

# Incidence of Tuberculosis with Relation to Age, Sex, Occupation, Socio-Economic Status & Urban or Rural Area of Hazara Division & District Sialkot

**1. Nazir Ahmad 2. Qazi Mehfooz ul Haq 3. Adnan Ijaz 4. A.Hamid 5. Muhammad Sabir  
6. Musaab Hamid**

1. Assoc. Prof. of Medicine 2. Prof. of Medicine 3. Assoc. Prof. of ENT, FM&DC, Abbottabad  
4. Prof. of Forensic Medicine, FM&DC, Abbottabad 5. Prof. of Anatomy, Islam Medical & Dental College Sialkot  
6. Medical Officer, Islam Dental College, Sialkot

## ABSTRACT

**Objective:** To study the incidence of Tuberculosis in patients with relation to age, sex, occupation, socio economic status, Medical & surgical treatment, Blade used for shaving & urban or Rural area of Hazara Division & District Sialkot.

**Study Design:** Original study

**Place and Duration of Study:** This study was conducted at Shaheena Jamil Teaching Hospital Abbottabad & Islam Teaching Hospital Sialkot from 1st January 2010 to 30th April 2013.

**Materials and Methods:** 500 cases of Tuberculosis were randomly selected from the patients attending to OPD & emergency of Shaheena Jamil Teaching Hospital Abbottabad & Islam Teaching Hospital Sialkot & their peripheral Districts.

**Results:** Results are shown in Table No. 1 to Table No. 5

**Conclusion:** The maximum incidence of tuberculoses was in age group (31-40 years) & 23.4%. The incidence of tuberculoses was in age group 71-80 years (08%) which was minimum with relation to age group as shown in Table No.1. There was more incidence of tuberculosis (55.4%) in women as compared to men (44.6%) because men have more resistance against tuberculosis as compared to women as shown in Table No.2. As shown in Table No.3 the victims of tuberculosis were maximum in laborer (23%) & factory workers (22.2%) & minimum incidence of tuberculosis was found (1.6%) in house wives as compared to other groups of people. There was maximum incidence of tuberculosis in low socio-economic group of people (65.4%) in middle class of people & 2.8% in high gentry as shown in table No.4. Which was minimum as compared to other groups of people. As shown in table No.5 there was 42.6% incidence of tuberculosis as compared to rural area 57.4%.

**Key Words:** Tuberculosis Incidence, occupation, socio economic, hygiene, rural & urban.

## INTRODUCTION

An estimated 14 million people worldwide are infected with active tuberculosis (TB), which is a disease of poverty affecting mainly young adults in their most productive years. In 2009 there were 9.4 million new cases of TB and 1.7 million deaths, including 380,000 deaths from TB among people with HIV. The vast majority of deaths from TB are in the developing world. The latest data released by the World Health Organization (WHO) in November 2010 show that the number of new cases continues to fall globally and in five of the six WHO regions. The exception is Southeast Asia, where incidence remains stable. In many countries TB prevalence is declining. Worldwide, deaths from TB fell by 35 percent between 1990 and 2009.

If current trends continue the world can meet the Millennium Development Goal target for incidence – that new cases should be falling by 2015 – and the Stop

TB Partnership target to halve TB mortality by 2015 in comparison with 1990.

## MATERIALS AND METHODS

Five hundred (500) cases of tuberculosis were randomly selected from patients attending to OPD & emergency of Shaheena Jamil Teaching Hospital Abbottabad & Islam Teaching Hospital Sialkot. Shaheena Jamil Teaching Hospital Abbottabad drains patients from Hazara Division & even from Gilgit province. Islam Teaching Hospital give cover to the patients coming from Sialkot & Its peripheral Districts.

## RESULTS

The maximum incidence of tuberculoses was in age group (31-40 years) & 23.4%. The incidence of tuberculoses was in age group 71-80 years (08%) which was minimum with relation to age group as shown in Table No.1. There was more incidence of tuberculosis (55.4%) in women as compared to men (44.6%) because men have more resistance against tuberculosis

as compared to women as shown in Table No.2. As shown in Table No.3 the victims of tuberculosis were maximum in laborer (23%) & factory workers (22.2%) & minimum incidence of tuberculosis was found (1.6%) in house wives as compared to other groups of people. There was maximum incidence of tuberculosis in low socio-economic group of people (65.4%) in middle class of people & 2.8% in high gentry as shown in table No.4. Which was minimum as compared to other groups of people. As shown in table No.5 there was 42.6% incidence of tuberculosis as compared to rural area 57.4%.

**Table No.1: Incidence of Tuberculosis with Relation to Age**

Sr. No.	Age	Cases (Patients)	Percentage
01	1-10	52	10.4%
02	11-20	53	10.6%
03	21-30	53	10.6%
04	31-40	117	23.4%
05	41-50	55	11.0%
06	51-60	107	21.4%
07	61-70	53	10.65
08	71-80	40	8.0%
	Total	500	100%

**Table No.2: Incidence of Tuberculosis with relation to sex**

Sr. No.	sex	Cases (Patients)	Percentage
01	Male	223	44.6%
02	Female	277	55.4%
	Total	500	100%

**Table No.3: Incidence of Tuberculosis with relation to Occupation**

Sr. No.	Occupation	Cases (Patients)	Percentage
01	Students	25	05%
02	Factory worker	111	22.2%
03	Laborer	115	23%
04	Servants	28	5.6%
05	Businessman	15	03%
06	Farmer	20	04%
07	Doctors	20	04%
08	Nurses	25	05%
09	Dispenser	20	04%
	OTA Lab	33	6.6%
	Tecnition	20	04%
10	House Wife	08	1.6%
11	Working Women in Houses	20	04%
12	Ward Boys	20	04%
13	Sweeper	20	04%
	Total	500	100%

**Table No.4: Incidence of Tuberculosis with relation to socio-economic status**

Sr. No.	socio-economic status	Cases (patients)	Percentage
1	Low	327	65.4%
2	Middle	159	33%
3	High	14	2.8%
	<b>Total</b>	500	100%

**Table No.5: Incidence of Tuberculosis with relation to Urban or rural area**

Sr. No.	Urban/ Rural area	Cases (patients)	Percentage
1	Urban	213	42.6%
2	Rural	287	57.4%
	<b>Total</b>	500	100%

## DISCUSSION

In our study the incidence of tuberculosis was maximum in age group 31-40 years (23.4%) because the people in this group are more mobile & the chances of exposure to tubercle bacilli is maximum in this age group due to involvement in different jobs outside the house. The incidence of tuberculosis was minimum in age group 71-80 years (08%) because the persons in this group are restricted in home & exposure to environment outside the home is minimum as shown in Table No.1. The incidence of tuberculosis in women was greater (55.4%) than men (44.6%) because women have low body resistance as compared to male as shown in Table No.2. The incidence of tuberculosis was maximum in factory workers & laborers (22.2%) & (23%) respectively as these persons are more exposed to tubercle bacilli & chances are more because over work & pollution decreases the body resistance. The incidence of tuberculosis was minimum in house wives because they are less exposed to the tubercle bacilli as being residing inside environment as shown in Table No.3. The incidence of tuberculosis was maximum in low socio-economic group of people (65.4%) as compared to middle class (33%) & in high gentry (2.8%) due to low resistance & more exposure to polluted environment as shown in Table No.4. The incidence of tuberculosis was more (57.4%) in rural area as compared to urban area (42.6%) due to working in more polluted environment, more exposure to tubercle bacilli, low body resistance & poor hygienic conditions as compared to people living in urban area as shown in Table No.5.

The global incidence of tuberculosis was an estimated 14 million people worldwide are infected with active tuberculosis (TB), which is a disease of poverty affecting mainly young adults in their most productive years. In 2009 there were 9.4 million new cases of TB and 1.7 million deaths, including 380,000 deaths from TB among people with HIV. The vast majority of deaths from TB are in the developing world.

The latest data released by the World Health Organization (WHO) in November 2010 show that the number of new cases continues to fall globally and in five of the six WHO regions. The exception is Southeast Asia, where incidence remains stable. In many countries TB prevalence is declining. Worldwide, deaths from TB fell by 35 percent between 1990 and 2009.

If current trends continue the world can meet the Millennium Development Goal target for incidence – that new cases should be falling by 2015 – and the Stop TB Partnership target to halve TB mortality by 2015 in comparison with 1990.

Progress in tackling the global TB burden is associated with DOTS, the basic package that underpins the Stop TB Strategy, which was adopted by the WHO in 1993. The expansion of DOTS across the world since the mid-1990s is tracked through the proportion of estimated new TB cases that are detected – or “notified” – and successfully treated under DOTS.

In 2009 5.8 million cases of all kinds of TB were notified globally, equivalent to a 63 percent case detection rate compared with 61 percent in 2008.\*

Treatment success rates continue to be measured in terms of smear-positive pulmonary TB only. Of the 2.6 million cases notified in 2008, 86 per cent were successfully treated against the new 90 percent target included in the 2011-2015 update of the Global Plan to Stop TB.

A total of 41 million TB patients were successfully treated in DOTS programs between 1995 and 2009.

The Global Fund has helped to accelerate case detection and successful treatment in recent years, with 1.7 million additional cases of TB detected and treated by Global Fund-supported programs in 2010, compared with 1.4 million in 2009 and 1.3 million in 2008. Since the Global Fund's inception in 2002, programs it has financed had supported DOTS for a total of 7.7 million people by December 2010.

The incidence of new cases worldwide is falling too slowly at around 1 percent per year.

Multidrug-resistant TB is on the increase, particularly in Eastern Europe and parts of Asia. Levels of case detection and successful treatment are far too low. Only 12 percent (30,000) of the estimated cases were notified in 2009 and less than 5 percent were properly treated. The Global Fund is the major donor for responses to multidrug-resistant TB. Programs it supports treated 14,000 cases in 2009, equivalent to nearly 60 percent of the 23,000 enrolled for treatment globally that year, and an additional 13,000 in 2010 – bringing the total treated with Global Fund support to 43,000 at December 2010. The HIV epidemic has fueled the TB epidemic, particularly in sub-Saharan Africa. Too little is done to prevent TB among people living with HIV, who account for 13 percent of the new TB cases in 2009. Less than 1 percent of the estimated number of people

living with HIV worldwide received isoniazid preventive therapy in 2009 and only 26 percent of TB patients knew their HIV status. Service coverage for TB/HIV co-infections remains very low. By December 2010 Global Fund-supported programs had provided a total of 2.4 million TB/HIV services.

Our study correlates with the Anita Balaraman, Rajiv Bhatia, Robert S. Chapman, George W Comstock, Markus Faigle, Thomas Frieden, Fabio Luelmo, Norman Y. Luther, Sumi Mehta, Premlata Menon, E DeWolfe Miller, Mark Nicas, Lee Reichman, Lee W! Riley, and Sergio Spinaci for helpful comments.

## CONCLUSION

The maximum incidence of tuberculoses was in age group (31-40 years) & 23.4%. The incidence of tuberculoses was in age group 71-80 years (08%) which was minimum with relation to age group as shown in Table No.1. There was more incidence of tuberculosis (55.4%) in women as compared to men (44.6%) because men have more resistance against tuberculosis as compared to women as shown in Table No.2. As shown in Table No.3 the victims of tuberculosis were maximum in laborer (23%) & factory workers (22.2%) & minimum incidence of tuberculosis was found (1.6%) in house wives as compared to other groups of people. There was maximum incidence of tuberculosis in low socio-economic group of people (65.4%) in middle class of people & 2.8% in high gentry as shown in table No.4. Which was minimum as compared to other groups of people. As shown in table No.5 there was 42.6% incidence of tuberculosis as compared to rural area 57.4%.

## REFERENCES

1. Smith KR. Indoor air pollution in India. Natl Med J India 1996; 9:103-104.
2. Smith KR, Liu Y. Indoor air pollution in developing countries. In: Samet JM, editors. Epidemiology of lung cancer. Lung Biology in Health and Disease Series 1994. p.15 1-184.
3. WHO (World Health Organization). Epidemiological, social, and technical aspects of indoor air pollution from biomass fuel: report of a WHO consultation, June 1991. Geneva: World Health Organization; 1992.
4. Smith KR. Biofuels, air pollution, and health: a global review. New York: Plenum Press; 1987.
5. Smith KR. Fuel combustion, air pollution exposure, and health: the situation in developing countries. Ann Rev Energy and Env 1993; 18: 529-566.
6. WHO (World Health Organization). Health and environment for sustainable development. Geneva: World Health Organization, 1997.
7. IIPS (International Institute for Population Sciences). National family health survey (MCH

and Family Planning): India 1992-93. Bombay: International Institute for Population Sciences; 1995.

8. WHO (World Health Organization). WHO report on the tuberculosis epidemic 1997. Geneva: World Health Organization, 1997.
9. American Thoracic Society/Center for Disease Control. Diagnostic standards and classification of tuberculosis. *Am Rev Respir Dis* 1990;142: 725-735.
10. Murray CJL, Lopez AD, eds. Global burden of disease. Cambridge, MA: Harvard University Press; 1996.
11. Raviglione MC, Snider DE, Kochi A. Global epidemiology of tuberculosis: morbidity and mortality of a worldwide epidemic. *JAMA* 1995; 273:220-226.
12. Piot P Tuberculosis and AIDS: the dual epidemic. UNAIDS: points of view. Geneva: UNAIDS, 1997.
13. Kochi A. Tuberculosis: distribution, risk factors, mortality. *Immunobiology* 1994; 191:325-336.
14. WHO (World Health Organization). Tuberculosis programme review: India. Geneva: World Health Organization; 1992.
15. Sawert H. The re-emergence of tuberculosis and its economic implications. *PharmacoEconomics* 1996;9:379-381.
16. Mishra V, Rutherford RD. Cooking smoke increases the risk of acute respiratory infection in children. *Nat Family Health Survey Bull* 1997; 8: 1-4.
17. Kossove D. Smoke-filled rooms and lower respiratory disease in infants. *S Afr Med J* 1982; 63:622-624.
18. Pandey MR, Boleji J, Smith KR, Wafula E. Indoor air pollution in developing countries and acute respiratory infection in children. *Lancet* 1989; 25: 427-429.
19. Callings DA, Sithole SD, Martin KS. Indoor woodsmoke pollution causing lower respiratory disease in children. *Trop Doct* 1990; 20:151-155.
20. Armstrong JRM, Campbell H. Indoor air pollution exposure and lower respiratory infection in young Gambian children. *Int J Epidemiol* 1991;20: 424-428.

**Address for Corresponding Author:**

**Dr. Nazir Ahmad,**  
Assoc. Prof. of Medicine  
Frontier Medical & Dental College,  
Abbotabad.