PREVALENCE OF TUBERCUOSIS IN JAIL

ORIGINAL
PROF-1761

DR. JAVED IQBAL
Assistant Professor Chest and TB
Bahawal Victoria Hospital
Bahawalpur.

DR. KHALIL AHMED SHAHID
Demonstrator Community Medicine
Quaid E Azam Medical College
Bahawalpur.

DR. ALTAF HUSSAIN MALIK
APMO
Bahawal Victoria Hospital
Bahawalpur

ABSTRACT... Objective: To determine the prevalence of tuberculosis in prisoners of jail. **Design:** Descriptive study. **Place and duration of study:** Central Jail Bahawalpur, all prisoners who were jailed in prison were included. It comprises prisoners of ten years (from 1999). **Patient and Method:** The study population comprised of 2552 prisoners, 2540 were males and 12 were females. The important variables included symptoms of patients (cough, fever, hemoptysis), age, duration of stay in jail and radiological features seen on chest X Ray. Data was analyzed on SPSS. **Results:** There were 2540 males and 12 females. Forty-six patients had tuberculosis (1.80%) with mean age 37 ± 12.07 years and their mean stay in jail was 802 ± 1118 days. Among prisoners diagnosed as tuberculosis 39 (85%) had cough and hemoptysis was present in 10 (21.73%) of tuberculosis patients along with cough. Chest X Ray showed 22 (48%) had cavitations and bronchiectasis on chest x ray. Upper lobe alveolar infiltrates were found in 19 (41%) of cases while pleural effusion was present in 5 (11%) of tuberculosis patients. **Conclusions:** The study revealed that tuberculosis exists in jail of South Punjab Pakistan thus represents an important screening site for TB.

Key words: Tuberculosis in Jail.

INTRODUCTION

Tuberculosis named white plague in the history of United States of America, as mortality associated with it was about 110,000 each year in the 1900's. Moreover sanatoriums were named “Waiting room for death”. The crowded and ill-ventilated places are the main hurdles in the control of this disease. The jails are the typical examples of such conditions.

Jail is a place in community where criminal and convicted inmates are kept for a certain period of time and many of them are released with the intentions that they will be the useful members of the society in future. Tuberculosis is common in jail inmates[1].Its prevalence in jail can be much higher then in the community. In a study done at a correctional facility the percentage of TB cases reported was 9.2%[2].

Tuberculosis can spread to the community when inmates and workers leave the jail[1]. One review showed the tuberculosis infecting the children from released inmates in community[6]. Thus compromising the life of the future generation as well.

Inmates with tuberculosis can spread the infection to other inmates with whom they spend most time or to people who work in the jail. A 25-site national survey of tuberculosis infection in correctional facilities found that about 25% of inmates being discharged annually might have had tuberculosis infection[3]. Previous reports have documented tuberculosis incidence rates among jail inmates to be 6 to 10 times greater than those in the general population[4]. The most likely reason for this increased incidence is that the tuberculosis spread through the droplet when an infected person coughs, sneezes, speaks or sings and is in close contact with others, for example, a cell mate in jail. Poor access to TB services and socioeconomic status is the second important reason in the elevated TB rates in jail[5].

Transmission of TB in prisons is also particularly dangerous as it may involves resistant strains[7]. Lack of compliance to the anti tuberculous therapy and drug shortage leaves treatment often sub optimal leading to not only spread of tuberculosis but also to multi drug-resistant (MDR) TB. A Russian review of jail inmates for MDR TB showed 12% prevalence as compared to 5% of community[8].

This out break is not limited to the drug susceptible cases

as there are multiple reports for the Multi drug resistance tuberculosis throughout the world as in New York and Azerbaijan jails[12].

The same reason has also lead to isolation of drug resistant cases in jails. The Dhaka central jail showed Resistance to Isoniazid, Rifampicin, streptomycin and Ethambutol up to 11.4%, 0.8%, 22.4% and 6.5% respectively[9].

Pakistan ranks 8th among the twenty two high burden countries prevalent with tuberculosis. In eastern Mediterranean region, according to WHO Pakistan hold 43 % of tuberculosis cases.

This particular jail was keeping more inmates then it can accommodate. This over crowding exposed the individuals to other health hazards including tuberculosis. Infants and children are kept along with their mothers in the prison in the same over crowded rooms thus increasing the risk of latent or active tuberculosis in children.

In Pakistan jails tuberculosis outbreak can erupt as volcano as a result of meager resources. The survey at Shelby County TN during 1998-99 done by tracing the mycobacterium strain in community stressed on controlling this crippling disease within the jail[10].

The jail in which we worked became functional in 1955. It takes adult prisoners on trial as well as convicted prisoners. It was also faced with the problems of over crowding most of time. But the good thing about the area was its well-maintained gardens and architectural design.

Currently there are no available data on prevalence of TB infection in the Prisons of Pakistan. However there is one study of a Camp jail where prisoner's temporarily resides for a short time waiting for their shift to a major jail and it never represents the true environment of jail[13].

METHODS

It's a cross sectional study on 2552 prisoners jailed since 1999 and were present in custody were included. This study was conducted at central Jail Bahawalpur. The data was analyzed by SPSS. Their detailed interview was taken. Chest X-Ray, ESR and Sputum smear examination was done.

The important variables included symptoms of patients (cough, fever, hemoptysis), age, duration of stay in jail and radiological features seen on chest X Ray.

A small laboratory was set at jail, which was doing ESR and Sputum examinations for AFB. An X-Ray machine was placed to get Chest X rays of all the prisoners being interviewed. All those who were radiologically and on sputum examination were found to have tuberculosis were enlisted to send for appropriate measures.

Those prisoners who were already on anti tuberculous treatment were not included for this study.

RESULTS

The study population comprised of 2552 prisoners, 2540 were males and 12 were females. Among total of 46 (1.80%) patients diagnosed as tuberculosis mean age was 37 years (Range 20-76 years). In our study 39 (85%) had cough. The hemoptysis was present in 10 of tuberculosis patients (21.73%) along with cough.

In radiological examination, chest x ray 22 (48%) patients had cavitations and bronchiectasis. Upper lobe alveolar infiltrates were found in 19 (41%) of patients while pleural effusion was present in 5 (11%) of tuberculosis patients.

However none of the jail inmates was sputum smears positive for Mycobacterium tuberculosis.

The mean time of duration in jail was 802 days (Range 2-3960 days).

DISCUSSION

The optimal management of tuberculosis relies on effective care of active case and its contacts. The outbreak of tuberculosis might have been easier to control had a system of health care been in place. Our present study signifies its need by showing the presence of tuberculosis in jail. And supported the fact that jails

should follow the guidelines for TB control in prisons[14] to decrease its incidence.
This prevalence (1.80%) is even less then in the developed countries literature[2].

In this study mean age was 37 years (Range 20-76 years) and male gender dominance is comparable to the Pakistan data published for tuberculosis in community[15].

Although the incidence of HIV was too low in this jail (only two prisoners were HIV positive). The low HIV incidence was the only favorable factor contrary to a survey by the California departments of corrections and health services and local health departments[11].

Previous reports have documented tuberculosis incidence rates among jail inmates to be 6 to 10 times greater than those in the general population[4]- Except for Khyber PakhtoonKhaw province in Pakistan, which has higher incidence of tuberculosis rest of the Pakistan has 85-100 patients/100,000 persons[15]. The situation as described by our study is not that alarming in this jail.

Critics always point out long duration of stay with tuberculosis active cases as a risk factor for acquiring this disease. Our study further signifies this point by showing 1.80% prevalence of tuberculosis in an over crowded jail and need for isolating them till cured.

An important benefit of this study was detection of the active cases before life threatening complication occurs.

CONCLUSIONS

This study clearly indicates that it is important to screen everyone in jail for tuberculosis in South Punjab region of Pakistan. Prior to incarceration, inmates may also face barriers to accessing the health status that are necessary for detection and treatment of TB.

The infected inmates should move into seperate medical cell to minimize the possibility of exposing others to the disease.

The jails should follow the guidelines for TB control in prisons[14]. And care of these diagnosed cases must be continued after release of the prisoners.

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Article received on: 17/03/2011 Accepted for Publication: 22/06/2011 Received after proof reading: 12/08/2011

Correspondence Address:
Dr .Javed Iqbal
20 B West Trust Colony, Bahawalpur.
jiqb@hotmail.com

Article Citation:
Iqbal J, Malik AH, Shahid KA. Prevalence of tuberculosis in jail. Professional Med J Sep 2011;18(3): 462-465.

Don't be so humble - you are not that great.

(Golda Meir 1898-1978)
to a visiting diplomat