Chapter - X

Public Health
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PUBLIC HEALTH

This chapter examines the measures undertaken by the Madras Government to prevent the deaths due to the infectious and contagious diseases and to improve the public health during 1900-1920.

As correct records of births, deaths and diseases form the basis of all public health activities and are also essential for most other administrative purposes, it is highly important that the work of registration should be done accurately and promptly.

TABLE 10.1
BIRTH AND DEATH RATES IN THE PRESIDENCY FROM 1901

<table>
<thead>
<tr>
<th>Year</th>
<th>Birth rate Per mille</th>
<th>Death rate Per mille</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901</td>
<td>25.1</td>
<td>21.3</td>
</tr>
<tr>
<td>1911</td>
<td>30.4</td>
<td>23.1</td>
</tr>
<tr>
<td>1912</td>
<td>30.9</td>
<td>24.3</td>
</tr>
<tr>
<td>1913</td>
<td>32.2</td>
<td>21.4</td>
</tr>
<tr>
<td>1914</td>
<td>33.5</td>
<td>24.9</td>
</tr>
<tr>
<td>1915</td>
<td>31.2</td>
<td>22.0</td>
</tr>
<tr>
<td>1916</td>
<td>32.5</td>
<td>21.9</td>
</tr>
<tr>
<td>1917</td>
<td>32.4</td>
<td>26.2</td>
</tr>
<tr>
<td>1918</td>
<td>28.9</td>
<td>43.1</td>
</tr>
<tr>
<td>1919</td>
<td>25.5</td>
<td>27.2</td>
</tr>
<tr>
<td>1920</td>
<td>28.4</td>
<td>21.8</td>
</tr>
</tbody>
</table>

Source: Census of India 1901-1902, 1911-1920, Madras.

The registration of vital statistics in the Presidency began in 1865. Under the orders of the Board of Revenue, village headmen were required to
maintain birth and death registers. The registration was not, however, obligatory. In 1899, an Act was passed for the compulsory registration of births and deaths in rural areas and this was extended to practically all parts of the Presidency.\textsuperscript{2} It was compulsory with penalty in case of failure. In municipal areas, the councils were in charge of registration. The Compulsory registration of births and deaths under Act III of 1899 was in force in 3558 towns and villages.\textsuperscript{3}

From the table no 10.1 it is clear that the birth rate was higher than the death rate during all the years except during the year 1918 & 1919. The most striking feature of the table is that while in 1917, the birth rate of the presidency was 32.4 per mille and death rate was 26.2 per mille, in 1918 the birth rate fell to 28.9 per mille, while the death rate rose to 43.1 per mille. This sudden shock to the presidency was due to the epidemic of influenza which broke out in July 1918\textsuperscript{4} and rapidly spread all over the presidency and until it reached its climax in the month of October, November and December of that year. It is difficult to ascertain the exact number of deaths due to this cause: most of the deaths from influenza were recorded as due to fever; but there is no doubt that many of them were shown under the head of the “Respiratory” diseases and so forth.\textsuperscript{5}

The birth and death rates for each natural division are compared in the following diagram.
The above diagram shows clearly what a disastrous year 1918 was, and how it affected the Deccan worse than any other part of the presidency.
The annual deaths in the Madras Presidency were mainly due to the infectious and contagious diseases and it varied from year to year. Of these the most important was cholera. It prevailed in all the districts of the presidency except the Nilgris. It broke out as an extensive and severe epidemic in 1900, during which year the total member of deaths registered amounted to 770,859 against 675,094 in 1899, the increase occurring in all but four districts Bellary, Salem, South Canara and Trichinopoly where the death was mainly under cholera.6

There was an exceptional prevalence of Cholera in Tanjore. in 1911.7 The sanitary commissioner was directed to proceed to that district in order to investigate the out break and to submit a special report as to the remedial measures possible. The report received was published for general information in May 1911 together with the government order.8 The order emphasized the work of the vaccination department on a more efficient basis. The qualifications and pay of the vaccinators were substantially enhanced. They were required to undergo a special practical course of vaccination work and the duty of inspecting cases and verifying results was transferred to deputy inspectors touring in the wake of the vaccinators. Vaccination and the registration of births were declared compulsory.9 The preventive measure work was done with the vaccine supplied by the vaccine section of the King Institute at Guindy.10

The impact of these measures undertaken by the Government of Madras was that it reduced the number of seizures and deaths due to plague. The reported numbers of seizures and deaths were 33,500 and 25,500 in the second decade as against 70,600 and 55,700 during the first decade.11

Small pox was the next important contagious disease. This was responsible for an annual mortality ranging from 2500 to 12500. It was found all over the presidency and was seasonal in its incidence. Small pox accounted for 3.4 percent of the total deaths.12
Plague was another imported disease in the presidency. By the time Ampthill assumed charge, most unfortunately, plague started haunting the presidency which was comparatively immune to the scourge until then. By the end of 1901, the pestilence consumed in Madras alone 12,556 lives, the number increasing to 12,809 in 1903 and 19,550 in 1904. The scientific commission was appointed in 1905 to investigate the causes of plague. The government of the Madras presidency issued a comprehensive review of the local system of plague administration with reference to an exhaustive report submitted by a selected officer of the Indian civil service. The part played by the rat-flea in the dissemination of plague was definitely established. It was recognized that the destruction of rats was an important remedial measure.

In October 1906 the mufassal plague Regulations were revised and consolidated. In December 1906 special reports were required regarding the measures taken to destroy rats and to ascertain whether or not they were infected with plague. In January 1907 a revised edition of the plague Inspector’s Manual was published.

To secure the co-operation of the people for the measures of the repression of plague vernacular translations of letters were circulated on the subject from the king emperor and the viceroy. The value of inoculation as a means of counteracting the effects of the bites of infected fleas was stressed among the people. People were also directed to evacuate the infected area and relief was afforded to them.

The sympathetic attitude of the government was found in the substantial assistance from provincial funds given from time to time to local bodies, particularly municipalities. The total expenditure in plague was Rs. 3,18,719 in 1900 – 1901 against Rs. 8,05,815 in the year 1899. Relief was also afforded by the free grant of the services of officers of superior grades deputed for plague duty and of all police establishments employed on plague work.
Malaria fever also constituted the chief cause of mortality in the presidency. It took a large toll every year. Mr. Sinton, Director of malarial survey of India, considered from the evidences available, twenty five percent of the “fever” deaths was due directly to malarial infection. Based on this the annual mortality due to malaria in Madras was estimated at 75,000. The incidence of malaria as a cause of sickness, death and economic loss was so heavy as to nearly out beat the combined effects of all epidemics like cholera, plague and small pox.

To control the spread of the malarial fever in the presidency of Madras the attention of the local bodies was drawn to the necessary preventive operations such as the filling up or draining of pools and the killing of mosquito large by kerosene oil. The implementation of minor drainage works adapted permanently to relieve subsoil and surface water obstacles and also the treatment of the inhabitants with quinine. The instructions given to the public were supplemented in June 1911 by the Issue in English and the principal vernacular languages of a specially prepared “Lesson on Malaria” with a view to its circulation among the population in general.

A much more important step taken by the Madras Government was the creation of a special Malaria Board in March 1911 consisting of the Forest Member of the Board of Revenue as president and the sanitary commissioner and a senior Medical officer as the members. The main function of this body was to make a critical examination of the vital statistics of the presidency with the object of ascertaining local variations in the prevalence of malaria and to fix the areas typical for the purpose of further test and investigation. For this purpose a special staff under the control of a commissioned medical officer was appointed.

In the light of orders passed in September 1911, the first scheme of practical work was done in the north of the city of Madras in the
neighbourhood of Ennore where the exceptional prevalence of malaria was believed to be a dangerous source of infection to the population resident in the presidency town. Apart from investigation work the staff sanctioned for this scheme were entrusted with the actual destruction of the breeding places of anopheline mosquitoes.

In consideration of public health, the sanitary board was directed to make plans and estimates for water works in municipalities to enable the people get pure water. Hence the extension and construction of water works were undertaken. The Sanitary Board submitted to government schemes relating to waterworks and drainage. As per the Report of the year 1901 - 1902, the extension of the water works at Trichinopoly and the construction of water works at vizagapatan and Cocanada were in progress during the year and scheme for the supply of water to Ootacamund from the Tiger Hill reservoir was under execution. The Sanitary Board submitted to government nine schemes relating to water works and two relating to drainage.

The inception and completion of the Coonoor-water supply scheme took place during the period of Ampthill. This scheme was designed by Mr.J.A.Jones, late sanitary engineer to government, to supply 7,500 people with 20 gallons of water per head per day. The estimated cost was Rs.1,16,740 but this amount was increased during the execution of the works to Rs.1,28,200 on revision of the plans and estimates which received the sanction of government on the 7th Oct.1904. The source of water supply was the Coonoor stream, the off take being about two miles from the service reservoir which was situated on Grays Hill.

During Arthur Lawley’s regime, in the water-supply programme of operations approved for the year 1911 no less than 58 schemes were included, of which 33 related to proposals for the improvement of water supply and 25 to drainage projects.
The old System of an open channel conveying the water from the Red Hills to the city, which was exposed to the danger of contamination as well as loss of water owing to evaporation and percolation, was replaced by new works which provided for the distribution of pure filtered water. This new system of improved water supply was formally inaugurated by Governor Pentland in 1914. The minor sanitary works like the improvement of town sites, latrines and drains were carried out in consideration of public health.

Medical institutions were at work to provide medical relief to the patients of all classes and both sexes. During the year 1900 four hundred and sixty four medical institutions were at work having accommodation for 3,181 in patients. The development in extending medical facility can be seen in the increase in the number of institutions which rose from 655 in 1912 to 710 in the year 1920. Relief was afforded to nearly six and half a million patients.

The most common diseases treated were ulcers, malarial fevers, diseases of the skin, digestive and respiratory system, debility and anemia and worms. The insane were attended to through lunatic systems. The commonest form of insanity was mania. Three asylums worked during the year 1904 and the population in them was seven hundred and fifty two. These asylums were worked at a cost of Rs. 97,095 or Rs. 150 per head.

Thus the measures undertaken by the Madras Government to prevent the deaths and to improve the public health by extending medical services and by carrying out preventive measures were discussed in this chapter.
REFERENCES
1. Census of India, 1900, Madras, Part I. p.26
5. Ibid.
8. Notes on Arthur Lawley’s Administration. Section III. P.142.
9. Ibid.
14. The Hindu 22nd August, 1905.
16. Ibid.
19. Ibid.
20. Notes on Arthur Lawley’s Administration. Section III. P.140.
24. The Hindu, 10th March, 1911.
25 Notes on Arthur Lawley’s Administration. Section III,p.141.
26. Ibid. P.142.
29. Ibid.
30. Notes on Arthur Lawley’s Administration, Section III, P.142.