

STUDY ON HUMAN TUBERCULOSIS WITH REFERENCE TO SOCIO-DEMOGRAPHIC FACTORS

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Abstract: A descriptive and case-control study was conducted on 67 patients (35male, 32 female; 45 from rural and 22 from urban) admitted in the chest ward of DHQ Hospital, Sahiwal to see the impact of socio-demographic factors responsible for high prevalence of tuberculosis. 134 patients without tuberculosis were taken as control. The study reflected that 64.1% (43) were b/w the ages 16-45 year. The study also showed that poverty, poor housing, overcrowding, under nutrition, smoking, addiction, consumption of raw milk and lack of health education were the major contributing factors in the spread of tuberculosis. From 67, 17 (26.8%) were from labor class, 28 (41.8%) were females, 8 (11.9%) were farmers and 7 (10.4%) were students. The monthly income of 46 (68.6%) were less than Rs.2,000, while 15 (22.3%) were Rs.2,000 to 5,000 and 6 (8.9%) had more than Rs.5,000. Patients having contact with infected patients has 56 times more chance tuberculosis than contact. Living housing analysis revealed that 44 (65.6%) families had one bedroom while 23 (34.2%) had two bedrooms or more. The patients consuming raw milk have 70 times more chances tuberculosis and smokers had 2 times more chances. Emphasis was given on the need for awareness to the recommended tuberculosis guidelines and its implementation.

Keywords: Socio-demographic factors, tuberculosis, descriptive study, case-control study.

INTRODUCTION

Tuberculosis causes a great deal of ill health and an enormous economic burden in the populations of most low-income countries. The tuberculosis situation, like in many other developing countries, is very serious in Pakistan as per World Health Organization (WHO)

estimates more than 3 lack new cases of tuberculosis develop in this country every year, three quarters of which are concentrated in the productive age group *i.e.*, 15-44 years. The delay in diagnosis and inability to cure a high proportion of sputum smear-positive cases are the main reasons of increased risk of infection, high death rate and multi-drug-resistance in our country. For these reasons, the Government of Pakistan has given priority to the fight against tuberculosis as a public health problem. In this country, the tuberculosis control activities conducted by Non-Governmental Organizations (NGOs), both national and international, and bilateral donor agencies need to be strengthened through the existing health care system. Tuberculosis can only be successfully controlled and eventually eliminated in the context of a National Tuberculosis Program (NTP). Such a program must operate within the general health services of the country. Tuberculosis control measures initiated only after full agreement with the national and provincial health authorities responsible for the NTP in their respective area. The National TB control program has, therefore, laid down the guidelines for the fight against tuberculosis, which are based on national policies for tuberculosis control in the country and should be followed by all agencies involved in tuberculosis control activities (National Guideline for Tuberculosis Control Pakistan).

MATERIALS AND METHODS

The project conducted was a descriptive epidemiological study done to compare the effects of various socio- demographic factors in the spread of disease. The survey was conducted on 201 patients in whom there were 67 diagnosed cases of tuberculosis in chest ward of DHQ Hospital, Sahiwal and the rest of the non tuberculosis patients *i.e.* control who were not suffering from any chest infection. Therefore, both groups of the patients having tuberculosis and non- tuberculosis were included in the study. Although the study was belonging to the urban slums but half of the patients were belonged to the rural areas. A questionnaire was used to determine the patient's socioeconomic condition *i.e.*, housing, income geographical, smoking, addiction and other associated diseases.

RESULTS AND DISCUSSION

The study was carried out on 67 patients having tuberculosis while 134 patients who were not suffering from Tuberculosis and were taken as control cases. There were 35 males and 32 females who were suffering from tuberculosis ranging in age from 12-80 years. The patients were grouped in five different groups according to their ages. It had been shown that the maximum incidence of tuberculosis were found between the age of 16-30 years 35 cases (46.2%) and 31- 45 years 12 cases (17.9%) and 46-60 years 15 case (22.3%). The percentage of positive cases between 16-45 years was 64.1% and between 16-60 years is 84.4%.

The study was conducted by National Tuberculosis Institute, Bangalore, the longitudinal survey. According to the estimates that at least 50% of population above the age of 20 years is-infected and will remain at risk of the disease through out his its time (Dey, 1995). In the study there were 35 male cases (52.2%) and 32 female (47.8%) suffering from tuberculosis with an odd ratio of 0.86. The findings are in agreement with Cailhol *et al.* (2005) who reported that the majority of cases of tuberculosis occur among males. The study is also comparable with that of Chadha (2005). The overall prevalence of infection as done by standard tuberculin test was 30% out of which 35% in males and 25% in females. 21 cases (31.3%) were unmarried while 46 cases (69.7%) were married with an odd ratio of 1.34, Which shows a slightly higher incidence of tuberculosis in married than unmarried?

Geographically disease was more distributed in rural area, 22 cases were from urban area while 45 cases were from rural area 32.8% and 67.7% respectively with an odd ratio of 1.74. The study had given interesting result as regards the duration of stay in the hospital, 45 cases of tuberculosis 67.1% had more than 7 day stay in the Hospital out of which 22 cases 32.8% had more than 2 weeks stay in the Hospital. While on the other side in control cases 46 cases 68.6% had less than 3 days stay in the Hospital while only 6 cases 4.4% had more than 15 days stay in the Hospital.

As regards the economic status and the income of the patients is concerned, the patients who had less than Rs.2000- family income were 46 (68.80%), while the patients having income ranging Rs.2000/5000 - were fifteen 22.3% and the patients having tuberculosis with income more than Rs.5000 were only six (8.9%) with odd ratio of 2. Tuberculosis is a disease of poverty and economic regression and malnutrition. It makes population more vulnerable to tuberculosis (Park, 2000). As regards housing and living standard was concerned 23 patients were living in a house of 2 or more rooms, while 44 cases were living in a house of only 1 room 34.3% and 65.7% respectively with 2.1 odd ratio. Rathi (2002) argued high prevalence of TB is associated with poor housing conditions seem to contribute to the spread of *M. tuberculosis* infection. History or contact with tuberculosis patients in 31 out of 67 cases in tuberculosis patients while history of contact in present was only 2 cases out of 134 which were not suffering from tuberculosis with an odd ratio of 56.

These findings are comparable with the study done in Pakistan where history of contact with tuberculosis patients is 24% (Iqbal and Muhammad, 2002). Out of 67 tuberculosis patients 9 were diabetic. While in control cases only 3 out of 134 were diabetic with an odd ratio of 6.79. Three cases were addicts who were suffering from tuberculosis while in control group no case of addiction was found with an odd ratio of 6.18. With regard to smoking, 47 out of 67 were smoker while 20 cases were non-smokers 70.1% and 29.9% with an odd ratio of 2.2, while in control group, 69 persons were non-smokers and 65 were smokers. Hussain *et al.* (2003) determined the prevalence of risk factors associated with *M. tuberculosis* infection in prisoners. A statistically significant association was found between age, educational level, smoking status, average accommodation area and incidence of latent TB. With regards to the consumption of raw milk in disease group 23 cases were positive with an average of 34.3% and an odd ratio of 70, while in control group no person was found having consumption of raw milk. Shetty *et al.* (2006) associated TB with low education level, poor hygienic condition and diabetes. As regards the profession wise distribution of the disease, the maximum cases were present in labour class 18 (26.80%) and housewives 28 (41.89%) while in the farmers it was 8 (11.9%) and among the students

it was 7 (10.44%). Among employees group tuberculosis was found in only one case (1.49%) and in un-employed group 5 (7.48%) was found.

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