Health-care seeking behavior among pulmonary tuberculosis patientsin Salahadin Governorate

Sarab K. Abed AL Rahman*
Maaroof T. Hassan**
Sherzad A. Ismael***

Abstract

Background and objectives: The burden of tuberculosis on public health is staggering and has become of growing concern to stakeholders in recent times worldwide. Patients delay in seeking care increases the transmission of pulmonary tuberculosis and hence the burden of the disease. The aim of this study was to investigate the patterns and determinants of patients delay in seeking treatment among pulmonary tuberculosis cases attending the chest and respiratory consultation center in Salahadin governorate.

Methods: This descriptive cross-sectional study included 50 tuberculosiscasesattending the chest and respiratory consultation center in Salahadin governorate. A questionnaire was used to collect the data that by face to face interview with the patient includ- ing25 questions divided into two sections of identification information, socio-demographic characteristics and health seeking history.

Results: The median patient delay was 3.9 weeks. The median health system delay was 3.0 weeks. The median total delay was 8.9 weeks. The highest percentage of patients' first health seeking places was the private clinic 72%.

Conclusions: The major cause of delay in seeking treatment among pulmonary tuberculosis cases was attributed to patient and the health system. Decentralization of the treatment is fundamental for earlier diagnosis. Involvement of private sectors in the treatment program will result in a decrease in the delay of tuberculosis patients.

Key words: tuberculosis, healthcare seeking behavior, DOTS.

Introduction

Tuberculosis (TB) is the second leading cause of mortality worldwide.[1] Delay in diagnosis is an important factor in the spread of the disease and a patient's poor outcome.[2-4] De- lay in case detection and reporting could be attributed to the health system[5-7] and/or patient factors.[8-10] Studies on delay in case detection were performed mainly on diagnosed cases, [9-11] and none of them have been performed on undiagnosed cases. These studies are particularly needed to guide the pro-cess of TB elimination.In 2003, Directly Observed Treatment Short Course (DOTS) programs successfully treated 84% of all registered, new, smear-positive patients, but it detected only 28% of the es- timated tuberculosis cases in the world.[12] Therefore, the tar- get of 70% case detection might not be reached until 2013 unless interventions are made that are able to increase the case-detection rate.Early diagnosis and prompt effective therapy form the keyelements of the tuberculosis control program. Delay in diag- nosis results in increased infectivity

* Community Medicine Specialist, Department of Primary Health Care, Salahadin Governorate
** Lecturer, Kurdistan Board for Medical Specialties
***Assistant Professor, College of Medicine, Hawler Medical University

in the community, and it is estimated that an untreated smear-positive patient can infect, on average, 10 contacts annually and more than 20 during the natural history of the disease until death.[13] Several factors have been identified as influencing delay in diagnosis and start of treatment, including the individual's perception of disease, socioeconomic level, stigma, extent of awareness about the disease, the severity of the disease, distance between the patient's residence and health services, and expertise of the health personnel.[14] Such delay may occur at the level of the patient (patient de-lay) or at the level of the health system (system delay). Fac- tors which contribute to patient or system delay are numer- ous, and it is important to identify and address these factorsto devise strategies for the National

Tuberculosis Control Program (NTP).[14] Delays in case finding are common and have been studied in many countries including developed or developing and low or high prevalence. [15-18] Reported determinants of delay include being part of specif- ic patient groups (i.e., women, rural vs. urban residents, na-tionality) 15 or the availability of and accessibility to health services.[16-18] This study aimed to explore the perceptions of Tuberculo- sis (TB), and treatment seeking behavior, among patients attending the chest and respiratory consultation center in Salahadin Governorate and to assess the delay in care pro- vision and its association with various socio-demographic characteristics.

Patient and method

This is a descriptive cross-sectional study done in Salahadingovernorate, investigating 50 pulmonary TB cases from Jan- uary to November 2008.All newly diagnosed pulmonary tuberculosis cases attending the chest and respiratory consultation center are included in the study; exclusion criteria included patients <15 years old, extra

pulmonary TB, resistant pulmonary TB, and re-treat-ment cases. Data was collected by direct interview with thepatient using a questionnaire formulated by the research-ers, includes health seeking history and socio-demographic characteristics. Three types of delay were defined[16].

1. Total delay: period from the onset of the symptoms to the time of presentation at the DOTS center.

2. Patients› delay: is the period from the onset of the symp-toms to the time of contact of any health facility.

3. Doctors› /health system delay: is the time of first contact of a health facility by the patient to the presentation at DOTSfacility in our study.

Results

In this study, data from 50 patients are collected. Males represented (56%) of patients, with male to female ratio of 1.2:1. Majority of the patients were housewives (40%) and (50%) of them from primary school education, (56%) fromrural area, not travelled from another province (72%), and with no contact

history (56%), as shown in Table 1.Table (1): General characteristics of patients studied, n=50.3.2 Indication of colonoscopy of study population:The most common indication of colonoscopy was bleeding per rectum which was found in 72 patient 36% Fig 6:

Table (1): General characteristics of patients studied, n=50.

Characteristics		Frequency	Percent
Age	25>	16	32
	25-50	22	44
	50<	12	24
Sex	Male	28	56
	Female	22	44
Occupation	laborers	13	26
	Student	2	4
	Housewives	20	40
	Others	15	30
Education	Illiterate	11	22
	Primary	25	50
	Secondary	11	22
	High education	3	6
Residence	Rural	28	56
	Urban	22	44
If the family travelled from an-other province	Yes	12	24
	No	38	76
Contact history	Yes	22	44
	No	28	56
If she/he arrested	Yes	6	12
	No	44	88

Table 2 shows comparison between total delay of >3weeks and <3 weeks, the most frequent total delay of >3 weeks was among male (40%), between 25-50 years old (34%), housewives (34%) and have pri- mary school education (40%) as shown in Table 2.

Table (2): Patients with total delay by characteristics.

Characteristics		Total delay (<3 wk)		Total delay (>3wk)	
		Frequency	Percent (n=50)	Frequency	Percent (n=50)
Age	25>	4	8	12	24
	25-50	5	10	17	34
	50<	2	4	10	20
Sex	Male	8	16	20	40
	Female	3	6	19	38
Occupation	Laborers	2	4	11	22
	Student	1	2	1	2
	Housewives	3	6	17	34
	Others	5	10	10	20
Education	Illiterate	2	4	9	18
	Primary	5	10	20	40
	Secondary	3	6	8	16
	High Education	1	2	2	4
Residence	Rural	6	12	22	44
	Urban	5	10	17	34
If the family travelledfrom another province	Yes	1	2	11	22
	No	10	20	28	56
Contact history	Yes	3	6	19	38
	No	8	16	20	40
First contact	PHCC	1	2	2	4
	Hospital	2	4	6	12
	Private clinic	7	14	29	58
	Traditional healer	0		2	4
	Laboratory	1	2		0
If she/he arrested	Yes	3	6	3	6
	No	8	16	36	72

Table 3 shows comparison among patient, health system, and total delay. The total delays consti- tute the most frequent delays of all characteristics compared with patient and health system delay. Of patients with total delay more than 3 weeks from the starting symptoms to the diagnosis according to patient characteristics, the most frequent total delay of >3 weeks was among male

(40%), between 25- 50 years old (34%), have primary school education (40%), from rural (44%), family not travelled from another place (56%) and with no contact history (40%).

Table (3): Patient, health system and total delay of patients by patient characteristics.

Characteristics		Patient delay Weeks (Median (Range	Health system delayWeeks (Median(Range	Total delay Weeks (Median(Range
Age	25>	(1-24)3.5	(0-16)3	(4-28)7
	25-50	(1-10)3	(0-23)3	(4-28)6
	50<	(1-43)4	(0-88)2.5	(4-44)8.5
Sex	Male	(1-20)3.5	(0-88)3	(4-28)7
	Female	(1-43)4	(0-16)2	(4-44)6
Occupation	Laborer	(1-24)3	(0-23)3	(4-28)8
	Student	Single patient		
	Housewives	(1-43)4	(0-16)3	(4-44)6
	Others	(1-16)4	(0-88)5.5	(4-24)9
Education	Illiterate	(4-43)4	(0-88)4	(4-44)20
	Primary	(1-10)2.5	(1-15)3	(4-20)5
	Secondary	(1-8)4	(0-23)3	(4-28)5
	High education	(1-24)12	(0-3)1.5	(4-24)14
Residence	Rural	(1-43)4	(0-88)3	(4-44)6
	Urban	(1-24)3	(0-23)3	(4-28)16
Is the family trav-elled from another province?	Yes	(1-20)4	(0-10)4	(4-24)8
	No	(1-43)3.5	(0-88)3	(4-44)6
Contact history	Yes	(1-24)4	(0-23)3	(4-28)8
	No	(1-43)3	(0-88)3	(4-44)6
If she /he arrested	Yes	(1-43)5	(1-23)3	(4-44)28
	No	(1-24)3.5	(0-88)3	(4-28)6

Table 4 shows that the most frequent and least frequent patients' first health seeking places were private clinic (72%) and laboratories were the least (8%).

Table (4): Patients' first health seeking places.

First health contact	Frequency	Percent
Privateclinic	36	72
Hospital	8	16

PHCC	3	6
Traditional healer	2	4
Laboratory	1	2
Total	50	100

Table 5 shows that most of the tuberculosis patients had contacted with a medical person twice before diagnosis (26%).

Table(5): Medical contacts until diagnosis

Medical contact number	Frequency	Percent
1	9	18
2	13	26
3	12	24
4	12	24
6	1	2
7	2	4
8	1	2
Total	50	100

Discussion

This study has identified that the total delay (78%)is the most frequent delay compared with patient and healthsystem delay. In this study, the median delay from the onset of symptoms to the time of presentation at theDOTS center was 8.9 weeks which is above the ac- ceptable 3-4 weeks[19].The study showed that patient de- lay (7 days) was less than the health facility delay (21 days). This means that the Iraqi patients were lost inmoving through more than one private and / or public health facility until reach the DOTs facility due to very long health system delay.This problem wasn't found in other countries in which patient delay was found to bethe major component of delay in countries such as the United States of America (25 days patient delay vs. 6 days health care system delay) and Tanzania (120 dayspatient delays. 15 days health care system delay).[16, 20] The patient delay may be related to the stigma of the disease in our country and the limitation of the peoplemovements due to the civil wars in Iraq that make pa- tients' movements difficult, especially if we know that DOTs facilities are only found in city centers. Central-ization of the diagnosis, registration of treatment to the respiratory and chest consultation center make patientsshift to the private health facilities which are not includ-ed in DOTs program. Lack of education can also play a role in delaying health seeking. Although our data was not adequate (due to small sample size) to provide a significant variation between the education levels, the fact that most of the studied patients had an equivalent or less than the primary school education, reflects that TB is a disease of illiterate and poor communities. Sim- ilar findings were reported in Gambia.21 These findings may have some unpleasant social consequences such as cultivation of stigma to the

disease.22-23Our findings also showed that traditional practitioners and drug sellers, to some extent were consulted by the TB patients for treat- ment during the onset of TB symptoms. These might act as contributing factors to delays among TB patients to seek early diagnosis and treatment at health facilities. We have found that patients delayed seeking health care until the symptoms became severe, and majority of the patient's first contact with health facility was the private doctor, very few came directly to DOTS. This finding is similar to a study done in Pakistan.[24] In our study, thetotal delay from onset ofsymptoms to the time of pres- entation at a DOTS facility was 62 days, which is lower than a study done in Karachi, Pakistan where a total delay of 97 days was reported.[24]Many patients in this study made several visits to the care-providers before reaching the TB center. Private Doctors for most of thepatients (72)

were their first contact with health system, which indicates either difficulty in reaching the govern- mental health system or easy accessing to private doc-tors, as no family physician health system is establishedin Iraq to facilitate patients contact to the health system. Reports from the region showed that TB suspects seek care initially at the private sector where they could be diagnosed or undiagnosed, and if diagnosed they could be treated or inadequately treated. In case of un-diag- nosis and inadequate treatment, they will continue to transmit infection in the community. Undetected cases will continue seeking care at other healthcare providers, such as other private or public providers, because of persistence of symptoms and increasing disease severi-ty in some instances. Finally, they reach the national tu-berculosis control program where they could be finally diagnosed and adequately treated.[14]

Limitations of the Study

The main limitation of this study was inability to coverthe attitude of patients toward the TB in terms of socialstigma, and economic status.

Conclusion

There is a delay both from the patient as well as the health system in treating TB. Females delayed longer as compared to males. Centralization of the treatmentwas an obstacle in front patient diagnosis earlier. Lack of private sector involvement in the DOTs program, makes delay in patient diagnosis.

References

1. Odusanya OO, and Joseph OB. Patterns of delays amongst pulmonary tuberculosis patients in Lagos, Ni- geria. BMC Public Health 4.1 (2004): 18.
2. Tabet SR, Goldbaum GM, Hooton TM,

Eisenach KD, Cave MD, Nolan CM. "Restriction fragment length polymorphism analysis detecting a communi- ty-based tuberculosis outbreak among persons infect- ed with human

immunodeficiency virus." J Infect Dis. (1994) 169 (1): 189-92.

3. Golub JE, Cronin WA, Obasanjo OO, Coggin W, Moore K, Pope DS et al. Transmission of Mycobac- terium tuberculosis through casual contact with an in- fectious case. Arch Intern Med. 2001;161(18):2254-58

4. Weis SE, Pogoda JM, Yang Z, Cave MD, Wallace C, Kelley M, Barnes PF. Trans mission dynamics of tu- berculosis in Tarrant County, Texas. American journal of respiratory and critical care medicine, 2002; 166(1), 36-42.

5 Kramer F, Modilevsky T, Waliany AR, Leedom JM. Barnes PF. Delayed diagnosis of tuberculosis in pa- tients with human immunodeficiency virus infection. Am J Med1990; 89:451–6.

6. Rao VK, Iademarco EP, Fraser VJ, Kollef MH. Delays in the suspicion and treatment of tuberculosis among hospitalized patients. Ann Intern Med 1999; 130: 404–11.

7. Fitzpatrick LK, Hardacker JA, Heirendt W, Agerton T, Streicher A, Melnyk H et al. preventable outbreak of tuberculosis investigated through an intricate social network. Clin Infect Dis 2001; 33(11), 1801-6.

8. Rubel AJ, Garro LC. Social and cultural factors in thesuccessful control of tuberculosis. Public Health Rep1992; 107:626–36.

9. Sherman LF, Fujiwara PI, Cook SV, Bazerman LB, Frieden TR. Patient and health care system delays in the diagnosisand treatment of tuberculosis. Int J Tuberc Lung Dis 1999; 3: 1088–95.

10. Baldwin MR, Yori PP, Ford C, Moore DAJ, Gilman RH, Vidal C et al. Tuberculosis and nutrition: disease perceptions and health seeking behavior of household contacts in the Peruvian Amazon. Int J Tuberc Lung Dis 2004; 8(12): 1484–91

11. Diez M, Bleda MJ, Alcaide J, Castells C, Cardenal JI, Dominguez A et al. Determinants of health system delay among confirmed tuberculosis cases in Spain. The European Journal of Public Health 2005; 15(4): 343-9.

12. WHO Report 2003: Global Tuberculosis Control Surveillance, Planning, Financing. Geneva: World Health Organization; 2003. WHO/ CDS/TB/2003.36.

13. Styblo K. Epidemiology of Tuberculosis. 2nd ed. The Hague: Royal Netherlands Tuberculosis Associa- tion; 1991.

14. WHO, EMRO. Diagnostic and Treatment Delay in Tuberculosis. World Health Organization, Region- al Office for the Eastern Mediterranean. WHO-EM/ TDR/009/E.

15. Long NH. Longer delays in tuberculosis diagnosis among women inVietnam. Int J Tuberc Lung Dis 1999; 3:388-93.

16. Safer MA, Tharps QJ, Jackson TC, Levknthal H. Determinants of three stages of delay in seeking care at a medical clinic. Medical care 1979; 17(1): 11-29.

17. Aoki M, Mori T, Shimao T. Studies on factors influencing patients, doctors and total delay of tu- berculosis case-detection in Japan. Bull IntUnion AgainstTuberc. 1985; 60:128-30.

18. Rajeswari R, Chandrasekaran V, Suhadev M, Sivas- ubramaniam S, Sudha

G, Renu G. Factors associated with patient and health system delays in the diagnosis of tuberculosis in South India. .Int J Tuberc Lung Dis 2002; 6:789-95.

19. Lambert ML, Van der Stuyft P. Delays to tubercu- losis treatment: shall we continue to blame the victim? Trop Med Intern Hlth. 2007; 10: 945-6.

20. Wandwalo ER, Morkve O. Delay in tuberculosis case-finding and treatment in Mwanza, Tanzania. Int J Tuberc Lung Dis. 2004; 4: 133-8.

21. Eastwood SV, Hill PC. A gender-focused qualitative study of barriers to accessing tuberculosis treatment in The Gambia, West Africa. International Journal of Tu- berculosis and Lung Disease 2004; 8: 70–75.

22. Johansson E, Long NH, Diwan VK, Winkvist A. Gender and tuberculosis control: perspectives on health seeking behavior among men and women in Vietnam. Health Policy 2009; 52: 33-51.

23. Farah MG, Rygh JH, Steen TW, Selmer R, Heldal E, Bjune G. Patient and health care system delays in the start of tuberculosis treatment in Norway. BMC infec- tious diseases 2006; 6(1): 33.

24. Agboatwalla M. Diagnostic and treatment delay in tuberculosis: World Health Organization; 2006. Report No.: WHO-EM/TDR/009/E/10.06/1000.