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Research Article

**PREVALENCE RATE OF PULMONARY TUBERCULOSIS IN  
THE PATIENTS OF NISHTAR HOSPITAL MULTAN  
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**Abstract:**

**Background:** The aim of the study was to determine the prevalence rate of tuberculosis in patients of Nishtar Hospital Multan.

**Methods:** Study was conducted in Nishtar Hospital Multan. Total no. of 200 patients were approached suspected to have pulmonary TB. Sputum samples were taken from patients and studied under microscope. Information was collected through designed Performa, regarding date of registration to hospital, gender, age, weight, diagnosis and treatment.

**Results:** Total no. of 200 patients were screened out of which 83(41.5%) were positive. Total no of 123 male and 77 female screened out, in which 56(45.5%) and 27(35.06%) were positive respectively. Patients belongs to category 3 (46-55years old) 35(55.55%) out of 63 tested samples were shown higher percentages as compared to others. Month-wise distribution (November, December, January and February ) were given and in the month of February 25(42.37%) out of 59 patients were shown positive higher results as compared to other months.

**Conclusions:** It was concluded from the study that Pulmonary TB is the most common prevailing disease among the patients of Nishtar hospital Multan Pakistan and higher incidence was recorded in males as compared to female during the month of February.

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**INTRODUCTION:**

Mycobacterium tuberculosis (TB) is a moderate developing facultative intracellular parasite. Amid contamination it is presented to a wide range of natural conditions relying upon the stage and the seriousness of the infection (Manganelli, Dubnau et al. 1999). It remains a noteworthy overall medical issue with worldwide mortality running from 1.6 to 2.2 million lives for every year. The circumstance is additionally exacerbated with the expanding rate of medication safe TB (Aftab, Amjad et al. 2009) The aim of the present study was to find out prevalence rate of tuberculosis among patients admitted in Nishtar Hospital Multan.

**Literature review:**

A study was conducted in India to find out prevalence of multidrug-resistant tuberculosis among Category II pulmonary tuberculosis patients and we concluded from the study that an aggregate of 196 instances of sputum-positive class II aspiratory tuberculosis patients were incorporated. Of these, 40 patients (20.4%) had MDR-TB. The mean time of MDR-TB patients was  $33.25 \pm 12.04$  yr; 9 patients (22.5%) were female. Thirty six patients indicated protection from rifampicin and isoniazid; while 4 patients demonstrated protection from rifampicin, isoniazid and streptomycin. The pervasiveness of MDR-TB among classification II pneumonic tuberculosis patients was 20.4 percent.(Sharma, Kumar et al.)

Another examination was directed in US to discover the study of disease transmission of extra pulmonary tuberculosis in the United States, 1993– 2006 and we reasoned that among 253,299 cases, 73.6% were PTB and 18.7% were EPTB, including lymphatic (40.4%), pleural (19.8%), bone as well as joint (11.3%), genitourinary (6.5%), meningeal (5.4%), peritoneal (4.9%), and unclassified EPTB (11.8%) cases. Contrasted and PTB, EPTB was related with female sex (chances proportion [OR], 1.7; 95% certainty interim [CI], 1.7– 1.8) and outside birth (OR, 1.5; CI, 1.5– 1.6), similarly connected with HIV status (OR, 1.1; CI, 1.1– 1.1), and contrarily connected with multidrug obstruction (OR, 0.6; CI, 0.5– 0.6) and a few tuberculosis hazard factors, particularly vagrancy (OR, 0.3; CI, 0.3– 0.3) and abundance liquor use (OR, 0.3; CI, 0.3– 0.3). Slower yearly abatements in EPTB case checks, contrasted and yearly reductions in PTB case tallies, from 1993 through 2006 have caused EPTB to increment from 15.7% of tuberculosis cases in 1993 to 21.0% in 2006.(Peto, Pratt et al. 2009)

Another examination was led to discover that Do

ladies with tuberculosis have a lower probability of getting analyzed?: Prevalence and case discovery of sputum smear positive aspiratory TB, a populace based investigation from Vietnam. Furthermore, we finished up from concentrate that the evaluated pervasiveness of pneumonic TB among men was 90/100,000 (95% CI 45– 135/100,000) and among ladies 110/100,000 (95% CI 63– 157/100,000). Case discovery in the locale was assessed to 39% (95% CI 20– 76%) among men and 12% (95% CI 6– 26%) among ladies.(Thorson, Hoa et al. 2004)

Another examination was directed to discover predominance and hazard factors related with medication safe TB in South West, Nigeria and we finished up from the investigation that among the 88 patients who had tranquilize weakness test result, there were 50 guys and 38 females. Of the 88 patients, 55 (62.5%) had strains impervious to no less than at least one enemies of medications. The extent of TB cases with protection from a solitary medication was 12.7%. The multi-tranquilize safe TB (MDR-TB) rate was 76.4%. The main noteworthy factor for the advancement of medication obstruction and MDR was the historical backdrop of past enemy of TB treatment ( $P < 0.01$ ). Different factors, for example, age [OR 0.86 (0.35–2.13);  $P = 0.72$ ] and sexual orientation [OR 1.24 (0.49–3.14);  $P = 0.62$ ] were not essentially connected with medication obstruction TB.(Daniel and Osman)

Another investigation was directed to discover financial position in TB pervasiveness and access to services, results from a populace commonness review and a Facility-Based Survey in Bangladesh and we finished up from concentrate that the populace predominance of tuberculosis was multiple times higher in the most minimal quartiles of populace (95.4, 95% CI: 48.0– 189.7) to most elevated quartile populace (19.5, 95% CI: 6.9– 55.0). Among the 33 cases recognized amid study, 25 (75.8%) were from lower two quartiles, and the rest 8 (24.3%) were from upper two quartiles. Among TB cases distinguished latently under NTP, the greater part of them 137 (57.1%) were from highest two quartiles, 98 (41%) from the second quartile, and 5 (2%) in the most minimal quartile of the populace. This dispersion isn't influenced when balanced for different components or communications among them.(Hossain, Quaiyum et al.)

**METHODOLOGY:****Study setting:**

Cross sectional study was conducted for the period of four month (November, December 2018 and January, February 2019) in Nishtar Hospital Multan. Data was

collected from 200 patients admitted in hospital suspected to have tuberculosis belonging from different age groups (25-65years old).

#### Study design:

Information was collected through designed Performa, regarding date of registration to hospital, gender, age, weight, diagnosis and treatment. Sputum sample were collected from 200 patients of different age groups (25-65years) and labeled them properly. For testing purpose these samples were send to the microbiological section (laboratory) of hospital where screening of these samples performed.

#### Microscopic examination of sputum samples:

Slides of the received sputum samples were prepared, following to standard protocols, stained and examined under microscope (100X). In these stained slides TB was identified as red spots.

#### Prevalence rate determination:

The prevalence rate was determined by using the following formula:

Prevalence rate = No. of patients having TB positive/Total no. of patients x 100

#### Analysis:

Data was analyzed by using SPSS software.

#### RESULTS:

In our study out of 200 tested samples 83(41.5%) were positive. Total no of 123 male and 77 female screened out, in which 56(45.5%) and 27(35.06%) were positive respectively.(table.1)

Age is categorized into four different categories as following

1)25-35years

2)36-45years

3)46-55years

4)56-65years

And according to (table.2) patients belongs to category 3 (46-55years old) 35(55.55%) out of 63 tested samples were shown higher percentages as compared to others.

In table.3 month wise distribution (November, December, January and February) were given and in the month of February 25(42.37%) out of 59 patients were shown positive higher results as compared to other months.

Gender	Tested samples	Positive samples	Percentages (%)
Male	123	56	45.5%
Female	77	27	35.06%
Total	200	83	41.5%

Table 1.Gender-wise prevalence of TB

Age	Tested samples	Positive samples	Percentages (%)
1)25-35years	36	11	30.5%
2)36-45years	49	21	42.85%
3)46-55years	63	35	55.55%
4)56-65years	52	16	30.76%
Total	200	83	41.5%

Table 2.Age- wise prevalence of TB

Month	Tested Samples	Positive samples	Percentages (%)
November	48	21	43.7%
December	36	14	38.88%
January	57	23	40.35%
February	59	25	42.37%
Total	200	83	41.5%

Table 3.Month-wise prevalence of TB

**DISCUSSION:**

TB remains a main medical issue on the planet. In present investigation higher predominance was recorded in the patients (46-55years old) 55.55% having a place with classification (3) of (table.2), also higher pervasiveness rate recorded in the long stretch of February 42.37%. The constraint of the present investigation was the inaccessibility of incited sputum. The estimation of instigated sputum for sputum smear negative tuberculosis is the consuming issues (McWilliams, Wells et al. 2002).

**CONCLUSION:**

It was concluded from the study that Pulmonary TB is the most common prevailing disease among the patients of Nishtar hospital Multan Pakistan and higher incidence was recorded in males as compared to female during the month of February.

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