CHAPTER VII

DISEASES : II

MAJOR ENVIRONMENTAL DISEASES,
THEIR DISTRIBUTION AND DISCUSSION
Diseases which are mostly due to various environmental factors are discussed here, group-wise, i.e. in terms of the major groups discussed in Chapter VI.\(^1\)

The natural and cultural environment in which people of the region live, their dietary habits etc., which have been found responsible up to a certain extent for the occurrence of various diseases and which have already been discussed in earlier Chapters, will now be correlated with the respective diseases of the study unit.

The percentages of the prevalent diseases and their ranks, primary health centre-wise are given in Table 6.1 and 6.2, while the intensity of diseases is given in Table 6.3. Intensity of diseases and rank-wise distribution are shown in Plate Nos. 8, 9 and 10.

\(^1\) See pp. 145.
GROUP I

DISEASES OF THE DIGESTIVE SYSTEM AND ALIMENTARY CANAL EXCEPT DYSENTERY AND DIARRHEA

Diseases of this group are directly or indirectly controlled by environmental as well as nutritional deficiency factors. The diseases of this group which are commonly reported in the study region are as under:

1. Typhoid and Para-typhoid (enteric group of fever)
2. Liver diseases (cirrhosis of liver, infective hepatitis, jaundice etc.)
3. Gastritis
4. Peptic ulcer
5. Dyspepsia
6. Constipation
7. Colitis
8. Cancer of the stomach
9. Appendicitis

DISTRIBUTION AND DISCUSSION

The diseases of the digestive system are the most frequent among all the reported diseases in Aron, Bamori, Asboknagar, Mungaoli, Naisen-Sanchi, Goharganj and Sehore-Shampur centres of the region, while being second most frequent in nine other primary health centres and third so in 3 others. As far as number of patients is concerned, maximum cases have
been reported in Sderre-Shampur, i.e. 40.1 per cent of the total reported diseases, while in Ashoknagar, digestive troubles form 33.9 per cent, in Raisen-Sanchi 29.3 per cent and in Aron 21.9 per cent.

Faulty dietary habits, adulterated food, faulty cooking methods, lack of civic sense, poverty and inadequate uncontaminated drinking water are mainly responsible for the occurrence of the above-mentioned diseases in the region. Parasitical infection through drinking water takes place at many places in the area, because most of them have inadequate water supply, and people of the region are found to use polluted water.

FIELD DATA

For example, the percentage of troubles of the digestive system and alimentary canal in Bamori P.H.C. is 19.9. The author, while visiting Digdol village of the same centre, noticed that the village did not have adequate drinking water facilities and the economic condition of the villagers was also poor. The families interviewed by the author frequently reported stomach troubles and their diet was found quite deficient, particularly in vitamin A and calcium; the average calorie consumption was also found inadequate. During the visit it was also observed that civic sense was not proper in the people of the village; further they were also careless in regard to their health. In the survey, it was also noticed
that cooking methods were faulty by which nutrients were
destroyed in the course of preparation. Similar points
were also noticed in Himaatgarh village of Raisen-Sanchi
P.H.C., where also people reported digestive troubles
frequently.

In Ashoknagar P.H.C. digestive troubles form 33.9
per cent of all the reported cases. When the author visited
the centre H.Q. for diet and disease survey, the following
points or problems were detected by him:

1 Usually people used polluted water for drinking, due to
inadequate (uncontaminated) drinking water facilities in
the town.

2 Lack of civic sense was easily noticeable in the town.

3 No proper local drainage facilities for domestic used
water and for refuse material.

4 Internal as well as external environment of the houses
was found unhygienic and congested. Houses had no proper
ventilation and except for a few houses they were built
without any proper planning.

5 On the basis of diet survey, it could be said that the
diet of the town was quite deficient, particularly in
vitamins A and B and calcium. Average calorie consump-
tion was found to be 2098 per head per diem, while the
desirable figure is 2400.

6 Faulty cooking methods was also noticed; the consumption
of fruits and vegetables was also found to be low, due to low purchasing power and/or tradition. The people were mostly vegetarian, mainly due to their religious code.

MAIN DISEASES OF THE GROUP

DYSEPSIA: Dyspepsia is a word of Greek derivation, meaning 'indigestion' or 'difficulty in digestion'. Any symptom associated with the taking of food is called dyspepsia and may also be present when there is no structural change in the alimentary canal. It may be a symptom of a disease, e.g. pulmonary tuberculosis, chronic nephritis, cirrhosis of liver etc. Apart from government hospitals, the diseases of this group are also frequently reported in the private hospitals of Bhopal, Bairagarh and Begamanj, the occurrence being mainly due to faulty dietary habits, unsafe drinking water and ignorance.

GASTRITIS: This is an inflammation of the mucous membrane of the stomach and may be either acute or chronic. It is generally caused by faulty dietary habits, an excess of alcohol, overeating etc. Repeated vomiting accompanied by diarrhoea, vague discomfort and heart-burn are the main features of the diseases. The disease is more or less reported in the entire region.

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COLITIS: Colitis is an inflammation of the mucous membrane of the colon. Simple colitis is characterised by spasmodic pain and alternating constipation and diarrhoea. This may be due to infection which may be bacterial, protozoal or helminthic. Poor dietary habits, lack of knowledge and contaminated water are the main causes for the occurrence of this disease.

CONSTIPATION: Constipation is one of the common disorders found throughout the region. Besides government hospitals, it is also reported frequently in private hospitals of the study region. Adulterated food, wrong dietary habits, poverty, poor health (lack of exercise) and drinking habits of the people are the main causes for the occurrence of this ailment.

PEPTIC ULCER: This is a disease of the civilised people. Peptic ulcer may form in any part of the digestive tract, which is exposed to acid gastric juice. It is reported in the region mainly due to the deficient diet of the inhabitants, unsafe drinking water, smoking habits, ignorance and general strain and stress of life. Irregular meals also play an important role here.

LIVER DISEASES: Liver is one of the most important organs concerned with the metabolism of food, and plays an essential role in the metabolism of protein, fat and carbohydrate, especially during the changes which the nutrients undergo after digestion.
Malnutrition, drinking habits, contaminated water and poverty are the main causes responsible for the occurrence of liver diseases, in the region. Infective hepatitis, jaundice, and cirrhosis of liver are the common disorders found here.

(i) Infective Hepatitis: Any poisonous substances in the diet, after absorption, are first transported to the liver; adulterated food, a bad diet and drinking habits thus become responsible for this trouble. Highly coloured urine, loss of weight and slight fever are general symptoms.

(ii) Cirrhosis of liver: This is caused by extreme malnutrition and is widely reported in the entire region. It can be prevented by use of a balanced diet, particularly rich in carbohydrate, protein and the B-complex vitamins.

(iii) Jaundice: This is a symptom complex characterised by increase of bile pigment in body fluids and tissues and is due to the failure of liver, cell excretion and chemical poisons. It is one of the common disorders of the region.

TYPHID AND PARATYPHID: Typhoid is an acute disorder characterized by a special ulceration of the small intestine, with the eruption of rose-coloured spots and a typical course of temperature; the fever is caused by a germ. Water is the most important route of transmission. Both environmental and nutritional factors are equally responsible for the occurrence
of typhoid. Unsafe and inadequate drinking water-supply, faulty dietary habits, food adulteration and faulty drainage system in the region are the main factors, favouring the occurrence of typhoid.

Parasitic infections of the gall-bladder, cancer of the stomach, gall-stones, appendicitis, intestinal obstruction, tumours of the liver etc. are the other diseases of the group, which are reported in the region, but not so frequently.

GROUP II

DISEASES OF THE RESPIRATORY SYSTEM

Mucous membranes of the nose, the nasal sinuses, the palate, tonsils, trachea and larynx and the bronchi, lungs and pleura are the major portions of the respiratory system and diseases connected with all these parts come under this group. In all the diseases of this group, five symptoms are present either singly or in combination: cough, expectoration, pulmonary-haemorrhage, pain in the chest and shortness of breath.

Major diseases of the system are: pneumonia, tuberculosis, common cold, whooping cough, bronchitis, asthma, cancer of the lungs, pleurisy and difficulty in breathing.
Most of the diseases of the system are closely related to the various environmental factors, although dietary factors are also responsible for the resistance power of the body. Different environmental factors of the study region have already been discussed in the previous pages; of these the polluted and crowded environment of the area, contaminated drinking water, poverty, lack of civic sense, the unhygienic living conditions, ill-ventilated houses, smoking and drinking habits, social customs and false beliefs, and malnutrition may be mentioned as the main factors responsible for the occurrence of various diseases of this group.

DISTRIBUTION AND DISCUSSION

It would be clear from the Tables 6.1 and 6.2 that diseases of the respiratory system are the leading diseases among the total reported cases, in 12 primary health centres, while in 9 centres of the region they are second most frequent and third so in 6 primary health centres; it would also be clear that diseases of this system are more frequent than other diseases in the region.

On the basis of the total number of patients who visited the hospital, the highest number has been reported in Kurvai where about 64 per cent of patients had respiratory troubles, while in Manpura, Binaganj, Ichhawar and
Sehore, the total number of cases of the system was also quite high, viz. 36.9 per cent, 31.4 per cent, 31.1 per cent and 26.0 per cent respectively.

Common cold, pneumonia, bronchitis, influenza etc. have a close relation with the season. Due to their poor economic condition, most of the people are not able to take a balanced diet (Table 5.11) and an unbalanced diet reduces the resistance power of the body. Major diseases of the group which are commonly reported are as follows.

FIELD DATA

For example, the percentage of respiratory system diseases is the highest in Kurawl centre. The author, while visiting Konsi village of this centre, observed that people of the village were living in an unhygienic environment, they had no proper drinking water facilities. Their houses were found to be ill-built with no proper ventilation system. According to the members who were interviewed, space was also insufficient. Bidismoking and tobacco habits were observed to be quite general. The families interviewed by the author reported frequent occurrence of various types of respiratory troubles, while diet was also found deficient in respect of important nutrients. This could be due to economic condition, faulty cooking or lack of knowledge. It was noticed that the consumption of vegetables usually entirely depended on their local supply and food consumption
also depended on various community traditions. Almost the same conditions were also noticed in Badera village of Mangura centre.

In Sehore proper, respiratory troubles form 26.1 per cent of the total reported cases. Even the district place which the author visited was characterised by the following features:

Living conditions here were not hygienic. Internal and external environmental conditions were quite undesirable. People used polluted water for many purposes, including drinking, because uncontaminated water facilities were not available. The residents stored the water in insanitary containers. Refuse material and flow of domestic used water were seen in many places. People had no civic sense, so that refuse material, cow-dung and even night soil could be seen along roadside. Local drainage facilities for domestic used water were also not sufficient. Medical facilities were, of course, quite adequate here, but as a whole people were not healthy, they were engaged in cultivation, small business and bidi-making. Housing condition was also not good as a whole, a crowded atmosphere was experienced by the author himself. Smoking and drinking of locally prepared liquor were also found to be common. People seemed quite religious in every walk of life and were bound with their religious beliefs. The 'purdha' system (among Muslims) was also observed here.
TUBERCULOSIS: This is a chronic disease, which affects the respiratory system, usually the lungs. It is a disease of poverty and of conditions which favour overcrowding and under-nutrition, resulting in a ready transmission of a large number of bacilli. Deficient diet also lowers the resistance to tuberculosis. Main symptoms of tuberculosis are cough, excessive fatigue, loss of weight, a slight rise of temperature in the evening, night sweating, some palpitation, rapid pulse and chest pain.

Modes of Infection:

1. Infection through coughing, sneezing and loud speaking of the patients.
2. Inhaling fine dust containing tubercle bacilli.
3. Through the ingestion of articles of food and drink contaminated with tubercle bacilli.
4. Through direct contact, i.e. kissing or using utensils.
5. Flies play an important role in the transmission of disease.

Tuberculosis has a sharp relation with the standard of living and housing condition. Over-crowding creates a favourable environment for infection.

Besides these, the purdah system, improper disposal of sewage, eating and drinking in common utensils, early marriage and frequent motherhood, lesser ventilation, unhygienic habits and polluted water create a favourable
environment, while these factors are quite common in the region under study.

WHOOPING COUGH: This is an acute respiratory infection and is predominantly a disease that affects young children. It starts with a common cold and bronchitis, after a few days fits of coughing also occur and there is a whoop at the end of every fit.

COMMON COLD: This is a mild but acute infection of the respiratory tract, primarily involving the mucous membranes of the nose and the throat and is usually reported during winter and spring. It is commonly reported throughout the study region.

Common cold is also generally associated with certain other diseases, such as measles, influenza etc.

PNEUMONIA: Pneumonia is an acute bacterial infection of the lungs. Weak resistance due to overwork and underfeeding are the most favourable factors. Pain in chest, painful breathing, cough, rapidly rising temperature are the main symptoms.

Fatigue, unsafe drinking water and deficient diet are generally responsible for the occurrence of this disease in the study region.
BRONCHITIS: This is an acute and chronic inflammation of the windpipes or bronchial tubes. Acute bronchitis mostly follows some virus attack, such as the common cold and certain other infections, including measles, whooping cough, typhoid and influenza. In bronchitis, the nostril is involved first, then the lower respiratory tract.

ASTHMA: Asthma is reported frequently in the private hospitals within the study region. It is an allergic disorder due to an altered reaction within the lining of the windwipes or bronchial tubes. The patient coughs frequently, feels difficulty in breathing and has a wheezing type of respiration.

Certain air-borne substances, faulty diet and drinking and smoking habits promote this allergy.

CANCER OF THE LUNGS: This is a rapidly developing disease and is more common in the middle and advanced years of age. This is perhaps the commonest disease in the elderly males all over the world. Statistically, cigarette smoking has been incriminated as one of the major factors responsible for raising the incidence.


2 J. AMAR. MED. REV., 17, 1966, p. 28.
EASTERN MALWA PLATEAU

THE RANKING DISEASES

1969-71

FIRST RANK

DISEASES OF RESPIRATORY SYSTEM
DISEASES OF DIGESTIVE SYSTEM
DYSENTERY AND DIARRHOEA
SKIN DISEASES
DISEASES OF SENSE ORGANS
DEFICIENCY DISEASES

SECOND RANK

SOURCE: DISTRICT HEALTH, CIVIL SURVEY AND SURVEY OFFICE
A chronic cough is usually the first symptom of lung cancer. Later there may be chest pain, followed by night sweats due to the tumor mass cutting off the normal drainage from the lung. The patient also feels weak and suffers loss of weight.

Smoking is one of the main causative agents for the development of lung cancer. Tobacco chewing habits are another factor, because the leaves are known to cause cancer. Besides these habits of the people, the crowded atmosphere, drinking habits, polluted air and water, a deficient diet, poverty and ignorance of the people also create favourable conditions for the occurrence of lung cancer in the area.

Lung abscess and pleurisy are the other less common diseases of the group which are reported in the region.

GROUP III

DISEASES OF THE CARDIO-VASCULAR SYSTEM

Especially among middle-aged and elderly persons, heart diseases are the most common cause of illness and death. The diseases of this group which are frequently reported in the region are as under:

1. Rheumatic heart diseases.
2. Hypertensive heart diseases.
3. Ischaemic heart diseases.
In comparison to the other diseases, the diseases of this group are third most frequent in Malthone centre and fourth so in Jaisinagar and Chairatganj primary health centres. On the other hand, the highest number of diseases of the cardio-vascular system is reported in Malthone, forming 11.8 per cent out of the total number of reported diseases of the centre, while in Chairatganj and Basoda the percentage is 9.9 and 8.3 respectively. In other centres of the study region, the percentage of diseases varies from one to seven. Besides government hospitals, heart diseases are also reported very frequently in private clinics of the area.

Crowded atmosphere, frustration, stress and strain, ignorance, prevailing social system, malnutrition, contaminated water, smoking habits, poverty and unhygienic conditions of living in the area are the main causative factors in the occurrence of various diseases of this group in the region. Relationship between quality of drinking water and diseases of the cardio-vascular system has been clearly detected by many workers.\(^1\)

In our country rheumatic heart diseases have the maximum frequency of occurrence, viz. 30 to 40 per cent of

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\(^1\) C.I.A. Journal, 8, 1973, p. 1369.
the total number of heart patients while the frequency of hypertensive heart disease is 20-25 per cent.

FIELD DATA

For example, the diseases of the cardio-vascular system were reported maximum in Malthone P.H.C. The author, while visiting Notha village of this centre, noticed that villagers were living in old-patterned, ill-built houses, they faced a serious drinking water problem, particularly in summer. They were naturally bound to use the polluted water flowing from different sources. Domestic used water usually accumulated in a pit outside the house, which created an unhygienic environment. Civic sense was observed to be poor. Due to their poor economic condition, dietary problem, lack of treatment facilities and problems of agriculture, people seemed to be frustrated. In the course of interviewing the families, it was observed that villagers were subject to stress and strain due to these problems and many families reported troubles of the cardio-vascular system. Their diet was also suffering from malnutrition. Consumption of vegetables and fruits was found to be occasional, and was mainly dependent on local availability.

1 S. Padmavati, Science Reporter, I, 1964, pp. 266-68.
Again, in Ghairatganj centre, troubles of this system were reported to be 9.9 per cent. The author visited Ghairatganj proper, during his diet and disease survey and his findings are as follows:

Although Ghairatganj is a tahsil place of the Raisen district, as far as the health point is concerned, living environment is not found to be hygienic here. Most of the houses are ill-built, having no proper ventilation facilities. Solid waste disposal facilities are improper. Domestic used water can be seen easily, on the streetsides. As far as drinking water is concerned, it is not proper, people using polluted water from wells or from the nearby Bina river. Usually river water is used for domestic purposes also, so that this water become polluted, which people use for drinking purposes, because sources of safe water-supply are not sufficient. People are found to be religious, obeying their traditional belief in every walk of life. Bidi-making is observed to be quite common and smoking and drinking of locally made liquor are also common.

The families which were interviewed by the author reported frequently troubles of the cardio-vascular system and their living conditions were also found unhygienic. People were generally observed to be full of stress and strain due to their personal troubles and frustration.
According to diet survey, their diet has also been found quite deficient in respect of many nutrients, mainly due to poverty, illiteracy and faulty cooking methods. Non-vegetarian habits were reported, but due to low purchasing power they could not become a part of the daily diet.

RHEUMATIC HEART DISEASES: Among the various heart diseases, rheumatic heart diseases are the most common in the entire region. The disease occurs due to infection of the throat by bacteria causing inflammation of the valves, particularly the left side of the heart and of the heart muscles. Gross damage to the heart muscle and heart failure are the end result. According to one consultant in cardiology, the disease that still plagues us in our country (India) is the rheumatic heart disease which incidentally accounts for the largest number of deaths.¹

Deficient diet and crowded surroundings are the main cause, because they favour the spread of infection; the disease can be prevented through improvement in living standards, a better diet, improved surroundings and better facilities for treatment.

HYPERTENSIVE DISEASES: Private hospitals of the region have reported hypertensive disease very frequently. All the diseases caused by increased pressure within the blood vessels come under this group. Normal pressure is 120/80, and 140/90 is still well within the range. General complaints are: headache, fatigue, dizziness and restlessness. Hypertensive patients should always avoid nervous tension and various bad habits.

ISCHEMIC HEART DISEASES: These are the most serious among heart diseases. They could cause heart attacks and strokes, in which small vessels which supply blood to the heart and brain become closed due to thickening of the walls and finally by a clot. A genuine heart attack occurs from only one cause: insufficient blood to meet the demands of the heart itself.

Generally intellectual and managerial classes between the ages of 40-50 years are affected by this. Rich fat diet, lack of physical exercise, excessive smoking and mental stress and strain are the main causes responsible for this type of heart diseases. As far as diet is concerned, as has been reported during diet survey in many rich families, the milk and fat consumption is rather high compared to that of cereals, and the members of the family are also heavy smokers.

and have no time for physical exercise. Complete physical and mental rest is the most important treatment besides a nutritious diet.

Pains around the heart are commonly reported in the region and they arise from not having enough blood to meet the needs of the heart muscles themselves. Sufficient rest and sleep are the only cure for such heart patients.

GROUP IV

DISEASES OF THE UROGENITAL SYSTEM

Kidneys are very important organs, which keep the stream pure and free from all harmful substances. Kidney diseases may also aggravate the trouble in other systems of the body. The common diseases which are usually reported are:

1. Nephritis.
2. Uremia.
5. Urinary infections.

The highest number of diseases of this group has been reported in Ghairatganj, viz. 6.6 per cent of the total number of diseases, while in Ouna, Khurai, Raisen and Manpura, the percentages are 5.7, 4.8, 4.7 and 3.4 respectively. In the rest of the centres the percentage figure varies from 0.1 to 3.3.
Compared with the other diseases, urogenital diseases hold the fifth rank in Khurmi and sixth in Bina-Agasod, Guna-Bhadra, Raipur-Sanchi, Ghairatganj and Beganganj centres. This indicates the generally lesser frequency of the diseases of this group in the study region.

Faulty dietary habits, adulterated food, contaminated water, drinking and smoking habits and ignorance of the people of the region are the main causes for the occurrence of various diseases of the urogenital system.

FIELD DATA

For example, the percentage of troubles of the urogenital system in Guna centre is 5.7. The author, while visiting Dinola village of this centre, noticed that this village had no proper system for safe drinking water, so that people were bound to take polluted water. Smoking and tobacco-taking habits were found to be common amongst the villagers. According to them, they got oil, vegetable ghee and other edible stuffs in an adulterated form from nearby markets, which gave them harmful effects. The families interviewed by the author also reported troubles of the urogenital system and their diet was also not up to the grade. Lack of civic sense was also common. Rather similar conditions were also noticed in the village Chanderi, Ghairatganj of the Ghairatganj P.H.C.
In Ghairatganj where troubles of the above-cited system were reported to be 6.6 per cent, many points were noticed when the author conducted his diet and disease survey in the town; these have been discussed under Group III.

In Guna-Bhadora centre these diseases were reported to be 5.7 per cent. The author noticed the following points here:

1. People used contaminated water because supply of safe water was not sufficient.
2. Although a tube-well was found here, this facility could not be used by all the people.
3. The public and hotles used coal whose fumes made the environment dirty.
4. Adulteration was common in hotels.
5. The local drainage system was found to be not proper, so domestic used water and refuse material could easily be seen anywhere.

Nephritis: This is reported frequently in private hospitals. Nephritis indicates inflammation or degeneration of the kidney and its function; and includes both acute and chronic glomerulonephritis, nephrosclerosis and nephrosis.

Uremia: Uremia literally means urine in the blood. The term was coined by Pierry in 1840 to denote certain symptoms of kidney diseases. It becomes a serious condition when the

EASTERN MALWA PLATEAU

THE RANKING DISEASES

1969-71

THIRD RANK

FOURTH RANK

DISEASES OF RESPIRATORY SYSTEM
DISEASES OF DIGESTIVE SYSTEM
SKIN DISEASES
DYSENTERY AND DIARRHOEA
DISEASES OF SENSE ORGANS
DEFICIENCY DISEASES
DISEASES OF Cardiovascular SYSTEM

SOURCE: DISTRICT HEALTH, CIVIL SURVEY AND SURVEY OFFICE.
kidneys are no longer able to get rid of the chemical substances which the body does not need.

RENAL STONES: These stones are generally caused by chemical changes in the urine.

KIDNEY INFECTIONS: Kidneys are frequently infected with serious types of germs, which may be carried by the bloodstream. The patient complains of chills and fever, sometimes followed by pain and tenderness in the side and over the kidney.

URINARY INFECTIONS: When acute infection does not clear up, then the chronic stage develops. This is due to some obstruction. Patients may mostly feel well, but at times they would complain of chills and fever with pain in the back or side and some discomfort in urinating.

GROUP V

VENEREAL DISEASES

Venereal diseases are a group of communicable diseases in which infection results from sexual intercourse with a person, male or female, having a venereal infection.¹ It is one of the acute public health problem of the region. The

most common diseases are:

1. Syphilis.
2. Gonorrhoea.

In the present time, venereal infections are increasing everywhere, mainly due to increasing urbanization, industrialization, greater mobility by air, land and sea and greater acceptance of the sophisticated techniques of contraception for sexual morals. These diseases are commonly reported more, where people (particularly labourers) do not live with their families, hence they satisfy their sexual hunger by other ways. These diseases affect the nation's health and produce a great waste of man power in every sector of life.¹

The social environment of the study region is mainly responsible for the occurrence of these diseases. Poverty, ignorance, along with sexual contact and kissing are the factors involved.

**DISTRIBUTION AND DISCUSSION**

According to government sources, the highest number of venereal diseases has been reported in Chitrakoot and Agra, although their actual percentage is very low, i.e. only 4, while in the Bhopal-Bairagarh and Begamganj centres these diseases cover 2.3 and 2.2 per cent respectively. In other centres the percentage varies from 0.1 to 1.8 only.

¹ ibid.
As far as rank-wise study is concerned, no P.H.C. occupies less than the seventh position. Only Begamganj holds this place while six centres hold the eighth position, and 14 get ninth position among other diseases.

SYPHILIS: Syphilis is commonly reported in government as well as private hospitals of the region. Usually transmitted by sexual contact, the primary sore may also be formed on the mouth or lips after kissing the infected part. Syphilis may also be transmitted from mother to child during intra-uterine period.

GONORRHEA: This is also a common disease of the area and is usually transmitted by sexual contact. Most of the troubles concerned occur in the sex organs and the first symptom is burning of the urination or a slight vaginal discharge.

GROUP VI
DISEASES OF THE SENSE ORGANS

This group includes the diseases of the eyes, ears, nose, etc.; of these, eye diseases are most frequently reported in the region. The main diseases of the group are as under:

1 Trachoma.
2 Cataract.
3 Glaucoma.
4 Allergy of the Eye.
5 Venereal infection.
6 General eye troubles.
7 Deafness or pain.

In Begamganj primary health centre, the above-mentioned group of diseases comes first among all the diseases, while in Aron they hold second rank, the third rank being occupied by Shamshabad, Jaisinagar, Guna, Binaganj and Bhopal-Bairagarh centres.

As far as the number of diseases is concerned, the highest number has been reported in Begamganj, i.e. 24 per cent, while in Aron it is 20.5 per cent. The total number of patients who reported in Shamshabad, Berasia, Khurai, Guna, Raghoar and Bhopal form 18.8, 16.4, 14.3, 12.0, 10.0 and 9.6 per cent respectively, among all the reported cases.

Deficient diet, particularly in vitamin A, B groups vitamins, with lack of protein are the main causes. Besides diet, bad living conditions and use of contaminated clothing and water, also favour these diseases. Conjunctivitis and Glaucoma are largely concentrated in summer and early rainy season respectively.

FIELD DATA

For example, the percentage of the cases of different disorders of the sense organs is reported maximum in Begamganj
The author, while visiting Barkhoa village of this P.H.C., noticed that the diet of the villagers was quite deficient, particularly in vitamins. Usually they did not include vegetables and fruits in their daily diet; any vegetables in the diet entirely depended on local production which was also found to be inadequate. Consumption of leafy vegetables and other food-stuffs which are rich in vitamins was inadequate in their diet. Milk consumption was also low and most of the villagers were vegetarian.

Besides dietary habits, their living environment was also unhygienic and they had also a serious drinking-water problem. Dust and dirt was noticed in the entire village.

The families interviewed by the author frequently reported troubles of the eyes, ears etc. It was also noticed during the family interviews that infectious diseases of the eye like conjunctivitis easily spread among all members of the family due to lack of knowledge regarding the nature of these diseases.

In Begamganj proper, the environment was found to be quite favourable for spread of these diseases has been noticed; details which were noticed during disease and diet survey have been already discussed.

The diet in Begamganj proper was found quite deficient in most of the nutrients including calories and protein. Average
intake of vitamin A is only 1354 I.U., while the desirable amount is 4000 I.U. Dust, dirt and unhygienic living conditions are quite common in the entire town.

TRA CHOMA: This is a contagious inflammation affecting the conjunctiva, cornea and eyelids and is caused by a particular virus. In the beginning it resembles conjunctivitis and sometimes produces small ulcers on the cornea. Its incidence has been seen more in March-April and July-September, which shows the relationship of this infection with weather conditions.\(^1\)

Dry and hot weather, dust, dirt and living in crowded places favour the spread of trachoma; the disease can thus be prevented through ordinary cleanliness, by avoiding the use of infected clothes and by developing good habits of personal hygiene.

CATARACT: This is a disease in which vision is more or less obscured because the lens of the eyes becomes progressively more opaque.

GLAUCOMA: Glaucoma is a serious disease which destroys the delicate structure within the eyeball. There are two kinds of glaucoma. The acute congestive and the cornea has a steamy appearance. The second one is more common, there is less

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discomfort and a dull pain in the forehead.

ALLERGIC CONDITION: The common sources of eye irritation are dust, pollen, dandruff, face powder etc. The patient complains of inflamed and weeping eyes. Itching may be intense and bright sunlight accentuates the troubles.

VENEREAL INFECTIONS OF THE EYES: Sometimes venereal infection may also affect the eyes. Germs are picked up as the baby passes through the birth canals.

DISEASES OF THE EARS: According to government sources, ear diseases are not so common in the area. Deafness and general pain are the only troubles which are generally reported. The main causes for ear troubles are: 1. Accidents, 2. Foreign bodies in the ears, 3. Childhood infection, 4. Head colds and 5. Tonsils.

GROUP VII

SKIN DISEASES

Skin is a natural covering and is an inseparable portion of the body protecting the latter from various unfavourable external influences and from penetration of various infectious agents. Broadly, the causes of skin diseases are divided into two classes.

1 External: 1 Pathogenic microbes.
2 Vegetable parasites.
3 Animal parasites.
4 Action of heat and cold.
5 Chemical substances.

2 Internal:
6 Metabolic disturbances.
7 Dysfunction of endocrine glands.
8 Avitaminosis.
9 Diseases of internal organs.

The following skin diseases are commonly reported in the area under study:

1 Scabies.
2 Ringworm.
3 Eczema.

Unhygienic living environment, ignorance, contaminated water, improper facilities of waste disposal, improper drainage of domestic used water, lack of ventilation and to a certain extent, social habits of the people all make the environment favourable for the occurrence of various skin diseases in the region.

DISTRIBUTION AND DISCUSSION

Among various diseases, skin diseases are the most frequently reported throughout the region, mainly in private hospitals.
In Rahatgarh and Isagarh these diseases occupy first rank among all the other diseases in the centre. It was observed during field work that, in Rahatgarh as well as in Isagarh, the people use unsafe water for drinking as well as for other domestic purposes and the living environment of these places is also not found to be hygienic, beside inadequate facilities for sewage and other material. In Kurwai, Bina Agasod, Ashoknagar and Manpura-Pichhore the skin diseases are most frequent while in Lateri, Mungaoli and Ashta primary health centres, they are ranked third among all the reported cases.

As far as the number of patients is concerned, the maximum number of skin diseases has been reported in Rahatgarh, viz. 28 per cent, while in Isagarh it is 20.9 per cent. In Ashoknagar, Manpura, Mungaoli and Bina-Agasod, the total number of cases of skin diseases form 17.6, 15.8, 15.5 and 13.8 per cent respectively. In other centres the percentage of reported skin diseases varies from 1.4 to 13.2.

FIELD DATA

For example, skin diseases rank first in Rahatgarh centre and form 28 per cent of the total reported cases. The author, while visiting Rahatgarh proper for diet survey, noticed the following factors which favoured the incidence of various skin diseases:
1. Unhygienic internal as well as external living environment.
2. Ignorance regarding personal hygiene.
3. Use of unsafe water.
4. Lack of proper facilities for domestic used water, solid waste disposal and refuse material.
5. Use of same water for washing, bathing and other domestic purposes.
6. Unhygienic personal habits.

The families interviewed by the author commonly reported various skin diseases. Besides the above-mentioned centre, according to private doctors' reports, skin diseases are more frequent in Ashoknagar, Bina and Chairatganj.

SCABIES: This is a contagious skin disease and may spread over the entire body. It is favoured by poverty and lack of health hygiene on the part of the people. It is transmitted through close contact of the patient or by use of articles used by the diseased person.

ECZEMA: This is a most wide-spread disease. Eczema is an eruption of the skin characterised primarily by pin-head sized macules, papules and vesicles and accompanied by intense itching or burning.¹

RINGWORM: This is also a contagious disease of the skin and starts as a circular bluish patch. There is also acute irritation.

GROUP VIII
DIARRHEA AND DIARRHEA

It would be desirable to consider diarrhoea, amoebic
dysentery and bacillary dysentery together, because there is
no hard and fast differentiation between these.

BACILLARY DISENTERY: This is caused by germs, belonging to
the shigella group. The germs are transmitted from person to
person through contaminated food as well as water. The symptoms
are abdominal cramps, bloody diarrhoea, straining at the stool
and the loss of a large quantity of fluid from the gastro-
intestinal tract.

Disorders of this group are most frequently in Sagar,
the percentage being 14.5. The occurrence of dysentery is
related to season, since it is most common in the rainy season
and sometimes in the hot dry season also, when house-flies are
most active at their work of pollution. Deficient diet is also
responsible for the occurrence of this disease. The diet of
the inhabitants of Sagar is deficient in most of the nutrients
and further it has been noticed that in the rainy season flies
are much more active in the entire town.

As far as drinking water-supply is concerned, it is
one of the burning problems for the people of this town.
Although here piped water supply is available, it is quite
inadequate, so that people are compelled to use contaminated
water, which is the most favourable factor for the occurrence
of dysentery and diarrhoea in an acute form.

The author has noticed the following environmental factors here on the basis of his own observations:

1. More than 50 per cent of the people are living in a dirty environment.
2. Sewerage facilities are not proper.
3. In many places one could see refuse material and also domestic used water flowing in the streets of the town. House refuse material and even night soil can be seen near the roads, mainly due to lack of civic sense.
4. Knowledge of personal hygiene seems to be poor.

According to private doctors, dysentery and diarrhoea cases are reported more frequently here than other troubles. This was also noted during the diet survey.

The author, while visiting Badkua village of Sagar-Shahpur P.H.C., noticed that people were facing a serious drinking-water problem on a very large scale and were frustrated in this respect. Diet was also found faulty, including cooking methods. Due to poverty, their houses were ill-built and living environment was not hygienic. Domestic water, cow-dung, night soil and house rubbish could be seen anywhere in the village. Due to shortage people did not use enough water for bathing, washing and for other purposes. Most of the families who were interviewed by the author reported of dysentery and diarrhoea frequently.
AMOEbic Dysentery: Amoebic dysentery is brought on by parasites which are present in contaminated water or food. The water which is usually contaminated through sewage is the main reason for this form of dysentery. It is in the areas where human excreta are used as manure that the infection of amoebic dysentery is most likely to break out. Flies play an important part here.

Diarrhoea: This is also spread by flies which sit on human excreta and subsequently contaminate the food and water. Diarrhoea is also caused by eating unripe fruits and by drinking impure water. Main symptoms are that the stool is semi-solid, the patient feels the need for emptying the bowels after short intervals, thirst, fever, weakness etc.

Distribution: The disorders of this group are the leading diseases in nine centres of the region, being most frequent among all the other reported diseases in Basoda, Lateri, Sagar, Bina, Khurai, Malthone, Guna, Jaisinagar and Batarwas. They are second most frequent in Chaturganj, Sirunj and Rahatgarh, while eight other centres hold third rank. This indicates the common frequency of the said disorders in the area besides other diseases.

On the other hand, if a study on the basis of total cases reported is made, the highest cases would be found in Jaisinagar centre, viz. 59.8 per cent of the total number of registered cases, while in Lateri, Malthone, Rahatgarh and
Khurai the registered cases form 34.6, 29.4, 27.2 and 22.3 per cent respectively. In other centres of the region the percentages of reported cases of this group of disorders vary from 1.7 to 21.0.

It was also observed and noted during diet and disease survey that people of different places generally suffer from the disorders of this group.

Unhygienic living environment, improper facilities for sewage disposal, contaminated drinking water, lack of civic sense, particularly poor personal hygiene and faulty dietary habits of the people of the region are the main causative factors which make conditions favourable for the occurrence of the above-mentioned disorders. Through strict attention being paid to personal hygiene, proper disposal of sewage, control of flies and supply of adequate uncontaminated water, the disorders of this group can be controlled easily.

It may also be noticed that dysentery has a correlation with the hot season, when flies are most active at their work of pollution. Drinking water also often becomes contaminated during the rainy season.
GROUP IX

OTHER DISEASES

There are certain other important diseases which have not been included so far, but they are more or less reported in the entire area, according to information provided by government as well as private hospitals. During diet and disease survey, information regarding these diseases was also collected. In the absence of reliable data on these diseases, it is not possible to show their frequency and intensity in the region. The most common such diseases are as under:

1. Rheumatic fever.
2. Malaria.
3. Influenza.
4. Tetanus.
5. Diphtheria.
   ii) Roundworm.
   iii) Threadworm.
8. Mental diseases.

RHEUMATIC FEVER: This is usually reported in the case of infants and adolescents. Generally the trouble starts with a sore throat and sometimes the tonsils may be badly inflamed.
Sometimes it also affects the heart. Insufficient clothing due to poverty, inadequate water-supply and the ill-built houses found in the region create a suitable environment for the occurrence of this fever.

MALARIA: Malaria is a protozoal disease caused by infection with parasites of the genus plasmodium. The mosquito first bites a patient and, while sucking blood, takes in the malarial germs and injects the same into the other person. High fever accompanied by shivering is the main symptom. The type of the houses, occupation and diet quality and quantity determine the extent of susceptibility to malaria, which is widely reported in the study unit. According to disease survey, malaria has been reported frequently in Ashoknagar, Bhopal, Bina, Chanderi, Ghairatganj, Guna and Sironj.

Deficient diet, poor housing, improper drainage system, inadequate water, poverty and bad living surroundings are responsible for the occurrence of malaria in the region.

INFLUENZA: Influenza is an acute contagious illness caused by a virus which attacks the ciliary epithelial cells lining the respiratory passage, i.e. the inner walls of the nose, trachea and bronchi. The germs enter by the mouth, nose or eyes from the breath and discharge of patients. The attack is marked by rapid increase in temperature, severe headache, pain in the back and limbs, great weakness and symptoms of a severe cold, such as running of the eyes and nose, sneezing and coughing.
Influenza is generally reported in the entire area but it was noticed, during disease survey to be particularly frequent in Ashta, Ashoknagar, Bhopal, Bina, Binaganj, Chairatganj, Guna, Sagar, Sehore, Sironj and Vidisha. Contaminated food and water, a deficient diet, poverty, ignorance, fatigue, over-crowding, poor ventilation and the chilly atmosphere of the region are responsible.

TETANUS: This is an infectious disease characterized by a series of tonic spasms which may be local or which may involve the whole of the somatic muscular system leading ultimately to exhaustion and even death.

Soil is the source of tetanus infection, because the causal organism 'clostridium tetani' is primarily a soil organism. It entrance into man is through a cut or wound which has been contaminated with soil. Due to unreliable data, the intensity of the infection is not known, but it is reported in private hospitals frequently.

DIPHTHERIA: This is an acutely infectious disease, caused by "corynebacterium-diphtheria" which thrives chiefly in the throat, larynx and other portions of the upper respiratory passage. Infection occurs due to contact with discharges from the nose and throat; it is commonly reported in children in the entire region.
The disease is attributed to over-crowding, insanitary surroundings and unhealthy condition of the mouth and throat. In a majority of cases the disease is spread by droplet infection, the bacilli being expelled from the mouth and nose by coughing, sneezing or even speaking.

MEASLES: This is a more common, highly communicable and specific infectious disease affecting children of the region, usually in spring time. The fever begins with a cold. After two or three days, the temperature rises and the body is covered with a reddish or rash which looks like prickly heat. Infection spreads through contact with discharges from the nose and throat of patients. Insanitary living conditions, ignorance and the polluted and crowded environment of the region are favourable conditions.

INTESTINAL PARASITE: In this group three main specific diseases are commonly reported in the area:

i) Hookworm.

ii) Roundworm.

iii) Threadworm.

Different types of worms invade the intestinal tract. Usually most of them find their way into the body through contaminated water and food. These troubles are reported throughout the region mainly due to polluted and contaminated water, which people use for drinking purposes.
For example, the author, while visiting the rural as well as urban places for diet survey, noticed that complications caused by worms were frequently reported by many of the interviewed families. On the basis of disease survey, it could be said that such complications were frequently in Ashoknagar, Bhopal, Bina centres.

Hookworm: This enters the body by penetrating the skin of the bare feet and secretes a special juice that dissolves the lining of the bowels, causing almost constant bleeding. It can be prevented by the use of sanitary toilets and wearing of shoes.

Roundworm: A warm, moist climate favours roundworms. The disease they cause is known as ascariasis. The worm is long and thick an ordinary lead pencil, and spreads through contact and by using contaminated things. The main symptoms are vomiting, loss of weight, fever, nausea etc.

Pinworms: These small thread-like worms are carried into the mouth by contaminated fingers or toys and cause intense itching, followed by secondary infection.

Tape Worm: Tape worm is common among children in the region. The patient becomes toxic and suffers from marked digestive disturbances as well as diarrhoea and constipation.

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MENTAL DISEASES: In the absence of actual data, the intensity and distribution of mental diseases cannot be shown, but it has been noted during field work that they are also one of the public health problems of the region. Frustration, poverty, ignorance, malnutrition, the prevailing social system and false beliefs with traditional habits of the people are the main causes for various mental disorders.

CANCER: 'Cancer' means malignant growth in certain parts of the body. It is a strange condition where the body cells start to undergo a striking change in their normal habit of living.

Cancer may occur at any time of life but is more common in middle and older years. It has been noticed that cancer occurs more frequently in women and may be due to the periodic changes in the breasts and uterus, while in men it has been reported commonly in lungs and in the stomach.

In the study region, due to lack of proper treatment facilities in any of the centres, the cases of cancer are always reported only in big hospitals or in medical colleges, so that regional variations cannot be detected.

Actual causes of cancer are still shrouded in mystery, but it is believed that smoking and drinking habits of the people along with lack of resistance favour it. Crowded
atmosphere, different types of pollutants, ignorance, poverty, a deficient diet, stress and strain, frustration etc. all favour the occurrence of different types of cancer in the region.

HEADACHES: Headache is not a disease as such but is the most common complaint of the people of the region. It has been noticed during field work that usually members of every family have this trouble. The majority of headaches are functional disorder. Nature's own notice that all is not well in the body. Headaches also occur as a symptom of many diseases. If not a symptom of diseases, they could be due to stress and strain of living, crowded surroundings, adulterated food, polluted water etc.