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Quality Of Life of Multi Drug Resistant Tuberculosis Cases of Kashmir Valley

Taha Ayub*, Umar Nazir, Kousar Sideeq

Senior Resident; Department of Community Medicine, Government Medical College, Srinagar

Abstract:

Background: *Tuberculosis is a chronic disease; with serious repercussions on not only physical health buton overall well-being of an individual.*

Methods: *A total of 66 cases were interviewed (33 Multi drug resistant tuberculosis & 33 Pulmonary Tuberculosis) using WHO BREF QoL Scale.*

Results: *Out of the 66 patients interviewed (n= 33 MDR and 33 PTB), 45% were males and 55% were females. Surprisingly, among MDR cases, 2/3rd of cases were females. About 44% of individuals were of economically productive group. Pulmonary Tuberculosis patients fared significantly better than MDR patients in Domain scores. The mean differences in scores for the cases (MDRTB and PTB) were highly significant for all the domains and the overall Quality of Life (QoL).*

Conclusion: *Tuberculosis affects all the predicted domains of QOL i.e. physical, psychological, health perceptions and social role functioning of an individual. The stigma associated with tuberculosis - be it pulmonary or MDR tuberculosis, is one of the major factor affecting the domains of Quality of life. Much needs to be done to dispel the stigma associated with Tuberculosis.*

Keywords: ***Multi drug resistant tuberculosis, Quality of life, well-being, stigma, Kashmir.***

Introduction:

The Constitution of the World Health Organization (WHO) defines health as "A state of complete physical, mental, and social well-being not merely the absence of disease." It follows that the measurement of health and the effects of health care must include not only an indication of changes in the frequency and severity of diseases but also an estimation of well-being and this can be assessed by measuring the improvement in the quality of life related to health care.[1] WHO defines Quality of Life as individuals perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.[1] Tuberculosis (TB), a major public health problem worldwide with an efficient control programme in place against it, is still able to prevail in our settings. According to World Health Organization (WHO), globally, 5% of TB cases were estimated to have had multidrug-resistant TB (MDR-TB) in 2014.[2] Tuberculosis is a chronic disease and it influences the individuals perception of quality of life. Since TB not only affects the physical well-being of individual, psychological ailments because of stigmatization, isolation, rejection and others severely impacts the individuals overall well-being. Therefore, a comprehensive assessment is essential to assess the overall impact of TB on individuals perception of well-being.[3] This assessment can be done by measuring the Quality of Life (QoL) that has several dimensions Thus the present study was conducted to broaden the focus in the measurement of health, beyond traditional health indicators such as mortality and morbidity & to further compare how development of resistance to Anti tuberculosis drugs impairs the subjective well-being of a MDR TB person.

Material and Methods:

After taking the approval from Institutional Ethical Committee, the study was conducted in Tuberculosis clinics of Kashmir region. The Kashmir division is divided into 6 districts for coverage under RNTCP i.e. Srinagar, Budgam, Anantnag, Pulwama, Baramulla and Kupwara.

As per the RNTCP, a case of Multi-Drug-Resistant Tuberculosis (MDR-TB) is defined as tuberculosis that is resistant to at least Isoniazid (INH) and Rifampicin (RMP), the two most powerful first-line treatment anti-TB drugs.[2,4]

All the MDR cases that were registered and were on treatment at that point of time were involved in the study. Simultaneously a patient on Anti-Tubercular treatment was enrolled in the study. Since 2012, 90 MDR patients have been registered with RNTCP and currently, there were 36 MDR cases on treatment. Only 33 MDR cases were

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interviewed. Thus, a total of 66 patients were interviewed - 33 MDR and 33 Pulmonary Tuberculosis cases (PTB). A preliminary meeting was arranged with the concerned District Tuberculosis Officer (DTO) and a feasible date and time of interview was fixed as per the convenience of the subject. Then a visit was made at the concerned place with the help of local RNTCP officials on convenient date and time. After taking the informed consent from patient, interview using WHOQOL-BREF questionnaire was conducted in their home settings.

The WHO-BREf scale consists of 26 questions, based on four domain structure viz Physical, Psychological, Social relationships and environment. The WHOQOL-BREF produces domain scores relating to overall quality of life and general health. In addition, the WHOQOL-BREF includes two stand-alone questions to assess rated QOL and Satisfaction with Health.[5]

Data Analysis:

The quantitative data was analysed and expressed as mean and percentage. Data was entered in MS excel and analyzed using SPSS. The overall QOL was assessed using specific questions and the mean scores for it were the average of the mean scores of the domains. T - Test was used for comparison between mean group scores.

The WHOQOL-BREf derives four domain scores i.e. physical, psychological, social relationships and environment domain score. The four domain scores denote an individuals perception of quality of life in each particular domain. Domain scores are scaled in a positive direction (i.e. higher scores denote higher quality of life). The mean score of items within each domain was used to calculate the domain score. Mean scores were then multiplied by 4 in order to make domain scores comparable with the scores used in the WHOQOL-100. The raw scores were then converted into transformed score.[5]

Results:

Table 1: Socio- Demographic characteristics of the cases interviewed (n=66)

Socio-Demographic Characteristics		MDR (n=33)	PTB (n= 33)	Total N (%)
Age	< 19	9	7	16 (24.2)
	20 – 39	14	15	29(43.9)
	40– 59	8	10	18(27.2)
	>59	2	1	3(4.7)
Sex	Male	11	19	30(45.4)
	Female	22	14	36(54.5)
Marital Status	Married	20	25	45(68.1)
	Single	13	8	21 (31.9)
Education	Illiterate	14	18	32 (48.4)
	Under Graduate	15	12	27(40.9)
	Graduate	4	3	7(10.7)
Occupation	Laborers	4	7	11 (16.6)
	House wife	22	12	34(51.5)
	Private/Others	7	14	21(31.9)
H/o Self medication	Yes	23	27	50(75.7)
	No	10	6	16(24.3)
History of co morbidity	HIV	0	0	0(0)
	Diabetes Mellitus	2	1	3(4.5)
	Thyroid dysfunction	7	10	17(25.7)
	Hepatic/ renal	0	0	0(0)

(Mean age 29 years, Mean age (males) 30 years, Mean age (females) 27 years)

Out of the 66 patients interviewed (n= 33 MDR and 33 PTB), 30 (45%) were males and 36 (55%) were females. Surprisingly, among MDR cases, 2/3rd of cases were females. About 44% of individuals were of economically productive group. The data revealed that more than 50% of female cases were illiterate whereas majority of the male cases were literate. Importantly, no case was HIV positive. There was high prevalence of Hypothyroidism (25.7%) as comorbidity among the study population. The highlighting feature was that nearly 4/5th of cases had habit of self-medication.

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Table no. 2: Comparison of MDR and PTB according to World Health Organization Quality of Life Scale (WHO QOL-BREF) raw score

WHO QOL-BREF	MDR (mean ±SD)	PTB (mean ± SD)
I. Physical Domain	19.48 ±3.44	20.67 ± 4.56
II. Psychosocial Domain	15.94 ±3.66	17.45 ±2.89
III. Sexual Domain	8.03 ±3.16	9.56 ± 3.45
IV. Environment	24.13 ±4.30	26.56 ± 5.1

Table no. 3: Comparison of MDR and PTB according to World Health Organization Quality of Life Scale (WHO QOL-BREF) transformed score (4-20)

WHO QOL-BREF	MDR (mean ±SD)	PTB (mean ± SD)
I. Physical Domain	11.09 ±2.02	13.11 ± 1.99
II. Psychosocial Domain	10.58 ±2.48	12.97 ±4.58
III. Sexual Domain	10.69 ±4.23	13.78 ±3.78
IV. Environment	12.34 ±2.10	15.67 ±5.66

Table no. 4: Comparison of MDR and PTB according to World Health Organization Quality of Life Scale (WHO QOL-BREF) transformed score (0- 100)

WHO QOL-BREF	MDR (mean ±SD)	PTB (mean ± SD)	Statistical Inference
I.Physical Domain	44.55 ±12.6	47.65 ±10.5	t= 1.08 p =0.28
II. Psychosocial Domain	41.18 ±15.6	44.23 ±12.7	t=0.87 p=0.38
III. Sexual Domain	42.5 ± 24	45.3 ± 16	t=0.55 p=0.57
IV. Environment	52.31 ± 13.1	55 ± 14.1	t=0.8 p=0.42

Pulmonary Tuberculosis patients fared significantly better than MDR patients in Domain scores. The mean differences in scores for the cases (MDRTB and PTB) were highly significant for all the domains and the overall QoL. The mean raw scores, transformed (4-20), transformed (1-100) including the physical health, psychological, social relationships, and environmental domains is more in PTB than MDR cases. Results have shown that there is significant impact on Physical and Psychological domain (p= 0.28 & 0.38).

Discussion:

The study was conducted to assess the perception of tuberculosis patients about their quality of life and to make a comparison how MDR and Pulmonary Tuberculosis affect their quality of life as such.

Profile of patients:

The present study revealed that majority of the cases were females (55%). Similar observations were reported by other studies[6,14] Most of the patients were belonging to economically productive age group which is in line with the findings of other researchers.[6,14] Surprisingly the literacy rate of cases interviewed was only 52% (81% in males vs 45% in females) unlike the figures reported by census 2011 (overall 72.9%, 80.89% vs 64.64%)[15] and other authors.[8,10] Only 20 patients had co-morbidity. Similar figures have been reported by another study done in Ahmedabad, Kolkatta, Mumbai and Phillipines.[8,10,12,14,15] Striking feature was that none was HIV positive. Similar observation was reported by Marie Flament-Saillour in France.[16] However HIV positivity was seen in other studies.[7,8,10,12,14,15]

Quality of life of Tuberculosis cases:

Results have shown that MDRTB patients had significantly lower mean scores in comparison to that of PTB patients. The worst affected were physical domain followed by the psychological domain.[10,24,25,26]

Perception of Tuberculosis as stigma:

More than 2/3rd of patients considered tuberculosis as stigma as they were of the opinion that by revealing their disease status to friends, colleagues or neighbours; people would sever all ties with them or would avoid them. Indeed they felt guilty and ashamed because of their disease and considered it as curse. Other researchers also revealed that

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patients with TB often experience rejection and social isolation.[17-22] In the present study respondents were complaining about negative feelings, depression, suicidal tendencies and results of the study were found to be consistent with other studies conducted by Mirza.[23,24]

The present study revealed that social functioning was affected in both cases of Tuberculosis exhibiting as isolation; variable social support by family and friends, and inability to continue with social activities. This is in coherence with the other studies[24,25,26] which point out that TB affects all the predicted domains of QOL i.e. psychological, health perceptions and social role functioning.

The stigma associated with tuberculosis - be it pulmonary or MDR tuberculosis, is one of the major factor affecting the domains of Quality of life.

References

[1] WHO/MSA/MNH/PSF/97.4 English only Distr.: General, Programme on Mental Health. Whoqol, Measuring Quality Of Life. Division of Mental Health and Prevention of Substance Abuse World Health Organization. Available from http://www.who.int/mental_health/media/68.pdf. Accessed on 20/6/2016.

[2] World Health Organization, Multi drug resistant tuberculosis, 2015 update. Available fromhttp://www.who.int/tb/challenges/mdr/mdr_tb_factsheet.pdf. Last accessed on 23-0-2017.

[3] Dhingra VK, Rajpal S. Health related quality of life scoring in tuberculosis. Indian J Tuberc 2003; 50(1):99104.

[4] Results-Framework Document (RFD) for Department of Health and Family Welfare (2013-14) Section 1: Department's Vision, Mission, Objectives and Functions. [Cited 2016 November 25]. Available from http://mohfw.nic.in/WriteReadData/l892s/7896537896321456325.pdf. Last accessed on 24-06-2017.

[5] WHOQOL-BREF Introduction, Administration, Scoring and Generic Version of the Assessment. Field Trial Version December 1996. Programme on Mental Health, World Health Organization Geneva. Available at http://www.who.int/mental_health/media/en/76.pdf Last accessed on 26-6-2017.

[6] Mitnick, C; Bayona, J; Palacios, E; Shin, S; Furin, J; Alcantara, F et al (2003). Community-based therapy for multidrug-resistant tuberculosis in Lima, Peru. The New England journal of medicine, 348 (2). pp. 119-28.

[7] Aleyamma Thomas, Rajeswari Ramachandran, Fathima Rehaman, K. Jaggarajamma, T. Santha, N. Selvakumar et al. Management of Multi Drug Resistance Tuberculosis In The Field: Tuberculosis Research Centre Experience. Indian J Tuberc 2007: 54: 117-124.

[8] Bhatt G, Vyas S, Trivedil K. An epidemiological study of multi drug resistant tuberculosis cases registered under Revised National Tuberculosis Control Programme of Ahmedabad City. Indian J Tuberc. 2012 Jan; 59(1):18-27.

[9] Gupta S, Bandyopadhyay D, Gupta S, Sadhukhan S, Banerjees S.A sociodemographic study of multidrug resistant tuberculosis cases from DOTS clinics of Kolkata. J Indian Med Assoc. 2012 Oct; 110(10):723-5.

[10] Yatin N. Dholakia and Divya P. Shah. Clinical profile and treatment outcomes of drug-resistant tuberculosis before directly observed treatment strategy plus: Lessons for the program .Lung India. 2013 Oct-Dec; 30(4): 316–320.

[11] Udwadia ZF, Moharil G. Multidrug-resistant-tuberculosis treatment in the Indian private sector: Results from a tertiary referral private hospital in Mumbai. Lung India. 2014 Oct; 31(4):336-41.

[12] Poulomi Mukherjee, Prasanta Ray Karmakar, Rivu Basu, Saibendu Kumar Lahiri. Sociodemographic and clinical profile of multi drug resistant tuberculosis patients: a study at drug resistant tuberculosis centers of Kolkata. Journal of Dental and Medical Sciences (IOSR-JDMS) (Aug. 2015); 14(8): 52-58.

[13] Mohammad A. Tag El Din, Ashraf A. El Maraghy, Abdel Hay R. Abdel Hay. Adverse reactions among patients being treated for multi-drug resistant tuberculosis at Abbassia Chest Hospital. Egyptian Journal of Chest Diseases and Tuberculosis; (4/2015); 68.

[14] Bikram Singh Datta, Ghulam Hassan, Syed Manzoor Kadri, Waseem Qureshi, Mustadiq Ahmad Kamili, Hardeep Singh et al. Multidrug-Resistant and extensively drug resistant tuberculosis in Kashmir, India. J Infect Dev Ctries 2010; 4(1):019-023.

[15] Status of Literacy. [Cited 2016 November 20]. Available from http://censusindia.gov.in/2011-prov-results/data_files/mp/07Literacy.pdf.

[16] Marie Flament-Saillour, Jerome Robert, Vincent Jarlier, and Jacques Grosset. Outcome of Multi-drug-resistant Tuberculosis in France. American Journal of Respiratory and Critical Care Medicine (1999); 160(2): 587-593.

[17] Baral, SC, Karki, DK, Newell, JN (2007). Causes of stigma and discrimination associated with

 DOI: 10.23958/ijirms/vol02-i08/03

tuberculosis in Nepal: a qualitative study (Nepal). BMC public health 2007, Aug; 16(7): 211.

[18] Fazlul Karim, A. M. R. Chowdhury, Akramul Islam and Mitchell G. Weiss (2007). Stigma, Gender, and their Impact on Patients with Tuberculosis in Rural Bangladesh. Anthropology & Medicine; 14(2):139–151.

[19] Anita S. Mathew and Amol M. Takalkar (2007). 'Living with Tuberculosis: The Myths and the Stigma from the Indian Perspective. Clin Infect Dis. Nov; 45(9):1247.

[20] Rameshchandra M Thakker, Gunjan P Upadhyay (2014) .Psychosocial reaction of diagnosing tuberculosis – An experience of tertiary care center of rural Gujarat. International Journal of Medical Science and Public Health; 3(12).

[21] Anne Lia Cremers, Myrthe Manon de Laat, Nathan Kapata, Rene Gerrets, Kerstin Klipstein-Grobusch, and Martin Peter Grobusch. Assessing the Consequences of Stigma for Tuberculosis Patients in Urban Zambia. PLoS One. 2015; 10(3): e0119861.

[22] Chang SH, Cataldo JK. A systematic review of global cultural variations in knowledge, attitudes and health responses to tuberculosis stigma. Int J Tuberc Lung Dis. 2014 Feb; 18(2):168-73, I-IV.

[23] Mirza I, Jenkins R. Risk factors, prevalence, and treatment of anxiety and depressive disorders in Pakistan: systematic review. BMJ 2004; 328(10):794-8.

[24] Raman Sharma, Ravinder Yadav, Meenakshi Sharma, Varinder Saini, and Vipin Koushal. Quality of Life of Multi Drug Resistant Tuberculosis Patients: a Study of North India. Acta Medica Iranica, 2014; 52(6):448-453.

[25] Hansel NN, Wu AW, Chang B, et al. Quality of life in tuberculosis: Patient and provider perspectives. Qual Life Res 2004; 13(3):639-52.

[26] Chamla D. The assessment of patients' health-related quality of life during tuberculosis treatment. Int J Tuberc Lung Dis 2004; 8(9):1100-6.

DOI: 10.23958/ijirms/vol02-i08/03