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## **Knowledge, Attitude and Misconceptions regarding Tuberculosis in Pakistani Patients**

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### **Abstract**

**Objective:** To assess knowledge of patients with tuberculosis; about their disease and misconceptions regarding TB.

**Methods:** A cross sectional study was conducted at Out-patient clinics of two teaching hospitals (private and public) in Karachi, Pakistan. A questionnaire was filled for the purpose.

**Results:** A total of 170 patients were interviewed, 112 from private and 58 from a public sector hospital. Cough, fever, bloody sputum and chest pain were recognized as the common symptoms of TB. Eleven (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. No counseling about preventing spread was received by 81 (50%) patients and 97 (57%) considered separating dishes as an important means of preventing spread. Thirty one (18%) patients would have discontinued their medications following relief of symptoms. Thirty nine (23%) of the respondents thought that TB could lead to infertility and 66 (38.8%) believed that there were reduced chances of getting married following infection.

**Conclusion:** Misconceptions concerning TB are common in Pakistani patients. Lack of knowledge on Tuberculosis is alarming. (JPMA:56:211;2006)

### **Introduction**

Tuberculosis (TB) has reached epidemic proportions in many developing countries, with a third of world population being infected. Every year there are 8 million new TB cases that results in 2-3 million deaths worldwide, making TB the leading killer amongst all infectious diseases. Pakistan ranks 6th in the world among countries with the highest prevalence of TB. It has an annual incidence of around 300,000 new TB cases.<sup>1</sup>

Deficiencies in National TB Control Program are compounded with widespread misconceptions and false beliefs among TB patients. These myths have turned TB into a social stigma. This stigmatization can play an important role in reluctance of patients in seeking treatment.<sup>2</sup> Very few studies have been conducted in Pakistan regarding awareness of TB among patients. No programme for TB control can be effective unless erroneous beliefs amongst the masses are identified and removed. Future education has to be based on existing

scientific knowledge and presented in a manner that can be easily comprehended and accepted by the patients. Social and cultural factors have to be taken into account as they play an important role in compliance of TB patients.<sup>3</sup>

The objectives of this study were to assess knowledge of TB patients about their disease, and to identify their misconceptions and social stigmas associated with TB.

### **Methods**

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 (JPMA) is a government sector health facility.

A total of 170 patients were interviewed. Unselected adult patients (aged above 16 years) who were suffering from TB or had suffered from TB in

the past were included in the study. Convenience Sampling was used to recruit participants. They were questioned about knowledge, attitudes and misconceptions concerning TB.

A multiple choice questionnaire comprising a total of 36 questions was designed in English. The questionnaire was first pilot tested. After a few modifications the questionnaire was implemented. The questionnaire was translated in Urdu (the national language of Pakistan) and administered to the patients by trained research officers.

The questionnaire data was entered and analyzed using SPSS version 11.0.

## Results

A total of 170 patients were interviewed at two tertiary care hospitals in Karachi. The demographic variables are presented in the Table. Forty one (24%) respondents had not received formal education of any kind, whereas seventy nine (46.5%) were either unemployed or earned less than Rupees 5000 (\$85) a month.

Forty seven (27.6%) had not heard of TB before they were diagnosed themselves and 16 (9.4%) thought that it was a rare disease in Pakistan. Eleven (7%) did not consider TB as an infectious disease. Inhaled droplets were recognized as the common source of infection but eating contaminated food (47.6%), use of blood products (32.9%) and inheritance (27%) were also considered important modes of transmission. Lung was considered as the only organ affected by TB by 39 (23%) patients and 96 (57%) thought that stress and emotional trauma could lead to tuberculosis

The four most commonly recognized symptoms of tuberculosis were thought to be cough (83.5%), fever (54.7%), chest pain (24.7%) and bloody sputum (24.7%). Twenty eight (17%) responders thought that TB occurred only once in a life-time and did not recur for a second time after treatment. Thirty one (19%) patients believed that the total duration of treatment was less than 6 months; while 31(18%) were of the view that treatment should be stopped following control of symptoms.

TB was not considered a preventable disease by 18 (10.6%) patients and 97 (57%) considered separating dishes as the most commonly used method for preventing the spread of TB. Thirty seven (22%) were not aware of availability of vaccine against tuberculosis.

**Table. Patient characteristic of TB cases from the Aga Khan University Hospital (AKUH) and Jinnah Post Graduate Medical Centre (JPMC), Karachi.**

Variables	AKUH	JPMC	Total
Total number of patients	112	58	170
Gender: Males	72	20	92
Females	40	38	78
Level of education			
None	17	24	41
Below matriculation	24	23	47
Past matriculation	54	11	65
Graduate	14	-	14
Post Graduate	3	-	3
Monthly income (in Pak. Rupees)			
< 5000	30	49	79
5000-10,000	25	10	35
10,000-15,000	15	2	17
15,000-20,000	19	-	19
> 20,000	20	-	20

Fifty six (33%) patients were not concerned about spreading TB infection to their family members. Eighteen (10.6%) patients sought treatment approximately six months after onset of symptoms. In the first instance, 94 (55.3%) patients first consulted their general practitioners in private sector for treatment. In 18 (10.6%) patients it took over 6 months from the time they first consulted a doctor and were diagnosed with tuberculosis.

Diagnosis of TB was kept hidden from family and friends by 70 (41%) patients and 66 (39%) thought that there were less chances of getting married if one was ever infected with tuberculosis. Thirty nine (23%) patients believed that pulmonary tuberculosis could lead to infertility.

Health care workers were the main source of information about tuberculosis in 127 (75%) cases but 81 (50%) patients claimed to have received no counseling by their physicians about how to prevent spread of infection.

## Discussion

This study showed that misconceptions regarding tuberculosis were widespread in Pakistani patients. Poor knowledge of TB patients concerning their disease may contribute to the high burden of TB disease in the country.<sup>2</sup> The level of knowledge and awareness about TB is known to correlate with

seeking health care and time of presentation.<sup>4,5</sup> By educating the patients and removing their misconceptions, patient compliance with therapy and spread of disease is likely to improve.<sup>6</sup>

Diagnosis of TB was associated with anxiety and sense of isolation. TB patients are exposed to a great deal of ostracism from the community.<sup>7,8</sup> Those infected have fear of social aversion.<sup>2</sup> Such stigmatization of TB patients in the society can lead to reluctance in seeking treatment. In this study, nearly 40% patients did not reveal their disease to their relatives and friends. A majority of patients and their relatives feel that the dishes of TB patients should be kept separate from rest of the family members thus isolating them further from their families. These misconceptions were compounded by the fact that the patients received inadequate education from their physicians; half of patients received no information about ways to prevent the spread of disease. Majority were unaware that TB was not infectious after few weeks of treatment. Many patients felt that preventive measures should be practiced for an indefinite or long period of time.

Despite the fact that these patients were visiting a pulmonary clinic in teaching hospitals, and were on treatment or had received treatment for TB, it could not be assumed that they had received enough insight into their disease. This study has highlighted serious deficiencies in the knowledge of TB patients about their disease. In a similar study from India Singh et al. reported that only 2.3% of their respondents knew that TB was caused by a germ.<sup>8</sup> More than half of the patients in our study were of the opinion that TB may result from stress and emotional trauma and 20% were of the view that treatment can be stopped after control of symptoms. Clinical improvement, unavailability of drugs or cost of drugs were reported to be the main reasons for defaulting treatment in earlier studies.<sup>9,10</sup> Poor drug compliance could contribute multi-drug resistance (MDR) TB in the country.

Another important aspect noted in this study was that more than half of TB patients in Pakistan first presented to their general practitioners in private sector and up to 10% delayed seeking treatment for more than six months after the onset of illness. A person suffering from TB infects an average of 10-15 people in a year and therefore the community should be made aware of TB symptoms and the need for early treatment. Early diagnosis, prompt treatment with compliance are necessary to control the

incidence of TB.

Coupled with poor patient knowledge, general practitioners in high burden countries like Pakistan do not have sufficient knowledge on TB therapy. Low compliance with WHO guidelines makes the situation worse.<sup>11,12</sup> The physicians themselves were also prone to myths and misconceptions concerning tuberculosis.<sup>13</sup> It has been shown that the method of diagnosis, treatment and monitoring of treatment carried out by general physicians was not satisfactory.<sup>14</sup> Health care workers face the challenge of changing behaviours in the community to ensure that people with symptoms present early for screening and that people diagnosed as having tuberculosis comply with treatment.<sup>15</sup> Health care workers must also learn about local beliefs that may influence presentation and adherence of patients.<sup>16</sup> Therefore in order to make the TB control programmes effective, not only the communities but also health care providers must be educated.

Diagnosis of tuberculosis is associated with social stigma in many countries. Almost half of the TB patients in our study were of the view that being infected with TB reduced their chances of getting married. Even though 95% knew that TB was treatable, almost 40% claimed they would not marry their children to someone who was currently diseased, or had been infected in the past and has now been cured of tuberculosis. In Ethiopia evil spirit and sexual intercourse have been found to be incriminated as a cause for TB. Their community also exhibits a great deal of ostracism towards TB patients.<sup>7</sup> "Cold" has been cited as a cause of TB in Ethiopia.<sup>9</sup> Belief in an association between HIV and TB has been found in Zambia and Ethiopia.<sup>7,17</sup> Alienation of TB patients has also been found in relatively developed countries like South Africa.<sup>15</sup> In the different communities, different cultural beliefs like tuberculosis resulting from sex after the death of a family member and after a woman has a spontaneous abortion are prevalent. People also believe that the resulting disease can only be treated by traditional healers. There is also a belief in a 'western' type TB that can spread from sufferers or is due to environmental pollution or to smoking or alcohol excesses.<sup>16</sup>

To remove misconceptions about TB community based awareness strategies should be designed, information and education on TB must be disseminated out.<sup>7,8</sup> Studies conducted in Bangladesh, which faces similar social and cultural

background, have shown that well conducted community health education campaigns can affect level of knowledge and produce favorable attitudes towards tuberculosis.<sup>18</sup>

In conclusion, poor knowledge and misconceptions concerning tuberculosis are rampant in Pakistani patients. Public awareness programs using the electronic media and literature are crucial in educating the masses and removing misconceptions. TB control program will remain ineffective unless myths and fears of TB patients are addressed simultaneously.

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