PROJECT REPORT ON HUMAN DISEASES

A disease is a condition of the body or apart of it in which functions are disturbed or arranged. **Diseases may also be defined as morphological , physiological , psychological disturbance in the body or body parts caused by some external agencies which may be non-parasitic e.g. deficiency of nutrients or may be parasitic caused by causes, bacteria , fungi etc.** The term disease means *DIS-EASE* or discomfort. In short it can be defined as 'diseases is disorder of body'.

SOURCES OF DISEASES

The reservoir of human diseases is:

a) Air: It is reservoir of pathogens of many diseases like, ***measles, mumps, tuberculosis, diphtheria*** etc.

b) Food and Water: These are reservoir of pathogens of many diseases like, ***cholera, polio, typhoid, roundworm, tapeworm*** etc.

c) Soil: It is a reservoir of pathogen of tetanus diseases.

d) Animals: These are those living organisms which spread the pathogens from an infected person of healthy person. These do not suffer from the diseases so are also called reservoir host.

TYPES OF DISEASES

Diseases are broadly classified into two categories:

A. CONGENITAL DISEASES

Diseases present since birth and are caused due to defective development of inheritance e.g. congenital heart diseases, hemophilia, colour blindness etc.

B. Acquired diseases

Diseases developed after birth. They are further classified as-

a) Communicable diseases

b) Non-Communicable diseases

Differences between Communicable and Non-Communicable Diseases

S.No.	Communicable diseases	S.No.	Non-communicable diseases
1.	The diseases which spread from one person to another.	1.	The diseases which are not transmitted from one person to another.
2.	They are caused by pathogens, e.g. malaria, smallpox etc.	2.	They are caused by deficiency of nutrients, allergy, abnormal proliferation of cells etc. e.g. kwashiorkor, cancer etc.

MODES OF TRANSMISSION OF COMMUNICABLE DISEASES

The diseases are transmitted from the reservoirs of infection to the healthy persons the following ways:

1) Direct transmission: ***The pathogens are transmitted from an infected person or healthy person directly without an intermediate agent.*** It occurs in following ways-

a) Contact with infected person e.g., small pox and chicken pox.

b) Contact with soil e.g., tetanus.

2. Indirect transmission: The pathogens of some diseases are carried through some intermediate agents. It occurs in following ways:

a) Air borne diseases.

b) By unclean hands and fingers.

VIRAL DISEASES

INFLUENZA

It is commonly known as “Flu” and is highly infectious. It is commonly caused by influenza virus (Myxo virus influenzae).

Mode of transmission: through direct contact, sneezing, coughing etc. (air–borne diseases).

Symptoms: It affects upper respiratory tract.

It starts with fever, headache, sore throat, coughing and pain all over the body with restlessness.

Control:

- Antibiotics should be given to prevent secondary complications like pneumonia and ear infections.
- No vaccine is available which can give protection against all types of influenza viruses.

Prevention:

- **The patient should avoid joining parties or gatherings of people.**
- **Handkerchief should be used while sneezing and coughing.**

JAUNDICE

Jaundice is yellowness of sclera of eyes (White part of eyes) and skin. Yellowness is due to excessive deposition of bile pigments in these structures.

Jaundice is caused by hepatitis virus. Liver is the most important organ in the body caused its inflammation due to jaundice affects digestion adversely. The types of hepatitis are hepatitis-A, B, C, D, E or G.

Modes of transmission:

- **Hepatitis A** is spread mostly by contaminated food and water.
- **Hepatitis B** is transmitted by contact with infected body secretions and blood.

Symptoms:

- Fever and loss of appetite.
- Nausea and vomiting.
- Yellowness of skin.
- Dark yellow coloured urine and light-coloured stool after 3 to 10 days.

Control:

- Adequate bed rest.
- Carbohydrate rich diet should be given to the patient.
- Consumption of protein and fat should be limited.
- Interferon injection should be administered on the advice of the doctor.

Prevention:

- Eating hygienic food and drinking disinfected water.
- **Hepatitis B and Hepatitis A vaccine should be taken to prevent the diseases.**
- Use of disposable syringes and blood should be tested before transfusion.
- Properly clean hands after handling bed and utensils of the patient.

RABIES

Rabies a fatal viral disease that is transmitted to human beings by bite of rabid dog or cat.

A number of wild animals also carry the virus, e.g. Jaundice wolves, foxes, bat, monkeys, rabbit etc. Disease is not expressed after infection up to 1-3 months.

Symptoms: Rabies is 100% fatal disease. It is characterized by high fever and pain contraction of muscles of throat and chest. The patient feels restless, has choking feet and finds difficulty in taking even liquid food. He is afraid of water, so called hydrophobia. The virus destroys the brain and spinal cord. So, it causes paralysis and painful death.

Prevention:

- Compulsory immunization of dogs and cats should be done. Pet dogs should be vaccinated with anti-rabies vaccine.
- Rabid animal should be killed, if it shows excessive salivation and tries seeking isolation.

Control: There is no treatment until now.

AIDS

Aids stands for acquired immune deficiency syndrome. It is caused by HIV (Human immune-deficiency virus). It was firstly detected in June 1981 in USA. This virus weakness the human body's immunity or self defense mechanism. Hence the aids virus reduces the natural immunity of the human body; therefore, the body saving AIDS becomes prone to many other infections.

Modes of transmission:

- It spreads though sexual contact with an infected person carrying AIDS virus.
- It spread though the transfusion of blood infected with AIDS virus.
- It spread though the use of infected needles for injections, blade or razors and other equipment of barbers.

- The children of AIDS infected mother get this disease from mother's blood.

Symptoms: The important symptoms are-

- Severe brain damage which may lead to loss of memory, ability to speak and think.
- Swollen lymph nodes.
- Decreased count of blood platelets causing hemorrhage.
- Sweating at night and weight loss.
- AIDS patient also become more susceptible to infections of any body.

A full blown AIDS patient dies within three years and mortality is 100%.

Prevention: No absolutely satisfactory vaccine is yet available. So, we can prevent AIDS only preventive measures like-

- Use of disposable syringes.
- Using condoms and adopt clean sex habits.
- People should be educated about AIDS.
- Blood test must be done in pregnant woman, blood donor's organ donors.
- Dentists should use sterilized instrument.
- The common razor at the barber shop should be used.

Control: Till today there is no specific therapy against HIV infection. Some medical have been discovered which can suppress AIDS virus.

National AIDS control program was started in 1987.

World AIDS day: December 1.

BACTERIAL DISEASES

CHOLERA

CHOLERA: It is highly communicable diseases caused by vibrio-cholera it is common during fairs and after floods. Some times it may occur in epidemic form.

Modes of transmission: It is transmitted through contaminated food and water flies it is spread rapidly when sanitation is poor.

Symptoms: It is characterized by-

- Rice watery stool, which is generally painless.
- Rapid loss of large amount of water from the body, which causes dehydrates muscular cramps and weight loss.
- Repeated effortless vomiting without nausea.
- Due to excessive loss of water, eye becomes sunken, cheeks hollow subnet temperature etc.

Prevention:

- Use of boiled water and proper cooking of food. The drinking water must disinfect with strong chlorine solution.
- Underground disposal of human faces.
- Cholera vaccine should be given during epidemics and fairs. Vaccine immunity for about 6 months.

Control:

- Oral Rehydration Therapy (ORT)- in which fluid and electrolytes (NaCL- 3.5g , Sodium bicarbonate -2.5g, KCL-1.5g, Glucose- 20.0g, Sucrose-40g in one liter of water) are given to patient orally (through mouth).This solution helps in preventing dehydration.

- Saline drip may be given intravenously.
- Use ant cholera drugs.
- Doctor should be consulted immediately.

DIARRHEA

DIARRHOE: *Diarrheas is a group of infection of the intestinal tract, including food poisoning.* The main pathogens are bacteria such as *Escherichia coil, Salmonella, Shigella,* etc. A protozoan *Giardia* and certain viruses also can cause similar conditions.

Modes of transmission:

- Contaminated food and water.
- Contamination through fingers, cloths bed sheets and utensils.

Symptoms:

- Frequent passage of stools with blood and mucus.
- Abdominal camps, vomiting leading to dehydration.
- Due to rapid loss of water (dehydration), eyes appear sunken, cheeks hollow; the inner sides of cheeks appear dry, sudden loss of weight, fever, deep breathing etc.

Prevention:

- Proper personal hygiene and community hygiene.
- Proper coverage of eatables to prevent contamination.
- Underground disposal of human faces.
- Use of boiled water and proper cooking of food. The drinking water must be disinfected with strong chlorine solution.

Control:

- ❖ Complete bed rest.
- ❖ Oral rehydration therapy or Oral Rehydration Solution (ORS).
- ❖ Saline drip may be given.
- ❖ Isabgol should be given with curd or water, to provide relief.
- ❖ Pulp of unripe banana along with amount of turmeric powder, salt and lime, also helps in controlling diarrhea.
- ❖ Antibiotics can treat the diseases.

Differences between Cholera and Diarrhea

S.No.	Cholera	S.No.	Diarrhea
1)	It is caused by bacteria *Vibrio cholera.*	1)	It is caused by either bacteria or protozoa or viruses. Some common pathogens are *Guardia, Escherichia coli.*
2)	Passage of rice watery stool.	2)	Frequent passage of stool with blood and mucus.
3)	Vaccine is available which can give immunity of 6 months.	3)	Vaccine is not available.

TYPHOID

TYPHOID: Typhoid is caused by *Salmonella typhoid bacteria,* commonly found in interterm of man. It is most common communicable diseases. This is common is age group of 1-15 years. Every year about 2.5 million people suffer from typhoid.

Modes of transmission: Contaminated food and water and house flies.

Symptoms: It is characterized by-

- ❖ Headache and rise in body temperature.
- ❖ Lesions of intestinal mucosa.
- ❖ Diarrhea which becomes hemorrhagic.
- ❖ Rose coloured rash on the upper abdomen.

Control: Antibiotics can treat the diseases.

Prevention:

- ❖ Underground disposal of human faces.
- ❖ Disinfection of water and proper cooking of food.
- ❖ Typhoral oral vaccines also prevent typhoid.
- ❖ TAB- Vaccine provides immunity for 3 years.
- ❖ Typhoid is diagnosed by widal test.

TUBERCULOSIS

TUBERCULOSIS: TB was first discovered by *Robert Koch (1882).*It is caused bacteria My *Mycobacterium tuberculosis.* It most commonly affects the lungs it may also people live in dingy, congested part of large cities. The bacterium releases a toxin called tablet.

Modes of transmission: It can be transmitted directly as well as indirectly.

Symptoms: The symptoms of tuberculosis vary depending on the site of diseases in the body. Two specific sites of infection are-

a) Lymph gland TB: The main symptom is swelling and tender ness of lymph glands often in the leg, whish may discharge secretions though the skin.

b) Pulmonary(Lung) TB: The main symptoms are –

- ❖ Fever
- ❖ Coughing
- ❖ Chest pain and breathlessness
- ❖ Sputum containing blood
- ❖ Loss of weight and weakness.

Control:

- ❖ Anti-tubercular therapy- Antibiotics can treat the diseases.
- ❖ Proper rest, diet, rehabilitation and surgery help in controlling diseases.

Prevention:

- ❖ Isolation of TB patients.
- ❖ Health education e.g. avoiding indiscriminate spitting, use of handkerchief while coughing and sneezing.
- ❖ BCG vaccine provides immunity.
- ❖ Vigorous public health measures are the best method of prevention.

PROTOZOAN DISEASES

MALARIA

MALARIA: Malaria is more common in tropical and subtropical countries, especially in Africa and Asia. It is estimated that about 300 million people are infected with malaria every year and more then 2 million people die annually due to this diseases.

Causes: Malaria is caused by the toxins produced in the human body by the malarial parasite *Plasmodium. Presence of malarial parasite can be checked by blood test.*

Modes of transmission: *Plasmodium of transmitted by female Anopheles mosquito.* When this mosquito bites man to suck blood, it introduces its saliva containing the malarial parasite into the blood stream of the man.

Symptoms: Malaria attack is preceded by headache, nausea and muscular pain. Total period of malarial attack is of 6-10 hour and can be divided into 3 stages:

- Cold stage- Characterized by chilling and shivering.
- Hot stage- Characterized by high fever, faster rate of breathing and heart beat, etc.
- Sweating stage- It is characterized by lowering down of temperature to normal.

After the malaria attack, the patient feels weak, exhausted and anemic. The malaria may secondarily cause engagement of lever and spleen.

Prevention:

- Use of insect repellants to prevent mosquito bite.
- Wire- gauzing of doors, windows, etc. to check the entry of mosquitoes.
- Killing of adult mosquitoes by spraying insecticides like D.D.T and B.H.C.
- All the mosquito breeding places should be destroyed or covered. Kerosene oil should be sprayed on ponds and ditches to kill the larva.
- Sleeping under mosquito nets.
- Destroying breeding places of mosquitoes.

Control: A number of anti-malarial drugs are available. The commonest anti-malarial drug is quinine. Efforts are being medicine for the development of an anti-malarial vaccine.

SOME IMPORTANT DATES ABOUT DISEASES:

- **World TB Day-** 24 March.
- **National TB control program** was started in 1962.
- The incidence of tetanus in India is about 30-50 persons per one lakh.
- Bubonic Plague is commonest type of plague.
- **Incidence of Diarrhea diseases** is highest in Andhra and Orissa states.
- Hepatitis is more dangerous then AIDS.
- Macculoch (1827) proposed the name malaria.
- Laveran (1880) discovered malarial parasites in the blood of a malarial patient.
- Ronald Ross (1897) proved that malarial parasite is spread by female *Anopheles mosquito.*
- August 20 is called **Malaria Day**.