Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2014; 2(6F):3303-3306 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com **DOI:** 10.36347/sjams.2014.v02i06.089

Research Article

Assessment Quality of Life (QoL) of TB patients registered in Tuberculosis units of Ahmedabad Municipal Corporation area by using WHO Short Form -36 (SF- 36) questionnaire

Patel P G[1*], Ramanuj V[2], Bala D V[3]
[1]Third Year Post graduate Student, [2]Assistant Professor, [3]Professor & Head, Department of Community Medicine, Smt.NHL Municipal Medical College, Ahmedabad, Gujarat, India

***Corresponding author**
Dr. Punit Patel
Email: dr.punitpatel22@yahoo.in

Abstract: Tuberculosisin India accounts for 1/3rd of global burden. Health care to be comprehensive in true sense must include not only the indicators of changes in frequency and severity of disease but also an estimation of well being therefore this study was carried out to assess Quality of Life in patients with Tuberculosis. Total 180 Tuberculosis patients with tuberculosis who registered before 1st April 2013 were included in the study by using multi stage sampling method. We had selected 3 TUs by random sampling from 10 TUs of AMC and out of them in each TUs we had selected 3 DOTS Centre randomly. From each DOTS centre we had taken 10 Sputum positive newly diagnosed, 6 category II (2 for each defaulter, relapse, failure), 2 MDR and 2 HIV patients. We excluded paediatric patients. Thus, a total of 180 cases were interviewed using a pre-designed, pre-tested questionnaire. Socio-demographic data, perception about the Quality of Life (QoL) was collected using WHO QoL SF 36questionnaire. Mean age of cases was 33.3±11.7years and 124 (68.9%) were male. The mean score of all domains was 53.4 with SD of 11.2.The worst affected domains were vitality (44.6 ±13.8), general health (45.7± 18.7) and mental health (47.7 + 16.6). MDR patients had lower mean score for physical health (56.3 ± 15.2), vitality (35.8 ± 13.5) and pain (46.3 ± 16.1) as compared to other TB category patients. Mean score of social function (43.6 ± 13.8), emotional role (37.1 ± 27.9) and emotional well being (38.3 ± 13.7) were lower in TB with HIV patients. In all domains female have better scores except two domains, which are emotional health and social function. We recommend that early diagnosis and treatment decrease severity and infectivity to other person and improve QoL. Health education during diagnosis and family support may reduce social stigma and improve the mental component of QoL.
Keywords: Tuberculosis, Quality of Life, SF-36

INTRODUCTION

India is the highest TB burden country with estimated incidence 2.2 million cases and prevalence 3.1 million in 2011 [1]. Tuberculosis (TB) control has been given a high priority in the health sector. The Revised National Tuberculosis Control Programme (RNTCP) uses sputum negativity as prognostic indicator but does not consider any other dimension of health. Apart from physical symptoms, TB patients face social and economic problems. Therefore, the overall impact of TB on health and patients' perception of well being should be considered [2]. This can be performed by measuring the Quality of Life (QoL). The impact of various chronic diseases like leprosy, asthma, hypertension and depression has been studied using WHO QoL SF 36 [3].

Physical and mental distress among TB patients leads to poor disease outcome or poor treatment outcome [3]. According a study in China, physical health was more affected than mental health in TB patients compared to the general population [4]. Significantly higher Physical health and mental health summary scores was found among TB patients who completed eight months TB therapy compared to those patients who only started treatment in Uganda [3].

Aims & Objectives

The objectives were to study the socio-demographic profile and assessment of quality of life of different categories' Tuberculosis patients and also to find out socio demographic difference in quality of life.

METHODOLOGY

This cross-sectional study was carried out in 3 randomly selected Tuberculosis Units (TUs) out of 10 TUs of AMC during 1st May 2013 to 31st August 2013. Patients with tuberculosis of category I, II and MDR

category who registered at the DOTS centers during October 2012 to March 2013 were included in the study. We had used multi stage sampling method. From each DOTS centre using random sampling method, we had taken 10 Sputum positive newly diagnosed, 6 category II (2 for each defaulter, relapse, failure), 2 MDR and 2 HIV patients. We excluded paediatric patients. A total of 180 cases were interviewed with using a pre-designed, pre-tested questionnaire. Socio-demographic data, perception about the Quality of Life (QoL) was collected using WHO QoL SF 36questionnaire. It had eight domains viz: Physical functioning (PH), Role limitation due to Physical health (RP), Body Pain (BP), General health (GH), Role limitation due to emotional problem (RE), Energy/fatigue (VT), Emotional well being or Mental Health (MH), and Social functioning (SF). Physical Component Summary (PCS) was calculated by average of PH, RP, BP and GH and Mental Component Summary contained RE, VT, MH and SF [5]. Data was collected after explaining the purpose of the study and informed verbal consent was obtained from each patient. The scoring scale ranged between 0 (minimum) and 100 (maximum).

Data Analysis

Data are expressed as mean ± SD and non-parametric Mann-Whitney test, Kruskar Wallis test and Chi-squaretest were used for statistical comparisons. $p<0.05$ was considered significant.

RESULTS

Total 180 patients were included in study.Table-1 shows socio-demographic profile of patients. There were124 (68.9%) men and the rest were women. Overall literacy rate was found to be 76.6%. Labourers constituted 33.8%. One third (19, 33.9%) of female patients were unmarried, divorcee or widow. Majority of male patients 88(71.0%) had one or more forms of addiction as compared to female and it was statistically significant (p= 0.001).

Table 1: Gender wise distribution of Socio demographic profile of TB patients (n=180)

		Male 124(68.9%)	**Female 56(31.1%)**	**Chi-square value**	**p value**
		Male	**Female**		
Age (years)	15 to 29	59 (47.6)	23(41.1)	1.1 df =2*	0.5
	30-44	41(33.1)	23(41.1)		
	45-59	19 (15.3)	9 (16.1)		
	≥60	5 (4.0)	1 (1.8)		
	Mean± SD	34.12± 12.0	32.9± 10.9		
	Median	33.1	32		
	Minimum	15.0	19.0		
	Maximum	65.0	62.0		
Education	Illiterate	32(25.0)	12(21.4)	1.44 df=1†	0.22
	Primary	29(23.3)	21(37.5)		
	Secondary	26(20.9)	8(14.2)		
	Higher secondary	21(16.9)	9(16.0)		
	Graduate	16(12.9)	6(10.7)		
S.E Class (according to Modified Prasad's classification)	Higher S.E class (I, II)	39(31.5)	17 (30.4)	0.22 df=1	0.88
	Lower S.E class (III,IV, V)	85(68.5)	39 (69.6)		
Marital status	Married	97(78.2)	37(66.1)	2.99 df=1	0.08
	Unmarried	27(21.8)	19(33.9)		

(Note: Figure in parentheses indicate percentage)

* Chi square was calculated after pooling of 45-59 with ≥ 60 age group

†Chi square was calculated after pooling of illiterate with primary and secondary with above

Table 2: Gender wise distribution of health seeking behaviour of TB patients

		Male 114 (71%)	**Female 46 (29%)**	**Chi-square value**	**p value**
		Male	**Female**		
Ever addiction of some or other forms of Tobacco		88(71.0)	25(44.6)	11.44 df =1	0.01
Disposal of sputum	Proper	40(32.3)	19(33.9)	0.49 df =1	0.82
	Improper	84(67.7)	37(66.1)		

(Note: Figure in parentheses indicate percentage)

Table 3: Distribution of cases according Category of TB

		Cat.1 90 (50%)	Cat.2 54 (30%)	MDR 18 (10%)	TB with HIV 18 (10%)	Chi-square value	p value
Gender	Male	65 (72.2)	35 (64.8)	12 (66.7)	12 (66.7)	0.96 df=3	0.80
	Female	25 (27.8)	19 (35.2)	6 (33.3)	6 (33.3)		
Side effect of drugs in current treatment	Yes	61 (67.7)	44 (81.4)	17 (94.4)	16 (88.9)	9.2 df= 2*	0.01
	No	29 (32.2)	10 (18.6)	1 (5.6)	2 (11.1)		
Family history of TB	Yes	13 (14.4)	6 (11.1)	4 (22.2)	1 (5.6)	0.35 df=2*	0.83
	No	77 (85.6)	48 (88.9)	13 (72.2)	17 (94.4)		

(Note: Figure in parentheses indicate percentage)
*Chi square was calculated after pooling of MDR patients with TB with HIV patients

Total mean score of Quality of Life (QoL) was 53.4 with 12.2 SD. Mean score of PCS and MCS were 56.4 and 50.4 with 14.1 and 13.2 SD. The most affected domains were vitality (44.6 ± 18.7), general health (47.5 ± 13.8) and emotional well being (47.7 ± 16.6).The mean scores of components of the SF-36 questionnaire in patients Tuberculosis are illustrated in Table 4.

Table 4: Comparison of Quality of Life of TB patients (SF- 36 form) by age, gender and socio- economic class

	Mean score of all domain	PCS	MCS	PH	RP	BP	GH	RE	VT	MH	SF
Mean score of all TB patients (N=180)	53.46	56.43	50.49	68.53	50.97	58.74	47.50	55.37	44.67	47.70	54.24
SD	12.96	15.13	15.25	19.52	29.94	27.01	13.83	30.14	18.72	16.66	23.10
Gender											
Female	54.82	58.05	51.57	70.00	51.81	65.07	48.04	53.55	47.32	48.57	53.10
SD	13.55	15.55	16.08	19.14	28.98	27.78	14.32	29.73	20.86	16.24	22.50
Male	52.90	55.73	50.01	67.86	49.11	55.92	47.26	56.19	43.47	47.31	56.20
SD	12.64	14.90	14.84	19.72	30.43	26.46	13.65	30.59	17.62	16.90	24.50
p value*	0.50	0.36	0.73	0.58	0.55	0.02	0.80	0.55	0.28	0.73	0.41
SE class											
Lower S.E class	51.32	55.76	46.94	70.60	43.50	61.00	47.80	48.68	43.80	44.44	50.34
SD	13.08	16.16	15.09	20.71	22.56	27.83	14.18	31.86	18.61	15.67	23.63
Higher S.E class	54.33	56.72	51.86	67.73	53.85	57.91	47.38	57.95	45.00	48.95	55.71
SD	12.82	14.73	15.09	19.05	24.77	26.91	13.74	29.35	18.82	16.91	22.82
p value*	0.15	0.71	0.04	0.15	0.03	0.62	0.92	0.09	0.66	0.13	0.16
Age group											
≥30 year	53.07	55.44	50.72	68.54	47.26	59.07	46.71	52.83	45.79	48.05	56.09
SD	13.15	14.18	16.14	20.26	22.20	27.43	13.08	29.74	20.02	18.10	24.53
< 30 year	53.85	57.31	50.31	68.52	57.28	58.51	48.16	57.50	43.72	47.41	52.65
SD	12.79	15.85	14.47	18.97	24.40	27.02	14.45	30.68	17.60	15.44	21.84
p value*	0.69	0.45	0.86	0.82	0.13	0.91	0.44	0.28	0.64	0.74	0.32

*p value was calculated by using Mann Whitney test

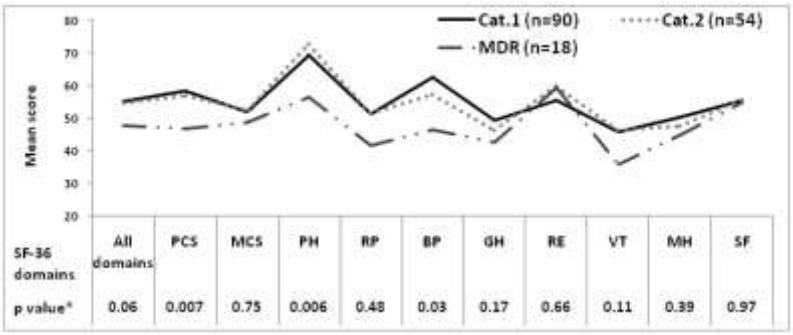
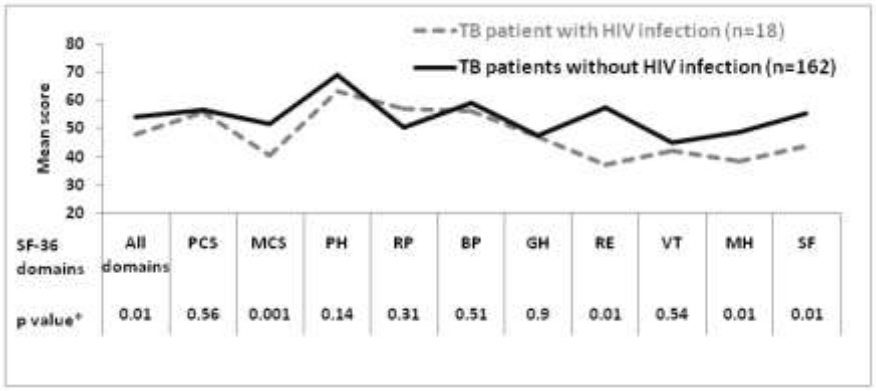


Fig. 1: Comparison of Quality of Life (SF- 36 form) among different category of TB patients (* p value was calculated by using Kruskar Wallis test)



SF-36 domains	All domains	PCS	MCS	PH	RP	BP	GH	RE	VT	MH	SF
p value*	0.01	0.56	0.001	0.14	0.31	0.51	0.9	0.01	0.54	0.01	0.01

Figure 2: Comparison of Quality of Life (SF- 36 form) among TB patients and TB patients with HIV infection
(*p value was calculated by using Mann Whitney test)

DISCUSSION

QoL is defined as a person's perception of his or her physical and mental health and covers broad domains including physical, psychological, economic, spiritual and social well being [3]. Total 180 TB patients were included in this study. The TB patients had significantly lower mean scores than the normal healthy person for overall QoL and its domains. The worst affected were vitality, mental health and general health. A Study conducted in China by SF-36 showed physical component score was most affected.

MDR patients had lower mean score for physical health, vitality and pain so PCS score was most affected than MCS score. This may be because of severity of disease or side effect of drugs. Over all Mean score of Qol was lower in TB with HIV patients. Social function, emotional role and mental health were most affected domains. It may be because of social implications due to the stigma attached to it. Similar finding was observed in other studies [4, 6].

Female patients are enjoying better QoL as compared to male. In all domains female have better scores except two domains, which are emotional health and social function. This is might be due to the fact that female are sensitive and more social stigma as compare to male. More than 30 year aged had lower mean score than Patients below 30 year for physical role. Patients of Lower S.E class had lower score for physical role and overall MCS than higher S.E class.

CONCLUSION

As demonstrated in this study, Quality of life is more suffered in TB patients as compared to healthy persons.Early diagnosis and treatment decreases severity and infectivity to other person. MCS score was lower than PCS score therefore more support from family and society is required to improve their QoL. Depression and social stigma can be reduced by giving health education during diagnosis especially to female patients. Lower QoL of MDR patients was associated with high side effects of the drugs taken so, concerning authorities should focus on controlling drug side effects.

REFERENCES

1. World Health Organization, Tuberculosis Fact sheet N°104". Geneva, 2013.
2. Dhingra VK, Rajpal S; Health related quality of life scoring in tuberculosis. Indian Journal of Tuberculosis. 2003; 50: 99–104.
3. Babikako HM, Neuhauser D, Katamba A, Mupere E; Feasibility, reliability and validity of health-related quality of life questionnaire among adult pulmonary tuberculosis patients in urban Uganda: cross-sectional study. Health Quality Life Outcomes, 2010; 8: 93.
4. Chamla D; The assessment of patients' health-related quality of life during tuberculosis in Wahan, China. International Journal of Turberculosis & Lung Disease. 2004; 8:1100–1106.
5. Ware JE Jr., Sherbourne CD; The MOS 36-Item Short-Form Health Survey (SF-36): I. Conceptual Framework and Item Selection. Medical Care, 1992; 30: 473-483.
6. The WHO QoL Group; What quality of life? World Health Organization quality of life assessment. World Health Forum, 1996; 17: 354–356.