Original Article

Social factors behind growing tuberculosis in rural areas of district Multan, Pakistan

Syed Zuhaib Aziz, Niaz Muhammad

Department of Sociology, University of Peshawar, Pakistan

Objective: To determine social factors behind growing tuberculosis (TB) in rural areas of district Multan, Pakistan.

Methodology: The quantitative data was collected from rural areas of district Multan, through interviews. Patients were selected by multi stage sampling technique. At first, hospitals in the sampled tehsils were selected through purposive sampling. In the second stage, patients age group was determined. At the later stage, the data were was collected through convenient sampling technique. Univariate and bivariate analysis was using SPSS 25 to see the association between social factors and TB.

Results: The social factors involved illiteracy, lack of awareness along with poor knowledge about TB (its causes, prevention and treatment protocol), poor treatment adherence, positive family history, residing many people in a single room, poor supervision, endogamy, unhygienic environment, most frequent interaction with TB patient and animal husbandry.

Conclusion: There were several social factors causing the growth of TB. The major factor was poor awareness level of people about TB. The study recommended that policy makers should work for creating awareness among the common masses about the prevention of TB and focus on the existing mechanism of TB patients' identification, diagnosis and treatment. (Rawal Med J 202;45:456-460).

Keywords: Tuberculosis (TB), Social, Awareness, Illiteracy, Treatment Adherence.

INTRODUCTION

Tuberculosis (TB) is a communicable and one of the most deadly diseases which is spreading rapidly in Pakistan with dire consequences. It is a leading communicable disease causing deaths in the world.[1,2] Pakistan stands at 5th position with respect to number of TB patients amongst 22 countries in 2018. In Pakistan 265/100,000 is the rate of overall TB burden.[3] About 65% population of Pakistan lives in rural areas. In Punjab population, out of 92.7 million, 70% people inhabit in the rural vicinity. A large number (56%) cases (196/100,000) of TB belonged to the province of Punjab.[3,4]

TB could be controlled and patient could be prevented from it by timely identification, proper diagnosis and accomplishment of adequate treatment plan.[5] The best technique of dealing with TB in many countries was Directly Observed Treatment Strategy (DOTs). TB DOT strategy was implemented in Pakistan in 1994 in collaboration with WHO. Policies and strategies to control TB were modified according to the Pakistani context.[6]

Those patients who have poor compliance of treatment due to any of the socio-economic reasons may develop Multi-Drug Resistant Tuberculosis (MDR-TB). In this condition the treatment duration increases up to more than two years as well as the treatment cost also increases.[7] Deterrence from TB is only a matter of behavioral and social circumstances.[8] A lot of patients remain undiagnosed due to poor system of TB surveillance. That is why to control over TB is a great problem even in developed countries as well and every year figures of MDR-TB cases is higher in the US.[9]

People are continuously in social contact and this constant interaction with the TB patients can be a great threat for the people around.[10] If a lactating mother was a TB patient, the newly born child was more at risk of disease. Stigmatization and isolation from family members, friends, colleagues at work place and society, have negative effects on their social life and their performance.[12] There is still a

need to find socio-economic relationships associated with the abolishment of TB.[9,13] The aim of this study was to determine social factors behind TB in rural areas of district Multan, Pakistan.

METHODOLOGY

In this cross-sectional study, the data were collected during 2018 from two rural tehsils Shujabad and Jalalpur Pir Wala of district Multan, situated at approximately 60 kilometers and 120 kilometers respectively from the major city. The quantitative data were collected through close ended interview schedule constructed after the vigilant review of the relevant literature and pretesting.

A total of 250 TB patients were selected through multi-stage sampling technique. At first, all hospitals with the diagnostic and treatment facility of TB were detected through purposive sampling from the catchment areas of two Tehsil Headquarters (THQ) i.e. Shujabad (THQ) and Jalalpur Pir Wala (THQ) and three Rural Health Centers i.e. Kotli Nijabat (RHC), Matotaly (RHC) and Miran Mallah (RHC). In the second stage, patients in age group 15 years and above were identified through the same technique. At later stage, data were collected from patients through convenient sampling technique i.e. 50 patients from the catchment area of each hospital.

Statistical Analysis: Univariate and bivariate analysis was executed by using SPSS 25 to see the relationship between the variables.

RESULTS

Majority (70.0%) of the respondents belonged to the age group 15-45 years and 68.4% were males. Majority (55.6%) were illiterate and 85.6% belonged to agriculture, driving and beggary. Majority (68%) were married, 55.6% were smokers, 53.2% had 7 or more than 7 members in their family and 49.6% patient's family income from all sources was 10,000 PKR or less (Table 1).

Table 1. Demographic Profile of TB Patients.

Variable	Frequency	Percent
Age group		
15-25	48	19.2
26-35	54	21.6
36-45	75	30.0
46-55	21	8.4
56-More	52	20.8
Gender		
Male	171	68.4
Female	79	31.6
Qualification		
Illiterate	139	55.6
Primary/Middle	82	32.8
Matric-more	29	11.6
Occupation/Profession		
Labor (Including agriculture, driving & beggary etc.)	214	85.6
Job	21	8.4
Business	15	6.0
Marital Status		
Married	170	68.0
Unmarried	42	16.8
Widow(er)	15	6.0
Divorced/Separated	23	9.2
Smoker		
Yes	139	55.6
No	111	44.4
Total	250	100.0
Number of Family Members		
7-More	133	53.2
5-6	86	34.4
2-4	31	12.4
Family Pattern		
Joint Family	179	71.6
Nuclear Family	71	28.4
Family Monthly Income		
Less- 10000	124	49.6
10001- 20000	105	42.0
20001- More	21	8.4
Total	**250**	**100.0**

Table 2. Association between Social Causes and TB Growing.

Statement	Response	TB Growing			Statistic
		No	Yes	Don't know	
Joint family system (Large Family)	**No**	74(65.5%)	70(57.4%)	4(1.6%)	x^2 =8.590
	Yes	39(34.5%)	52(42.6%)	11(73.3%)	p =0.014
	Don't know	0(0%)	0(0%)	0(0%)	
Endogamy marriage	**No**	71(62.8%)	88(72.1%)	5(33.3%)	x^2 =9.610
	Yes	42(37.2%)	34(27.9%)	10(66.7%)	p =0.000
	Don't know	0(0%)	0(0%)	0(0%)	
Unhygienic condition	**No**	44(38.9%)	20(16.4%)	2(13.3%)	x^2 =16.747
	Yes	69(61.1%)	102(83.6%)	13(86.7%)	p =0.000
	Don't know	0(0%)	0(0%)	0(0%)	
Delay in starting Treatment	**No**	49(43.4%)	23(18.9%)	2(13.3%)	x^2 =18.939
	Yes	64(56.6%)	81(81.1%)	13(86.7%)	p =0.000
	Don't know	0(0%)	0(0%)	0(0%)	
Living in one room	**No**	71(62.8%)	88(72.1%)	533.3%)	x^2 =9.610
	Yes	42(48.8%)	34(39.5%)	10(11.6%)	p =0.008
	Don't know	0(0%)	0(0%)	0(0%)	
Lack of awareness	**No**	35(31%)	6(4.9%)	1(6.7%)	x^2 =29.665
	Yes	78(69%)	116(95.1%)	14(93.3%)	p =0.000
	Don't know	0(0%)	0(0%)	0(0%)	
Lesser Education	**No**	30(26.5%)	13(10.7%)	2(13.3%)	x^2 =10.274
	Yes	83(73.5%)	109(89.3%)	13(86.7%)	p =0.006
	Don't know	0(0%)	0(0%)	0(0%)	
No care of early illness	**No**	30(26.5%)	2(1.6%)	1(6.7%)	x^2 =32.363
	Yes	83(73.5%)	120(98.4%)	14(93.3%)	p =0.000
	Don't know	0(0%)	0(0%)	0(0%)	
Unhealthy work place	**No**	36(31.9%)	24(19.7%)	6(40%)	x^2 =6.003
	Yes	77(68.1%)	98(80.3%)	9(60%)	p =0.050
	Don't know	0(0%)	0(0%)	0(0%)	
Most frequent interaction	**No**	73(64.6%)	89(73%)	5(33.3%)	x^2 =9.903
	Yes	40(35.4%)	33(27%)	10(66.7%)	p =0.007
	Don't know	0(0%)	0(0%)	0(0%)	
Smoking	**No**	69(61.1%)	98(80.3%)	14(93.3%)	x^2 =14.396
	Yes	44(38.9%)	24(19.7%)	1(.4%)	p =0.001
	Don't know	0(0%)	0(0%)	0(0%)	
Unavailability of better Health services	**No**	35(31%)	6(4.9%)	1(6.7%)	x^2 = 29.665
	Yes	78(69%)	116(95.1%)	14(93.3%)	p =0.000
	Don't know	0(0%)	0(0%)	0(0%)	
Malnutrition	**No**	45(39.8%)	11(9%)	2(13.3%)	x^2 =32.119
	Yes	68(60.2%)	111(91%)	13(86.7%)	p =0.000
	Don't know	0(0%)	0(0%)	0(0%)	

Variables like curability, family history, supervision, worrisome, treatment adherence and patient's satisfaction were indexed into a major variable "growing TB" for bivariate analysis with the social causes. We found that TB growing was found highly significant with endogamous marriage, unhygienic condition, inaccessibility of better health services, delay in treatment, lack of awareness, careless attitude towards illness and malnutrition (Table 2). Joint family system, living in one room, low level of education, unhealthy work place, frequent interaction and smoking were found significant with TB growing.

DISCUSSION

TB is a communicable disease, which is spreading rapidly. In the present study, the majority patients were illiterate. Many studies found that illiterate and less educated people were more prone to have TB.[14,15] Our study found that many patients were living in a large family i.e. usually consisting on eight to ten members and more. When large number of family members live together it is a vulnerable condition for spread of TB.[16]

Our study showed that patients had less than 20,000 PKR/month total family income. TB commonly was found among the poor and low income people.[17] Our study found that TB affected males of age group of 20 to 40 years because this age group was more susceptible of TB for being more social and interactive and such age group is working and also it belong to low economic status and had most frequent people getting TB.[10,18] Without adopting precautionary measures, TB could be transmitted from one spouse to another as majority patients in our study were married. Inopportunely, they were living in a house made of single room or two.[14]

The study revealed that majority of the people knew TB as a communicable disease but they were quite unaware of its causes, preventive measures and its treatment procedure.[19] Our study found that smoking was also a common cause among the TB patients especially among males, tobacco could also a factor behind TB.[20]

Majority patients were found unsatisfied with respect to availability of health services. In a study, it was also found that there was no any particular staff or laboratory especially at basic health unit level available for TB patients.[21]

CONCLUSION

Tuberculosis was a growing disease in the sampled area due to lack of awareness, delay in starting treatment, unavailability of better health services, endogamy marriage, unhygienic condition and malnutrition. Joint family system, living in one room, low education, unhealthy work place, most frequent interaction and smoking had a significant relationship with the dependent variable growing TB. It is recommended that awareness campaigns at mass level in the society should be conducted frequently and these social factors should be addressed on priority basis by the government of Pakistan to eliminate TB.

Author Contribution:
Conception and design: Syed Zuhaib Aziz
Collection and assembly of data: Syed Zuhaib Aziz
Analysis and interpretation of data: Syed Zuhaib Aziz
Drafting of the article: Syed Zuhaib Aziz
Critical revision of the article for important intellectual content: Niaz Muhammad
Statistical expertise: Niaz Muhammad
Final approval and guarantor of the article: Niaz Muhammad
Corresponding author email: Syed Zuhaib Aziz: zuhaib979@gmail.com
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