

# DEMOGRAPHIC FEATURES OF TUBERCULOSIS LYMPHADENITIS PATIENTS

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## ABSTRACT

**Background:** Tuberculosis is an infectious disease, having high morbidity and mortality. **Objective:** This study was conducted to determine the demographic features of tuberculous lymphadenitis. **Material and Methods:** This cross-sectional study was carried out at Amir Clinical Laboratories Chiniot from 1<sup>st</sup> February, 2013 to 15<sup>th</sup> April, 2014. All of the 127 patients who presented with the complaint of cough, fever and clinical finding of cervical lymph node enlargement were included in this study. They were diagnosed having tuberculosis with the help of clinical examination and laboratory investigations. They were managed according to the standard protocol. FNAC was performed. The cases of tuberculous lymphadenitis were evaluated according to the age and gender groups. The data was entered and analyzed by using SPSS version 11. **Results:** A total of 127 patients having cough, fever and enlarged lymph node were included and it was found that 85 (67%) were having Tuberculosis Lymphadenitis on FNAC. It was found that 29(34%) belonged to <Rs.10000 monthly income, 43(51%) belonged to Rs.11000- 20000 monthly and 13(15%) belonged to <Rs.20,000 monthly income. It was found that 18(21%) cases belonged to the age group of 1-10 years. 29 (34%) belonged to the age group of 11- 20 years, 9 (11%) belonged to the age group of 21-30 years, 9 (11%) were in age group of 31-40 years, 8(9%) were in the age group of 41-50 years and 12 (14%) were in age group of 51 years and above. **Conclusion:** The frequency of tuberculous lymphadenitis is more in age group of 1- 10 years and 11-20 years. In each group the frequency of males being affected is relatively more.

**Keywords:** Tuberculosis, Lymphadenitis, Frequency, Demographic features.

JSZMC 2014;5(4):730-732

## INTRODUCTION

Tuberculosis is a common infectious disease which is caused by the various strains of mycobacterium usually mycobacterium tuberculosis.<sup>1</sup> The World Health Organization in 1990 ranked tuberculosis as the seventh most morbidity causing disease in the world and it was expected to continue in the same position up to 2020.<sup>2</sup>

About one third of the population of world is thought to be infected with mycobacterium tuberculosis,<sup>3</sup> with the 1% frequency of new infections each year.<sup>4</sup> In 2007, 13.7 million chronic active cases were estimated,<sup>5</sup> while in 2010; 8.8 million new cases were estimated. About 1.5 million associated deaths were observed usually in the developing countries.<sup>6</sup> Tuberculosis is more prevalent in the developing countries. About 8 % of the population in the Asia and Africa is found to be positive in tuberculin tests while only 5-10 % of the US population is positive.

Tuberculosis is an air born disease.<sup>7,8</sup> Exposure to

TB bacilli is based upon various factors such as the number of infectious cases in the community and the duration of their infectiousness along with the number and nature of the interactions between the case and the contact.<sup>9,10</sup>

Tuberculosis may infect any part of the body but usually it presents in the form of pulmonary tuberculosis. In almost 15%-20 % of the cases, it spreads to the other parts of the body. Extra pulmonary tuberculosis occurs when it develops outside the lungs.<sup>11,12</sup>

A number of factors make the people susceptible to the infection like the HIV, poverty, malnutrition, smoking etc. People with frequent or close contact with person having TB are at high risk of developing TB with almost 22% infection rate.<sup>13,14</sup> General signs and symptoms include fever, chills, night sweats, loss of appetite, weight loss and fatigue.

TB infection begins when Mycobacterium Tuberculosis reaches the pulmonary alveoli and starts replicating within the endosomes of alveolar macrophages. Tuberculosis of the lungs may occur through blood stream. This hematogenous transmission may spread the infection to the distant sites like the peripheral lymph nodes.<sup>15</sup>

The prevalence of tuberculous infection varies with the age and gender, residence and also the socio economic state in a community.<sup>16</sup> There are two peaks in the incidence of infection. One is in the early years of life and the second is in the adolescents and the

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young adults. This cross-sectional study was carried out from 1<sup>st</sup> February, 2013 to 15<sup>th</sup> April, 2014 at Amir Clinical Laboratories Chiniot. The objective was to find the incidence of tuberculous lymphadenitis in various age and gender groups.

## MATERIAL AND METHODS

This was a cross-sectional study carried out on 85 FNAC reports of patients with tuberculous lymphadenitis. The diagnosis was confirmed by the history, clinical examination and the laboratory investigations. FNAC was performed. The histological picture depictive of tuberculosis was studied. The patients were divided into various age groups. They were also grouped according to the gender. The frequency of tuberculous lymphadenitis was determined with respect to the age group and the gender. The data was entered and analyzed by using SPSS version-11.

## RESULTS

During study period the total number of patients who were diagnosed as having tuberculous lymphadenitis on FNAC in Amir Clinical Laboratories Chiniot was 85. These patients were divided into various groups according to their age and gender. (Table I & II). A total of 127 patients having cough, fever and enlarged lymph node were included and it was found that 85 (67%) were having Tuberculosis Lymphadenitis on FNAC. It was found that 29(34%) belonged to < Rs.10000 monthly income, 43(51%) belonged to Rs.11000-20000 monthly and 13(15%) belonged to <Rs.20,000 monthly income. It was found that 18 (21%) cases belonged to the age group of 1-10 years, 29 (34%) belonged to the age group of 11-20 years, 9 (11%) belonged to the age group of 21-30 years, 9 (11%) were in age group of 31-40 years, 8 were in the age group of 41-50 years and 12 (14%) were in age group of 51 years and above.

**Table I: Distribution of Tuberculous lymphadenitis in various age groups**

Age group (years)	No. of patients	Percentage
1-10	18	21.17
11-20	29	34.11
21-30	9	10.85
31-40	9	10.85
41-50	8	9.4
51 & above	12	14.11

**Table II: Distribution of Tuberculous lymphadenitis according to gender**

Gender group	No. of patients	Percentage
Male	49	57.64
Female	36	42.35

## DISCUSSION

This cross-sectional study was done during the time period from 1<sup>st</sup> February, 2013 to 15<sup>th</sup> April, 2014 at Amir Clinical Laboratories, Chiniot. The incidence of tuberculous lymphadenitis in various age and gender groups was evaluated. It was found that it is more prevalent in early years of life and young adults. This finding is similar to earlier studies done.<sup>17,18</sup> Tuberculosis is one of the major killer infectious diseases of the developing countries. In 2001, WHO estimated that 1.86 billion people were infected with the tuberculosis. Each year, 8.74 million people develop tuberculosis and almost 2 million die.<sup>19</sup> When the incidence is evaluated for the developing countries, then the situation becomes more complicated because here it mostly affects the young. It is transmitted through the air so exposure to an infectious case is prerequisite for the spread of infection. The rate of the transmission of infection depends upon the number of sources of infection in the community. It was estimated in a study that one infectious case, on an average, infects 10-15 new cases in a year.<sup>20</sup> The results of this study are comparable to the studies conducted. The risk factors for the development of the TB infection include viral infections like HIV, cigarette smoking, diabetes mellitus, malnutrition etc. These are the factors which are more prevalent in the males predisposing them to greater risk of acquiring TB infection.<sup>21</sup> In 15-20 % of the active cases, the infection spreads to the other parts of the body like bones, nervous system and lymph nodes. This extra pulmonary spread is more common in the immunosuppressed individuals like the children and the young adults.<sup>19</sup>

## CONCLUSION

The frequency of TB lymphadenitis is more in the male gender and in the young adults. The education about the risk factors of acquiring infection is more important than the assessment of presence of infection in the community. Sustained efforts to control the disease will decrease the infection rate even if the initial infection rate is high.

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