



OCURRENCE OF MULTI DRUG RESISTANCE TUBERCULOSIS (MDR-TB) AND ASSESSMENT OF QUALITY OF LIFE (QOL) OF MDR- TB PATIENTS IN SELECTED OUT PATIENT DEPARTMENT (OPD), KOLKATA

Soma Saren

M. Sc Nursing student, West Bengal Government College of Nursing, IPGME&R and S.S.K.M Hospital, Kolkata-20

Debarchana Mandal*

Senior Lecturer, West Bengal Government College of Nursing, IPGME&R and S.S.K.M Hospital, Kolkata-20 *Corresponding Author

ABSTRACT According to the Global TB report 2017 released by WHO, India has topped list of countries, accounting for 64% of the over 10 million new tuberculosis (TB) cases worldwide in year 2016. A descriptive study was conducted to find out the Occurrence of Multi Drug Resistance Tuberculosis (MDR- TB) and assessment of Quality Of Life (QOL) of MDR- TB patients in selected Out Patient Department (OPD), Kolkata with the objectives to find out the occurrence of MDR- TB and to assess the QOL of MDR - TB patients. The conceptual framework was based on Sr. Callista Roy' adaptation model. The non probability convenience sampling technique was adopted to select 60 MDR- TB patients. A record analysis proforma, a semi structured interview schedule and WHOQOL - BREF scale were used to collect the data. The study findings revealed that the occurrence of MDR- TB was 9.01% in selected OPD, Kolkata. The findings also showed that the MDR- TB patients had maximum QOL in social domain (mean% of 91.03) and had minimum QOL in psychological domain (mean% 50.17) followed by physical domain (mean% 77.13) and environmental domain (mean% 70.72) respectively. The study has several implications in nursing education, practice, administration and research. The study was concluded with the recommendation for conducting with larger samples for better generalization of study findings and a comparative study between QOL of MDR- TB patients and pulmonary TB patients.

KEYWORDS : Occurrence, MDR-TB patient, Quality of Life

INTRODUCTION

Tuberculosis is still one of the leading causes of mortality and morbidity. Besides clinical impact, the disease affects the Quality of life (QOL) of the person too. Tuberculosis patient, in addition to clinical symptoms has to deal with several physiological, financial, and psychological problems. The symptoms and clinical burden of the disease often extend beyond the duration of treatment. Also, the treatment itself may be related with several side-effects. All these aspects of the disease and its management have a huge impact on the overall well-being of the patient and burden of these factors can equal and even exceed the physical impact of illness.[1]

The World Health Organization released their annual report on the world prevalence of MDR- TB in 2016 .The report said that in 2015, there were an estimated 480 000 new cases of multidrug-resistant TB (MDR-TB) and an additional 100 000 people with rifampicin-resistant TB (RR-TB) who were also newly eligible for MDR-TB treatment. Drug resistance surveillance data show that 3.9% of new and 21% of previously treated TB cases were estimated to have rifampicin- or multidrug-resistant tuberculosis (MDR/RR-TB) in 2015 [2].

Problem Statement

Occurrence of Multi Drug Resistant Tuberculosis (MDR-TB) and assessment of Quality Of Life (QOL) of MDR-TB patients in selected Out Patient Department (OPD), Kolkata.

Objectives

1. To identify the occurrence of MDR-TB.
2. To assess the quality of life of MDR-TB patients.

Assumptions

- MDR-TB may affect the quality of life of patients.
- Patients may give free and frank responses.
- Quality of life of MDR- TB patient is measurable.

MATERIAL AND METHODS

Research variable

- Quality of life of MDR-TB patients.

Research Approach

A survey research approach was adopted to accomplish the study objectives.

Research design

The descriptive survey research design was adopted.

Study setting

The present study was conducted at Tangra Chest Clinic, Kolkata.

Population

All MDR- TB patients attending OPD, Kolkata.

Sample and Sample size

60 MDR- TB patient attending selected OPDs, Kolkata.

Sample technique

Non probability convenience sampling technique was used for the present study.

Data collection tools and techniques

Table 1 Data collection tools and techniques.

Tool No	Name of tools	Variables to be measured	Techniques/Methods
I	Record analysis proforma	Occurrence of MDR- TB.	Record analysis
II A	Semi structured interview Schedule	Demographic variables	Interviewing
II B	Semi structured interview schedule	Data related to disease profile	Interviewing
III	WHOQOL- BREF scale	Quality of life of MDR-TB patient	Interviewing

Ethical consideration

The study was conducted after taking permission from ethical committee of IPGME&R and S.S.K.M Hospital, Kolkata. Administrative permission was taken from principal of West Bengal Govt. College of Nursing, S.S.K.M Hospital, Kolkata. Informed consent was taken from respondents.

Validity of the tools

Record analysis proforma and semi structured interview schedule were validated by 8 experts of related speciality fields. For tool III (WHOQOL- BREF scale) legal permission was taken from WHO to use the tool.

Reliability

For the standardized WHOQOL- BREF scale, cronbach's alpha are 0.94, 0.98, 0.80 and 0.90 for the physical, psychological, social and environmental domain respectively, considering the tool as reliable.

RESULTS AND INTERPRETATION

Section I Findings related to occurrence of MDR-TB.

Table 2 Occurrence of MDR- TB patients in the last one year (December 2016 to November 2017)

Occurrence	Total registered TB patients	Total MDR-TB patients
From December 2016 to November 2017	577	52

The data presented in table 2 shows that the total registered TB patients were 577 from the period of December 2016 to November 2017 and among them the total MDR- TB patients were 52.

The occurrence of MDR- TB patients was calculated as follows-

$$= \frac{\text{Total MDR- TB patients}}{\text{Total registered TB patients}} \times 100$$

$$= \frac{52}{577} \times 100$$

$$= 9.01\%$$

So, the occurrence of MDR-TB patients is 9.01%.

Section II Findings related to sample characteristics of MDR- TB patient.

n= 60

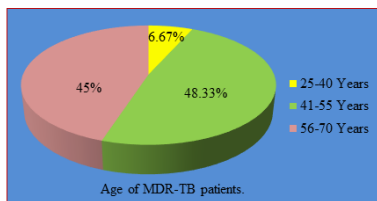


Figure 1 Pie diagram showing percentage distribution of MDR- TB patients according to their age (in years).

The data presented in figure 1 shows that majority that is 48.33% respondents belonged to the age group of 41- 55 years, 45% were within 56-70 years and the rest that is 6.67% belonged to the age group of 25-40 years.

Table 3 Frequency and percentage distribution showing demographic characteristics of MDR- TB patients.

n= 60

Variables	Frequency	Percentage (%)
Gender		
Male	48	80
Female	12	20
Educational status		
Illiterate	14	23.33
Primary level	40	66.67
Secondary level	06	10
Religion		
Hinduism	03	05
Islam	57	95
Type of family		
Nuclear	35	58.33
Joint	25	41.67
Marital status		
Married	54	90
Unmarried	Nil	-
Widow	06	10

The data presented in table 3 shows that majority that is 80% respondents were male, 66.67 % were educated up to primary level, by religion, 95% respondents were Islamic, 58.33% belonged to the nuclear family and 90% respondents were married.

n=60

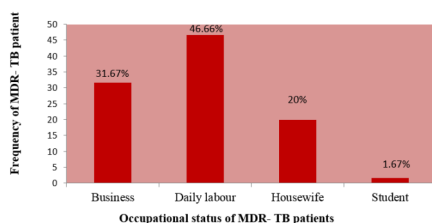


Figure 2 Bar diagram showing percentage distribution of MDR- TB patients in terms of their occupational status.

Data presented in figure 2 shows that 46.66% respondents were daily labour, 31.67% had business, 20% were housewife and the rest that is 1.67% were student.

n=60

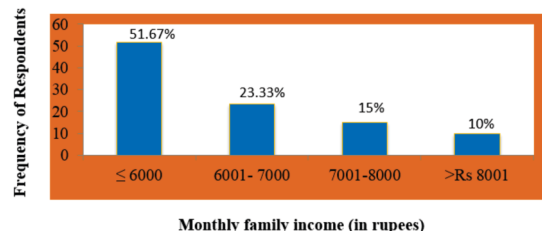


Figure 3 Bar diagram showing percentage distribution of MDR- TB patients according to their monthly family income (in rupees).

Data presented in figure 3 shows that 51.67% respondents had family income up to Rs 6000 , 23.33% had Rs 6001- 7000 , 15% had Rs 7001- 8000 and only 10% had income more than Rs 8001 respectively.

Table 4 Frequency and percentage distribution of disease profile of MDR- TB patients.

n = 60

Variables	Frequency	Percentage (%)
Name of drug resistance		
Rifampicine	52	86.67
Isoniazid and Rifampicin	08	13.33
Type of Patient (Time of diagnosis of MDR-TB)		
Relapse	09	15
Failure	51	85
Family history of TB		
Yes	05	8.33
No	55	91.67

The data presented in table 4 shows that majority that is 86.67% respondents had drug resistance on Rifampicin. It also reveals that majority (85%) of respondents were failure case and majority that is 91.67% respondents had no family history of TB.

Section III Findings related to the assessment of QOL of MDR- TB patients.

Table 5 Range, mean, median and standard deviation of overall perception of QOL and general health of MDR-TB patients.

n = 60

Variables	Range	Mean	Median	Standard deviation
Overall perception of QOL	(1 – 5)	2.98	3	0.63
General health	(1 – 5)	2.45	2	0.52

The data presented in table 5 shows that overall perception of QOL scores of MDR- TB patients ranges from (1-5) with a mean of 2.98 and median 3, which can be interpreted that the overall perception of QOL scores were normally distributed. The standard deviation was 0.63 which indicates a mild dispersion of overall perception of QOL score.

It also depicts that overall general health score ranges from (1- 5) with a mean of 2.45 and median 2, which interpreted that the general health of QOL scores were normally distributed. The standard deviation was 0.52 which indicates a mild dispersion of general health of QOL score.

So, it could be interpreted that there was mild dispersion in overall perception of QOL and general health of MDR-TB patients.

Table 6 Range, mean, median and standard deviation of total QOL score of MDR- TB patients.

n = 60

Variable	Range	Mean	Median	Standard deviation
Total QOL score	(50 – 66)	57.93	58.5	3.57

Maximum possible score = 130
 Minimum possible score = 26

Data presented in table 6 shows that the total QOL score of respondents ranges between 50-66 with a mean of 57.93 and median 58.5, which can be interpreted that the total QOL scores were normally distributed and the standard deviation was 3.57 which indicates that the QOL score varies widely among the MDR- TB patients.

Table 7 Mean, mean percentage and rank according to four domains of QOL of MDR- TB patients.

Domains	Mean	Mean%	Rank
Physical	46.28	77.13	2 nd
Psychological	30.01	50.17	4 th
Social	54.62	91.03	1 st
Environmental	42.43	70.72	3 rd

The data presented in table 7 shows that the mean score of physical domain was 46.28 and mean percentage was 77.13 which ranked as 2nd. The mean score in psychological domain was 30.01 and mean percentage was 50.17 which ranked as 4th, in social domain, mean was 54.62 and mean percentage was 91.03 which ranked as 1st, mean score in environmental domain was 42.43 and mean percentage was 70.72 which ranked as 3rd.

So, it could be interpreted that the MDR- TB patients had maximum quality of life in social domain and had minimum quality of life in psychological domain.

DISCUSSION

The findings of the present study revealed that the MDR- TB patients had maximum QOL in social domain and had minimum QOL in psychological domain with a mean percentage 91.03 and 50.17 respectively.

The findings of present study are also consistent with the cross sectional conducted by **MDas (2016)** to assess the QOL of 100 Multi-Drug Resistant Tuberculosis patients from Mumbai, India by using the WHOQoL-BREF scale. The findings revealed that health related QOL among patients with MDR-TB was reduced, with the psychological domain being the most affected, followed by the physical domain with a mean 56.2 and 56.5 respectively.

CONCLUSION

On the basis of the data analysis, It was concluded that the occurrence of MDR- TB patients was 9.01% in Tangra chest 60 clinic, Kolkata, in a given period and the QOL of MDR- TB patients in social domain was maximum and had minimum QOL in psychological domain. Most of the participants had drug resistance on Rifampicin.

REFERENCES

1. WHO global tuberculosis report 2016, available from who.int/iris/bitstream/eng; pdf.
2. Tuberculosis, a burden, challenges & strategy for control and elimination (2015) available from www.ncbi.nlm.nih.gov/pmc/articles.
3. Mukherjee C(2015), Journal of epidemiology and global health, vol. 5, issue 3, pages(275-281), www.sciencedirect.com.
4. Dennis Falzon, WHO treatment guidelines for drug resistance tuberculosis, (2016) available from www.ncbi.nlm.nih.gov/pmc/articles.
5. M. Sharma report on Quality of Life of MDR - TB patients, 2014, www.researchgate.net/QOLofMDR-TBpatients.
6. Journal of medical science and clinical research (2017), volume 5, pages (2455-2500), www.jmscr.igmpublication.org/home/index.php/archive, Kashmir.