

# PREVALENCE OF EXTRA PULMONARY TUBERCULOSIS IN NATIONAL TUBERCULOSIS INSTITUTE WITHIN ONE YEAR (2020) IN KABUL, AFGHANISTAN

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## Abstract

**Introduction:** Based on international data, Extra Pulmonary Tuberculosis (ETB) consist 1/3 of all TB patients. With availability of diagnostic tools worldwide, both Pulmonary TB and also clinical diagnosis of extra pulmonary TB had been improved in all Asian and Western countries.

**Objective:** The objective of this study is to find the prevalence of extra pulmonary TB in National TB Institute (NTI) in year 2020.

**Method:** This study is performed by using cross-sectional descriptive method. In this study patient files and TB register book of year 2020 had been used.

**Results:** the study results have showed that from 367 TB patients, who registered, diagnosed, and treated in 2020, totally 121 patients were male and 246 patients were female which are 33 % and 67 % respectively. Totally, 98 patients were registered as extra pulmonary cases. The mean age of the patients was 33.23 year, the median age had been calculated 25 year, the mode of patients' age was 20 year, and patients' age range were between 1 and 104 years. The study showed that TB affected 32% of people between 20 to 30 years and 18% patients were around 10 to 20 years old.

**Conclusion:** Prevalence of extra pulmonary TB in NTI calculated 27% of all TB patients. The ETB among female and male patients were 70% and 30% respectively. The mean age of ETB patients was 33.34 year in which female mean age was 32.2 years and male mean age was 36.1 year. Most ETB patients were between 20 up to 29 years age which had been calculated about 48 % of total study size. Among extra pulmonary TB clinical forms in NTI, pleural Effusion, TB lymphadenitis, and Bone & vertebral TB were the most clinical forms which were 31%, 20 %, and 16 % respectively. This study shows ETB is more common among women than men.

**Recommendation:** provision more diagnostic tools and increase of communities' awareness about extra pulmonary TB as a clinical form of TB could be helpful for early diagnosis, proper treatment, and control of TB.

**Key words:** Tuberculosis Disease, Mycobacterium Tuberculosis, Pulmonary TB, Extra Pulmonary TB.

## INTRODUCTION

Of the 9.4 million TB cases worldwide, Afghanistan accounts for about 54,000 cases annually.<sup>1</sup> It is clear that the vast majority of TB cases are pulmonary. According to worldwide statistics, extra pulmonary tuberculosis accounts for one / three tuberculosis patients.<sup>2</sup> With the rise of diagnostic methods worldwide, as the diagnosis of pulmonary tuberculosis has improved, in most of the Asian and Western countries the percentage of extra pulmonary tuberculosis has now increased. Studies in other countries have found that the incidence of tuberculosis is nationwide. For example, in Ethiopia and Iran, studies have shown that tuberculosis is the most common cause of tuberculosis after pulmonary sero-prevalence and is most often the cause of Mycobacterium Bovis.<sup>3</sup> Pakistan accounts for about 80 percent of tuberculosis-related illnesses, a major new problem in the control and treatment of tuberculosis, drug resistance to existing anti-tuberculosis drugs, and studies in other countries have shown drug resistance; In India, for example, a study shows that drug resistance to extra pulmonary TB Nun reached to 11.6 percent.<sup>4,7,13</sup> We do not know the appropriateness of extra pulmonary tuberculosis events nationwide. Studies at one of Kabul's hospitals and neighboring countries, such as India, cannot be publicized nationwide. Extra pulmonary TB events often "remain undiagnosed" due to the lack of necessary diagnostic facilities.

The reason that highlights the study of the Prevalence of Tuberculosis at the National Tuberculosis Institute is that there are insufficient and documented data on the prevalence of TB across the country. Studies in this regard cannot be generalized and give a good picture of the extent of extra pulmonary TB. The National Tuberculosis Control Program focuses more on pulmonary tuberculosis issues and deals solely with extra pulmonary tuberculosis and has not paid much attention to the various forms of extra pulmonary tuberculosis; It is therefore prevented from doing so in order to obtain a percentage of outbreaks of TB, to generalize its

results, and to provide specific recommendations to the Ministry of Public Health and the Ministry of Higher Education for comprehensive planning, ways of implementing its plans, capacity building. Health staff and increasing levels of patient knowledge of extra pulmonary tuberculosis and its treatment can play an important role in improving the quality and effectiveness of tuberculosis control programs. The aim of this study was to determine the prevalence of extra pulmonary TB in the National Tuberculosis Institute during 2020.

## METHODS AND MATERIALS

**Study Design:** This study is a cross-sectional study. In this study, all cases of patients referred to the National Tuberculosis Institute during 2020 were reviewed and treated. The analysis of patient outcomes under DATS treatment at the National Tuberculosis Institute (NTI) and their data was performed using standard individual methods and using an Excel computer program.

### Research location

This study was conducted at the National Tuberculosis Institute, Daralaman, Kabul.

### Inclusion and exclusion criteria

All patients referred to the National Tuberculosis Treatment and Disease Center at Daralaman in 2020 were studied and diagnosed. Patients who were not diagnosed with tuberculosis were excluded.

### Sampling Method

All cases of tuberculosis patients referred in 2020 and treated with anti-tuberculosis treatment were used as target population.

Research variables

Prevalence of extra pulmonary tuberculosis was assessed by variables such as age, sex, and tuberculosis (pulmonary and extra pulmonary) forms.

### Statistical Analysis

When all the cases were reviewed and the information presented in the results table was entered, the figures entered in the computer were checked again to ensure the accuracy of the figures. Once this was ascertained, the data collected in this study were analyzed and evaluated using standard individual methods and using the Excel computer program. Components such as mean, median and frequency of varieties were obtained and determined for variables such as age, sex, and percentages showing prevalence of extra pulmonary TB.

### Ethical considerations

Every medical doctor knows that infectious patient, including tuberculosis, is both a "victim" and a "transmission factor" for the disease. Researchers agree to make the most accurate judgment, prediction, and planning for information in such a way that the smallest case file information is kept secret and should not be disclosed to others, even to sick relatives (such as spouses, relatives, and others). The confidentiality of Tuberculosis patients' cases is similar to that considered in this research study.

## RESULTS

The present study shows that among the 367 TB patients in the DOTs of the National Institute of Tuberculosis, there are 269 cases of pulmonary tuberculosis and 98 cases of extra pulmonary tuberculosis, which constitute 73% and 27%, respectively.

In this study, we found that 121 (33 percent) of TB patients were men and 246 (67 percent) were women. The ratio of women to men was 2.03: 1.

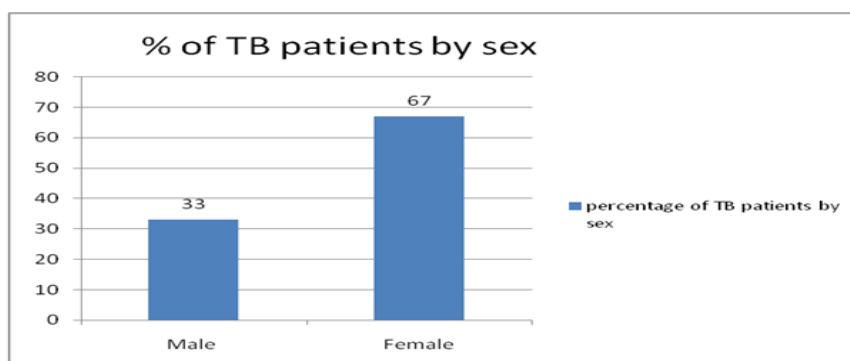


Chart # 1. % of extra pulmonary TB patients by sex

The age range of these patients varies from 1 to 104 years. The median age of tuberculosis patients is about 33.23 years, the median age of tuberculosis patients is about 33.29 years, and the highest incidence of tuberculosis is seen in young people and those over 50 years of age.

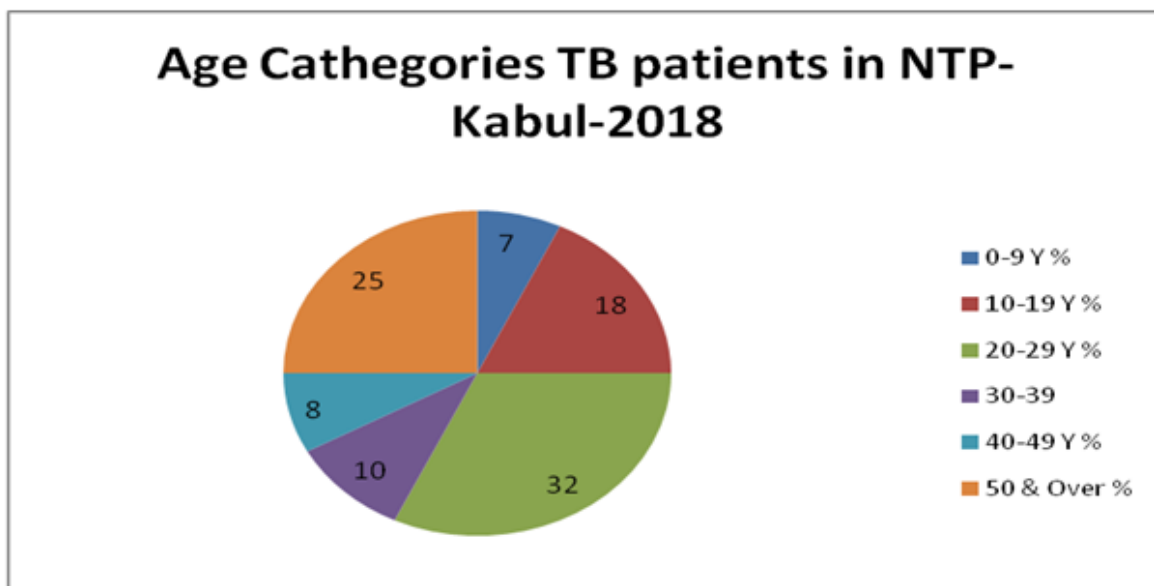


Chart # 2. % of TB patients by Age

The study included 367 tuberculosis patients, 98 outpatients with 27%, and 70% of women with tuberculosis, and 30% of men with tuberculosis.

The median life expectancy for extra pulmonary tuberculosis patients was calculated to be 33.4 years, with the mean life expectancy for women with extra pulmonary tuberculosis being 32.2 years and the mean life expectancy for extra pulmonary TB patients was 36.1 years. The age range of extra pulmonary TB patients varies from 3 to 98 years. Most TB patients are between the ages of 20 and 29 years, with 48% of them being of this age category. Also, 21% of non-pulmonary tuberculosis patients in this study were older than 50 years.

The results of this study indicate that various extra pulmonary forms such as tuberculosis of the lymph nodes, pulmonary tuberculosis, cutaneous tuberculosis, pleural tuberculosis, bone tuberculosis, uterine tuberculosis, tuberculosis, and tuberculosis include tuberculosis and tuberculosis. Tuberculosis counts. Of all these forms, tuberculosis pleural effusions, tuberculosis lymph nodes and tuberculosis constitute the majority of the spine, accounting for 31%, 20% and 16% of all extra pulmonary TB events, respectively. Tuberculosis peritonitis still forms the main cause of 12% of cases.

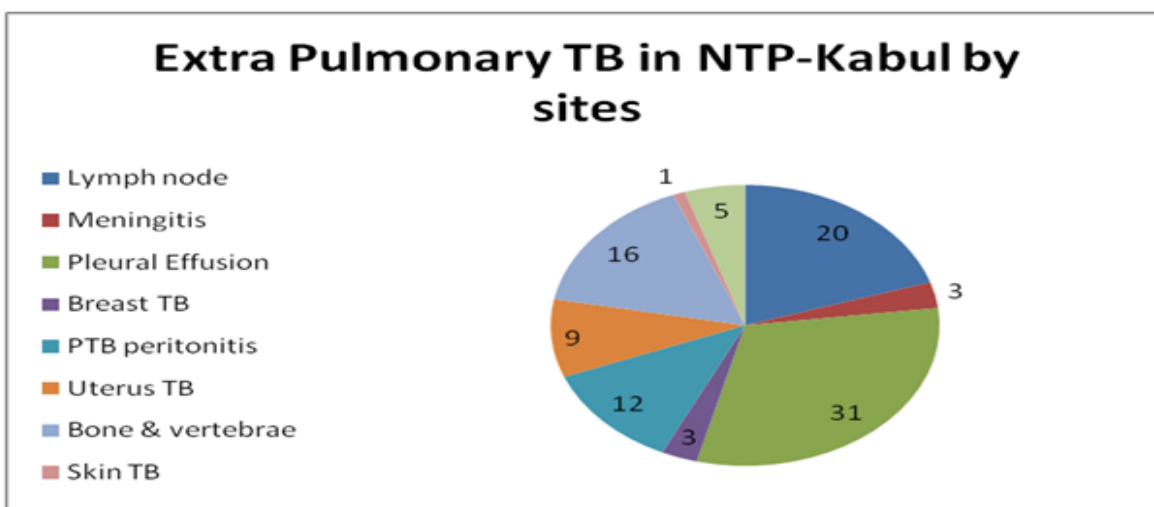


Chart # 4 EP TB by types

In this study, a case study of 367 Tuberculosis patients was analyzed analytically at the National Institute of Tuberculosis Control in Daralaman, Kabul. Of the 367 patients, 121 (33%) were male and 246 (67%) were female. In this study, both the median of non-pulmonary patients 25 years and the average of these patients 25 years. The mean age of the study was 33.4 years, ranging from 3 years to 98 years. About 31% of tuberculosis pleural effusions, 20% of lymph node tuberculosis patients and 16% of spine tuberculosis patients were treated.

The study found that the female to male ratio was 2.03: 1, which is quite "contrary to what is shown in Qatar (6). In Qatar, the ratio of male tuberculosis to female is 3.51: 1. Life expectancy in this study was 33.8. 2 years. A study in Qatar showed that among 1221 tuberculosis patients, 53.6% had extra pulmonary tuberculosis and 43.5% were extra pulmonary tuberculosis patients with lymph nodes. But in the present study in Kabul, 27% of patients had extra pulmonary tuberculosis and 31% had tuberculosis pleura aneurysm, tuberculosis. Lymph nodes make up about 20% and the average life expectancy of patients is 33.4 years.

Table # 1: the numbers and percentage of EPTB types in NTP- 2020

Extra pulmonary types in NTP	Number	percentage
Lymph nodes	19	20
Meanings	3	3
Pleural effusion	30	31
Breast TB	3	3
Peritonitis	13	12
Uterus TB	9	9
Bones and column vertebra	16	16
Skin TB	1	1
Miliary TB	5	5
Total	98	100

In a 2014 study in Faisalabad, Pakistan, 150 sterile women were examined for extra pulmonary tuberculosis, 20% of which were due to partial tuberculosis. Tuberculosis endometritis accounted for about 80% of these cases, but in the present study in Kabul, due to a lack of diagnostic tools and other factors, although we were unable to accurately determine the prevalence of tuberculosis, however, uterine tuberculosis was about 9%. Make up.

The results of a review of cases reported to Cure Hospital, Kabul, Afghanistan, from 2006 to 2008, showed that of the 390 cases of tuberculosis, 214 cases (54.9%) of extra pulmonary tuberculosis were confirmed. The study also found that of the 118 extra pulmonary tuberculosis samples sent to the hospital, 37.3 percent had tuberculosis of the lymph nodes and about 20 percent had central nervous system tuberculosis. In this study, the ratio of female to male cases of extra pulmonary tuberculosis is 2.03: 1, which is slightly different from the current study because this ratio is 2.19:1. Of course, the results of this study are by no means a comprehensive picture of the outbreak of extra pulmonary TB in Kabul because it is based solely on morbidity samples sent to the Kivar International Hospital's osteopathology center. The prevalence of extra pulmonary tuberculosis in the present study was 27%, of which 31% among extra pulmonary patients constituted tuberculosis pleurisy, which is quite different from the above figures. Corresponding forms of tuberculosis in the country.

A study in Ethiopia showed that only tuberculosis accounted for about 48% of patients, which represents a significant number compared to the present study. We found that about 27 percent of all forms of extra pulmonary tuberculosis at the National Tuberculosis Institute - Kabul account for about 27 percent, and tuberculosis accounts for about 20 percent of patients.

Studies in India (9) and Korea (12) show that outbreaks of TB are around 20%, in areas where HIV is not common, but in areas with the highest HIV prevalence, TB Lymphocytes vary from 30 to 70 percent. But we could not get this percentage due to the lack of figures.

In Iran (10 and 11), a study of the symptoms and symptoms of extra pulmonary tuberculosis in two hospitals shows that the ratio of women to men is 1.08: 1, while in Kabul the ratio is very different (2.03 : 1). In the Iranian study, the largest extra pulmonary tuberculosis was the lymph node head tuberculosis, while in Kabul the largest proportion was the pleural tuberculosis (31%). Tuberculosis peritoneum in the Iranian study is 17.2 percent, while in Kabul this figure is about 12 percent.

## CONCLUSION

Tuberculosis is clearly one of the deadly and devastating diseases in Afghan society. Diagnosis of various forms of this disease, including accurate diagnosis and timely and timely treatment, are the main components of tuberculosis control. In the absence of these two factors, Mycobacterium tuberculosis can easily spread and impose a huge cost on the health system and governments. This study was conducted as a result of the analysis

and analysis of 367 cases of tuberculosis patients referred to the National Institute of Tuberculosis located in Darulaman Kabul. About 33 percent of patients were men and 67 percent were women. The average life expectancy of male patients with extra pulmonary tuberculosis was 36.1 years and the mean life expectancy of female patients with extra pulmonary tuberculosis was 32.2 years. In this study, we found that 98 patients underwent treatment for extra pulmonary disease, which accounts for 27%. Out-of-lung forms of tuberculosis, pleural effusion (31 percent), lymph node tuberculosis (20 percent) and spinal tuberculosis (16 percent) are the most common; whereas, TB covers only one percent of all the cases. Numerous factors such as the lack of modern instruments for the diagnosis of extra pulmonary tuberculosis, low level of health awareness, poor economic status, low level of education, being away from the diagnosis center and treatment of tuberculosis have made timely and appropriate diagnosis centers and Tuberculosis treatment cannot effectively treat tuberculosis patients in the country.

## RECOMMENDATIONS

As can be seen from the results of this study, extra pulmonary tuberculosis accounts for about 27% of patients at the National Tuberculosis Institute in Kabul, which is a significant figure. Suggestions from this study are summarized as follows:

1. Organized health propaganda to reduce social stigma and raise individual and community awareness of extra pulmonary tuberculosis and ways to prevent and treat it;
2. Extending the DOTs Centers in the Country
3. Integration of anti-tuberculosis services in the private sector;
4. Greater emphasis on improving the detection of different forms of tuberculosis in order to timely diagnose extra pulmonary tuberculosis and its occurrence and treatment;

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