	Frequency	Percentage (%)
Age in categories	10-19 years	5	5.0
	20-29 years	14	14.0
	30-39 years	24	24.0
	40-49 years	26	26.0
	≥50 years	31	31.0
Sex	Male	42	42.0
	Female	58	58.0
Educational level	No formal Education	7	7.0
	Primary Education	15	15.0
	Secondary Education	59	59.0
	Tertiary Education	19	19.0
Religion	Islam	54	54.0
	Christianity	46	46.0
Ethnicity	Yoruba	92	92.0
	Igbo	6	6.0
	Others	2	2.0
Marital status	Single	28	28.0
	Married	68	68.0
	Separated	2	2.0
	Widowed	2	2.0
Family Type	Monogamous	72	72.0
	Polygamous	22	22.0
	NA	6	6.0
Occupation	Unemployed	57	57.0
	Artisans	39	39.0
	Professionals	4	4.0
Monthly Income	Less than #30,000	78	78.0
	#30,000 and above	22	22.0

prevailed, with a majority earning less than #30,000 monthly (Table 1). An exploration of dietary habits revealed a diverse consumption landscape. Common staples such as rice, milk, and eggs featured prominently in diets, contrasting with less frequent consumption of items like oats, fruits, and vegetables. Intriguingly, cost considerations wielded limited influence over food purchasing decisions (Table 2a).

Anthropometric measurements showed a prevalent healthy weight status among respondents (59%), albeit with a notable

proportion classified as overweight (23%) (table 4). Associations between socio-demographic factors like age, marital status, and occupation with Body Mass Index (BMI) underscored potential demographic influences on weight status, with age having a statistically significant association with BMI ($p = 0.004$) (Table 5).

While occupation demonstrated significant associations with nutritional practices ($p = 0.026$), other socio-demographic variables exhibited non-significant relationships with dietary behaviors (Table 6). This

Table 2a: Assessment of nutritional practices of respondents

How often do you consume the following	Everyday	1-2 times a week	3-4 times a week	Never consumed
Rice	27 (27%)	37 (37%)	34 (34%)	2 (2%)
Sorghum (Oka baba)	6 (6%)	38(38%)	13 (13%)	43 (43%)
Maize	2 (2%)	52 (52%)	17 (17%)	29 (29%)
Wheat	4 (4%)	32 (32%)	13 (13%)	51 (51%)
Oats	2 (2%)	13 (13%)	3 (3%)	82 (82%)
Roots and tubers				
Cassava (Lafun, Garri)	6 (6%)	57	20	17
Yam	1 (1%)	72	8	19
Potatoes	6 (6%)	47	9	38
Milk and milk products				
Fresh milk	9	56	14	21
Yoghurt	3	37	6	54
Ice cream	4	21	9	66
Meat, poultry products				
Eggs	30	44	13	13
Fish and sea foods (Shrimps, prawns, crabs, cray fish)	43	35	13	9
Beef, pork, goat meat	10	37	17	36
Legumes	12	29	10	49
Beans	29	34	18	19
Groundnut	8	34	13	45
Peas	6	20	15	49
Fruits				
Mangoes, Avocados, Pawpaw, Pineapple, Apple, Orange, Water melon, Banana, Tangerine	11	43	37	9
Vegetables				
Ewedu, Efo tete, Cabbage, Ugwu, Gbagba, Worowo	23	17	35	25
Sweet and confectionaries				
Sugar/Honey	3	47	9	41
Chocolate	1	25	8	66
Biscuit	8	27	6	59

Table 2b: Assessment of nutritional practice of the respondents

Variable	Sub Variable	Frequency	Percentage (%)
Do you usually eat while watching TV?	Yes	34	34
	No	66	66
How many times a day do you snack?	Once	51	51
	Twice	20	20
	Thrice	10	10
	Not at all	19	19
If yes, what are the snacks you take?	Pastries	40	40
	Confectioneries	7	7
	Fruits	38	38
	NA	15	15
How many bottles of soft drinks do you take per day?	1	64	64
	2	13	13
	3	2	2
	>4	2	2
	Not at all	19	19
Do you take juice instead of fruit?	Yes	42	42
	No	52	52
	Not sure	6	6

Figure 1: Summarized nutritional practice of the respondents.

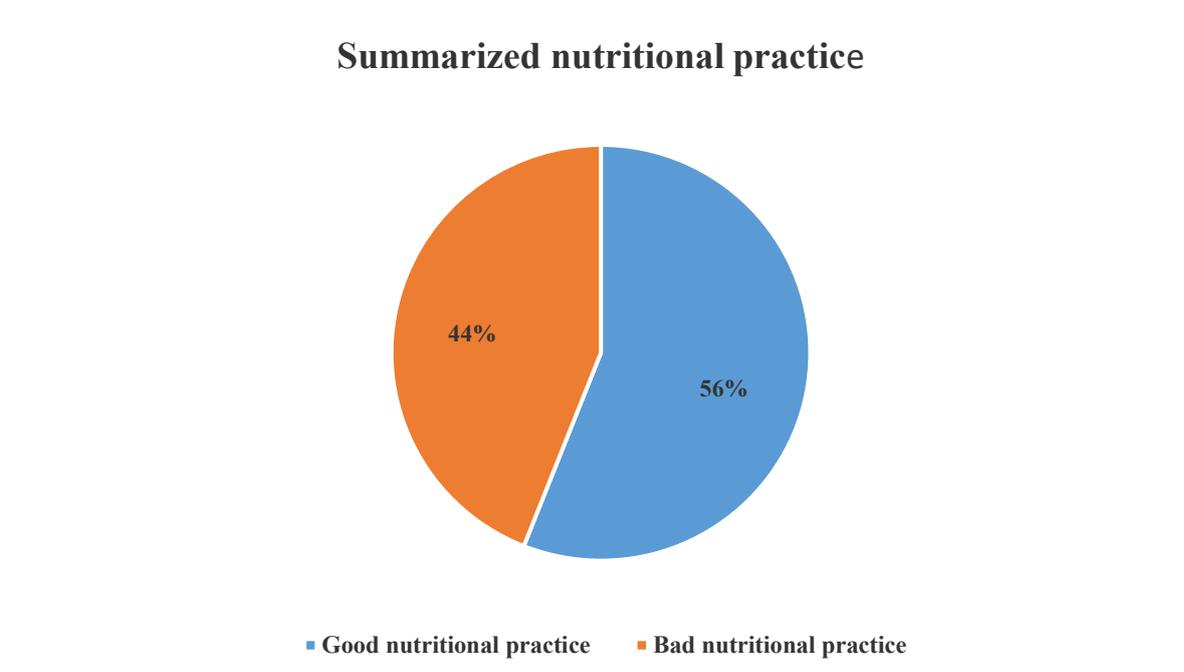


Table 3: Food preferences and eating practices of respondents.

Variable	Sub Variable	Frequency	Percentage (%)	
Which of the following do you consider when buying food?				
Cost	Yes	16	16	
	No	84	84	
Expiry date	Yes	84	84	
	No	16	16	
Food consumption	Yes	10	10	
	No	90	90	
Do you eat only when you are hungry?	Yes	66	66	
	No	34	34	
Are you dieting?	Yes	20	20	
	No	80	80	
If yes, which of the following are you avoiding?	Bolus foods	2	2	
	Fatty foods	17	17	
	Garri (Soaked)	1	1	
	NA	80	80	
What's your regular source of food?	Self-prepared	42	42	
	Buying from vendors	52	52	
	Foods given by neighbor	6	6	
How many meals do you eat in a day?	1	4	4	
	2	11	11	
	3	71	71	
	≥ 4	13	13	
	NA	1	1	
Do you take breakfast on most days (i.e 4-7 days a week)?	Yes	97	97	
	No	3	3	
If yes, what do you take?	Moi moi and Pap	50	50	
	Yam and Egg	5	5	
	Rice	32	32	
	Bolus foods (Amala, Fufu)	4	4	
	Vegetables	3	3	
	Beans	2	2	
	Any food available	1	1	
	NA	3	3	
Do you take lunch on most days	Yes	86	86	
	No	14	14	
If yes, what do you take?	Bolus foods (Eba, Pounded yam, Semo, Amala, Tuwo, Wheat)	55	55	
	Rice/Spaghetti	22	22	
	Noodles with egg	2	2	
	Garri (Soaked)	3	3	
	Beans/Bread	2	2	
	Pap	1	1	
	Anything available	1	1	
	NA	14	14	
	Do you have any food taboo?	Yes	12	12
		No	88	88
If yes, please specify	Snail and Tilapia fish	3	3	
	Garri and maize	3	3	
	Eba	2	2	
	Garri	1	1	
	Pounded yam	3	3	
	NA	88	88	

Table 4: Anthropometric Measurement of respondents. N= 100

Variable	Sub-variable	Frequency	Percentage (%)
Body Mass Index (BMI)	Underweight	14	14
	Healthy weight	59	59
	Overweight	23	23
	Obesity	4	4

Table 5: Association between socio-demographic characteristics and Body Mass Index.

Variable	Sub Variable	BMI				Df	X ² , p
		Underweight	Healthy weight	Overweight	Obesity		
Age in categories	10-19 years	3 (60.0%)	1 (20.0%)	1(20.0%)	0 (0%)	12	X ² = 29.121 p = 0.004
	20-29 years	0 (0%)	12 (85.7%)	2 (14.3)	0 (0%)		
	30-39 years	3 (12.5%)	16 (66.7%)	3 (12.5%)	2 (8.3%)		
	40-49 years	3 (11.5%)	18 (69.2%)	3 (11.5%)	2 (7.7%)		
	≥50 years	5 (16.1%)	12 (38.7%)	14 (45.2%)	0 (0%)		
Sex	Male	9 (21.4%)	19 (45.2%)	12 (28.6%)	2 (4.8%)	3	X ² = 6.272 p = 0.099
	Female	5 (8.6%)	40 (69.0%)	11 (19.0%)	2 (3.4%)		
Educational level	No formal Education	1 (14.3%)	4 (57.1%)	2 (28.6%)	0 (0.0%)	9	X ² = 0.654 p = 6.833!
	Primary Education	3 (20.0%)	6 (40.0%)	5 (33.3%)	1 (6.7%)		
	Secondary Education	9 (15.3%)	35 (59.3%)	12 (20.3%)	3(5.1%)		
	Tertiary Education	1 (5.3%)	14 (73.7%)	4 (21.1%)	0 (0.0%)		
Religion	Islam	8 (14.8%)	33 (61.1%)	10 (18.5%)	3 (5.6%)	3	X ² = 1.979 p = 0.577
	Christianity	6 (13.3%)	25 (55.6%)	13 (28.9%)	1 (2.2%)		
Ethnicity	Yoruba	13 (14.1%)	53 (57.6%)	22 (23.9%)	4 (4.3%)	6	X ² = 2.884 p = 0.823!
	Igbo	1(16.7%)	4 (66.7%)	1 (16.7%)	0 (0.0%)		
	Others	2 (100.0%)	0 (0%)	0 (0.0%)	0 (0.0%)		
Marital status	Single	3 (10.7%)	21 (75.0%)	3 (10.7%)	1 (3.6%)	9	X ² = 8.601 p = 0.475!
	Married	11 (16.2%)	35 (51.5%)	19 (27.9%)	3 (4.4%)		
	Separated	0 (0.0%)	2 (100%)	0 (0.0%)	0 (0.0%)		
	Widowed	0 (0.0%)	1 (50%)	1 (50.0%)	0 (0.0%)		
Family Type	Monogamous	12 (16.7%)	41 (56.9%)	16(22.2%)	3(22.2%)	6	X ² = 7.940 p = 0.243
	Polygamous	2(9.1%)	12 (54.5%)	7(31.8%)	1(4.5%)		
	NA	0 (0.0%)	6 (100.0%)	0 (0.0%)	0 (0.0%)		
Occupation	Unemployed	11 (19.3%)	31 (54.4%)	14 (24.6%)	1 (1.8%)	6	X ² = 9.821 p = 0.132!
	Artisans	3 (7.7%)	27 (69.2%)	7 (17.9%)	2(5.1%)		
	Professionals	0 (0%)	1 (25.0%)	2 (50.0%)	1 (25.0%)		
Monthly Income	Less than #30,000	9 (11.5%)	49 (62.8%)	18 (23.1%)	2 (2.6%)	3	X ² = 3.803 p = 0.284!
	#30,000 and above	5 (22.7%)	10 (45.5%)	5 (22.7%)	2 (9.1%)		

Table 6: Association between socio-demographic characteristics and nutritional practice of the respondents.

Variable	Sub Variable	Summarized nutritional practice		Df	X ² , p
		Good nutritional practice	Poor nutritional practice		
Age in categories	10-19 years	2 (40.0%)	3 (60.0%)	4	X ² = 5.529 p = 0.237
	20-29 years	9 (64.3%)	5 (35.7%)		
	30-39 years	9 (37.5%)	15 (62.5%)		
	40-49 years	17 (65.4%)	9 (34.6%)		
	≥50 years	19 (61.3%)	12 (38.7%)		
Sex	Male	24 (57.1%)	18 (42.9%)	1	X ² = 0.038 p = 0.845
	Female	32 (55.2%)	26 (44.8%)		
Educational level	No Education	4 (57.1%)	3 (42.9%)	3	X ² = 0.882 p = 0.830
	Primary Education	8 (53.3%)	7 (46.7%)		
	Secondary Education	35 (59.3%)	24 (40.7%)		
	Tertiary Education	9 (47.4%)	10 (52.6%)		
Religion	Islam	30 (55.6%)	24 (44.4%)	2	X ² = 0.794 p = 0.672
	Christianity	26 (55.6%)	20 (44.4%)		
Ethnicity	Yoruba	50 (54.3%)	42(45.7%)	2	X ² = 2.705 p = 0.259!
	Igbo	4 (66.7%)	2 (33.3%)		
	Others	2 (100.0%)	0 (0%)		
Marital status	Single	13 (46.4%)	15 (53.6%)	3	X ² = 5.721 p = 0.126!
	Married	39 (57.4%)	29 (42.6%)		
	Separated	2 (100%)	0 (0%)		
	Widowed	2 (100%)	0 (0%)		
Family Type	Monogamous	40 (55.6%)	32 (44.4%)	2	X ² = 0.179 p = 0.915
	Polygamous	13 (59.1%)	9 (40.9%)		
	NA	3 (50.3%)	3 (50.3%)		
Occupation	Unemployed	35 (61.4%)	22 (38.6%)	2	X ² = 7.324 p = 0.026
	Artisans	21 (53.8%)	18 (36.2%)		
	Professionals	0 (0%)	4 (100%)		
Monthly Income	Less than #30,000	45 (57.7%)	33 (42.3%)	1	X ² = 0.412 p = 0.521
	#30,000 and above	11 (50.0%)	11 (50.0%)		
Phase of MDR TB Patients	Intensive phase	20 (62.5%)	12 (37.5%)	2	X ² = 1.176 p = 0.555
	Continuation Phase	34 (54.0%)	29 (46.0%)		
	NA	2 (40.0%)	3 (60.0%)		

demonstrates the complex relationship that exists between food preferences and demographic characteristics, highlighting the need for more research to clarify the factors that influence nutritional practices.

DISCUSSION

The fight against TB is impeded by poor eating and feeding habits, especially in developing nations.¹³ Nutritional status has a direct effect on the immune system of MDR TB patients thereby affecting the effectiveness of their treatment and their recovery from the disease.¹⁴ This study assessed the nutritional status, eating practices, food preferences and factors influencing nutritional status of resistant tuberculosis patients in Osun State.

The survey findings regarding dietary practices among respondents shed light on important considerations in public health and nutrition, resonating with broader trends and initiatives aimed at promoting healthier lifestyles.

First, the observation that a significant proportion of respondents avoid watching television while eating and opt for fruits over fruit juice aligns with ongoing efforts to address issues of sedentary behavior and promote healthier food choices. Public health campaigns often emphasize the importance of mindful eating and reducing consumption of sugary beverages, aligning with the behaviors reported by the survey participants.

The preference for rice as a staple grain, coupled with the limited consumption of oats, reflects global dietary patterns influenced by cultural, economic, and agricultural factors.¹⁵ These findings underscore the need for culturally sensitive nutrition interventions that leverage existing dietary preferences while promoting the inclusion of nutritious alternatives. Similarly, the identification of less popular food items such as potatoes, legumes, and peas highlights areas where dietary diversity can be improved. Encouraging the consumption of a wider variety of foods, particularly nutrient-rich

options like legumes, can contribute to improved overall nutritional status and better health outcomes. It's nonetheless challenging to combat hunger and bad eating habits, especially in places with few resources, as the survey's findings that about half of the participants demonstrated adequate nutritional practices highlight. The significance of focused interventions that tackle obstacles to a healthy diet, like cost and availability, as well as insufficient information about nutrition and food preparation, is highlighted by these results.

Furthermore, the study revealed that among the socio-demographic factors examined in relation to nutritional practices, only occupation showed a statistically significant association, with the unemployed respondents demonstrating better nutritional practices. This finding may suggest that unemployed individuals possibly have more time to prepare meals or adhere to nutritional guidance compared to their employed counterparts, who might rely more on convenience foods due to time constraints. However, it contrasts with a study by Omage and Omuemu,¹⁶ who found that occupational status did not significantly influence dietary patterns among university students, suggesting that other factors such as food availability and personal preferences might play stronger roles. Similarly, Paoli et al.¹⁷ emphasized the role of meal timing and frequency in shaping overall nutritional outcomes, that structured eating patterns, regardless of employment status can enhance health outcomes. Meanwhile, Finkelstein and Fishbach demonstrated that individuals' psychological perceptions of healthy foods can paradoxically influence hunger and food choices, implying that nutrition behavior is multifactorial and not solely dependent on socio-economic variables such as occupation.¹⁶⁻¹⁸

Further assessment of the respondents' food preferences and eating practice showed that a substantial number of the respondents (56%) had good food preferences and eating practices. This is not surprising as majority of the respondents did not consider cost when

buying food and they consider the expiry date of the foods. This could imply that they are more concerned about the satisfaction, quality and nutrients from the food than the cost. Findings have shown that eating three meals a day which was practiced by majority of the respondents (71%) contributes to good health and a healthy choice.^{16,17} Eating while one is hungry is also a good way to guide one's diet and two thirds of the study respondents eat only when they feel hungry. This is because the desire to eat healthy clashes with the want to satisfy one's appetite, resulting in a self-control struggle between eating healthy and eating freely.¹⁸

Further analysis showed that age was significantly associated with food preferences and eating practices where respondents of age 10-19 and 30-39 years had good nutritional practice than other age groups.

To further assess the nutritional status of the MDR-TB patients, the BMI was assessed.¹⁹ The assessment showed that more than half of the respondents in this study had a healthy BMI which implies good nutritional status of respondents in this category. The finding from this study differs from that of Khalid (2021), who conducted a study among 100 tuberculosis patients in Lahore between December 2016 and February 2017. In that study, 67.1% of the participants had a BMI below 18.5 kg/m², showing a much higher level of under-nutrition among TB patients.¹⁹

Considering findings from previous studies, frequency of meals and consumption of breakfast had an influence on their BMI as not skipping breakfasts and eating 3 square meals enhance healthy BMI.¹⁷ However, when the BMI of the respondents was compared with socio-demographic factor, only age was statistically significant with respondents of age group 20-29 years having the highest proportion of healthy weight. This finding is not consistent with other studies where no association was established between age and BMI.^{20,21,22}

While all the assessments were above average, there is still a huge gap to be filled as regards the nutritional practices, eating

practices, food preferences and nutritional status of MDR-TB patients as these aid in successful treatment of these patients. Addressing preferences and ensuring access to preferred nutritious foods can enhance patient satisfaction and compliance with dietary recommendations. Although the assessment indicated that a significant proportion of patients had a healthy BMI, there were discrepancies across different age groups. This suggests a need for targeted interventions to address specific nutritional needs based on age-related factors and ensure optimal nutritional status throughout the course of treatment. Overall, these gaps emphasize the need for tailored interventions that take into account individual preferences, cultural contexts, and socio-economic factors.

CONCLUSION

The findings of this study shed light on the demographic characteristics, nutritional status, and practices among individuals undergoing treatment for multidrug-resistant tuberculosis (MDR TB). The survey findings provide valuable insights into the dietary practices of the surveyed population and underscore the importance of comprehensive approaches to promoting healthier diets and improving nutritional outcomes. By aligning with broader public health initiatives and leveraging cultural norms and preferences, interventions can effectively address the complex interplay between diet, health, and well-being.

Overall, these findings underscore the nutritional challenges among individuals undergoing MDR TB treatment and advocate for holistic approaches that consider socio-economic factors, dietary practices, and age-specific vulnerabilities in intervention strategies.

Recommendations: Further research and targeted interventions are needed to mitigate the impact of malnutrition and improve the nutritional outcomes of individuals undergoing MDR TB treatment.

Conflict of interest statement: The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this paper.

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