

A STUDY ON TB PATIENTS PERSPECTIVE ON KNOWLEDGE, ATTITUDES, AND PRACTICES REGARDING TUBERCULOSIS IN KARACHI

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Abstract

Tuberculosis (TB) an infectious disease is the single largest cause of death in the world, accounting for about two to three million deaths per year. Like most diseases, tuberculosis entails medical as well as social definition. The objective of the study is to assess the level of awareness (general knowledge) if TB patients about symptoms, ways of transmission and treatment of tuberculosis, and their perception of the illness in Karachi, Pakistan. An exploratory study was conducted by the researcher at a selected urban setting of Karachi (Chest Clinic of Liaquat National Hospital). Face to face interview of adult TB patients attending the chest OPD of the hospital for TB treatment was taken using structured interview guide. The sampling was done by Purposive Sampling method. Inclusion criteria were patients above 18 years, with hospital-diagnosed active pulmonary tuberculosis. Written informed consent was obtained from all the respondents. One Hundred Ninety Eight patients were selected as sample for this study. Data was analyzed and interpreted by using SPSS version 15. The results of this study revealed a lack of information which results in poor knowledge about TB, particularly in women.

Key Words: tuberculosis, knowledge, attitude, practice, Karachi

Introduction

Good health is a pre-requisite for the adequate functioning of any individual or society. A healthy person may fight against all the socio-economic problems that exists in a society, but the situation is entirely different for an ill person. Tuberculosis (TB) is a public health problem in many developing countries including Pakistan. Globally it is estimated that there were 8.8 million incident cases of TB in 2010.(World Health Organization Report,2011).Each year about 9 million people become victims of tuberculosis (TB) and 1.6 million die worldwide. (World Health Organization Report,2009) Globally, Pakistan ranks eighth for the high TB incidence. In Pakistan, the prevalence of TB is 297 cases per 100,000 population and nearly 0.3 million new cases arise each year (World Health Organization Report, 2009). The Government of Pakistan adopted DOTS (Directly Observed Treatment Short Course) in 1995 and TB was declared as a national emergency in 2001(National Tuberculosis Control Programme, 2005).Pakistan's TB control program failed to meet the World Health Organization's 2005 target of 70% case detection and 85% cure, and is not yet on track to meet the Millennium Development Goals by 2015.Several international studies have reported poor knowledge, attitudes and practices about TB(Wang,et al., 2008). Many studies in Pakistan revealed poor TB awareness and stigmatization in general population.

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Problem Statement

Tuberculosis is an ancient and most feared disease. It remains a global public health concern which can affect anyone regardless of age, sex, or socio-economic status. TB is one of the leading causes of mortality. TB spreads mostly in congested and ventilated places. Malnourishment is another leading contributing factor. Therefore, developing countries continue having difficulties in management, prevention and control of tuberculosis. A world free from TB is the vision of Stop TB Strategy and the goal is to dramatically reduce the burden of TB by 2015 in line with the Millennium Development Goals (MDG) and the Stop TB Partnership targets. World Health Organization (WHO) declared TB a global emergency in 1993. WHO in its Report of 2007 estimated that globally 8.8 million people were infected with TB and 1.6 million people died of TB in 2005. Majority of the infected people i.e. 7.4 million (84%) belong to Asia and Sub-Saharan Africa. One-third of the world population is currently infected with tubercle bacillus, and nearly one percent of the world population is newly infected with tuberculosis each year. It means that every second someone in the world is newly infected with tubercle bacillus (WHO, 2012). The study under discussion is the first study in Karachi, Pakistan to explore patients' perspective from a social worker's eye. Patients are human and human are different from each other on many basis like caste, culture, races and beliefs. Therefore, it is very important for policy makers to understand TB patients' views regarding their diseases, their knowledge and practices pattern to make necessary policies accordingly. This study is an attempt to take a local step in this regard.

TB Situation in Pakistan

Like all other contagious, communicable diseases TB has no national boundaries. Pakistan is one of the 16 countries in the world, which are not taking appropriate measures to control tuberculosis. The situation is very serious and Pakistan ranked 6th amongst the 22 High Burden Countries. It contributed about 44% of TB burden in the Eastern Mediterranean Region. Approximately 1.5 million people have been infected with TB in Pakistan and around 280,000 new cases of TB are being added every year. (WHO, 2007)

Accessibility to quality health services, people's knowledge regarding the dangers of TB, it's possible cure, and adherence to a minimum six months long treatment; these are some of the issues which make its control still a challenge in many countries including Pakistan. Tuberculosis (TB) in Pakistan exacts serious economic consequences caused by loss of income due to disability and premature death. TB is prevailing in both urban and rural areas of Pakistan. The public perception is that TB is a "Poor man's disease", however, a significant proportion of those infected are literate, educated and economically better off. TB inflicts significant socio-economic costs. It affects persons during their most productive age. The largest indirect cost of TB for a patient is income lost by being too sick to work.

In Pakistan nearly two-thirds of the population first seeks health care from private health care providers for their illness. In the above mentioned context, in Pakistan the problem of spreading TB is particularly alarming, because the living styles and conditions,

cultural and behavioral patterns, social and economic factors may be disproportionately different from what has been reported in other countries. Despite the adoption of WHO recommended Directly Observed Treatment Short Course (DOTS) strategy in 1995 and its rapid expansion from the middle of 2001, Pakistan still stands 6th in global ranking by the estimated numbers of TB cases. In 2005 DOTS coverage was 100% in public sector in the country but there was no active involvement of private sector in National TB Control Program (NTP) that made it difficult to control TB in the country. The formulation and execution of TB control policies has not changed the grass-root situation to a great extent in Pakistan. However, due to advancement in media technology and increase in literacy rate in urban cities of Pakistan, it is observed that positive changes have taken place with the passage of time and the level of awareness has been increased at masses level about TB as a curable disease but still a lot of efforts are required to change the general perception about this disease. Lack of knowledge about the disease and stigmatization causes underutilization of the services, delay in seeking diagnosis, and poor treatment compliance (WHO, 2006).

Today, TB patients are facing many problems which contribute to poor utilization of healthcare services, including low socio-economic status, lack of physical accessibility, cultural beliefs and perceptions, low literacy level, and large family size. Poverty, coupled with illiteracy, the low status of women, inadequate water and sanitation facilities, and inadequate or shortage of proper food are the main problems which were highlighted by most of the patient during the course of data collection for this study. The story of tuberculosis in Pakistan is the story of people with no right to food, employment, shelter or healthcare. Nearly 30 percent of the population affected by tuberculosis consisted of men living without stabilized family environments, and with no stable income. The most important reason for defaulting of a TB case is socio-economic conditions of the TB patients - unstable, irregular employment, lack of family support when the TB patient stops earning due to this illness. These are the two important reasons highlighted by Patients during the process of data collection from hospitals.

As mentioned above, in Pakistan, with a large number of the population living below poverty line, poor demographic, educational, economic and health indicators (UNICEF,2003), and huge burden of refugees and migrants, prevention is the best safeguard against the tuberculosis emergence.

Review of the literature

TB has been considered as a 'dirty disease' 'a death sentence' or as effecting 'unclean' people (Johansson, Long, Diwan & Winkvst, 2000). In Pakistan, the prevalence of TB is 297 cases per 100,000 population and nearly 0.3 million new cases arise each year (WHO, 2009).

In 2002, a study was conducted at Out-patient clinics of two teaching hospitals (private and public) in Karachi. According to that study; (7%) patients thought TB was not an infectious disease and 18 (10.6%) did not consider it a preventable disease. Contaminated food was considered the source of infection by 81 (47.6%) and 96 (57%) considered emotional trauma/stress the causative agent of TB. Thirty one (18%) patients

would have discontinued their medications following relief of symptoms. This study concluded that Misconceptions concerning TB are common in Pakistani patients (Rizvi, 2006).

In 2006, a cross-sectional study was conducted at the out-patient pulmonary clinics in two teaching hospitals of Karachi, which has a population of about 14 million. Aga Khan University Hospital (AKUH) is a private sector hospital, while the Jinnah Postgraduate Medical Centre (JPMC) is a government sector health facility. The purpose was to assess knowledge of patients with regard tuberculosis; about their disease and misconceptions regarding TB (Khan et al, 2007).

Significance of the study

The present study was done to determine knowledge of TB patients about tuberculosis and their perception of the illness. Like every disease; TB has its own specific social meanings in Pakistani society. Doctors usually treats through medicines; they used to focuses on clinical reports for patients assessment, progress or recovery from illness. But the way our culture treats the patient's diseases is very important .Similarly, what is the patients' feelings, opinion about TB long -duration treatment course who is suffering from the disease is extremely important. Hence, a proper assessment and understanding of KAP factors are particularly helpful in the case of chronic and highly communicable conditions such as TB. Thus there is an urgent need to understand the problem deeply and from a sociological Perspective. Good knowledge about tuberculosis among general population and especially in TB patients has a prime importance in this regard. The focus of present study is to examine what is the social meaning / general concept of TB in view of TB patients, how their family treats them, what are the symptoms of the disease. Hence; this study is an effort to fill this information gap. Further, the major problem faced in this regard is complete and valid social data is rarely available in hospitals. Usually doctors focused on biological condition of the patients and due to non-availability of social researches on the topic there is a need to investigate the patient's viewpoint about the disease, and check their level of awareness regarding this disease. In this regards, the purpose of this study is to assess patient's perspective on knowledge, attitudes, and practices regarding tuberculosis.

Even though assessment of patient s' knowledge, attitude and practice (KAP) are key elements in prevention and control of TB parallel to other control strategies. It might open new doors for further research by scholars and develop new methods and procedures to control TB in Pakistan.

Study Objectives

There were three specific objectives for this research:

1. To explore the association between socioeconomic status and TB patient's knowledge.
2. To examine the association between perception of the illness, beliefs, of TB Patients relating to the Tuberculosis disease.

3. To assess the association between level of knowledge of TB patients about symptoms, ways of transmission and treatment of tuberculosis, attending the OPD at Private Hospital located in Karachi.

This work will help to evaluate the level of knowledge and understanding about tuberculosis and how it affects their family, occupational and social relationships, once they are diagnosed with TB.

Methodology

The universe of the present study is the out-patient Chest Clinic affiliated with a 750 bed, leading tertiary care teaching hospital of private sector in Karachi, Pakistan. The study target population was OPD patients above 18 years of age, with hospital diagnosed active pulmonary tuberculosis and patients who returned to OPD after previous visits on their own for follow-up check-up at OPD clinic in Liaquat National Hospital. They were the eligible respondents of the study. The data was collected from 3rd March to 14th December 2012. Prior to the selection and development of research instruments, a thorough study of the relevant documents, reports and secondary data was done, which were particularly focused on the topic of research. An interview schedule method was used to collect the data for the present study. Patient exclusion criteria from this study were patients newly-diagnosed TB (at least a week of clinical diagnose of TB is described as newly diagnose TB for this study) Informed consent was obtained from each participant. Strict confidentiality of data was ensured throughout the study. A total of one hundred ninety eight (198) patients were interviewed. A structured interview guide was used to collect information. Before initiating the interview, good rapport was established with patients by explaining the objective of the study. The interview guide consisted of personal information like name, age, sex, religion, nature of job. Questions pertaining to general knowledge portion dealt with the prevalence, sign and symptoms, attitudes, beliefs reaction and perception towards TB, treatment and preventive measures of TB. Purposive Sampling Method was used in this study as the researcher was interested only in those patients who had diagnosed TB and seeking its treatment form out-patient clinic in Liaquat National Hospital. Data was analyzed by using SPSS version 15.

Hypotheses of the Study

The following hypotheses have been formulated for the present study:

1. There is an association between socio economic status of TB patients with knowledge related to TB.
2. There is an association between large family size of TB patients and knowledge related to TB disease.
3. There is an association between gender of TB patients and literacy rate.

Results and Discussion

A total of 198 adults, selected by purposive sampling, were interviewed using a pre-tested Performa. Respondents were predominantly females (73.2%) whereas male

respondents were only 26.8%, married and Muslim (93.9%). Mostly are within 18-28 years of age group. Majority of the respondents belong to urban areas, educated and unemployed. The 70.3% respondents had the high school education and above qualification, about 3.4% respondents had the primary school education, and 26.2% respondents were illiterate. Most patients were from lower or middle class income group (Table 1). The majority had heard about tuberculosis (81.8%). About 37.9% stated that they get information about TB from Doctors, next was family (24.2%), and 19.7% mentioned about Friends/Relatives (Table 2).

Regarding symptoms of TB (51.5%) mentioned cough more than 3 weeks night fever, (36.9%), tiredness (32.3%), and (23.7%) mentioned Shortness of breath (Table 3). About the correct mode of transmission i.e. airborne (coughing / sneezing) was known to (48.5%) respondents, (31.8%) were ignorant, (20.7%) of the respondent reported that they knew Eating in same dishes as a symptom, and 9.6% indicated that handshaking is a Possible modes of transmission of (TB) disease (Table 4). Cough lasting longer than three weeks' was considered the correct statement regarding knowledge about the symptoms of TB.

Nearly (51.5%) perceived Tuberculosis to be a preventable disease completely; Regarding possible best preventing technique; 37.4% of the respondents said prevention is possible by covering mouth and nose while coughing or sneezing, however, responses like avoid shaking hands, separation of utensils or hospitalization of the patient to prevent the spread of the disease indicate persistence of stigma and discrimination in a small proportion of the population (Table 5).

Majority of the respondents had acceptable attitudes and practices towards the disease would be cured. (Table 6). Studies show prolonged cough, at times chest pain, loss of weight, fever, difficulty in breathing, and coughing up blood are perceived to be associated with TB by the people (S. Ganapathy et al, 2008 & E. Buregyeya et al, 2011). In this study the symptoms of TB reported by the patients pointed out a fairly good level of knowledge. This may be associated with urban setting of the study with better opportunity to access to information and education level of respondents.

About self-perception of being TB patient (36.4%) mentioned that got family support, 28.3% are anxious for reduction of family income, 18.2% felt socially neglected, and 8.1% felt isolated within family (Table 7). Being diagnosed with TB can create the fear of isolation and discrimination (O. Christopher et al, 2010).

Based on the present findings, a majority of the respondents mentioned (62.1%) that TB is still the disease of the poor (Table 8). While (60.6%) were considered that TB treatment expensive (Table 9). Refer to the question pertaining to the duration of the disease, (41.4%) of the respondent mentioned the duration of treatment is one year (Table 10).

Table 1: Socio-demographic characteristics and living condition of the study participants

Characteristics of Respondents
<p><u>Sex :</u></p> <p>Male :53(73.2%)</p> <p>Female :145(26.6%)</p>
<p><u>Marital status:</u></p> <p>Married: 130 (65.7%)</p> <p>Unmarried:65(32.8%)</p> <p>Widow/divorced:3(1.5%)</p>
<p><u>Age categories:</u></p> <p>18-28 years : 74(37.4 %)</p> <p>28-38 years: 49(24.7 %)</p> <p>38-48 years: 38(19.2 %)</p> <p>48-58 years: 37(18.2 %)</p>
<p><u>Education:</u></p> <p>Illiterate : 92(46.5 %)</p> <p>Primary level : 30(15.1 %)</p> <p>Matriculation : 42(21.2 %)</p> <p>Intermediate : 21(10.6 %)</p> <p>Graduate & above. : 13(16.6 %)</p>
<p><u>Occupation:</u></p> <p>Govt. Service: 10 (5.1%)</p> <p>Housewife: 25(12.6 %)</p> <p>Private service: 30 (15.2 %)</p> <p>Student: 15 (7.6%)</p>

Self-employed/Business: 27 (13.6 %)
Professional: 10 (5.0 %)
Daily Wages: 19 (9.6%)
Unemployed: 53 (26.8 %)
Unskilled Worker: 9 (4.5%)

Table 2: Frequency and Percentage Distribution of the respondents according to their main source of information about TB

Source of Information about TB. (From Where You Get the Knowledge About this Disease)	f	%
Family	48	24.2
Friends\Relatives	39	19.7
Neighbors	4	2.0
Doctors	75	37.9
Media(TV, Radio)	20	10.1
Books/ Newspapers	6	3.0
Teachers	6	3.0
Total	198	100

Table 3: Frequency and Percentage Distribution of the respondents according to their Symptoms experienced during TB diagnosis

Symptoms during TB Diagnosis	f	%
Cough that last more than 3 weeks	102	51.5
Severe Headache	12	6.1
Nausea	6	3.0
Shortness of breath	47	23.7
Weight loss	46	23.2
Night Fever	73	36.9
Weakness	64	32.3
Other	12	6.1
Don't know	13	6.6
Total	198	100

Table 4: Frequency and Percentage Distribution of respondent according to their knowledge regarding spread of disease from one to another/knowledge on ways of transmission of disease (TB)

Knowledge on Mode of Transmission of TB Disease Spread	f	%
Handshaking	19	9.6
Eating in same dishes	41	20.7
Air ,when TB patient is coughing or sneezing	96	48.5
Sharing Sheesha pipes(huqa)	3	1.5
Smoking	10	5.1
Touching items in public places	1	0.5
Hard work	3	1.5
Malnutrition	2	1.0
Blood Transmission	10	5.1
Unventilated Home	2	1.0
Poverty	8	4.0
Living together with an untreated TB patient	6	3.0
Don't Know	63	31.8
Total	198	100

Table 5: Frequency and Percentage Distribution of respondent according to their knowledge about prevention of the disease

Patient's knowledge regarding prevention of TB disease	f	%
Avoid shaking hands	15	7.6
TB can be cured	102	51.5
Avoid sharing dishes	26	13.1
Washing hands after touching items in public places	9	4.5
Through good nutrition	7	3.5
Covering mouth and nose when coughing or sneezing	74	37.4
Total	198	100

Table 6: Frequency and Percentage Distribution of respondents according to their perception about how TB would be cured

Perception about how TB would be cured.	f	%
curable by regular treatment & specific drugs given by doctors	116	58.6
Praying	44	22.2
Do not know	8	4.0
Strongly Disagree	6	3.0
Herbal remedies	24	12.1
Total	198	100

Table 7: Frequency and Percentage Distribution of respondents according to their Perception on being a TB patient

Perception as TB patients	f	%
Fear chance of reduction of family income	56	28.3
Family members are cooperative towards me	72	36.4
Increase sadness	18	9.1
Feel isolated within the family	16	8.1
Feels socially neglected/ low esteem	36	18.2
Total	198	100

Table 8: Frequency and Percentage Distribution of respondents according to their knowledge that TB is a disease of the poor

TB is a disease of the poor	f	%
Yes	123	62.1
No	75	37.9
Total	198	100

Table 9: Distribution of respondent according to their opinion that TB treatment is affordable

Treatment Expenses	F	%
It is expensive	120	60.6
It is less expensive	47	23.7
I don't know	31	15.7
Total	198	100

Table10: Distribution of respondents according to their knowledge about duration of treatment

DURATION OF TREATMENT	f	%
One Year	82	41.4
A few months	75	37.9
Other	31	15.7
Don't Know	10	5.1
Total	198	100

Hypothesis Results

Hi: There is an association between socio economic status of TB patients with knowledge related to TB

The contingency Table 1

			Patient have correct knowledge related to disease and its prevention		Total
			Yes	No	
SES status	Poor	No. of respondents	36	58	94
		%	38.3%	61.7%	100.0%
	Average/good	No. of respondents	54	50	104
		%	51.9%	48.1%	100.0%
Total		No. of respondents	90	108	198
		%	45.5%	54.5%	100.0%

$$X^2 = 3.69$$

$$df=1$$

$$p\text{-value}=0.05$$

As calculated value is bigger than tabulated value, we reject our null hypothesis and accept our hypothesis as there is statistically significant association exist among Socio Economic status and knowledge related to TB

Hi: There is an association between large family size of TB patients with knowledge related to TB.

The contingency Table 2

			Patient have correct knowledge related to disease and its prevention		Total
			Yes	No	
Family Size	<7 members	No. of respondents	31	38	69
		%	44.9%	55.1%	100.0%
	7-10 members	No. of respondents	40	44	84
		%	47.6%	52.4%	100.0%
	>10 members	No. of respondents	19	26	45
		%	42.2%	57.8%	100.0%
Total		No. of respondents	90	108	198
		%	45.5%	54.5%	100.0%

$$X^2 = 0.35$$

$$df=2$$

$$p\text{-value}=0.83$$

As calculated value is lesser than tabulated value, we rejected our hypothesis and accepted our null hypothesis

Hi: There is an association between gender of TB patients with literacy rate

The contingency Table 3

Patients Education			Knowledge of TB and Educational level			Total
			Yes Matriculation and above qualification	No Illiterate No formal education	Don't know	
Gender	Male	No. of respondents	102	5	38	145
		%	70.3%	3.4%	26.2%	100.0%
	Female	No. of respondents	34	4	15	53
		%	64.2%	7.5%	28.3%	100.0%
Total		No. of respondents	136	9	53	198
		%	68.7%	4.5%	26.8%	100.0%

Fisher's Exact Test=1.8

df=2

p-value: 0.37

Conclusion

In Pakistan, private sector is actively involved in public health care provision in both urban and rural areas of the country. This study was conducted among patients who were treated at OPD in Liaquat National Hospital, Karachi.

The present study highlighted many gaps in knowledge, about the attitudes and beliefs of TB patients, majority of study respondents had poor knowledge about tuberculosis, its prevention and magnitude. This study showed that half of the respondents considered cough of more than 3 weeks duration as the symptom to suspect pulmonary TB case. Diverse perceptions about TB and its socio-economic and health impacts on personal, familial and social life emerged from this research. These findings have considerable implications for TB control programme managers, policy makers and researchers to help

people access TB treatment services using the DOTS strategy. TB Patient knowledge, attitudes and perceptions about TB play an important role in their ability to understand the disease and self-care. This study has highlighted deficiencies in the knowledge of TB patients about their disease. A diversity of socio-economic factors, such as Patient education, cultural and ethnic background, hospital settings, preferred sources of information and learning styles influences to the patients knowledge. The successful completion of TB treatment is influenced totally by 'how' care is delivered to Patients and how "they" understand about the disease and its treatment. A clear understanding about the curability of and treatment sources for TB is a determinant of patients' motivation for timely care seeking was expressed in this study. However, misconceptions also exist. Misconceptions about transmission of disease lead to discrimination like separate utensils for food or drink. Diagnosis of TB is associated with increase anxiety/tension, fear of loss of wage/earning, and stigma threatening self-esteem and quality of life. Mass media can be better utilized to remove misconceptions. Psychosocial reactions towards TB as revealed in this study should be addressed through counseling, an interactive community education and communication package can critically improve people's knowledge base, leading to earlier case detection, diagnosis and treatment. It is also revealed that social factors play an important role in the care and management of TB patients. Misconceptions and stigma associated with TB and the cultural barriers are the main causes of undesirable behavior towards TB patients with leads to the frustration in patients. It is also a main reason for stopping patients from attending social functions and segregated them from the family and social gatherings.

Study Limitations

This study is a hospital based study. It was really a difficult task for the researcher to interview all the TB patients from OPD of the sample hospital in a short number of visits. This study took a lot of time in the collection of data. Sometime patients were accompanied by their visitors or they just refused to participate in the study or their mood was not good or due to their doctor's call.

Recommendations

This research study offers the following recommendations for the concerned stakeholders:

- Proper knowledge and education about tuberculosis is essential to handle the challenge of this devastating disease.
- There is need to train health workers and involve private practitioners for health education. It is also essential to disseminate awareness in the communities that people should report cough lasting longer than 3 weeks to the nearest health facility and the diagnosis and treatment of TB are free of charge.
- There is a need to provide DOTS training to doctors working in private hospitals and develop a monitoring system to improve and evaluate knowledge, attitude and practice of TB patients periodically. Psychosocial reactions

towards TB as revealed in this study should be addressed through counseling and communication during treatment.

- Television can be recommended as a suitable medium for future campaigns provided that information should be tailored according to the needs of the people
- Reducing the number of TB defaulters is possible through realistic measures such as reinforcing quality communication between patients and doctors, implementing DOT programs to treat addictive behaviors.
- Healthcare professional should provide counseling services for increasing basic knowledge about causes and risk reduction of tuberculosis of the population in every age group. It is also suggested that educational \ counseling program should be designed for TB patients' family members and efforts should be made for actively involvement in cure and rehabilitation of Patients, without family support we cannot defeat TB from Pakistan.
- It is also recommended to involve Medical social worker for assessment of patient's knowledge regarding the disease and their services can also be utilize in drafting better strategies for advocacy, communication and social mobilization.

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