



CODEN [USA]: IAJPBB

ISSN: 2349-7750

## INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

<http://doi.org/10.5281/zenodo.2711979>
Available online at: <http://www.iajps.com>

Research Article

### OUTCOME OF THE DELAY IN DIAGNOSIS OF TUBERCULOSIS

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Article Received: March 2019

Accepted: April 2019

Published: May 2019

**Abstract:**

**Objective:** The aim of this study is to determine the duration from the start of various symptoms to diagnose and treat the disease of tuberculosis (TB), the causes of the delay in the diagnosis of the disease, consequence of the late diagnosis, relationship with different variables & the formulation of various proposals.

**Study Design:** This is an observational research work. Total one hundred and fifteen patients selected from random sampling were the part of this research work.

**Study Setting:** This study conducted in Mayo Hospital Lahore.

**Results:** According to the findings of this research work, the mean time from the start of initial symptoms to detect and treat the disease of TB is one hundred and twenty days. In sixty-four percent patients, practitioners of the medical field were accountable for the delay in the detection of TB. Weight loss was the consequence of delay in the diagnosis of the TB. Hemoptysis was the consequence in twenty-one percent patients due to delay in the detection of the tuberculosis. Diagnostic delay was available as significant in the patients who were consulting the private practitioners and the consequences of TB were very serious in the patients with delay diagnosis.

**Conclusion:** The results of this research work described that the consequences of the delay in the diagnosis of tuberculosis were very common in these patients as weight loss & hemoptysis.

**KEYWORDS:** Diagnostic, Hemoptysis, Practitioners, Tuberculosis, symptoms, Variables, Pulmonary Tuberculosis.

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Please cite this article in press Nida, Outcome Of The Delay In Diagnosis Of Tuberculosis., Indo Am. J. P. Sci, 2019; 06(05).

**INTRODUCTION:**

Tuberculosis is one of the major problems of health in the countries which are under development. Our country Pakistan is on eighth number in the ranking of EMRO countries having 1.50 million patient's o TB & 2.50 million new patients are becoming the part of the list every year [1]. Majority of the research works in this field have discovered that in addition to most of the risk factors accountable for the high occurrence, diagnosis delay is one of the major factors among them. Treatment with a delay is not only the reason of the spread of tuberculosis among the close associates but also endangers the improvement & recovery of the patients suffering from tuberculosis [2]. The main objective of this research works is to determine the mean duration from the start of the symptoms of tuberculosis to the detection and treatment of the disease, to discover the causes behind the delay in the discovery of disease & the consequences of the disease due to this delay. This research work also provides the guidelines for the determination of the relationships of various variables and the formulation of different recommendations as a result [3].

**METHODOLOGY:**

This is an observational research work. This research study was conducted in Mayo Hospital Lahore. Total

one hundred and fifteen samples selected through the method of random sampling were the part of this research work. SPSS V. 16 was in use for the statistical analysis of the collected data. The patients suffering from Pulmonary Tuberculosis with confirm reports from different Chest Clinics of the city were the participants of this research work. The duration of this research was from December 2017 to April 2019. Sample size was in accordance with the standard formula. Ethical committee of the hospital gave the permission to conduct this research work. Every patient gave his written consent according to the rules of the hospital administration to participate in the research work. Three different types of variables were under consideration in this research work. Age of the patient, patient's gender, qualification level of the patient, his social & economic condition, profession & habits were under considerations in these variables.

**Independent Variables:** Total duration of the disease, disease symptoms, provider of the health care service & disease investigation were the variables in this category.

**Dependent Variables:** Consequences of the delay in the diagnosis of tuberculosis, the total duration from the start of the symptoms to the confirm diagnosis of the disease were dependent variables.

**Table-I: Background Variables**

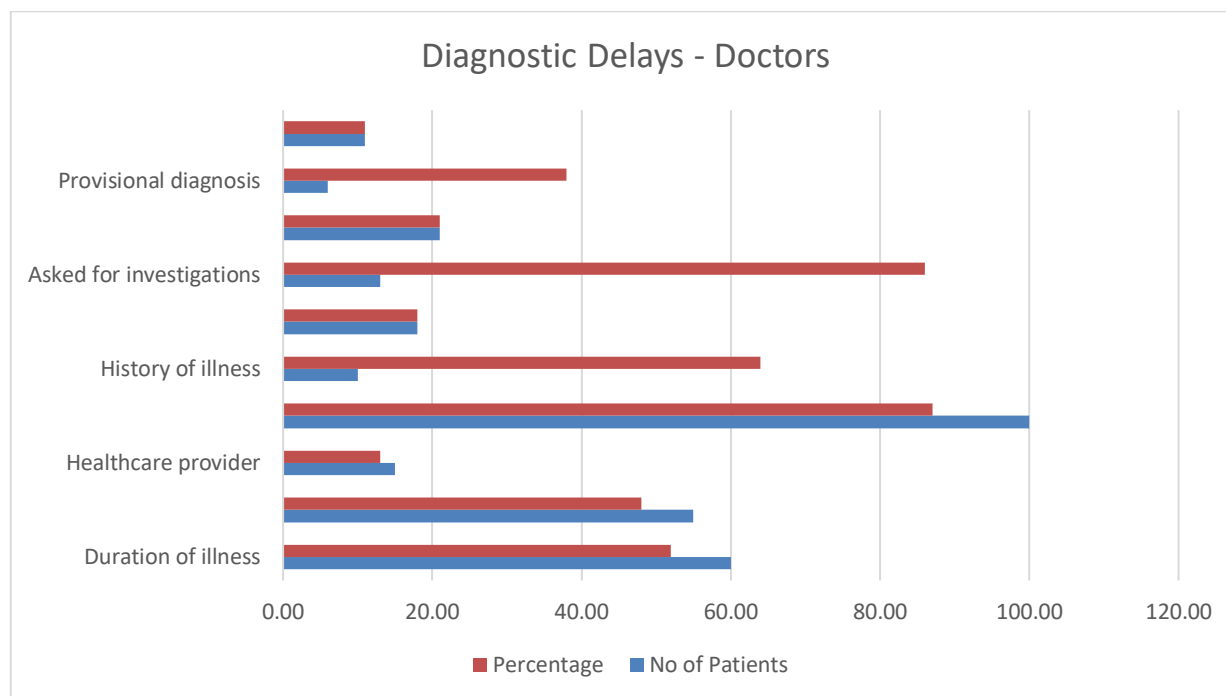
Variables		N=115	
		No of Patients	Percent
Chest Clinics	Johar Town	61.0	53.0
	Shadman Colony	54.0	47.0
Age	10 to 30 years	73.0	63.0
	30+	42.0	37.0
Sex	Male	50.0	43.0
	Female	65.0	57.0
Education	Illiterate	59.0	51.0
	Primary	19.0	17.0
	Secondary	37.0	32.0
Socio-economic Status	Lower	69.0	60.0
	Middle	46.0	40.0
Occupation	Employed	40.0	35.0
	Un-employed	17.0	15.0
	Housewife	46.0	40.0
	Student	12.0	10.0
Habits	Tobacco	17.0	15.0
	Other	40.0	35.0
	None	58.0	50.0

**RESULTS:**

In this research work, we found that mean duration from the onset of the early symptoms to the detection and treatment of the Tb was one hundred and twenty days. In fifty-two percent patients, therapy started after ninety days, in 27.0% patient's treatment started after one hundred and eighty days, in 11.0% patients, treatment started after two hundred and ten days & in 10.0% patients, treatment started after complete one year. There were different variable present behind the delay in the detection of the TB as delay by doctor, delay by patient & delay in the process of investigations.

**Table-II: Delay in diagnosis because of doctors**

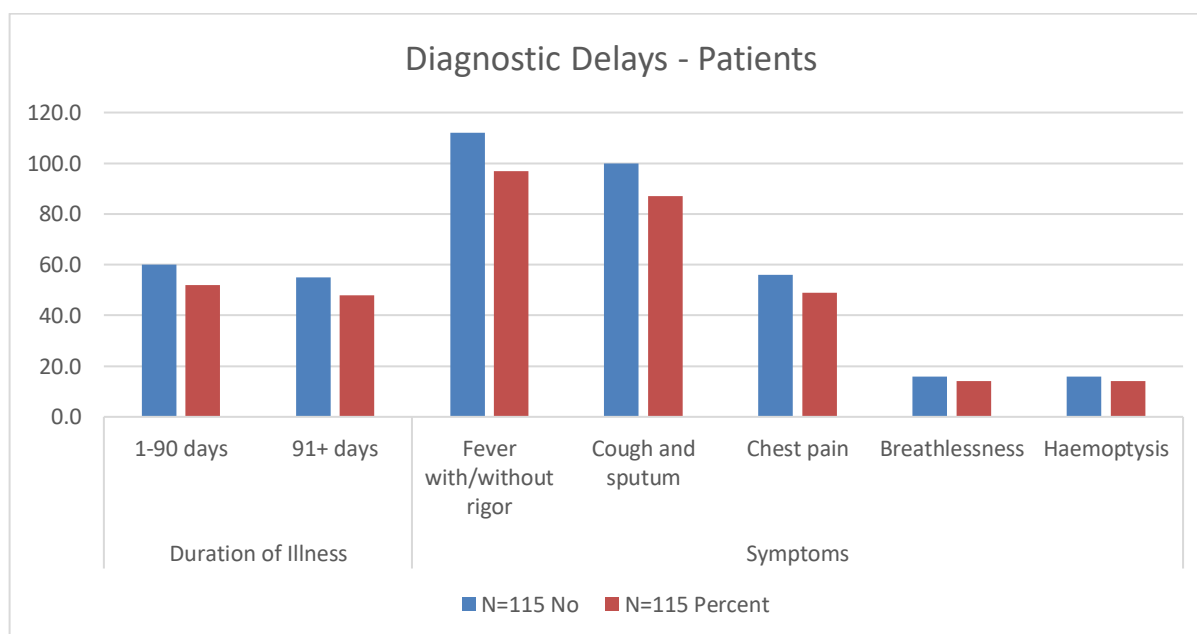
Variables		N=115		Significance / Chi-square values
		No of Patients	Percent	
Duration of illness	1-90 days	60.00	52.00	0.217
	More than 90 days	55.00	48.00	
Healthcare provider	Govt. hospitals/Doctors	15.00	13.00	62.820
	Private hospitals/Doctors	100.00	87.00	
History of illness	Govt. hospitals/Doctors	10.00	64.00	3.270
	Private hospitals/Doctors	18.00	18.00	
Asked for investigations	Govt. hospitals/Doctors	13.00	86.00	2.600
	Private hospitals/Doctors	21.00	21.00	
Provisional diagnosis	Govt.	6.00	38.00	1.060
	Private hospitals/Doctors	11.00	11.00	



We found in this research work that delay by doctor was accountable in 64.0% cases, the delay in the process of investigation was responsible in 53.0% cases & delay of the patients was accountable in twenty-seven percent patients. The very frequent early symptoms among the patients having Pulmonary TB was high temperature with rigor in 97.0% patients, heavy cough with sputum was present in 87.0% patients & pain of chest in 49.0%, obstruction in breathing was available in 14.0% patients and hemoptysis was also present in 14.0% patients.

**Table-III: Delay in Diagnosis Due to Patients**

Variables		N=115		Significance / Chi-square
		No	Percent	
Duration of Illness	1-90 days	60.0	52.0	0.217
	91+ days	55.0	48.0	
Symptoms	Fever with/without rigor	112.0	97.0	1.05
	Cough and sputum	100.0	87.0	
	Chest pain	56.0	49.0	
	Breathlessness	16.0	14.0	
	Hemoptysis	16.0	14.0	

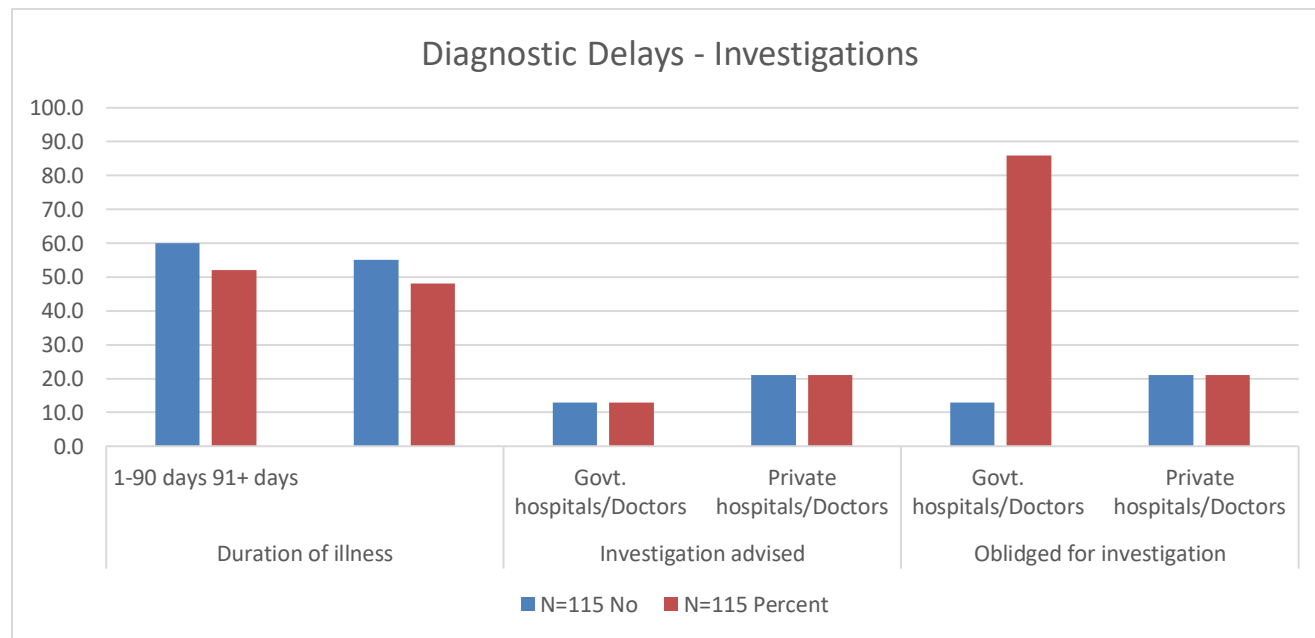


This research work displayed that diagnostic delay as well as treatment is accountable for the development of the complications among patients of TB like weight loss in 40.0% patients, hemoptysis in 21.0% patients, anorexia in 17.0% patients & inability to perform routine work activities in 12.0% patients. This work also discovered that 13.0% patients of TB initially government hospitals while 87.0% patients got advice from private doctors. The illness history reviewed in 64.0% patients of TB who were under consultation of government doctors in comparison to the 18.0% who accessed private doctors.

This research work discovered that diagnostic delay in TB was very significant in those patients of TB who accessed the doctors who were working privately. The consequences of this diseases of TB like weight loss & hemoptysis were very imminent in the patients who suffered delay in the diagnosis of the disease.

**Table-IV: Delay in Diagnosis Due to Investigations**

Variables		N=115		Significance / Chi-square
		No	Percent	
Duration of illness	1-90 days	60.0	52.0	0.217
	91+ days	55.0	48.0	
Investigation advised	Govt. hospitals/Doctors	13.0	13.0	3.64
	Private hospitals/Doctors	21.0	21.0	
Obligated for investigation	Govt. hospitals/Doctors	13.0	86.0	5.08
	Private hospitals/Doctors	21.0	21.0	

**DISCUSSION:**

The prevalence of tuberculosis is much high in many countries especially in the underdeveloped countries [4]. There are many factors which have association with the spread of this disease as poorness, over population [5]. incapacitating diseases, addiction of drugs, habit of cigarette smoking, use of alcohol, homelessness, & the deficiency and malfunctioning of immunity system [6]. The occurrence of this has increased so much after the onset of the epidemic of HIV [7]. The start of treatment with delay can lead to many complications as well as disabilities among patients [3].

Delays in the diagnosis and treatment of the disease can be on the part of patient or at level of system of health care [9]. In this research work, the mean duration from the onset of the early symptoms to the diagnosis of the disease was one hundred and twenty days, this finding is very much similar to the result of a research work conducted in a developed country,

Greece where they found the total duration as one hundred and five days [10]. This research work also displayed that the professional of the health care field were accountable for the delay in the diagnosis of the disease in 64.0% patients, the procedure of the investigation was the cause in 53.0% patients & delay by patients was present in 27.0% cases.

This outcome of the research work is similar to one other research study in which doctors were accountable for delay in the detection of TB in 75.0% patients. Patients were accountable fifty-six days' delay in the detection and procedure of the health care system was responsible in sixty days' delay of the diagnosis of the treatment and diagnosis [11]. Only twenty-one percent patients who accessed private doctors asked for the examination because doctors were not thinking about the incidence of TB. This finding was also present in other research work carried out in Singapore where patients appeared with highly probable of TB and they accessed many

doctors, but doctors missed the diagnosis in forty percent patients and no examination carried out to detect TB [12].

On the basis of the result of this research work, we concluded that general practitioners are the source first contact with the patients, they can play a vital part against the disease of TB. Every physician of the health care in the government as well as private sector should be aware about the updates with the advancement in the detection and therapy of TB. Different sources to gain the awareness about this subject are seminars, workshops and medical journals. The professional of the health care field should be well-acknowledged with the TB's manifestations [13]. They should not prevent themselves to order the examination like investigation of sputum & X-ray of chest which are very expensive in the developing countries. No knowledge about the symptoms of the disease ascribing other diseases of the chest and getting support conventional quakes can be tackle with the spread of information of TB in the publications.

### CONCLUSION:

This research work concluded that there are very severe results of the delay in the diagnosis of TB as loss of body weight as well as hemoptysis. This problem can be control with the prevalence of the awareness about the manifestations of the said disease.

### REFERENCES:

- Altet Gomez MN, Alcaide Megias J, et al. Pulmonary symptomatic tuberculosis diagnosis delay. Arch Bronconeumol 2003 April; 39(4): 146-52.
- SK Teo. Tuberculosis – Barries to early Diagnosis. Saudi Med J 2002; 43(4): 168.
- Gebreegziabher, S. B., Bjune, G. A., & Yimer, S. A. (2016). Total delay is associated with unfavorable treatment outcome among pulmonary tuberculosis patients in west Gojjam zone, Northwest Ethiopia: a prospective cohort study. PloS one, 11(7), e0159579.
- Harris, R. C., Grandjean, L., Martin, L. J., Miller, A. J., Nkang, J. E. N., Allen, V., ... & Moore, D. A. (2016). The effect of early versus late treatment initiation after diagnosis on the outcomes of patients treated for multidrug-resistant tuberculosis: a systematic review. BMC infectious diseases, 16(1), 193.
- Hogan, C. A., Puri, L., Gore, G., & Pai, M. (2017). Impact of fluoroquinolone treatment on delay of tuberculosis diagnosis: a systematic review and meta-analysis. Journal of Clinical Tuberculosis and Other Mycobacterial Diseases, 6, 1-7.
- Getnet, F., Demissie, M., Assefa, N., Mengistie, B., & Worku, A. (2017). Delay in diagnosis of pulmonary tuberculosis in low-and middle-income settings: systematic review and meta-analysis. BMC pulmonary medicine, 17(1), 202.
- [Health – list] World Bank WHO review performance of Pakistan Institute of Medical Sciences. Fri, 22 March 2002.
- Trajman, A., Durovni, B., Saraceni, V., Menezes, A., Cordeiro-Santos, M., Cobelens, F., & Van den Hof, S. (2015). Impact on patients' treatment outcomes of XpertMTB/RIF implementation for the diagnosis of tuberculosis: follow-up of a stepped-wedge randomized clinical trial. Plos one, 10(4), e0123252.
- Highlights of TB & HIV problems in Europe and Africa. Report for the conference on Global Lung Health at 1995 annual meeting of the IUATLD/ UICTMR, Paris France 9-12 Sep 1995.
- Oxlade, O., Piatek, A., Vincent, C., & Menzies, D. (2015). Modeling the impact of tuberculosis interventions on epidemiologic outcomes and health system costs. BMC public health, 15(1), 141.
- Westerlund, E. E., Tovar, M. A., Lönnemark, E., Montoya, R., & Evans, C. A. (2015). Tuberculosis-related knowledge is associated with patient outcomes in shantytown residents; results from a cohort study, Peru. Journal of Infection, 71(3), 347-357.
- Gegia, M., Magee, M. J., Kempker, R. R., Kalandadze, I., Chakhaia, T., Golub, J. E., & Blumberg, H. M. (2015). Tobacco smoking and tuberculosis treatment outcomes: a prospective cohort study in Georgia. Bulletin of the World Health Organization, 93, 390-399.
- Ranzani, O. T., Carvalho, C. R., Waldman, E. A., & Rodrigues, L. C. (2016). The impact of being homeless on the unsuccessful outcome of treatment of pulmonary TB in São Paulo State, Brazil. BMC medicine, 14(1), 41.