Spectrum of Tuberculosis in the State of Jammu and Kashmir

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Abstract

Background: To determine the incidence of Tuberculosis in the state of AJK and to formulate suggestions/strategies in perspective of Millennium Development Goals to control TB.

Methods: In this descriptive study, data was collected from sixty Tuberculosis (TB) centers of ten districts of Azad Jammu & Kashmir [AJK]. The patients were registered and provided free treatment with monthly follow ups. The average duration of treatment was eight months with intensive phase of two and maintenance phase of six months.

Results: There was a steady increase in the average annual rate of tuberculosis since 1990. It was lowest in 1990 (63/100,000) and highest in 1998 (138/100,000). The average annual rate during the last 10 years was 114.5/100,000 population. The maximum number of new patients (Total 4829) were registered in 2004 whereas the minimum number of patients were registered in 1990 (Total 1265).

Conclusion: The incidence of TB has not declined in the State.

Key Words: National TB Programme, Azad Jammu & Kashmir [AJK].

Introduction

Tuberculosis is, one of the oldest infectious disease. It is caused by Mycobacterium tuberculosis complex. The most common site of involvement is lungs. Other systems are involved in one third of cases (Extra pulmonary TB). If caused by drug susceptible strains and treated properly it is curable in virtually all cases. WHO in its annual report on tuberculosis in 2011 reported first ever decline of disease in history. The maximum disease burden is in developing countries of Asia. The five countries with largest number of incident cases in 2010 were India (2.0-2.5 million), China (0.9 -1.2 million), South Africa (0.40-0.59 million), Indonesia (0.37-0.54 million) and Pakistan (0.33–0.48 million). According to WHO report, the incidence of tuberculosis in Pakistan is comparable with Bangladesh, better than Myanmar and worse than in India and Afghanistan. The statistics from the State of Jammu and Kashmir are much better than all these countries. However, the situation is far below the targets and indicators of TB control Millennium development goals set by WHO for 2015.

Patients and Methods

This descriptive study was conducted at Abbas Institute of Medical Sciences (AIMS) Muzaffarabad. AIMS is a referral center and teaching hospital affiliated with Azad Jammu and Kashmir Medical College Muzaffarabad. The data was collected from sixty T.B centers of ten districts of AJK. The study covered the period from 1990 to 2011. In this study period the average population of state was 3.6 million. These T.B centers are established in public sector by health department of Government of AJK in different facilities including Basic Health Units (BHUs), Rural Health Centers RHCs), TB Sanatorium, Tehsil Head Quarter Hospitals (THQs), District Head Quarter Hospitals (DHQs), two Combined Military Hospitals, and at Abbas Institute of Medical Sciences (AIMS). These centers provide free diagnostic and treatment facilities.

The diagnosis of TB was based on diagnostic criteria of National Tuberculosis Programme (NTP). The disease was suspected in patients with symptoms of evening pyrexia, productive cough for more than thirty days, loss of weight and appetite. Additional features included weakness, lethargy and ill health with positive H/O contact with patient suffering from TB. The supportive evidence was provided by chest radiograph findings in the form of primary complex, hilar or mediastinal lymphadenopathy, cavity, miliary pattern, pleural effusion or opacity not explained by any other disease. Sputum were stained with ZN-stain for Acid Fast Bacilli. Patients were divided in two treatment categories. The newly diagnosed cases were assigned to category-1 and received treatment with four drugs during the intensive phase. Category-2 included cases of relapse and were treated with five drugs during the intensive phase.

Results

Evaluation of data showed a progressive increase in the average annual rate of tuberculosis (Table-1). It
was lowest in 1990 (63/100,000) and highest in 1998 (138/100,000). The average annual rate during the last 10 years was 114.5/100,000 population (Fig-1). The maximum number of patients (Total 4829) were registered in 2004. The minimum number of patients were registered in 1990 (Total 1265). The peak incidence was observed in 1998 (138/100,000). It dropped to 99/100,000 in 2008 which was minimum for the last ten years. There was a steady increase in the number of new patients of tuberculosis in the following years rising to 116/100,000 in 2011. The maximum number of cases of extra-pulmonary tuberculosis was observed in 2005 (Total 1309). The maximum number (1353) of new sputum positive pulmonary tuberculosis was observed in 2004.

**Discussion**

The target for TB control millennium development goals set for 2015 by WHO were to reduce prevalence and death rate by 50% compared with their levels in 1990. The incidence in the State is much lower as compared with the regional countries (Table-2). However, there is a failure to achieve the set targets, the situation has markedly deteriorated over the specified period. [Table 3] According to the MDG the number should have dropped to 32/100,000 patients from 63/100,000 patients in 1990. Instead it has gone up to 116/100,000 patients (Table-3).

The most obvious deficiency of NTB programme is the lack of laboratory with the facility for AFB culture and drug sensitivity. Patients are treated empirically. Treatment failure leads to increased pool of infectious patients. In the scenario of global emergence of multi-drug resistance and extensive drug resistance strains of mycobacterium it becomes even more important to treat patients according to drug sensitivities. Presently we are unaware of MDR-TB prevalence in the State. However, this deficiency alone cannot account for the increased incidence of TB in the state.

Bulk of the tuberculous patients (80%) is in eight countries of the world. These eight countries are included in the twenty two high burden countries (HBC). In 2010 even these eight countries did not meet the target of one microscopy centre per 100, 000 population. There may also be other reasons for deficiencies in this programme responsible for poor control of TB. The whole programme and its strategy need re-evaluation.

Early and effective chemotherapy of infectious patients as well as tracing, evaluation and chemoprophylaxis of close contacts are essential to ensure success of NTB. The cultural norms and the social values of this society also contribute to the spread of tuberculosis. It is obligatory in our culture for all family members to visit patients admitted in hospitals. It exposes all visitors at risk of contracting disease from the patient. However, this aspect can easily be utilised for benefit. The close contacts of TB patients are available in this setting and can be evaluated for early detection and chemoprophylaxis.

Private sector hospitals and clinics should be involved in this programme. It will be unjust if NTB programme were to continue with the existing policy of non-engagement with these facilities. The private sector health facilities are expected to expand in future and should be better equipped and staffed.

The stigma of tuberculosis remains a significant challenge. The local residents do not use the word “Tuberculosis” for themselves or for some close family member. They often describe the disease in different words e.g. chest disease or chest problem. Nevertheless, public awareness campaigns are making impact and now patient do seek early medical advice.

### Table 1: Five Yearly distributions of tuberculous patients 1990-2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (Millions)</th>
<th>New cases (Sputum positive)</th>
<th>Retreatment (Sputum positive)</th>
<th>Case Detection Ratio (Sputum positive)</th>
<th>Smear Negative</th>
<th>Extra Pulmonary</th>
<th>Total</th>
<th>Pctage of sputum positive</th>
<th>CDR Total</th>
<th>Retreatment</th>
<th>Total per100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>2.516</td>
<td>140</td>
<td>0</td>
<td>9%</td>
<td>1185</td>
<td>259</td>
<td>1584</td>
<td>15</td>
<td>36%</td>
<td>0%</td>
<td>63</td>
</tr>
<tr>
<td>1995</td>
<td>2.875</td>
<td>451</td>
<td>51</td>
<td>20%</td>
<td>1811</td>
<td>330</td>
<td>2643</td>
<td>20</td>
<td>52%</td>
<td>2%</td>
<td>92</td>
</tr>
<tr>
<td>2000</td>
<td>3.284</td>
<td>956</td>
<td>149</td>
<td>36%</td>
<td>2089</td>
<td>807</td>
<td>4001</td>
<td>31</td>
<td>69%</td>
<td>4%</td>
<td>122</td>
</tr>
<tr>
<td>2005</td>
<td>3.752</td>
<td>1221</td>
<td>154</td>
<td>41%</td>
<td>1990</td>
<td>1309</td>
<td>4674</td>
<td>38</td>
<td>70%</td>
<td>3%</td>
<td>125</td>
</tr>
<tr>
<td>2010</td>
<td>3.937</td>
<td>1330</td>
<td>138</td>
<td>37%</td>
<td>1757</td>
<td>1312</td>
<td>4537</td>
<td>49</td>
<td>63%</td>
<td>2%</td>
<td>115</td>
</tr>
<tr>
<td>2011</td>
<td>4.031</td>
<td>1473</td>
<td>158</td>
<td>36%</td>
<td>1723</td>
<td>1314</td>
<td>4668</td>
<td>61</td>
<td>64%</td>
<td>3%</td>
<td>116</td>
</tr>
</tbody>
</table>
In AJK TB programme dispenses anti-tuberculous drugs for a maximum period of one month. Most villages are in hilly terrains at the base of Himalayas and are only connected by link roads. These link roads are often closed during the harsh winter months due to heavy snow fall. It becomes almost impossible for patients to reach health facilities during severe weather conditions. The state TB programme needs new strategy to ensure continuous supply of drugs for these patients during cold long winters.

The weather conditions are also responsible for increased transmission in family contacts due to prolonged time spent in one room with adequate heating arrangements. Infectious patients should be admitted in hospital or kept in a separate room with heating arrangement till they become non infectious with chemotherapy. It normally takes three weeks for patients to become non- infectious with effective anti-tuberculous drugs.10

**Conclusions**

The State TB programme is drifting away from its targets and needs to incorporate new strategies and coordinated efforts to achieve its Millennium Development Goals.

**References**