### INTRODUCTION

Tuberculosis is one of the ancient diseases known to affect mankind. It was detected as tuberculosis of spine in Egyptian mummies. It has also been referred in the Vedas and Ayurvedic Samhitas as the Kshaya Rog. It was detected as tuberculosis of spine in Egyptian mummies. It has also been referred in the Vedas and Ayurvedic Samhitas as the Kshaya Rog. It was detected as tuberculosis of spine in Egyptian mummies. It has also been referred in the Vedas and Ayurvedic Samhitas as the Kshaya Rog. It was detected as tuberculosis of spine in Egyptian mummies. It has also been referred in the Vedas and Ayurvedic Samhitas as the Kshaya Rog. It was detected as tuberculosis of spine in Egyptian mummies. It has also been referred in the Vedas and Ayurvedic Samhitas as the Kshaya Rog.

According to a survey conducted in 2015, Pakistan ranks fifth amongst the TB high-burden countries worldwide. According to World Bank reports, an annual prevalence of tuberculosis in Pakistan to be 270 per 100,000 population in 2014. In fact most of low case detection in Eastern Mediterranean region is contributed by Pakistan and Afghanistan.

TB accounts for approximately 40% of adult deaths. In almost half of these cases, the disease remains undiagnosed until death. The economic burden of seeking care remains a barrier for TB patients. Patients experiencing TB symptoms may initially seek relief by using self-prescribed medication or by consulting a health care provider who does not request patient (TB) investigations despite repeated visits. Patient delay depends on patients' knowledge, attitudes and beliefs, which are associated with rural residence, low access to health centre, old age, poverty, gender (depending on country customs), alcohol and other substance dependence, immigration background, low education, low awareness of TB, self-treatment and stigma. Through this article, we wish to review the health seeking behavior of patients suffering from Tuberculosis.

### Keywords

Tuberculosis, Health seeking behaviour, Review

### Abstract

TB accounts for approximately 40% of adult deaths. In almost half of these cases, the disease remains undiagnosed until death. The economic burden of seeking care remains a barrier for TB patients. Patients experiencing TB symptoms may initially seek relief by using self-prescribed medication or by consulting a health care provider who does not request patient (TB) investigations despite repeated visits.

Patient delay depends on patients' knowledge, attitudes and beliefs, which are associated with rural residence, low access to health centre, old age, poverty, gender (depending on country customs), alcohol and other substance dependence, immigration background, low education, low awareness of TB, self-treatment and stigma.

Various factors have been noted that contribute to the delayed diagnosis of this chronic infection in various parts of the world. These factors include place of residence of the patient, level of education, waiting time of patients at health care facility and place of consultation etc.
Smoking is associated with longer patient delay. TB symptoms can be confused with other smoking-related conditions for example, chronic obstructive disease (COPD) which can lead to delay in seeking treatment. The first measures to control TB in India were mainly for the establishment of hospitals and Sanatoria. National Tuberculosis Control Programme (NTP) was started in India in 1962 and Revised National Tuberculosis Control (RNTCP) was enrolled in 1993 in a phased manner with objective to improve diagnosis and achieve 85% cure rate among newly detected cases of TB.ii Definitions used for various types of delays in the studies.²

The total delay:- It is the time interval from the onset of illness until the initiation of anti-tuberculosis drugs. It is the sum of two time intervals: diagnostic delay and treatment delay.

Diagnostic delay:- It is the time interval between the onset of symptoms and labeling of the patient as a tuberculosis patient (tuberculosis diagnosis).

Treatment delay: - It is the time interval between tuberculosis diagnosis and initiation of anti-tuberculosis drugs.

Patient delay: The time interval between onset of symptom and presentation to a health care provider.

Health care system delay: - It is time interval between the date of health-seeking behavior at a health care provider and the initiation of anti-tuberculosis treatment.

LITERATURE REVIEW

A study conducted in (1996) at the Cochin Hospital in Paris by Gulbaran Z, et al., to estimate the length of delay from first symptom to diagnosis and treatment of tuberculosis. The results of this study showed that mean delay between first symptom and diagnosis was 2 weeks in 14 patients (27%), 3 to 4 weeks in 10 patients (19%) and over 4 weeks in 28 patients (54%). The delay between diagnosis and onset of treatment was less than 8 days in 39 patients.³

Yamada N, et al., conducted a study to know the gender difference in delays to diagnosis and health care seeking behavior in a rural area of Nepal in mid-December 1997 to mid-June 1999. In this study, they observed that women were found to have a significantly longer total delay before diagnosis of tuberculosis (median 2.3 months for men, 3.3 months for women) because they visited traditional healers first. Women had a significantly longer delay than men from the first visit to health care providers to diagnosis (median 1.5 months for men, 3.0 months for women). More women (35%) visited traditional healers before diagnosis than men (18%), and were more likely to receive more complicated charms from traditional healers. Men tended to visit the government medical establishment first if they knew that free TB treatment was available, but women did not.⁴

A Cross-sectional study was done in a referral hospital in Mulago National Referral Hospital Kampala, Uganda. This study was Conducted by KiwuwaMS, et al., from January 2001 to May 2002 on patient and health service delay in pulmonary tuberculosis patients. The results of this study showed that median total delay to treatment initiation was 12 weeks. Patients often presented to drug shops or pharmacies (39.4%) and private clinics (36.8%) more commonly than government health units (14%) as initial contacts. Several independent predictors of ‘patient delay’ were identified being hospitalized, daily alcohol consumption, and perception of smoking as a cause of TB. Independent predictors of ‘health service delay’ were, more than two health seeking encounters per month and medical expenditure on TB related symptoms. Perceived TB stigma and education status was not associated with either form of delay.⁵

Chowdhury, et al., Conducted a study to observe the gender differences in delays to diagnosis and treatment of tuberculosis in 2007 using DOTS at community level, in 10 sub districts of Bangladesh. Women, in comparison with men, had significantly longer mean and median delays in total delay (63.2 and 61.0 days vs. 60.3 and 53 days, respectively), total diagnostic delay (61.2, 60.0 vs. 58.5, 52.0 days), patient’s delay (51.9, 50.0 vs. 48.7, 42.0 days)³iii and treatment delay (2.0, 1.0 vs. 1.9, 1.0 day). Patient’s mean and median delays were longer than the health system delay. However, patient gender showed strong association with total delay, total diagnostic delay and patient’s delay. Older age of women was significantly associated with longer patient and treatment delay categories, respectively.⁶

A population based prospective study was done in three different geographic areas in China from 1 December 2006 to 31 December 2008 by Vaninia Meyssonnier, et.al. To know the factors associated with delayed tuberculosis. In this study, median delay was 36 days and was significantly shorter in patients from Shanghai compared with other places. Multivariate analysis revealed that cough in Shanghai patients, lowest income level, being married and presenting expectoration in Shandong and Sichuan patients. These factors were associated with a delay in the diagnosis testing of
tuberculosis of more than 30 days. The only factor associated with a delay of more 90 days was female gender in Shandong and Sichuan provinces only.\textsuperscript{xv}

Nguyen T et al., conducted a study in Vietnam to study the delays in the diagnosis and treatment of tuberculosis patients. In this cross-sectional study, Median delay was 4 weeks with a range of (1–48) weeks for total delay, 3 weeks delay with range of (1–48) weeks for patient and 1 week with a range of (0–25) week for health care delay. Patients with long total delay more than 12 weeks, (15%) accounted for 49% of the cumulative number of delay-weeks. Independent risk factors (p < 0.05) for long total delay were female sex, middle age, remote setting, residence in the northern or central area, and initial visit to the private sector. For long patient delay more than 6 weeks were, female sex, belonging to an ethnic minority, and living at more than 5 km distance from a health facility or in the northern area. For long health care delay more than 6 weeks was urban setting, residence in the central area and initial visit to a communal health post, TB hospital or the private sector.\textsuperscript{xxv}

In South Africa, a study was conducted in 2008 on patient and provider delay in tuberculosis suspects from communities with a high HIV prevalence. This study was conducted by Graeme Meintjes Hennie, et al., In this study one hundred twenty-five (125) patients were interviewed out of which TB was diagnosed in104 and these were included in the analysis. Seventy of 83 (84%) tested were HIV-infected. Health care provider delay median of 30 days, inter quartile range IQR (10.3–60) days was double that of patient delay (median of 14 days, IQR (7–30). Patients had a median of 3 contacts with formal health care services before referral. Factors independently associated with longer patient delay were male gender, cough and first health care visit being to public sector clinic as compared with private practitioner. Patient delay ≥ 14 days was associated with increased need for transfer to a TB hospital. Provider delay ≥ 30 days was associated with increased mortality.\textsuperscript{xxvii}

A Systematic was Review done in 2011 to study the factors associated with patient and health care system delay in diagnosis and treatment for TB in sub-Saharan African counties with high burdens of TB and HIV by Ramona K. C. Finnie et al., The results of this review showed that out of 20 eligible studies, 12 assessed, out of these 5 were of health system delay and 7 of patient delay only. Most of these were cross-sectional surveys (k = 13) with samples of consecutive patients (k = 13) and bivariate analyses (k = 11). Starting and endpoints for patient delay were consistent, but not system delay. Patient characteristics were studied which were HIV stigma and enabling factors were studied infrequently, although the last were most often associated with delay. Consulting traditional healers first usually by rural residents consistently led to patient delay. Travel time for the return visit was consistently associated with system delay.\textsuperscript{xxviii}

A study was conducted by Tatiana V Belkina, et al., to estimate the delay in the diagnosis and treatment of pulmonary tuberculosis in Uzbekistan in (2014) among 538 patients enrolled. The median delay from onset of symptoms until treatment with anti-TB drugs was 50 days. Analysis of the factors affecting health-seeking behavior and timely treatment showed the presence of the patient factor. Self-medication was the first health-seeking action for 231 (43%) patients and proved to be a significant predictor of delay (p value 0.005), as well as coughing (p value 0.009), loss of weight (p value 0.001), and visiting private and primary health facilities (p value 0.03 and p value 0.02, respectively).\textsuperscript{xxix}

Seyed Mohammad Alavi et al., had conducted a study in Iran (2014), on factors associated with delay in diagnosis and treatment of pulmonary tuberculosis. The mean age of the patients was 38.9 ± 12.3 years, 83 were male and 56 were female. Out of the 139 smear positive PTB cases, 91 (65.5%) cases had received delayed-treatment. The mean time between onset of symptoms, diagnosis and treatment was 73 days (median: 48 days, range: 4-570 days). Female gender and receiving immunosuppressive drugs with P value of (< 0.05) were associated with longer delayed time. This study showed that delayed time was significantly associated with female gender, smoking and immunosuppressive drugs. \textsuperscript{xx}

**CONCLUSION**

Low education status, low socio economic status, the perceived susceptibility regarding the non compliance of the anti tubercular drugs, residing in rural areas, and ignorance towards the disease seem to be the factors responsible for the difference in health seeking behavior of the people afflicted with tuberculosis.

**REFERENCES**


