Chapter III

GEO-MEDICAL PROFILE OF MANIPUR

3:1 Introduction

The Manipur State like many other sub-tropical areas of the world, is a victim of many tropical or sub-tropical diseases. The hills and dales topography, land-locked location, variable climatic conditions, etc. seem to be congenial for prevalence of certain diseases. In this context, Manipur is considered to have possessed an interesting, unique and uncommon geo-medical profile.

3:2 Classification of the Common Diseases in Manipur

According to the International Classification of diseases framed by the World Health Organisation the diseases of Manipur can be broadly classified as follows. Out of the host of diseases those common ones are included in the present classification.

<table>
<thead>
<tr>
<th>INFECTION AND PARASITIC DISEASES</th>
<th>CODE NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intestinal Infectious Diseases (001-009)</strong></td>
<td></td>
</tr>
<tr>
<td>(1) Cholera</td>
<td>001</td>
</tr>
<tr>
<td>(2) Typhoid and Paratyphoid</td>
<td>002</td>
</tr>
<tr>
<td>(3) Shingellosis</td>
<td>004</td>
</tr>
<tr>
<td>(4) Amobiasis</td>
<td>006</td>
</tr>
<tr>
<td><strong>Tuberculosis (010-018)</strong></td>
<td></td>
</tr>
<tr>
<td>(1) Primary Tuberculosis Infection</td>
<td>010</td>
</tr>
<tr>
<td>(2) Tuberculosis of menings and Central Nervous System</td>
<td>013</td>
</tr>
<tr>
<td>(3) Tuberculosis of Bones and Joints</td>
<td>015</td>
</tr>
<tr>
<td><strong>Bacterial Diseases</strong></td>
<td></td>
</tr>
<tr>
<td>* (1) Leprosy</td>
<td>030</td>
</tr>
<tr>
<td><strong>Diseases due to other micro-bacteria</strong></td>
<td></td>
</tr>
<tr>
<td>(1) Whooping cough</td>
<td>033</td>
</tr>
<tr>
<td>(2) Streptococcal sore throat and *sclerantina</td>
<td>044</td>
</tr>
<tr>
<td>(3) Tetanus</td>
<td>037</td>
</tr>
<tr>
<td>(4) Septicaemia</td>
<td>038</td>
</tr>
<tr>
<td>(5) Acute poliomyelitis</td>
<td>045</td>
</tr>
</tbody>
</table>

* More common
Other non-arthropod-borne viral diseases of central nervous system

** (1) Encephalitis 049.8
** (2) Viral encephalitis 049.0

Viral diseases accompanied by exanthem
(1) Chickenpox 052
(2) Herpes zoster 053
(3) Herpes simplex 054
(4) Measles 055

Mosquito-borne viral encephalitis
* (1) Japanese Encephalitis 062

Diseases due to viruses and chlamydiae (070-078)
(1) Viral Hepatitis 070
(2) Rabies 071
(3) Mumps 072

Rickettsioses and other arthropod-borne diseases
** (1) Malaria 084
(2) Neurosyphilis 094

Mycoses
(1) Candidiasis 112

* More common
** Present health problem
Late effects of infectious and parasitic diseases
(1) Late effects of acute poliomyelitis 138

11. NEOPLASMS

Malignant neoplasm of lip, oral cavity and pharynx
(1) Malignant neoplasm of nasopharynx 147

Malignant neoplasm of digestive organs and peritoneum
(1) Malignant neoplasm of stomach 151
(2) Malignant neoplasm of rectum 154
rectosigmoid junction and anus.
(3) Malignant neoplasm of gallbladder and 156
extrahepatic bile ducts

Malignant neoplasm of respiratory and intrathoracic organs
(1) Malignant neoplasm of nasal cavities 160
(2) Malignant neoplasm of larynx 161
(3) Malignant neoplasm of trachea, broncus 161
and lung.

Malignant neoplasm of bone, connective tissue, skin and breast
(1) Malignant neoplasm of bone and 170
articular cartilage
(2) Malignant neoplasm of connective and 171
other soft tissue
(3) Malignant melanoma of skin 172
(4) Other malignant neoplasm of skin 173
(5) Malignant neoplasm of female breast 174

**Malignant neoplasm of genitourinary organs**

(1) Malignant neoplasm of uterus, part unspecified 179
(2) Malignant neoplasm of carvix uteri 180
(3) Malignant neoplasm of body of uterus 182
(4) Malignant neoplasm of ovary and other uterine adnexa 183
(5) Malignant neoplasm of prostate 185
(6) Malignant neoplasm of testes 186
(7) Malignant neoplasm of penis and other male genital organs 187

**Malignant neoplasm of other and unspecified sites**

(1) Malignant neoplasm of eye 190
(2) Malignant neoplasm of brain 191
(3) Malignant neoplasm of thyroid gland 193
(4) Secondary malignant neoplasm of respiratory and digestive systems 197

**Malignant neoplasm of lymphatic and haematopoietic tissue**
(1) Hodgkin's disease  201
(2) Lymphoid leukaemia  204
(3) Myeloid leukaemia  205

111. ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES
AND IMMUNITY DISORDERS

Disorder of thyroid gland
* (1) Endemic goitre  240.9

Diseases of other endocrine glands
(1) Diabetes mellitus  250

Nutritional deficiencies  260-269

Disorder involving in immune mechanism
** (1) Acquired immuno-deficiency syndromes  279.5

IV. DISEASES OF BLOOD AND BLOOD-FORMING ORGANS

(1) Other deficiency anaemias  181
(2) Purpura and other haemorrhagic conditions  187
(3) Diseases of white blood cells  188

V. MENTAL DISORDERS
(1) Psychoses  290-299

* More common
** Present health problem
Organic psychotic conditions
(1) Senile presenile organic psychotic conditions 290

* (2) Alcoholic psychoses 291

** (3) Drug psychoses 292
(4) Other psychoses 295-299
(5) Psychoses with origin specific to childhood 299

Neurotic Diseases, Personality disorders and other non-psychotic mental disorders
(1) Neurotic disorders 300

** (2) Alcohol dependence syndrome 303
** (3) Drug dependence 304
(4) Acute reaction stress 308

Mental Retardation 317-319

VI. DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS

Inflammatory diseases of the central nervous system
(1) Bacterial meningitis 320
(2) Encephalitis, myelitis and encephalomyelitis 323

* More common

** Present health problem
Other disorders of the central nervous system

(1) Multiple sclerosis 340
(2) Hemiplegia 342
(3) Infantile cerebral palsy 347
(4) Epilepsy 345

Disorder of the eye and adnexa

(1) Disorder of iris and ciliary body 364
(2) Cataract 366

Diseases of the ear and mastoid process 380-389

VII. DISEASES OF THE CIRCULATORY SYSTEM

(1) Rheumatic fever without heart involvement 390
(2) Rheumatic fever with heart involvement 391
(3) Rheumatic chorea 392

Chronic rheumatic heart diseases 393-398

Hypertensive diseases

(1) Essential hypertension 401
(2) Hypertensive heart diseases 402

Ischaemic heart diseases

(1) Acute myocardial infarction 410
VIII. DISEASES OF THE RESPIRATORY SYSTEM

Acute respiratory infection
(1) Acute sinusitis

Pneumonia and influenza
(1) Viral pneumonia
(2) Pneumococcal pneumonia
(3) Other bacterial pneumonia
* (4) Influenza

Chronic obstructive pulmonary disease and allied conditions
(1) Bronchitis, not specified as acute or chronic
(2) Chronic bronchitis
(3) Emphysema
(4) Asthma
(5) Bronchieatasis

Other diseases of respiratory system

Diseases of the digestive system
(1) Diseases of pulp and periapical tissue
### Disease of oesophagus, stomach and duodenum

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Disease of oesophagus</td>
<td>530</td>
</tr>
<tr>
<td>* (2)</td>
<td>Gastric ulcer</td>
<td>531</td>
</tr>
<tr>
<td>(3)</td>
<td>Duodenal ulcer</td>
<td>532</td>
</tr>
<tr>
<td>(4)</td>
<td>Peptic ulcer, site unspecified</td>
<td>537</td>
</tr>
<tr>
<td>* (5)</td>
<td>Gastritis and duodentitis</td>
<td>536</td>
</tr>
<tr>
<td>* (6)</td>
<td>Gastrojejunal ulcer</td>
<td>534</td>
</tr>
<tr>
<td>(7)</td>
<td>Disorders of function of stomach</td>
<td>536</td>
</tr>
</tbody>
</table>

### Other diseases of digestive system

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Chronic liver disease and cirrhosis</td>
<td>570</td>
</tr>
<tr>
<td>(2)</td>
<td>Gastrointestinal haemorrhage</td>
<td>574</td>
</tr>
</tbody>
</table>

### X. DISEASES OF THE GENITOURINARY SYSTEM

**Nephritis, Nephrotic syndrome and Nephrosm** 580-589

### XI. COMPLICATIONS OF PREGNANCY, CHILDBIRTH AND THE PUBERPERIUM

**Pregnancy with abortive outcome** 630-639

**Complication mainly related to pregnancy** 640-648

### XII. DISEASES OF SKIN AND SUBCUTANEOUS TISSUE

### XIII. DISEASES OF THE MUCULUSKLETAL SYSTEM AND CONNECTIVE TISSUE

### XIV. CONGENIAL ANOMALIES

### XV. CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD
XVI. SYMPTOMS, SIGNS AND ILL-DEFINED CONDITIONS

XVII. INJURY AND POISONING

3:3. Health Services in Manipur

During the Independent Princely State, i.e., before 1891 there was no established health services in the State. Only in the year 1904-05 when Major Shakespear was Political Agent in Manipur, a public dispensary and a hospital in the State was established.\(^{44}\) In the year 1906-07 the first hospital at Imphal was constructed. In the following year new dispensaries at Mao and Thoubal were opened under the supervision of compounders.\(^{45}\) But, due to the shortage of medical staff, dispensaries of Thoubal and Moirang were closed down with the permission of his Highness, the Maharaja of Manipur. In the next year a dispensary was opened at Kakching. In 1909 severe malaria epidemic spread over the valley and

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hills of Manipur. In the year 1916-17 a mobile dispensary was set up. Including this the number of dispensaries in the State shot up to six. But, after sometime three dispensaries were closed down one after another as the services of the compounders were put under the armed forces. By the year 1922-23 one Civil Hospital and one Military Police Hospital started functioning at Imphal along with ten dispensaries at other parts of the State. A leper asylum was also opened during this year at Imphal for leprosy treatment. In the same year 24 patients were admitted.

Another leper asylum was also maintained by American Baptist Mission at Kangpokpi. During the year 1924-25 the number of dispensaries in the State rose to eleven including the two hospitals at Imphal. Again in 1927-1928 one more hospital at Imphal was set up. So, the number of hospital increased to four at Imphal. As per


as the staff for the medical care concerned, it is interesting to note that there were only eleven, fully qualified State doctors, 20 compounders, 2 assistant compounders and 17 vaccinators in the State till the year 1933.49

In 1931-32 a systematic Anti-Malarial and Anti-Mosquito Campaign was started in the State.50 During this year two more dispensaries, one at Pukhao and the other at Senapati were opened. Afterwards, in 1935-36, one more dispensary at Thanlon was opened. In the same year cholera and small-pox appeared in an epidemic form. Out of 2370 cholera patients, 162 died and out of 796 small-pox cases, 176 patients died in the valley and 14 in the hill areas. 51

During the 2nd World War the dispensaries at Moirang and Bishenpur were closed down due to invasion of the Japanese and the I.N.A. forces. Simultaneously


dispensaries at Ukhrul, Saiyom, Mao, Kangpokpi, Churachandpur and Sugnu were also closed down. In 1945-46, a T.B. hospital at Imphal was opened and other dispensaries in the hill areas which were already closed down during the war were again re-opened. In this year with fresh recruitments, the State appointed 21 doctors including two lady doctors.

It is interesting to note that since 1946 till date there has been substantial improvement in the health services. In addition to these, the Regional Medical College, staffed with efficient doctors with modern infrastructure facilities has been set up at Lamphel Pat in 1971. This centre with modern infrastructure solved the prevailing health problems of the State to a great extent.

The progress in this regard during the last five years is shown in the table no.3:1;2 and '3.

Table No 3.1

Progress of Health Services in Manipur
1981-1985

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hospitals</td>
<td>44</td>
<td>48</td>
<td>49</td>
<td>50</td>
</tr>
<tr>
<td>2. Dispensaries</td>
<td>190</td>
<td>204</td>
<td>248</td>
<td>353</td>
</tr>
<tr>
<td>3. Beds available</td>
<td>653</td>
<td>950</td>
<td>1544</td>
<td>1592</td>
</tr>
<tr>
<td>4. Patients treated ('000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Indoor</td>
<td>47.4</td>
<td>53.3</td>
<td>38.9</td>
<td>40.5</td>
</tr>
<tr>
<td>(b) Outdoor</td>
<td>537.2</td>
<td>664.6</td>
<td>532.1</td>
<td>660.3</td>
</tr>
<tr>
<td>(c) Total</td>
<td>584.6</td>
<td>717.9</td>
<td>571.0</td>
<td>700.8</td>
</tr>
<tr>
<td>5. Persons Employed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Doctors</td>
<td>242</td>
<td>279</td>
<td>501</td>
<td>539</td>
</tr>
<tr>
<td>(b) Nurses, Midwives &amp; Dais</td>
<td>454</td>
<td>417</td>
<td>686</td>
<td>782</td>
</tr>
</tbody>
</table>

(Source: Economic Review, 1984 - 1985)

Among the districts, only Imphal district has seven hospitals out of thirteen hospitals for the State as a whole. The Imphal District Hospital is the oldest hospital in the State.
Table No 3:2

Distribution of Health Institutions at different districts of Manipur, 1985

<table>
<thead>
<tr>
<th>Districts</th>
<th>No. of C.D. Blocks Already set up</th>
<th>Health Institutions</th>
<th>Total Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hos.</td>
<td>CHCs</td>
<td>Sub-Centers</td>
</tr>
<tr>
<td>Imphal</td>
<td>4</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Thoubal</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Bishnupur</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Valley</td>
<td>8</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Churachandpur</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Senapati</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ukhrul</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Chandel</td>
<td>3</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Tamenglong</td>
<td>4</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Hill</td>
<td>21</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Valley</td>
<td>8</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>13</td>
<td>33</td>
</tr>
</tbody>
</table>

Table No. 3:3

Distribution of Hospital beds in Manipur, 1989

<table>
<thead>
<tr>
<th>Districts</th>
<th>Government</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hosp. &amp; CHCs</td>
<td>PHCs</td>
</tr>
<tr>
<td>Imphal</td>
<td>328</td>
<td>78</td>
</tr>
<tr>
<td>Thoubal</td>
<td>30</td>
<td>58</td>
</tr>
<tr>
<td>Bishnupur</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>Valley</td>
<td>388</td>
<td>176</td>
</tr>
<tr>
<td>Churachandpur</td>
<td>130</td>
<td>48</td>
</tr>
<tr>
<td>Senapati</td>
<td>75</td>
<td>50</td>
</tr>
<tr>
<td>Ukhrul</td>
<td>80</td>
<td>54</td>
</tr>
<tr>
<td>Chandel</td>
<td>30</td>
<td>54</td>
</tr>
<tr>
<td>Tamenglong</td>
<td>70</td>
<td>38</td>
</tr>
<tr>
<td>Hill</td>
<td>385</td>
<td>244</td>
</tr>
<tr>
<td>Valley</td>
<td>388</td>
<td>176</td>
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(Source: Quaterly Bulletin of Health, State Bureau of Health Intelligence, Directorate of Health Services, Manipur, 1989.)