The Delay in Diagnosis and Treatment of Pulmonary Tuber culosis in AL-Anbar Province

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Abstract

Aim: The current work was conducted aiming to determine the patients delay, doctor delay and treatment delay among patients with pulmonary TB and to detect the effect of some socio demographic factors on delay in diagnosis and treatment.

Patients & method: Across sectional study was carried out in AL-Anbar province (AL-Anbar center for chest diseases and tuberculosis), for the period from the 1st of October 2003 to the 30th of May 2004. The study depends on inter view questionnaire of newly diagnosed pulmonary TB. (PTB)

Results: Patients' delay: Mean 67.26 ± 31.04 days. Doctor delay: Mean 39.71 ±24.42 days. Total delay: Mean 106.97 ± 51.97 days.

Conclusion: There was a delay in diagnosis of PTB both patients and doctors delay, but there was no delay in treatment.

Key words: delay, diagnosis, treatment, PTB

Introduction:

Tuberculosis (TB) is one of the oldest diseases known to the humanity dating back to ancient Egypt. Through out history, it was been among the worlds most deadly diseases TB is a problem of global importance [1] Today, TB infects almost two billion people, and of the (20) millions that develop diseases every year, it kills more than (3) Millions [2] .

Treatment of TB is the main weapon used for fighting the diseases. The aim of treatment is to reduce the period of infectivity by converting the high infectious patterns to non- infectious ones, thus reducing the transmission rate of the diseases among community. Directly observed therapy (DOTS) has been the most significant advance in the treatment of TB in the past century. [3,4]

It was estimated that the annual risk of infection in Iraq is about 1%. Notification of cases in Iraq almost increased (50%) during the last 10 years.[5]

Aim of the study:

1-To measure the time from the appearance of the first symptom (s) (cough) till the first visit to health institution (patient's delay).

2-To measure the time from first visit to the health institution till the diagnosis of PTB (doctor delay).

3-To measure the time from definite diagnosis of PTB till the beginning of anti-TB treatment (treatment delay).

4-To determine the effect of different socio demographic characteristics on delay in diagnosis and treatment.

Patients & Methods:

A cross- sectional study was carried out in AL-Anbar province at AL-Anbar center for chest Diseases and Tuberculosis during the period extended from the 1st October 2003 till the 30th May 2004.

The study included newly diagnosed patients with PTB (both smear positive and smear negative), in addition to those patients who were diagnosed before the 1st of October 2003 coming at the end of their first phase of DOTS treatment for sputum and chest X ray examined .

Patients with relapse or re treatment were excluded from the study.

The data collection depends on interview, questionnaire applied for every patients with sputum smear positive for PTB, as well as patients with X-ray and clinical findings suggestive for PTB (smear negative PTB).

On presentation the researches interviewed each patient and enquires him about past history and present complaints. The patient's duration of illness was assessed by initially asking open-ended questions on duration of illness, after ward asking the patient about the duration of specific symptoms such as couch, sputum, night sweat fever, haemoptysis , dyspnoea and anorexia.

The total number of patients was 210, 75 patients were smear positive PTB and the rest 135 patients were smear negative PTB. TB was considered proven when a Ziehl-Nelson stain of sputum showed acid- fast bacilli (three sputum test with Ziehl-Nelson staining method were done for every patients to reach such conclusion [2].Ziehl-Nelson stain was only done in the laboratories of AL-Anbar center for Chest Dieses and

Tuberculosis. Those patients with suggestive CXR finding when included, three sputum tests were done for them with negative results (no culture for my co bacteria was done) and were considered as smear negative PTB. The inter view questionnaire include open and close- ended questions about some of socio demographic variables as well as date of first consultation, date of diagnosis and date of beginning of DOTS therapy.

The data was presented in simple measures of mean, median and SD.

The significance of difference of different means was tested by using ANOVA and

T-test.

Statistical significance was considered whenever the P value was less than 0.05.

Results:

The study included 210 cases of PTB .The mean age of patients was 36.08 $\pm$ 19.4 years, median 30years.The diagnostic criteria of cases with TB showed that 75 patients (35.7%)were smear positive, while (98.1%) of the cases have positive signs of PTB on CX Ray (Table-1)

All patients included in the study have cough, only 5 patients (2.3 %)have haemoptysis (Table-2).

Regarding mean patient's delay, doctor's delay and total delay it was 67.26, 39.71 and 106.9 days respectively (Table-3).

Table-4 shows the patients delay according to some socio demographics characteristics.

There was a significant more patient's delay, if the patient did not feel that he has TB ($P<0.001$) but this delay did not differ according to patients knowledge about TB (Table-5).

Table – 1: The distribution of cases according to diagnostic criteria.

Diagnosis of TB	**No.**	**%**
AFB test findings:		
Negative	135	64.3
Positive (+)	14	607
+ +	31	14.8
+ + +	30	14.3
Total	210	100
Chest X ray Signs of PTB		
Yes	206	98.1
No	4	1.9
Total	210	100

Table-2: The distribution of cases according to TB symptoms

TB Symptoms	No.	%
Cough	210	100
Fever	176	83.8
Sputum	171	81.4
Anorexia	139	66.1
Chest Pain	48	22.8
Dyspnoea	48	22.8
Haemoptysis	5	2.3

Table –3: The distribution of cases according to patient's delay, doctor's Delay and Total delay.

Delay (days)		**No.**	**%**
Patient's delay	**<30**	14	6.7
	30-	43	20.5
	60-	83	39.5
	90-	55	26.1
	120-	11	5.2
	150-	1	0.5
	180-	2	0.9
	240-	1	0.5
Mean± SD (Range)		67.26±31.04 (7 – 240)	Median 60
Doctor's delay	**<30**	65	31
	30-	107	51
	60-	30	14.3
	90-	6	2.9
	120-	1	0.5
	210-	1	0.5
Mean± SD (Range)		**39.71±24.42 (7 – 210)**	**Median 35**
Total delay	<30	7	3.3
	30-	27	12.9
	60-	38	18.1
	90-	59	28.1
	120-	41	19.5
	150-	25	11.9
	180-	7	3.3
	210-	3	1.4
	240-	3	1.4
Mean± SD (Range)		**106.9±51.97 (13 – 450)**	**Median 98**

Table – 4: The patient's delay according to socio demographic characteristics

Character		**Patient's delay**
Sex	**Female**	74.17±29.98
	Male	63.73±31.09
		T=2.329, P=0.021*
Residency	**Rural**	75.32±34.53
	Urban	60.98±26.52
		T=3.402, P=0.001*
Education	**Illiterate**	73.95±38.25
	Primary	68.18±30.81
	Secondary	60.47±25.83
	University	65.36±15.12
		F=1.752, P=0.158
Socio economic status	**Low**	72.69±32.44
	Middle	67.95±29.09
	High	43.35±22.25
		F=8.821, P= 0.0001*
Crowding index	**<3**	64.43±34.84
	>3	73.31±26.74
		T= 1.09, P= 0.293

*** Significant difference.**

Table –5: The Patient's delay according to history.

Character		Patient's delay
Did he expect TB	**Yes**	36.61±18.87
	No	70.14±30.43
		T=4.586, P=0.0001*
Did he know about TB	**Yes**	63.90±28.38
	No	69.41±32.56
		T=1.257, P=0.210
Why delay consultation	**Faraway**	72.79±30.65
	Indifference	65.73±30.98
	No money	48±36.50
		F=1.615, P=0.201
Consultation type	**PHC center**	72.39±20.08
	Special clinic	67.85±33.66
	General clinic	60.63±28.92
	Chest center	46.36±27.00
		F=5.538, P=0.001*
How far is the center	**Near**	56.42±26.26
	Medium	67.77±33.74
	Far	83.25±23.03
		F=10.02, P=0.0001*
Referral	**Yes**	70.32±31.88
	No	55.40±24.43
		T=2.859, P=0.005*

Discussion:

In this cross-sectional study, it was found that, the mean of patient's delay was 67.26 days, a result that is nearly similar to other studies conducted in other developing countries (Addis Ababa, Peru and Malawi) ((6,7,8)).while in developed countries like UK and Japan researchers reported a shorter patient's delay (49&21days) respectively, that may be explained on the basis of better health care system at these developed countries((9,10)).

Regarding doctor's delay results in the current study gave a duration of doctor's delay of 39.71 days, which longer than that found in other studies((7,10)), Japan (19.6) days, Peru(28)days . Doctor's delay in Iraq was relatively long because most of our patient's go to primary health center and general practitioners rather than chest diseases center and chest physicians for diagnosis and treatment.

The patient's delay was significantly more in females than males, in rural than urban areas and in those with low educational level because of the negligence and poverty and most patients live faraway from chest disease center.

Therefore it is important to including these and other factors for more detailed analysis and study to assess the exact point of their role and methods for manipulating them as that reported by other studies((6,9,11)).

Conclusion:

There was a delay in diagnosis of PTB both patient and doctor, but patient's delay was longer, there was no delay in the treatment as all patients' diagnosis with PTB received their anti –TB drugs just at the time when diagnosis was settled.

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