



## Awareness Regarding Hygienic Practices in Tuberculosis Patients of Sir Ganga Ram Hospital, Lahore

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**ABSTRACT:** *Worldwide, in a working-age population the tuberculosis poses a vital health care load among young adults. As the prevalence of tuberculosis increased, the rate of morbidity and mortality also increased. The objective of the study was to assess the awareness regarding hygienic practices among tuberculosis patients visiting Tertiary Care Hospital Lahore. A cross-sectional study was carried out at the chest department of Sir Ganga Ram Hospital, Lahore during November-2018 to January-2019. A sample of 100 samples of tuberculosis patients was selected through non-probability convenient sampling technique. Patients were assessed through pre-tested questionnaire. SPSS version 21.0 was used for data analysis. Among 100 participants, 55 patients were female and 45 patients were male. The prevalence of extra pulmonary TB is more in female 33% than male 21%. The mean age of the patients was 35 years. 63% TB patients cannot covered their face with mask when they cough or sneeze; 37% TB patients had covered their faces with mask when they cough or sneeze. Total 79% TB patient's houses were good ventilated while 21% TB patient's houses or rooms were not ventilated. It was concluded that an increased family size, poor hygienic environment and low socioeconomic status were major determinants of tuberculosis.*

**Keywords:** *Mal-nutrition, tuberculosis, hygienic practices, Morbidity and Mortality rate*

### INTRODUCTION

Tuberculosis is a contagious disease, primarily caused by bacteria specifically *Mycobacterium tuberculosis*, or *Mycobacterium africanum* (Fogel,

2015). The body's response to TB infection produces inflammation (Waitt and Squire, 2011) that may harm the lungs; the infection can be spread via blood from the lungs to other organs (Zak et al., 2016). TB is a communicable

disease involving impoverishment, malnutrition and poor immune system (Bhargava et al, 2019). Morbidity and mortality of TB are measured very high in developing countries (Pizzol et al., 2016). The illness is commonly diagnosed among economically disadvantage population (as in migrants, homeless people and children) or people lived in shut quarters (prisoners, and military forces) (Fares, 2011). TB is spread from inhalation of bacteria which is spread as droplets from the mucous secretion of infected persons by cough or sneeze (Glaziou et al., 2015). Symptoms of pulmonary tuberculosis square measure coughing that lasts three or more weeks; coughing up blood or bloody mucous secretion; temperature; night sweats; loss of body weight; pain in chest; chronic fatigue; and eating disorder (Lee, 2016). TB is an essential health problem that can be cured and is prevented. Approximately one-third of world's population is infected with TB; if left untreated, each infected person can infect 10 to 15 people in one year (WHO report, 2015). Pakistan has been hierarchic fifth in twenty two high TB affected countries and fourth in countries wherever MDR-TB treatment has become very hard for health professionals (WHO report, 2013). Pharmacologically TB is treated with numerous drugs, particularly antibiotics. Under nutrition has conjointly been related to mal-absorption to key anti-TB medicine. Food insecurity and under nutrition inpatient with active TB will increase their risk of developing TB.

Under nutrition will impair cell mediate immunity and increase the severity of TB illness (Ramachandran et al., 2013).

A study conducted by Maria A evaluated the patients' knowledge about tuberculosis (TB) and studied the effect of nutrition education on nutritional status of tuberculosis patients. The study was conducted at Gulab Devi Chest hospital Lahore. She did purposive sampling. Data was collected by filling questionnaire through interview. Patients were counseled, given role of nutrition in managing disease. The patients were reexamined to evaluate the effect of 12 week intervention. Results of the study revealed improvement in BMI. The Hb and erythrocyte sedimentation rate (ESR) of patients also improved significantly after intervention ( $p = 0.000$ ) and nutritional knowledge of the patients about tuberculosis improved significantly. The study showed that; nutrition education improved the knowledge about role of nutrition in TB and in turn nutritional status of the patients (Aslam et al., 2021).

Singh et al. (2018) conducted a research to study household environment effect on prevalence of tuberculosis and found that family members who were regularly (daily) exposed to smoke (second-hand smoke) inside the house were more prone to getting tuberculosis as compared with households where people do not smoke inside the house. Further, households having a finished wall less likely to get TB than the households with mud walls. There are multiple risk factors that are strongly associated with

Tuberculosis: smoke inside house, type of cooking fuel, separate kitchen, floor, roofing and wall material, number of persons sleeping in a room, sharing toilet and potable water with other households; and individual characteristics such as age, sex, educational attainment, marital status, place of residence and wealth index (Singh et al., 2018).

A case control study was conducted for one year in Guilan province of Iran to study the association between socio-environment and risk of pulmonary tuberculosis certain social determinants were found that influenced the host susceptibility to tuberculosis (TB) infections, and increase the risk of developing the disease. The average mean age of the TB cases was 51 years old. The majority of TB cases were from rural areas 71.3, while 28.7 were from urban areas. Significant differences ( $P < 0.001$ ) were observed between the geographical conditions and distribution of the disease. A significantly inadequate UV irradiation was seen in the houses of the TB patients, compared to the control group ( $P < 0.001$ ). The hygiene of the houses seemed to be a significant risk factor ( $P < 0.001$ ) for TB infection. The results suggest that in the studied region several host and environmental factors were associated with higher risks of TB infection (Taher-Ghasemi et al., 2016).

A study on TB patients in Hong Kong was carried out to examine sex differences in them and in the rate of difference in sign and symptoms. Data

was obtained from chest service of TB in Hong Kong from the past five decades. The results of their study showed that the rate of TB during the past five decades was constantly greater in men than in women, regardless of age group, their results also showed that a higher proportion of women had extra-pulmonary tuberculosis than men; the main site of involvement was the lymph nodes (Tam et al., 2003).

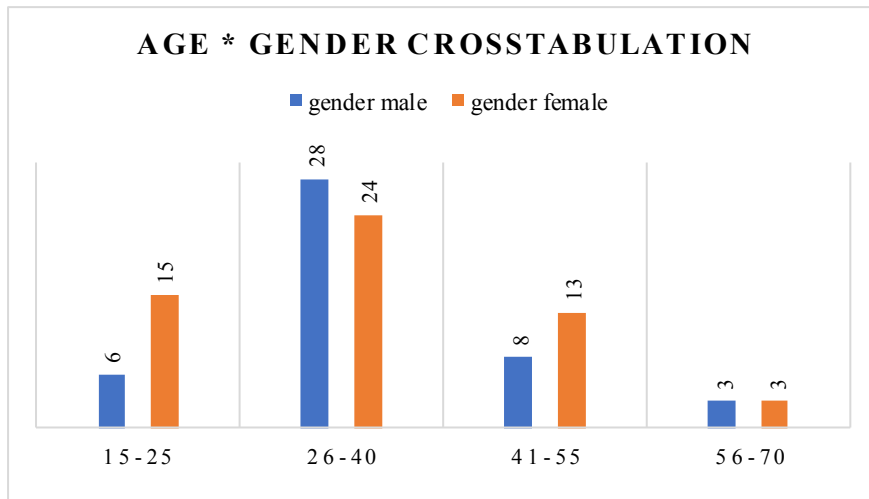
### **Methodology**

A prevalence based cross-sectional study was conducted at chest Department of Sir Ganga Ram Hospital, Lahore. Both genders between the age of 20-80 years were selected and the sample size was 100. Data were collected after the ethical approval from The University of Lahore by using the non-probability sampling technique. Non-cooperative and patients with other disorders were excluded. Pre-tested questionnaire/ Performa was used to collect data. Data were analyzed with the help of SPSS version 21.0. Frequencies and percentages were calculated to determine environmental conditions and hygienic practices.

### **RESULTS**

#### **Distribution of Gender and age cross tabulation**

The results showed that majority of patients were females; 55% as compared to males; 45%. The minimum age of patients was 18 and maximum age was 70 and the mean age of patient's was  $\pm 34.64$  year as shown in fig. 1.

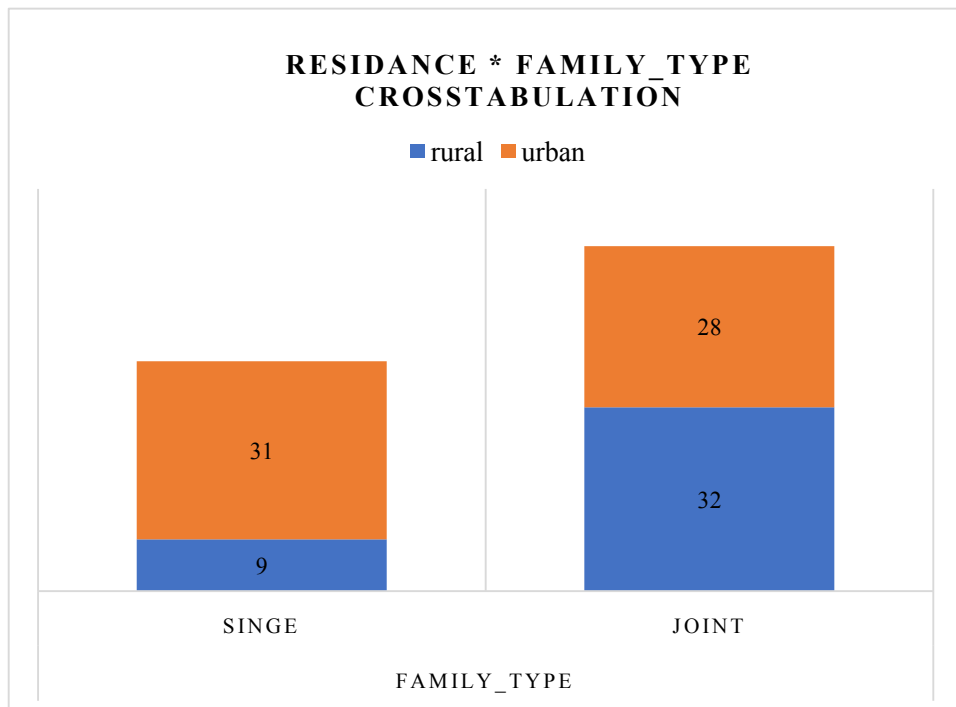


**Fig. 1. Frequency distribution of Gender and age cross tabulation**

**Distribution of residence and family type cross tabulation**

Results showed that Fifty-nine percent TB patients were from urban area

41% TB patients were from rural area and 60% TB patients lived in a joint family; while 40% TB patients lived in single family as shown in fig. 2.



**Fig. 2. Frequency distribution of residence and family type correlation**

**Distribution of face cover when cough or sneeze**

**Table 1: Frequency distribution of face covers when cough or sneeze**

Sr. No.	Face cover	Frequency
1	Yes	37
2	No	63
3	Total	100

Results showed that; 63% TB patients had covered their faces with mask patients cannot cover their face with mask when they cough or sneeze; 37 % TB when they cough or sneeze; 37 % TB table 1.

**Distribution of house good ventilated**

**Table 2: Frequency distribution of house ventilated**

Sr. No.	House ventilated	Frequency
1	Yes	79
2	No	21
3	Total	100

79% TB patient's houses were good ventilated while 21% TB patient's houses or rooms were not ventilated as shown in table 2.

**Distribution of utensils separated**

**Table 3: Frequency distribution of utensils separated**

Sr. No.	Utensils separated	Frequency
1	Yes	28
2	No	72
3	Total	100

Results showed that 72% TB patient's utensils are not separated in their house; 28% TB patient's utensils are separated in their house; as shown in table 3. There was a significant association between separated utensils and family type with prevalence of tuberculosis as p-value is <0.05.

**Distribution of separate room or bed**

**Table 4: Frequency distribution of separate room or bed**

Sr. No.	Room separates	Frequency
1	Yes	30
2	No	70
3	Total	100

Results showed that 70% TB patients had not their separate room or bed in their home; 30% TB patients had their separate room or bed in their home as shown in table 4. There was a significant association between house ventilation and family size with

prevalence of tuberculosis as p-value is  $<0.05$ .

## **DISCUSSION**

A study was conducted to find out usual practices among TB patients. The study was conducted for 3 month duration and hospital based. Data were collected through simple interviewing method. Findings of this study showed that only 22% and 18% patients practiced correct coughing and sputum disposal techniques respectively (Cherian et al., 2017). Similarly current study indicated that just 37% participants cover their face during sneezing as shown in table 1.

Ventilation and incidence rate of tuberculosis are directly proportional. Pardeshi et al. performed a study in three colonies (PMG colony, Lallubhai Compound and Natwar Parekh Compound). Main objective of this study was to check out association between household structure and tuberculosis. Data were collected through questionnaire from 4080 houses. Statistical analysis showed that there was a significant association between ground floor houses and increased prevalence rate of tuberculosis (Pardeshi et al., 2020). Another study indicated that simple modifications to existing hospital infrastructure considerably increased natural ventilation, and greatly reduced modelled TB transmission risk at little cost (Escombe et al., 2019). But in this study 79% TB patient's houses were good ventilated while 21% TB patient's houses or rooms were not ventilated as shown in table 2 and there was significant

association between house ventilation and family size with prevalence of tuberculosis as p-value is  $<0.05$ .

The consequences of urbanization, such as increased exposure to pathogens, have long been considered detrimental to human health. A study was conducted to analyze the relationship between urbanization and disease frequency – specifically tuberculosis. There were significant differences in survival for those with and without tuberculosis-related lesions between sites, but there were no significant differences between urban and rural sites (Kelmelis et al., 2020). In this recent study Fifty-nine percent (59%) TB patients were from urban area 41% TB patients were from rural area as shown in figure 2 but no significant association was seen between them.

## **CONCLUSION**

Increased family size, poor hygienic environment, inadequate ventilation and low socioeconomic status were the major determinants of tuberculosis. We should provide information and create awareness about tuberculosis and its causes so that people can protect themselves from tuberculosis. Lack of personal hygiene and knowledge related to tuberculosis were observed in patients. Poor ventilation was found as consequence of disease. We must give awareness to people about tuberculosis about unhygienic practices.

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