CHAPTER VII

ENVIRONMENTAL HEALTH HAZARDS (DISEASES)
Natural and cultural environment in which man lives is the main determinants as far as the frequency of various health hazards are concerned. Rapid development in scientific and technological field changes the living environmental conditions also. Industrialization, motorization, increasing use of fertilizers in various agricultural products and many other less important side effect etc. are also harmful for human being and are responsible for the occurrence of various health hazards. The rate of environmental changes which is now faster also disturbs the ecosystem.

Environment means all factors which affect the survival and reproduction of living organisms. The living environment comprises mainly of air, water, micro-organisms (germs) etc. which also affect our social environment. Here water pollution is very important which is responsible for the occurrence of very large number of diseases directly and indirectly. Environmental sanitation is another affecting factor which is responsible for many health hazards. Besides this, number of other environmental causes also affect the diseases in one way or the other.

For the present study the disease incidence data has been collected PHC-wise from chief medical officer offices of each district. Although diseases are classified in various ways, but for the present geographical study, all the collected data has been grouped into nine categories and
average percentage - figure has been arranged group-wise and is given in Table 7.1.

GROUP I
DYSENTERY AND DIARRHOEA

Dysentery becomes a chronic disease if not treated properly. Bacillary and amoebic are the main types.

BACILLARY DYSENTERY

It may be caused by Shiga bacillus, Flexner bacillus Sonne bacillus. It is a infectious disease. It spread by the contamination of food, milk and water by the fecal matter of infected individual. The main symptom is diarrhoea starting at the stool and the loss of a large quantity of fluid from the gastro intestinal tract. Flies play an important role in the spread of this disorder. It is commonly encountered in the summer season. It begins suddenly with severe abdominal pain and sometimes fever. There is a frequent passage of watery stools containing blood and muscus.

AMOEBCIC DYSENTERY

It spreads through water and is caused by an organism which is known as entamoeba hystolytic. The water, which is usually contaminated through sewage, is the main reason for this form of dysentery.
DIARRHOEA

This is one of the commonly ailments of children who are infants and breastfed. Diarrhoea is referred to as dysentery when it is associated with the passage of blood and mucus in the stool. Diarrhoea may be divided into two groups.

(i) NON INFECTIVE: It is due to allergy of intolerance to certain foods. The children are said to be unable to digest certain milk or foods. This difficulty may be with cow's milk or any of the new foods introduced in the diet like cereals, vegetables, pulses etc.

(ii) INFECTIVE: The most common cause of infection is a bacterium which normally inhabits the intestinal tract. The germs undergo a change in their character irritate the intestine and set up an acute diarrhoea. These germs are bacteria belonging to the group causing typhoid fever. The symptoms are vomiting and dry tongue.

DISCUSSION

Frequency of this disorder is very high in the study zone. It has been observed that the frequency of dysentery and diarrhoea diseases is highest in 'Amanganj' PHC which reaches a percentage of 55.18 out of total cases reported in all the PHCs of the study unit, whereas Hatta and Pawai occupy the second and third positions respectively having
percentage of 47.76 and 42.70 respectively. The lowest percentage is reported in 'Khargapur' having 3.16. In other PHCs the case of above diseases are also reported in large number and given in Table 7.1. This group of diseases, has been reported by every government hospital and reported in Hatta, Amanganj, Shahnagar, Khurai and Baldeogarh PHCs in first rank. Ajaygarh, Devendranagar, Pawai and Khargapur PHCs are placed second rank and Patera, Jaisinagar, Jatara and Prithvipur PHCs frequently reported in third ranks of diseases.

FIELD DATA

In connection with the disease survey, thirty-seven private doctors in different part of the study unit were interviewed. It was gathered that a majority of patients including children are reported having this group of diseases in a large number in private clinics. The opinion of private doctors is that disorder of this group are the main health hazards of the area.

To detect the nutritional level of rural and urban people, diet survey family wise in the entire area was conducted. In the entire region 113 families of different communities have reported this disorder and it is also observed that this is a common disorder which affects both the sexes and as well as infants also.

It can be said on the basis of field visits that this group of diseases is most frequent during the rainy season.
of the polluted water. Due to the acute scarcity of drinking water, the pollution is often free to play its game and makes the water polluted in rural as well as in urban places of the study area. Other causes, which may be attributed to the large scale occurrence of these diseases, are as under:

During field work it is observed that in the entire area out of 5,902 total villages only 109 villages have safe drinking water facilities according to Public Health Engineering Department (PHE). But during field work it is observed that safe water facilities are not adequate, due to shortage and irregular supply of water. In some villages drinking water problem is very acute, people are compelled to bring water from long distance during summer season. On the other hand government has declared 3,963 villages as problem villages and out of them 473 villages have been declared as difficult villages. It classified that the quantitative yield of open well is not adequate to meet the demand of village population during extreme summer; and further addition of dug well offers no hope. And the situation of the nearest open well capable of meeting the drinking demand of the village is such that it involves a lead of 1.6 Km (1 mile) and above.

It is also observed personally in village survey that the same source of water is used for both purposes i.e. for drinking as well as for domestic use. During family survey
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R = Rural

Source: Compiled from Chief Medical Officer, Offices of the Study Unit.
       (Based on International Classification of Diseases (WHO)).
it is also observed that most of the families have no proper container to store drinking water on the other hand unsanitary habits are also in practice as far as drinking water is concerned.

Water problem particularly in summer season is also reported by the urban people of the study area. Only 36 places towns and cities have tap water facilities. Other towns/places depend on rivers, wells and other sources of water. In summer season when the water level go down and most of the wells and other sources of water dry up, most of the people are bound to take muddy or hard water. The hardness of water is harmful to health and may be the cause of hypertension and heart troubles. Generally tube wells are not successful in urban places due to shallowness and depend on the quality of underground water and the nature of the soil. Distribution and storage of water in unhygienic containers and water stored for long periods etc. are responsible factors for water pollution.

GROUP II

DIGESTIVE AND ALIMENTARY CANAL DISEASES

The digestive system is most important system of human body. Disorder of digestive system may cause many troubles and there may be digestive and alimentary canal diseases. The digestive tract is like a long tube laid down through the body starting from the mouth and ending at the anus. Digestion takes place in the middle. Abdominal pain, weight loss, vomiting, constipation, diarrhoea are the general
complaints pertaining to digestive system.

The various diseases which are included in this group are mainly due to various environmental factors particularly from contaminated drinking water. Deficiency of various nutrients, also play an important role for the occurrence of these disorders. The important diseases of this group are as under:

(i) Jaundice  (ii) Constipation,  (iii) Harnia,  (iv) Gastritis  
(v) Peptic ulcer,  (vi) Anorexia,  (vii) Vomiting,  
(viii) Piles,  (ix) Gall-Bladder stones and  (x) Other liver trouble.

**LIVER**

Liver is the most important organs of human body. It is damaged by various infections and improper nutrition. The liver initially shows enlargement from an infiltration of fat, later it shrinks in size with the invasion of fibrous tissues. It causes indigestion, gas, loss of appetite, anussea and loss of weight. Jaundice can occur in terminal stage.

**JAUNDICE**

Jaundice is a seasonal health disorder particularly reported in rainy season mainly due to muddy water. It indicates that there is abnormal destruction of red blood corpuscles. The common form of jaundice is a virus infection or some other infection which upsets the liver function. The
stools are grayish coloured and the urine is yellow with bile. Vomiting, loss of appetite, constipation and tenderness are the main symptoms of this trouble. The liver may be subjected to repeated damage by various infections and recover slowly.

CONSTITUTION

It is a very troublesome and common complaint in whole study region. Causes of the constipation are irregular habits eating of adulterated food, weak abdominal muscles, lack of exercise, use of taxatives, drinking habits and nervous tension associated with hurry and worry etc. are the important.

GALL-BLADDER STONES

It is the formation of stones in the gall-bladder due to cholesterol, calcium, salts, bile pigments and bacteria. The condition is prevalent in both sexes but it is more frequent in obese, fertile female of fifty. Pain after meal, pain in shoulder, vomiting etc. are the main symptoms during this health trouble.

PEPTIC ULCER

It is a hole or defect that occurs in the lining of the stomach but it can occur on the leg or elsewhere in the body. The symptoms of this disease are burning pain in the middle or upper part of the abdomen, empty stomach, gastric trouble etc. Rough foods, drugs, smoking on an empty stomach, nicotin of tobacco and gastric juice are the responsible causes for the
above disorder.

HEMORRHoidalS ( PILES )

These are small swelling in the veins around the outlet of the rectum. Piles may be caused by constipation, pregnancy, heavy lifting, overexertion. This condition causes bleeding. If bleeding continues a long time then there may be anemia and may be a manifestation of other diseases like cancer of the rectum, pregnancy and structure of the urethra. In the final stages of development of the diseases these various swellings get prolapsed permanently causing discomfort; discharge of mucus and itching. The individual becomes pale with the persistent loss of blood. The disease requires operational treatment wherein the prolapsed veins are tied and cut.

DISCUSSION

The disorders of this system are reported highest in 'Rahatgarh' and has the highest percentage (26.00) out of 38 PHCs of the study unit which is followed by 'Agasod' where it is 17.85 per cent. 'Baldeogarh' comes next to 'Agasod' as third in number and has the percentage of 10.53 and the lowest percentage 0.30 is reported in 'Patharia'. The frequency of diseases in other primary health centres is given in Table 7.1 (percentage figure).

Nowgaon, Jaisinagar, Malthone, Rahatgarh and Khargapur PHCs have reported high percentage and occupy first rank.
SAGAR DIVISION
Ranking of Diseases

FIRST RANK
1982-84

INDEX
- Parasitic and Viral
- Ear, Nose & Throat
- Teeth & Gum
- Desentery & Diarrhoea
- Respiratory
- Digestive
- Urinary
- Eye
- Dificiency
- Skin & V.D.

Km10 0 10 20 30 Km.
Amanganj and Agasod PHCs have reported second rank and Hindoria, Pawai, Banda, Niwari, and Shahpur PHCs have reported large number of cases and occupy third rank of diseases.

FIELD DATA

During disease survey the private doctors of Damoh, Sagar and Tikamgarh towns were personnally interviewed and they reported that the patients of above disorder are reported very frequently in rainy season and also in summer. Dr. K.K. Ketwara in Khurai PHC reported that jaundice disease is frequently reported by both the sexes in the month of September and October. Liver diseases are common among infants between the age of one to five years, in all seasons. The reason is the weak resistance power, food habits and polluted drinking water.

On the basis of diet survey 102 families of various community of the study area have one or more troubles of this group of diseases. It is personally observed in Laudhani village (Pawai tahsil) that jaundice is a very common complaint among children and adults during rainy season. The wells of Ludhani village are kuchcha and the rainy water enters straight in to them. The same well is used by animals also which creates possibility for water pollution. Hot tea, tobacco, indigestible fried articles of food, smoking habits, are the main factors which are responsible for the occurrence of above health hazards.
GROUP III
DISEASES OF RESPIRATORY SYSTEM

The nose, throat, windpipe, lungs etc. are the main part of the respiratory system. "The process of breathing in air for the supply of oxygen is known as inspiration, and the process by which the products of combustion such as carbon dioxide and water are given out from the lungs is known as expiration. Both these process together are known as respiration. And the disturbance in these process will create disorder of respiratory system."¹

Diseases of the respiratory tract are of common occurrence due to the anatomical position, and the frequency of exposure to the viral and bacterial infection. Important signs, and symptoms are cough, pain in the chest, various lung diseases, pneumonia and tuberculoses. Most of the diseases of this system are directly affected with the external environment. Some common health hazards are as follows:

COMMON COLD

It is a seasonal disease mostly occurring in winter and spring seasons and has a close relationship with fluctuation of daily temperature. It causes infection in nose, windpipe and air passage. The disease is caused by a virus which is present in the discharges of mouth, nose and throat.

¹ V.N. Bhave (1983) "Organs of Respiration", You and Your health, ed. by Bhave, National Book Trust, India, p. 107.
It spreads by means of direct contact or by droplets.

WHOOPING COUGH

It is a highly infectious disease of both the sexes including children causing inflammation of the respiratory passages with severe attacks of cough. The disease starts with slight fever and catarrh just like cold. Face becomes red during coughing. The child usually vomits and there is frothy discharge from his mouth and nose.

BRONCHITIS

It is a chronic disease associated with the increased secretion of mucus in the airways. Complaint of cold in the head, pain behind the chestbone and cough with or without sputum are the main symptoms. The attack of bronchitis is common in cold weather and starts after catching a cold of irritant fumes by environmental atmospheric pollution, smoke, dust due to excessive smoking acts as the initiating factor of this condition. Respiratory tracts are directly affected by viral and bacterial infection and polluted atmosphere. The disease may lead to complications like broncho, pneumonia or pneumonia and influenza.

PNEUMONIA

This is an acute inflammation of the lung. It is an illness characterised by a lack of air in the alveoli due to their being filled with an inflammatory secretion. Pain in
the chest, high rise of temperature and rapid pulse and respirations are the symptoms. There is cough with rusty coloured sputum. This is usually more common and dangerous in children. Now a days it may be reported in any season. It may be a complication of bronchitis, whooping cough, measles, influenza and other debilitating conditions.

ASTHAMA

It is a disease characterised by frequent difficulty in breathing due to the narrowing of the small bronchial tubes. It is a common disorder among adults and more frequent in the farmers of rural places due to pollen of grass, trees, house dust, animal hair and certain foods. When the individual comes in contact with them there is an allergic reaction which leads to the narrowing of the airways. It may have cough and wheezing noise in the chest. The attack may be precipitated by an infection.

TUBERCULOSIS

Tuberculosis mainly damage for lungs and is a specific communicable disease and it is a major public health problem in the State. Each district of State has a separate T.B. department sharing between the centre and the State. It is a infectious disease passed from one person to another through close contact and affects both the pulmonary and non-pulmonary tissues. Low fever, raised pulse rate, tiredness, loss of weight are the main signs. Cough with sputum pain in
chest and breathlessness are from local destructive changes in the lung. Tuberculosis appears to be equally distributed in rural and urban population. It can occur at any age and season but prevalence is more in children and adults.

DISCUSSION

The diseases of respiratory system are reported in highest number in all PHCs of the study area. Here 51.25 per cent cases are reported from the 'Niwari' PHC. 'Khargapur' reported second position as far as number of cases are concerned i.e. 41.30 per cent of total reported cases. 'Rajnagar' is the third place and has 34.90 per cent various trouble of this system. In the remaining PHCs this group of diseases vary from 20 to 30 per cent. PHC-wise reported cases are given in Table 7.1

The above health disorders is registered in large number in Batiagarh, Badagaon and Niwari PHCs and occupy the first rank and Bakswaha and Prithvipur PHCs occupy second. In third rank of diseases Rajnagar, Tendukheda, Hatta, Jabera, Agasod and Kesli PHCs are included.

FIELD DATA

In most of the private clinics these disorders are reported very frequently by private doctors of the study region. Dr. C.K. Jain in Sanodha village (near Sagar) reported 30 to 40 per cent patients affected by this group of diseases. Bronchitis and asthma disorders are the main
trouble of this village.

Dr. R.P. Shrivastava in Narsinghgarh village (near Damoh) reported that 40 to 60 per cent labour class, of Diamond Cement Factory, are affected by bronchitis and 30 to 40 per cent by tuberculosis trouble of diseases. Dusty atmosphere created by stone dust, coal dust and cement dust are the main responsible factors of the diseases.

Dr. Hari Singh Khatri (Sagar) reported that lungs trouble and tuberculosis health hazards are frequently reported by labour class of bidi makers, and further disclosed that every labour class is affected by respiratory system.

In village survey two hundred families of different communities are found to be suffering from the various troubles of this group. This system is particularly located in Sagar, Damoh and Chhatarpur districts respectively which are primarily noted for bidi making industry. The bidi making workers are retired to sit at a place for a long time each day. The condition of house are unhygienic and most unfavourable hence they are exposed to have respiratory troubles. Female and children also participate in bidi making. It is observed in rural areas that most of the infant and children do not wear the clothes so they suffer diseases like pneumonia, common cold etc.

Smoking, drinking, chewing the tobacco are the main causes of the above diseases. Housing condition, deficient
diet etc. are the main responsible factors for respiratory system diseases.

GROUP IV
PARASITIC AND VIRAL DISEASES

The human body is often affected by many biological agents like bacteria and viruses. Such diseases are frequently encountered due to poor sanitation, polluted environment and weak resistance power. The microorganisms (germs) react in the body and are referred to as infection. The diseases which can be transmitted easily are called infectious.

Bacteria are responsible for the occurrence of many diseases. They are the lowest form of life with a great power of reproduction. Their presence in the environment ensures and gets entry into human body directly or indirectly. The common method of entry is through the food and water, through the air, the bite of insects and through scartches and wounds on the skin. After entry, the parasites live and grow in man because the tissues of man are shelter and have a very fixed set of condition which are suitable for the microbe to live in and grow. In man, virus are responsible for smallpox, measles, influenza, poliomyelitis, rabies, hepatitis etc. They spread by contact, by droplet, by contaminated food and drink, by the bites of infected mosquitoes, ticks or mad dogs (rabies).
POLIOMYELITIS

It is an acute communicable disease caused by an intravirous. It is an infection of the human alimentary tract and affects the central nervous system via the blood stream resulting in paralysis. The most important source of the virus is in the human faces. Man is the only reservoir of infection. The reservoir may be clinical and healthy carriers. It is essentially a disease of childhood and infancy between 3 to 5 years of age.

TETANUS

This is a bacterial infection by a bacteria found commonly in soil and the focal material of animals and human beings. These germs get entry through wounds and injuries. Stiffness in the muscles of the neck and back, difficulty in opening the mouth and in swallowing are the main symptoms.

FILARIA

Swelling of the legs or arms and of some other parts of the body is a characteristic of this disease. This disease is commonly known as elephantiasis due to its resemblance to a leg of an elephant. It is caused by a number of worms. The infestation is transmitted by culex mosquitoes from one individual to other.

WORMS

All ages and both sexes are liable to infection of worms. Children are more infested with worms. The commonest
are the roundworms, hookworms, threadworms and the least common are the tape worms. This is an occupational hazard among workers in sewage, farms, agricultural land. Customs, personal habits, malnutrition are associated with the prevalence of this health hazard. Loss of appetite, abdominal pains, irritability, loose motion, bed wetting etc. are the main symptoms of this disease.

MEASLES

Measles is a virus and infectious disease causing fever, inflammation of the air passages and a rash all over the body. It attacks especially children. The symptoms are that the eyes become red and watery and the face is flushed. The rash is slightly pinkish in colour and spreads downwards on the body.

DISCUSSION

In the study unit 'Jatara' PHC registered the highest number of cases and has claimed 23.4 per cent of the total reported cases. The second with a percentage of 21.53 is 'Tendukheda'. It is followed by Prithvipur having 18.30 per cent. The lowest (0.13) though negligible is reported from the 'Jabera' hospitals. The percentage of remaining PHCs of the entire unit has the range standing from 2 per cent and ending at 10 per cent. PHC wise detailed percentage is given in Table 7.1. The various diseases of this group are frequently reported in 'Kesli' and occupy first rank among all
the other reported diseases. Bijawar, Tendukheda, Deori, Rohlí, Jatara, Shahgarh and Baldeogarh PHCs rank second, and Batiagarh and Patharia reported good number of cases and occupy third rank. Ranks of other PHCs are given in Table 7.1.

FIELD DATA

In disease survey private hospitals of Tikamgarh town reported high number of measles and small pox diseases among infants and children. These diseases are seasonal and their maximum prevalence is from July to November. These periods are for the development of parasites which spread the diseases. Most of the children in school age group spread the diseases of this system by contact in schools or playgrounds.

During the diet survey 222 families out of 502 have reported the troubles of this disease group. It is observed in villages that the cases of tetanus are found among the new born infants and women (after delivery) due to untrained dais.

A patient of filaria has personally been seen in Narayanpur village in Kesli PHC. He is 52 years old and not able to walk. It is also observed that his children are also suffering from worm disease. This family always uses river water for drinking and for other domestic purposes. He also live near the bank of a river and these are the main causes for the trouble of diseases. The following causes may be responsible for the above trouble.
(i) The fluctuation in weather condition, rainfall and high humidity lead to multiply the generation of various germs which are responsible for the occurrence of above disorder.

(ii) Drinking water becomes contaminated during summer season which help in development of various virus.

(iii) Poverty is also one of the respective factor for the diseases because poverty and the resistance power have very close relation.

GROUP V
SKIN AND VENEREAL DISEASES

Skin and venereal diseases are included in one group because the symptoms of these diseases appear on skin, and these diseases emerge mainly due to contact with some one already having the disease. Ignorance and carelessness regarding these diseases enable them to thrive in all communities.

The skin is a natural covering and inseparable part of the human body. It is a barrier against germs. Healthy skin has the power to destroy many germs and protects the body from the harmful effects of too much light, regulates the temperature according to the outside environment. These are many nerve endings in the skin and people do not care for various sensations such as heat, cold and pain which cause various types of skin disorders.
The skin spreading all over the body is the largest and apparently visible organ of the body because of easy approach and contact of the environment. Skin lies in complete exposure and is highly susceptible to injury, infection, eruption, itching and scars of altered pigmentation. "There is subjective and objective symptoms of skin diseases. The subjective symptoms accompanying many skin diseases include itching, pain, burning, sensation of crawling numbness, constriction and tension of the skin. The intensity sensations depends on the character of the disease, the extent of pathologic changes in the skin and the state of nervous system. The objective symptoms of skin diseases are physical manifestations of pathologic changes in the skin. They may have to do with general properties of the skin (colour, turgor, dryness etc.) or be of the nature of skin eruptions."

The mode of occurrence of venereal diseases are quite different from skin diseases. It is a social problem and is quite different in character and its causes are also quite different, like poverty, ignorance etc.

Syphilis, gonorrhoea and other disorders affect many parts of the body, which are transmitted through sexual intercourse. The infection transferred by other avenues is negligible. Syphilis is common in both the sexes while gonorrhoea is generally prevalent in women. The increase of venereal

diseases in recent years is found in the young age group and more in male. "The state of city with highest venereal disease rate may merely reflect more cases identified, and not necessarily and that these is more commonly infection than in another state with a reported lower rate of infection."² The diseases of this group can be classified as under:

PIMPLES

It is one of the major problem among puberty both boys and girls. At this age there is hormonal imbalance which causes thickening of the hormone layers of the skin. This thickening blocks the openings of the sebaceous glands. It affects the face, chest and back, due to the increase in the hormone testosterone in males and progesterone in the female. It can open up and can raise and occasionally an abscess develops. There is an increased susceptibility to bacterial infection.

SCABIES

It is a infectious disease caused by infestation by the etch mite. The condition spreads by contact. The common sites for scabies are the webs of the finger, the wrist, feet, armpits, around the elbow and female breasts. The severe scratching is a major symptoms.

PRICKLY HEAT

This is a very common disease which sets in during summer season. Children and females have the highest frequency to get affected by this disease. With the beginning of summer the sweat glands start sudden functioning. The result is that the pent up sweat rises a tiny visicle which is called prickingly heat.

eczema

Eczema is commonly termed for many skin conditions itching or non itching. The main causes of this disease can be attributed to an infection, an irritant chemical or physical or drug allergy.

leprosy

Leprosy is a communicable disease caused by micro-organism known as Leprosy bacillus. It presents a variety of clinical features which depend partly on the stage of the disease and partly on the type of reaction that occurs in body in response to the invasion of the leprosy bacilli. If the germs are in small number they are destroyed without appearance of the signs of disease and vice-versa. It is a slowly progressing disease and then new patches appear. It spreads by contact skin to skin or through clothes and utensils used by the infectious patient.

Skin diseases remain a major public health and social problem in Madhya Pradesh. The State government has taken
up a step to control it. Separately leprosy clinics have been opened in sensitive areas of the State to meet this health problem.

Empetigo, dandruff, boils, pediculosis, ringworm, and corns are the other main troubles of this group which are reported in less number in the study area and have very close relationship with the living environment.

SYPHILIS

Syphilis is a painless disease caused by bacterial infection. The germs get an entry into the body by sexual contact. In primary stage the disease starts a hard papule on the genital organ. The germs spread to all the organs of the body through the blood stream. In secondary stage the skin are rashes. In third stage the vital organs like heart, liver, brain and bones are affected. Pain in the chest, swelling over the front of head, a saddle nose, bow legs, and deafness are the main symptoms.

GONORRHOEA

It is an infectious disease caused by bacteria which is transmitted through sexual intercourse. Painful urination, frequently urine, discharge of pus from the urethra are the main symptoms. The disease affects the eyes of the infant during its passage through the infected birth canal. It may endanger the eyesight.
SAGAR DIVISION
Ranking of Diseases
1982-84

THIRD RANK

INDEX
- Parasitic and Viral
- Ear, Nose & Throat
- Teeth & Gum

FOURTH RANK

- Dysentery & Diarrhoea
- Respiratory
- Digestive
- Urinary
- Eye
- Deficiency
- Skin & VD

Km10 0 10 20 30 Km.
Venereal diseases are one of the serious social health problems, it is generally reported, particularly in the areas where poverty is more. It is very common in mining and small industrial areas, where people live very far from their families.

DISCUSSION

The highest number of cases of the diseases of this group are recorded by 'Niwari' having 22.20 per cent. The second to mention is 'Ishanagar' (20.34) followed by 'Shahpur' (18.14). The lowest 0.5 per cent in 'Ajaygarh'. The general average of the remaining PHCs range within 5 to 10 per cent. Gorihar, Ishanagar, Bijawar, Agasod, Shahgarh, Jatara and Prithvipur PHCs are registered highest percentage of cases among other groups of diseases and occupy first rank. Then comes Jabera, Kesli, Rahatgarh, Shahpur and Patera PHCs which occupy second rank, and Laundi, Nowgaon, Deori, Rehli, Badagaon, Baldeogarh and Khargapur PHCs occupy third rank in the diseases in comparison to other reported cases.

FIELD DATA

Enquiries from private doctors in disease survey, 17 doctors have established the fact that the diseases of this group are more often than other trouble in their areas. Some of the diseases are seasonal and reported in summer and in the beginning of rainy season. Dr. P.P. Mishra of Nowgaon, Dr. Kapoor Chand Baderya in Tikamgarh, D.P. Agrawal in Chhatarpur
and Jagdish Namdeo in Hatta town have reported scabies and
boils trouble in both sexes among children. The reason is
poverty. Mostly children play on the dirty places and wash
hand in sewage water.

As far as venereal diseases are concerned in 'Bijawar'
town there are two locally famous private doctors namely
Dr. S.M. Siddiqui and Dr. R.P. Gupta. These doctors reported
about 20-40 per cent cases of the total reported cases that
are found to be occurring in females. They describe the
prostitutes who carry their business in Bijawar to be respon-
sible for this. People from various sects and societies visit
these pros and unknowingly, the sexual contact with these
persons opens bright chances for these diseases to emerge.
These hurlots have adopted their profession for their liveli-
hood. It become a social problem of this area and it must
be socially mended.

The doctors have further disclosed that boys of 17-25
age group are the main victims of these diseases. To maintain
the general condition of their health these hurlots get two
bottles of glucose administered their bodies every 15 days.
All the pros avoid to contact government doctors and have
their own private doctors for treatment. They do so for
keeping up the privacy of their professions.

During the course of diet survey 61 families (out of
total 502) of this group were inquired. Skin diseases are
frequently reported in the villages by females and children.
It is a general complaint of the study unit. On the basis of personal observation in Patharia town of Damoh district it is found that the majority of children are suffering from scabies and prickly heat diseases due to unhygienic conditions, ventilation, pattern of bathing and dusty work.

The environmental reasons for occurrence of these disorders are following:

(i) Substandard houses with lack of cross ventilation, adequate lighting and floor space favour the spread of infection among the household contacts.

(ii) Mostly skin diseases are prevalent to be higher in the low income groups than in the high income groups.

(iii) Ignorance toward healthy of people coupled with poverty.

(iv) Overcrowding in homes cause rapid spread of infection. Larger families are usually poorer, undernourished and overcrowded.

Venereal diseases (V.D.) are common among people of lower socio-economic status and slum dwellers. Prostitution provides an occupation for earning money. Broken family, frustration in life, freedom from supervision, alcoholism, changing behavioural pattern, social customs are the main causes for the above venereal diseases which are reported in the study unit. This types of diseases are found maximum number in those people who are living far away from their
families. These health hazards have no relation with society, income and/or caste. Diseases may also spread through the infected person.

GROUP VI
EYE DISEASES

The eye is a wonderful creation of nature. It is a masterpiece of delicacy and perfection. The eyes are protected in the orbits which are bony cavities in the skull. The causes of eye diseases may be (i) infection, (ii) injuries, (iii) deficiency of vitamin A, (iv) Restrictive errors and muscular imbalance which lower the visual efficiency, (v) insufficient or dazzling light which directly strikes the eyes and is capable of damaging eyes.

Infection diseases like measles, diptheria, leprosy and smallpox often leave a terrible legacy which enormously affects the sight itself unless taken care of promptly. The other causes of eyes infections are chemical injuries, mechanical injuries and infection either from outside or through the blood stream. Eye troubles are noted in poor lightning conditions i.e. short sight and long sight in older persons. It is a common trouble to lose their eye sight before they reach the age of 20 years and many under the age of 5 years. Headache, watery eyes and fatigue are the main symptoms. Here are discussed some of the important eye troubles.

BLINDNESS

Blindness or nightblindness is a major problem of Madhya Pradesh. The number of cases are increasing day by day. Deficiency of vitamin A causes nightblindness. "According to a survey undertaken by ICMR in 1971-73 India has about 9 million blind and another 45 million suffer from visual impairment. Roughly 8 out of 100 persons need eye care in some form or the other. The problem of this magnitude causes considerable strain on national economy in term of loss of manpower and social dependence of the blind". 1 There is a scheme of the government to provide each primary health centre and district hospital with one Ophthalmic Assistant each.

The deficiency of vitamin A in daily diet of rural and urban areas are quite deficient. The average intake of vitamin A is 4,453 in rural areas and 4,324 in urban areas, while standard requirement is 5,000. Table 5.3 and 5.7 (Plate No. 6) shows that Shrivastava, Scheduled caste and backward communities are more deficient than Soni, Jain and Brahmin communities. On the other hand Sagar, Narsinghgarh, Khurai and Bina towns are more deficient and Nowgaon, Majhgawan and Ajaygarh towns are less deficient.

TRACHOMA

It is a chronic inflammatory disease of the eye

affecting the conjunctive cornea caused by chlamydis trachomatis virus. The disease leads complications such as ulcers and subsequent scarring of the cornea, leading even to permanent blindness. There is a pain, watering of the eye and discomfort by light. The infection spreads from person to person mostly by direct contact and partly by indirect contact like use of common towels, pillows and handkerchiefs etc. Sunlight, dust, smoke, and irritants are some that work in direct way.

CATARACT

It is an individual disease usually of old age. It is due to a pathological change occurring in the lens as a result of advancing age and various metabolic changes in the body. Blindness due to cataract is curable by surgical removal of the opaque lens from the eye.

CONJUNCTIVITIS

This infections disease may be of bacteria or viral origin. It can occur as a manifestation of allergy. Redness of eye and increased secretion, watery or may contain pus and swelling are the main symptoms of the disease.

GLUCOMA

In this disease there is an increase of tension inside the eyeball. Blurred vision, rainbow holes around lights and headache are the main symptoms. The disease responsible for a high percentage of blindness among older age group. Some-
times this may be the result of overwork, anxiety and fatigue. White eye, intense pain in and around the eye, redness are the symptoms. There is a gradual loss of side vision and the objects appear blurred.

DISCUSSION

Eye diseases are largely reported in Baldeogarh which has registered 21 per cent of total incidence cases. To place on second position amongst all the primary health centres is the Badagaon (20.30). Third rank (14.71) in the Tendukheda. Lowest (0.53) as reported belongs to Ajaygarh. Besides above, remaining PHCs are involved in between 2 to 6 per cent and their respective percentage is given in Table 7.1. The above diseases are prevalent in a maximum number in Bada Malhara, Hindoria, Patera and Tendukheda in comparison to other groups of diseases and occupied first rank. Rajnagar, Niwari and Patharia PHCs are included in second rank and Shahgarh, Palera PHCs also join the third rank in diseases through their reported cases.

FIELD DATA

During disease survey, sixteen private doctors (out of 37) reported a large number of eye disorder in the region. Normally PHC have no eye specialists appointed by the government. Hence people use to go to private clinics for their treatment. Both the diseases, conjunctivities and trachoma are the seasonal diseases. They spread every year
due to change of season mainly after spring and before summer. The private doctors of Sagar and Bijawar town reported cataract disease frequently among children and adults. Nowgaon, Panna, Banda, and Badagaon towns have reported conjunctivitis diseases in high number of cases during summer season. The reason may be weak resistance power and viral infections.

It is also noted during diet survey that 186 families have various types of eye troubles particularly in children and aged persons. The personal observation in the field is that females suffer more than males. The reason may be that women remain more in contact with children who infect them. Children are the main victims of active trachoma. The second factor is that the females are more exposed to irritating such as smoke than males do.

In Keolary village in Kesli PHC seen the family of Narmada Prasad Soni that every member of the family has short sight and also has trachoma and glucoma troubles in adults and children and few members also suffering from nightblindness. The main reasons are anaemic condition, their occupation (ornament maker) and deficient diet. Most of the Scheduled caste people also suffer from nightblindness in the same village mainly due to vitamin A deficiency in their diet.

The following causes may be attributed for the above disorder in various places of the study zone.
(i) Deficient diet and ignorance are another responsible causes.

(ii) Local treatment through 'ojhas' or 'hakeems' are also sometimes dangerous for the eye trouble.

(iii) Smallpox, trachoma, malnutrition and conjunctivitis are causes of blindness among children and the younger age groups; cataract, glucoma are causes of blindness in middle age; and accidents and injuries are common causes in any age group.

During diet survey it has been found that blindness or nightblindness is prevalent in very poor class of people in comparison with the rich. Trachoma and conjunctitis are found generally much during April and May and again during July and September. High temperature and changing season may be responsible for the above trouble.

GROUP VII

EAR, NOSE AND THROAT DISEASES (E.N.T.)

Next to eyes are ears which are important sense organs of the human body. Ears help in hearing and balancing the body. Nose is a life maintaining organ through which passes the air which is unquestionably a main factor for survival. Throat, which includes tonsils and adenoids, is that the food and air pass through it. Important diseases of this group are as under:
EAR INFECTION

Middle ear is most susceptible sense organ to get infected. Common cold is the main cause for the trouble of ears. Pus formation, swelling obstruction and pain are the main symptoms. Infection may become chronic and may spread in brain and its coverings.

SINUSITIS

Sinuses are cavities in the face and skull bones communicating with the nasal cavity. Effect of cold air and influenza may lead to sinusitis. Pain in the chest and headache are the sinus trouble caused due to unhygienic surroundings and allergy.

TONSILS

It is common during childhood and causes a variety of micro-organisms and results in inflammation. Rawness of throat pain on swallowing, difficulty in opening the mouth and a coarse voice are the important symptoms. They appear enlarged, congested and red.

DISCUSSION

'Ajaygarh' is the primary health centre of the entire study zone, where diseases of this group have been reported maximum it is followed by Shahnagar and Deori PHCs respectively. The lowest is in the Shahpur PHC; other PHCs registering in between the above traverse from 5 to 10 per
cent in study region and respective percentage is given in Table 7.1.

Banda, Deori, Ajaygarh, Pawai and Devendranagar PHCs reported a maximum number of cases and occupy first rank. The second rank is followed by Nowgaon. Besides, Amanganj, Shahnagar primary health centres occupy the third rank as far as the diseases of this group are concerned.

FIELD DATA

In private clinics of study unit above disorders are also reported in less number in comparison to other health hazards.

On the basis of diet survey analysis 24 families have been reported various troubles of this group. The following reasons are responsible for the occurrence of above diseases:

(i) Change of weather condition.
(ii) Insufficient clothing
(iii) Poor resistance of body due to deficient diet.

GROUP VIII

TEETH AND GUM DISEASES

The teeth of the outset appear first in importance amongst organs of the body. The gums are essential in holding fast in good condition the teeth of a man. If the gums encounter infection, the teeth give way. Hence the importance of teeth in the harmony of the face and thus, help in grinding
the food. Teeth may act as a focus of infection and affect various parts of the body. The germs of teeth can enter into the blood stream and can get infections of allergy. Septic teeth, dental caries and pyorrhoea and gum troubles are the common causes of illhealth condition. Faulty filling, tobacco chewing, improper cleaning, cleaning of teeth are the main responsible causes for the teeth and gum diseases. Important diseases of this group are as under which are generally reported by the people of the study area.

DENTAL CARIES

Dental caries is a bacterial disease of the calcified tissues of the teeth. Bacteria in the mouth form an acid caused by fermentation of carbohydrates, sugar, etc. The dental caries occurs at typical sites like the pits and fissures of the biting surface of the teeth. Improper cleaning of teeth is the main cause for dental caries.

PYORRHOEA

Pyorrhoea is the chronic disease of the gums and the periodontal membrane. Pyorrhoea is the inflammation of the gums and is characterized by swelling, redness and tendency to bleed during brushing or cleaning teeth with fingers. It is common in adult both sexes and rare in children. The causes of the disease are scurvy, calculus deposits, brushing the teeth, improper chewing of food, diabetes, etc.
PERIODONTAL DISEASE (GUM)

The involvement of the supporting structure of the teeth result in its shrinkage and ultimately to the loosening of the teeth. The formation is facilitated by the collection of food debris along the gum margin. It is acted upon by numerous bacteria of the mouth and saliva and results in the formation of mineral deposits. Tartar collects in the cleft between the gum margin and the exposed part of the teeth and causes irritation. The gum becomes swollen and the cleft increases in size leading to the further accumulation of food debris and thus to later deposition.

DISCUSSION

On the basis of PHC data, the position of this disorder is the highest (6.30 per cent) in 'Jabera' while the lowest in 'Niwari' in the study unit. Other important PHCs are Gorihar (5.20) on the second place and Jaisinagar (4.10) on the third place and so on.

As far as ranking of diseases are concerned 'Jabera' and 'Rehli' PHCs rank first on the basis of reported cases of this group, while 'Badamalhara' and 'Laundi' PHCs occupy the second rank and 'Gorihar', Ajaygarh and Malthone have reported less number of cases and get third rank.

Private dispensaries of Nowgaon, Damoh, Sagar, Banda and Hatta towns report a high number of patients. These diseases are common in both sexes. According to private
doctors these troubles are common particularly in young and old people. Personal habit (cleaning teeth), hot-cold food intake deficient diet and infection may be the main causes responsible for the above disorders.

In diet survey 91 families reported the trouble of this group. Narsinghgarh (near Damoh) reported that nearly 20 per cent persons are suffering from this disease. The reason may be the deficient diet, infection, personal habits etc. It is observed that 90 per cent persons have no habit of cleaning the teeth after meal or dinner. Mostly labour classes used gur very frequently.

There are no dental doctors appointed by the government in any PHC of the study unit. As a result the secondary data is less in comparison to other diseases. Following reasons may be responsible for this trouble.

Deficient diet particularly deficient in vitamin C and D, betel and tobacco chewing, smoking, cold and hot drinks, infections etc. cause the disappearance of enamel and falling out of teeth. Ignorance may become a cause for the occurrence of these troubles.

GROUP IX
DISEASES OF URINARY SYSTEM

Carbon dioxide, urea, uric acid and many other metabolic wastes are removed by blood from the body tissue, and carries them to the various organs of excretion. Urea, additional
water and many salts are discharged through sweat by the sweat glands of the skin. The waste material are eliminated in the form of urine by the kidneys. Urinary system is concerned with the formation and elimination of urine. Acute nephritis, kidney stone, enlarged prostate, are the common and important urinary disorder; there are many other diseases like vascular abnormalities, inflammation of bladder and urethra etc. Infected teeth or tonsils, diphtheria, hot weather, are the main causes of the above diseases.

Kidneys are the filter of the body and if the system fails, the body will come under stress and may create many other health problems such as acute nephritis, chronic nephritis, pyelonephritis, nephrotic syndrome etc. Kidneys preserve the substances that are necessary for the body and throw away the excess and detoxify the dangerous ones. Causes of the disease are infected teeth or tonsils, diphtheria and other generalised infections which require elimination of toxic products through the kidneys and ascending infection from the bladder may cause various kidney troubles. Important diseases of this group are as follows:

NEPHRITIS

It is an infectious disease, and is common among children and old people. Urine becomes less in quantity and smoky red in colour are its symptoms. It may lead to generalised swelling of the body and high blood pressure. The treatment is essential directed to the reduction of its work load.
ENLARGE PROSTATE

Enlargement of the prostate gives rise to obstruction to the urinary flow at the bladder neck and may secondarily affect the kidneys. Difficulty in urination is the main symptom.

PYELONEPHRITIS

It is an infection of the kidney and the pelvis (central part of the kidney) and of the parenchyma of the kidney is referred to as acute pyelonephritis. Patient gets fever, chills and pain in the loin and pain expressed during passes of urine. This condition is common in diabetic women.

RENAL STONE

The renal stones are silent but symptomatically rise may present problem. Variable amount of blood may be passed in urine. The stone gives rise to severe pain starting in the back and radiating down to the front of the thigh. Stone may damage kidney. Kidney stone may come down into the bladder and it is painful for urination; and blood come in urine. Stone may be made up of the salt of calcium exalat, calcium phosphate, amino acid. These stones are of variable size and shape. It may be formed after prolonged bed rest, increased level of calcium in blood, kidney infection or without any cause.

Apart from these common urinary diseases, there are many other urinary disorders like congenital malformations,
vascular abnormalities, inflammation of bladder and urethra, etc., which are also reported in few places of the study area.

DISCUSSION

In Damoh district all the primary health centres reported various troubles of this group in comparison to other districts of the study unit. In Chhatarpur district six PHCs out of eight reported trouble of this system and out of them three PHCs have registered a highest number of cases of the study area. First being Nowgaon (2.22 per cent), second Laundi (1.77), third Ishanagar (1.55) and Ajaygarh is the lowest (0.17) in the area. On the contrary, no case was reported by ten PHCs of the study area.

According to ranking of diseases Patharia, Laundi and Shahpur PHCs rank first on the basis of registration of cases of this group, while Ishanagar, Batiagarh, Hatta, Patera, Shahnagar and Banda PHCs rank second. Besides Bakswaha, Devendranagar, Khurai, and Rahatgarh centres reported less number of cases, and, get third rank.

FIELD DATA

During the interview of families seventeen families reported the trouble of above disorder. It was found in Karaiya village (Damoh district) that there are many children and adults suffering from passing urine trouble. Hot food stuffs, non-vegetarian food, adulterated food, infection, contaminated drinking water, less water in the stomach etc.
are the causes which may be responsible for above troubles.

The following reasons may be responsible for the occurrence of diseases of urinary system -

(i) Most of the urinary troubles often are due to over work, mental strain and deficiency of iron (anaemia).

(ii) Lack of blood.

(iii) Improper bathing, infections and low resistance power are also responsible for the occurrence of above disorder.

MAJOR HEALTH PROBLEM

MALARIA

Malaria is caused by protozoan parasites of the genus plasmodium. Over a 100 different species of plasmodium that cause the disease in man and animals. Human malaria is caused by four 'P falciparum', 'P vivax', 'P ovale' and 'P malariae'. There is an interesting correlation between the evolutionary age of these parasites and the severity of the disease. Thus 'P falciparum', the youngest of the four in an evolutionary sense, is least adopted in establishing parasitism in man and causes the severest for the malaria, often resulting in the patient's death. At the other end of the spectrum is 'P malariae' - the oldest of the four. "This species have evolved a very successful parasitic relationship with man so that such infections last several decades and rarely cause any adverse symptoms. 'P vivax' and 'P ovale'
occupy intermediate positions in this evolutionary scale and also in the severity of the disease produced. Malarial parasites have evolved a complex life cycle that encompasses both man and female Anopheles mosquitoes. 1

The tell-tale symptoms of the ferocious malaria are best known to be the pains the chills, high fevers deliriums and the lucid intervals. First the parasite is injected into the individual during the bite and undergoes developed in the liver. Later it enters the blood stream. The parasitids develop and multiply the red blood cells and cause the rapturing of the cells. They further invade fresh red blood cells and continue their multiplication and the destruction of the red cells.

With the complete on setting of this parasitical cycle a man faces the revaging impact of this disease. Even the apparent cures that a patient hopes, would be helpful can result in the frustrating relapses and the sudden lassitude, is at time followed by sudden death. It is often seen that patient at the maximum of the fever has a characteristic periodicity and recurs every alternate day or third or fourth day. The brain may be the seat of the disease and there may be a loss of consciousness and mental changes. The incubation period may range from one week to a year. Patients are infective during incubation period as the parasites are present in the blood.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>PHC</th>
<th>Case registered</th>
<th>Population</th>
<th>Percentage to total population</th>
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<tr>
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<td>Malthone</td>
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<td>28</td>
<td>Rahatgarh</td>
<td>335</td>
<td>1,05,031</td>
<td>0.318</td>
</tr>
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<td>29</td>
<td>Rehli</td>
<td>251</td>
<td>1,54,453</td>
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<td>30</td>
<td>Shahpur</td>
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<tr>
<td>31</td>
<td>Shahgarh</td>
<td>468</td>
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<td>0.611</td>
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<td>Badagaon</td>
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<td>Baldeogarh</td>
<td>406</td>
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<tr>
<td>34</td>
<td>Jatara</td>
<td>400</td>
<td>1,39,869</td>
<td>0.201</td>
</tr>
<tr>
<td>35</td>
<td>Khargapur</td>
<td>364</td>
<td>*</td>
<td>0.345</td>
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<tr>
<td>36</td>
<td>Niwari</td>
<td>750</td>
<td>1,03,265</td>
<td>0.726</td>
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<tr>
<td>37</td>
<td>Palera</td>
<td>796</td>
<td>99,835</td>
<td>0.797</td>
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<tr>
<td>38</td>
<td>Prithvipur</td>
<td>746</td>
<td>85,741</td>
<td>0.870</td>
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</tbody>
</table>

*The population of Khargapur PHC is included in Baldeogarh.

Source: Districts Malaria Department, 1985.
For the prevention of this disease two methods are chiefly adopted (i) cleaning of vegetation in which germs live and breed and (ii) insecticidal sprays with DDT. A peripheral blood examination is also necessary to identify the ring formation of the parasite.

Table 7.2 and Plate 12 shows distribution and percentage of occurrence of this disease in the study region. The figures in the table are analysed comparatively for the year 1982, 1983 and 1984-85. The percentage is calculated in proportion to the total population of each PHC separately.

Table 7.3 is further consolidated so as to facilitate at a glance study of the disease and its percentage intensity prevailing in each PHC during the corresponding period.

The percentage of the figure incorporated in Table 7.2 exhibits that the percentage of the disease fluctuated from 0.31 in Shahgarh PHC to 1.55 per cent in the Nowgaon PHC. Both being the lowest and the highest respectively during the study period in the study region. From the above table it can also be observed that the distribution pattern of the disease differs with each other. This notable gap of different PHCs can be attributed to the following regions.

(i) Nowgaon having the highest percentage is a highly populated area met with high congestion. High populated are met with high congestion. High density of population has created the atmosphere to become
damp with insufficient ventilation facilities.

(ii) The drains carrying the waste water are generally full of waste material. The drain flow very near to the houses, unkicked after the uncured for and thus make the base for the mosquitoes to live and breed there.

(iii) Spray of DDT is not taken up as a regular course.

(iv) Sanitary conditions are not safeguarded by the local administrative authorities and in general the population appear not to be very conscious about the hygienic hazards; they almost cut out to be apathetic to it.

(v) The temperature of Nowgaon is very much favourable to mosquitoes to live and breed. The relative humidity of the analysis area is such that proves to be a very normal and favourable circumstances to mosquitoes to live and multiply.

(vi) The gardens planted by government and local authorities are rich in greenery and soil there is mudd where the mosquitoes take their shelter.

(vii) The net work of canals in the area is big which also helps in increasing the mosquitoes.

(viii) During rainy season it is a common disorder of the study zone.

INTENSITY OF MALARIA

For assessing the individual intensity of each PHC the
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<table>
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<tbody>
<tr>
<td>I</td>
<td>High (0.80 and above)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1. Nowgoan</td>
<td>1.55</td>
<td>2. Prithvapur</td>
<td>0.87</td>
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<tr>
<td>II</td>
<td>Moderately High (0.60 to 0.80)</td>
<td>1. Palera</td>
<td>0.797</td>
<td>4. Shahgarh</td>
<td>0.612</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>2. Niwari</td>
<td>0.726</td>
<td></td>
<td>5. Ishanagar</td>
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<td></td>
<td>3. Badagoan</td>
<td>0.637</td>
<td></td>
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</tr>
<tr>
<td>III</td>
<td>Moderate (0.40 to 0.59)</td>
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<td>1. Malthone</td>
<td>0.531</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>2. Laundi</td>
<td>0.521</td>
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<td></td>
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<td>3. Hindoria</td>
<td>0.484</td>
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<td>4. Badamalhara</td>
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<td>Moderately Low (0.20 to 0.39)</td>
<td>1. Rajnagar</td>
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<td>9. Devendranagar</td>
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<td>2. Kesli</td>
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<td>10. Bakswaha</td>
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<td>3. Baldeogarh</td>
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<td>4. Patharia</td>
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<td></td>
<td>12. Tendukheda</td>
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<td>5. Khargapur</td>
<td>0.345</td>
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<td>13. Banda</td>
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<td>6. Jabera</td>
<td>0.331</td>
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<td>14. Gorihar</td>
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<td>7. Rahatgarh</td>
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<td>8. Deori</td>
<td>0.315</td>
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<td>V</td>
<td>Low (0.20 and below)</td>
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<td>1. Khurai</td>
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<td>7. Agasod</td>
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<td>2. Rehli</td>
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<td>3. Bijawar</td>
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<td>6. Jaisinagar</td>
<td>0.084</td>
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<td>12. Shahnagar</td>
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</table>

Source: District Malaria Departments.
SAGAR DIVISION

Incidence of Malaria

1986

Source: Based on Govt. data.
disease has been arranged into five intensity groups. They are as follows:

1. High intensity area (0.80 and above)
2. Moderately high (0.60 - 0.79)
3. Moderate (0.40 - 0.59)
4. Moderately low (0.20 - 0.39)
5. Low intensity area (0.19 and below)

As per the Table 7.2 it can be seen that Nowgaon PHC recorded the highest percentage i.e. 1.55 of the total incidence cases while in adverse, are the two PHCs recorded minimum i.e. 0.34 and 0.31 per cent and are Shahpur and Shahnagar PHCs respectively.

Moderately high intensity prevailed in Patera, Niwari, Badagaon, Shahgarh and Ishanagar PHCs: Patera (0.797) and Ishanagar being lowest (0.611) in this group as far as intensity of malaria is concerned.

Moderately low is found to be having in Malthone (0.531), Laundi (0.521), Hindoria (0.484) and Bada Malhara (0.400). The lowest touch to be occupied by moderately low intensity is seen to exist in as many as 15 PHCs in the entire region. The highest 0.373 relates to Rajnagar PHC and the lowest 0.201 per cent to Jatara PHC in this group of intensity.

Fifth group entangles 12 PHCs Khurai having highest (0.190) and Shahnagar the lowest not only in this group but in entire study region.