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# UNIT 1 NATIONAL HEALTH PROBLEMS AND CONTROL PROGRAMMES-I

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## 1.0 OBJECTIVES

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After completing this unit, you should be able to:

- classify the various national health problems;
- describe the nature and extent of various communicable diseases in India;
- enlist the factors contributing to communicable diseases;
- describe communicable diseases and national control programmes;
- describe the role of health worker in treatment, control and prevention of communicable diseases;
- educate the community and seek their participation in eradication of the diseases.

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## 1.1 INTRODUCTION

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You have already studied existing health problems in India in your basic ANM Programme. We shall now review and try to build on that, in order to help you gain a deeper understanding of health problems in India. Health as you know is considered as fundamental right, but poor health still persists as a major problem in many developing countries, including India.

The health problems can be prevented and controlled by the active participation of the communities and support of Government of India. The Government of India realized its responsibilities after independence and launched National Health Programmes to deal with various health problems prevalent in India in order to reduce morbidity and mortality rates and improve health and quality of life of common people. There are a number of National Health Programmes for control and eradication of various communicable diseases. These programmes are discussed in this unit to help you in effective implementation of these programmes to tackle the communicable diseases occurring in your area.

In this unit we shall discuss about the major health problems in India. We shall explain the causes responsible for poor health and measures taken to improve health. Health is affected by various interlinked factors. We shall also examine how these factors affect health. At the end we shall focus on the various existing major health problems in India and what measures should be taken to prevent and control these problems.

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## **1.2 MAJOR NATIONAL HEALTH PROBLEMS**

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India is a vast country with 2.4 per cent of the world's land area. It supports 16 per cent (more than 1 billion) of the world's population. The health problems of such a vast country are also large in magnitude. We shall discuss about the meaning and types of major health problems and also why they are called as national health problems.

These problems are called National Health Problems because these are wide spread, i.e. they are present in all the states and interfere with the health and development of entire Nation. Also these problems cannot be tackled by any one state independently. The nation as a whole, together with the efforts of each state has to plan and implement various programmes to control and prevent these problems.

Health problems differ from village to village. Some villages may have all the problems related to environment i.e. lack of safe water supply, poor basic sanitation, unsafe living conditions etc., where as some may have safe water supply but lack of basic sanitation, improper collection, removal and disposal of waste etc. Therefore, occurrence of various diseases may also differ from one village to another village. For example, villages, which have safe water supply, may have less chances of occurrence of **diarrhoea, typhoid, infective hepatitis** than those villages which do not have safe water supply.

You as health worker need to learn about these problems. You also need to learn about the national health programmes for prevention and control of these problems. These programmes are planned by the National Government and implemented by the State Government at the district, block and village level. The following sections will deal with the nature and extent of various types of National Health Problems.

The health problems of India are classified as under:

- Communicable disease problems
- Sexually Transmitted Diseases and AIDS Problem
- Nutritional problems
- Environmental sanitation problems
- Health care services problems
- Population explosion problems
- Maternal and child health problems

### **Check Your Progress 1**

i) Why are these health problems called as National Health Problems?

.....

.....

.....

.....

ii) The major health problems of India are classified as:

- a) .....
- b) .....

- c) .....
- d) .....
- e) .....
- f) .....
- g) .....

### 1.2.1 Communicable Disease Problems

Communicable diseases like malaria, filaria, tuberculosis, diarrhoeal diseases, leprosy etc., continue to be the major health problems in India. It has been estimated that nearly 54 per cent of the total deaths in India are due to communicable diseases. But, as you know, communicable diseases are preventable and are largely controlled in the developed countries with improved environmental sanitation, socio-economic conditions, good health practices and vaccination.

However, complete eradication of all communicable diseases may not be possible but majority of these can be prevented and controlled even in developing countries like India by improving environmental sanitation, health practices and timely vaccination. In the following sub-sections we shall briefly discuss about the various communicable diseases/problems.

### 1.2.2 Sexually Transmitted Diseases and AIDS Problem

There are a number of diseases such as syphilis, gonorrhoea, chancroid (soft sore), vaginitis/cervicitis/urethritis, hepatitis B, Acquired Immune Deficiency Syndrome (AIDS) and many others. Earlier these diseases were known as Venereal Diseases (VD). You must have seen some cases of gonorrhoea, syphilis and vaginitis because these are common STDs. All these diseases are mainly transmitted by sexual contact and are caused by variety of organisms like bacteria, virus, protozoa and fungus.

The exact number of STD cases are never known because many cases do not report due to social stigma attached to them and many go unnoticed. The number of STDs are on the increase because of change in the sexual behaviour of people. The trend is more towards unprotected sexual contact in early adolescent period, extra marital sexual contact, and homo sexuality because of strained marital life, migration due to industrialization and urbanization. It has been found that 1.4-2.4 per cent of antenatal mothers attending clinic are infected with syphilis organisms. Many STD cases (2.2%) have more than one STDs. They cause many complications such as still births, congenital syphilis, birth defects, prematurity, blindness in children, conjunctivitis, fatal pneumonia in infant, pelvic inflammatory diseases (PID), infertility and cancer.

Another sexually transmitted disease, which is fatal and spreading like wild fire, is AIDS. Millions of men, women and children have contracted HIV infection in the world. Many have developed AIDS. So far 5 million adults and 1.4 million children have died of HIV/AIDS related diseases. In India 18 persons out of 1000 are high risk groups such as prostitutes, truck drivers have HIV infection. In July 2000 there were 12239 HIV/AIDS known cases. Majority of these cases are in the age group 15-49 years and two third of these are males and one third of them are females.

#### Check Your Progress 2

- i) Sexually transmitted diseases are caused by variety of organism:
  - a) .....
  - b) .....
  - c) .....
  - d) .....
- ii) The exact number of STD cases are never reported because of
  - .....
  - .....

### **1.2.3 Non-communicable Diseases**

India is going through social and demographic changes. With industrialization and urbanization, there are more employment opportunities, more travelling, all over stress, reduced physical activities and changes in food habits. This results in increased incidence of non-communicable diseases at a very fast rate. As life expectancy is increasing and people are living long, degenerative and cardio vascular disease, hypertension, cancer and diabetes myelitis is becoming prevalent.

### **1.2.4 Nutritional Problems**

Nutritional problems are diet related problems. These can be due to overeating and undereating. High income group usually suffers more from overeating problems, and low income and poor people suffer from undereating. About 15 per cent of people in India have nutritional problems. Under nutrition malnutrition is more common in pregnant women, nursing mothers, infants and children. The major problems include Protein Energy (calorie) Malnutrition (PEM), Iron Deficiency (Anaemia), Vitamin A deficiency, and iodine deficiency disorders.

### **1.2.5 Environmental Sanitation Problems**

The main problems of environmental sanitation are (a) lack of safe drinking water in many areas of the country and (b) primitive methods of excreta disposal, especially in the rural areas where 70-80 per cent of population lives. Poor environment causes most of the communicable diseases in India. So without improving environmental sanitation especially in relation to water supply, sewage, waste disposal and vector control, a major reduction in communicable diseases is not possible. Though government and community is making continuous efforts to improve environment sanitation yet many pollutants are being added in the air, water, soil due to advancement in technology, industrialization, urbanization etc. and they cause air, water, soil and noise pollution and radiation which you have already learnt in Block 2, Unit 3. You may review it now.

### **1.2.6 Health Care Services Problems**

Existing health care services are not able to meet the health needs of the people in India. The services are inadequate and not distributed evenly in urban and rural areas. Approximately 75 per cent of people live in rural areas, where as only 25 per cent of people live in urban areas. But the distribution of health facilities is reverse, 75 per cent in urban areas and 25 per cent in rural areas. Even in urban areas, slums are neglected. By and large the services are hospital based curative services. Usually there is shortage of trained personnel, equipment and supplies including drugs. Most of these facilities are very far off and inaccessible for rural people and also for poor people in cities and towns. Community health centres, primary health centres and sub-centres in rural areas are not up to the standard of providing adequate primary health care services. Thus the major health problem is that of inadequate and unequal distribution of health care services between rural and urban areas.

The challenge that exists today is to develop health care system that reaches a majority of rural people. "Good" for many rather than "best" for the few is becoming the key word in health services.

### **1.2.7 Population Problem**

The population is biggest problem in the country. Every year in India, around 17 million new born are added to the population. This creates an increase in demand for additional resources of food, shelter, clothing, education, employment, health and social welfare services. With 2.4 per cent of the world's land area, India supports 16% of the world's population (1 billion in May, 2000). The population explosion has effected economic development of the country and the living standards of the people.

You should motivate people for adoption of suitable family planning methods and make people understand the values of small family norm.

### **1.2.8 Maternal and Child Health Problems**

Mothers and children comprise a large section of population nearly 60 per cent (22.7% mothers under 14-44 years of age, 37.1% children under 15 years). They have high chances of getting infections, malnutrition, anaemia etc. Both undergo lot of physical and

physiological stress. Maternal mortality is still very high in comparison to many developed countries. It is estimated that out of 100,000 live births, 360 mothers die.

In addition, up to the age of 50, mortality rate among women is higher than those of men. This is because women are less likely to seek medical care due to ignorance, apathy, household chores and inability to reach a health centre.

Children suffer from diarrhoeal diseases, respiratory infections, measles, worm infestations, malaria which are all preventable. It is estimated that about 1.5 million children die of diarrhoea every year and most of these deaths can be prevented if dehydration is controlled and prevented in time. Ignorance rather than poverty is the cause of childhood malnutrition.

You know that some preventive programmes have been implemented in India e.g. the Universal Immunization Programme, Oral Rehydration Therapy, Prophylaxis schemes against nutritional anaemia among pregnant women, and blindness due to vitamin A deficiency among 3 year old children. These are discussed in Unit 5 of this block under MCH programmes for you to up date your knowledge and understanding.

### Check Your Progress 3

- i) Two main problems of environmental sanitation are:
  - a) .....
  - b) .....
- ii) .....% urban population consume.....% of national health resources.
- iii) Population of India is.....
- iv) ..... million children die of diarrhoea every year.

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## 1.3 COMMUNICABLE DISEASES AND CONTROL PROGRAMMES

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We shall discuss about various communicable diseases and National Health Programmes in the following sub-sections.

### 1.3.1 Malaria and Filariasis

#### Malaria

We shall begin with malaria and then talk about filariasis.

Malaria is a mosquito-borne febrile disease caused by the malarial parasite (plasmodium). It is transmitted by infected female anopheles mosquito. In India plasmodium vivax is commonest cause of malaria and is responsible for 60-70% cases.

#### Occurrence and Causes

It occurs in all age groups. Most cases occur from July to October. Occurrence is more in underdeveloped areas where houses are ill ventilated and badly lighted, where there is poor drainage system, uncontrolled vegetation and collection of water etc. These conditions encourage the breeding of female anopheles mosquitoes, which transmit malarial parasites to human being through their bite.

At the time of Independence in 1947 malaria was considered as enemy number one because it was widely spread in many parts of the country, caused tremendous loss of life and economic loss due to absenteeism in industries and offices etc.

#### Signs and Symptoms

- i) Fever with chills followed by feeling of heat which leads to profuse sweating (Fig. 1.1).
- ii) Bouts of shivering (rigors)
- iii) Headache and severe aches and pain in the body. There may be nausea also.

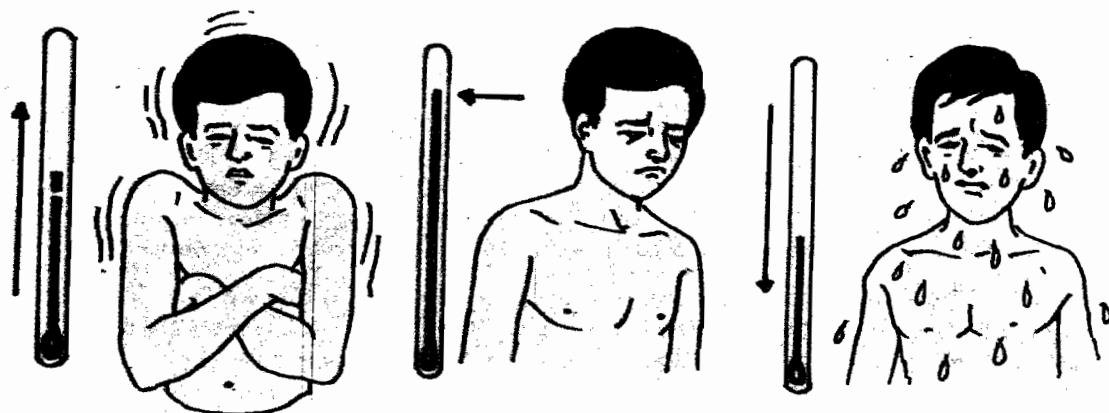


Fig. 1.1: Symptoms of Malaria

**Diagnosis**

Malaria can be diagnosed by thorough examination of blood by making a blood film for malarial parasites.

**Treatment**

Treatment includes early administration of chloroquine (presumptive treatment) to all fever cases (Table 1.1) and radical treatment to all conformed cases for five days (Table 1.2).

The dose of chloroquine for presumptive treatment is given below.

Day 1 - 600 mg of chloroquine stat 300 mg after 6-24 hours for 3 days.

The dose for radical treatment is:

Day 1 600 mg of chloroquine plus 15 mg of primaquine

Days 2-5 15 mg of primaquine daily.

Smaller doses are administered to children. Age wise dosage of presumptive treatment and radical treatment is given in Table 1.1 and 1.2.

Table 1.1: Presumptive Treatment of Malaria

Age	Dose of chloroquine (150 mg base)	No. of Tablets
0-1 year	75 mg	(1/2 tablet)
1-4 years	150 mg	(1 tablet)
4-8 years	300 mg	(2 tablets)
8-14 years	450 mg	(3 tablets)
14 years plus	600 mg	(4 tablets)

Table 1.2: Agewise Dosage of Radical Treatment

Age	Tablet Chloroquine (150 mg base)		Tablet Primaquine (2.5 mg base)	
	mg	Tablet	mg	Tablets
<1	75	1/2	Nil	
1-4	150	1	2.5	1
4-8	300	2	5.0	2
8-14	450	3	10.0	4
14 and above	600	4	15.0	6

Infants and pregnant women should not be given tablet Primaquine.

For the radical treatment of falciparum malaria, a course of quinine or quinine plus tetracycline for 4-7 days has been recommended.

People wanting to protect themselves against malaria should take chloroquine tablets (300 mg base or 2 tablets) once a week. The treatment should begin 7 days before travelling and continued for 6 weeks after leaving a malaria zone.

The radical treatment of plasmodium falciparum is single dose of 30-45 mg primaquine after completion of presumptive treatment.

Radical treatment for confirmed P. falciparum case is given in Table 1.3 below:

**Table 1.3 : The Agewise Dosage of Radical Treatment**

Age	Tab Chloroquine (150 mg base) mg Tablet	(Primaquine) (15 mg base) mg	No. of Tablet (15 mg) Tablet
<1	75 ½	Nil	Nil
1-4	150 1	7.5	½
4-8	300 2	15.0	1
8-14	450 3	30.0	2
14 and above	500 4	45.0	3

Radical treatment of cases in chloroquine resistant cases for P. falciparum includes single dose of 1500 mg of sulphalene/sulphadoxine plus 75 mg pyrimethamine, there after a single dose of 45 mg primaquine is given.

Age in years	Sulphalene/Sulphadoxine (500 mg base) plus Pyrimethamine (25 mg base)
< 1	—
1-4	250 mg + 12.5 mg
5-8	500 mg + 2 mg
9-14	750 mg + 37.5 mg
15-19	1000 mg + 50 mg

### ***National Malaria Control Programme***

To tackle the problem of malaria, Government of India launched the National Malaria Control Programme in 1953. The programme emphasized on DDT spray in the homes twice in a year in endemic areas. The programme was found to be successful. It helped in reducing the number of malaria cases from 75 million to 2 million during a period of five years (1953 to 1958). These encouraging results motivated the government to change National Malaria Control Programme into National Malaria Eradication Programme (NMEP) in 1958.

### ***National Malaria Eradication Programme***

The eradication referred to complete elimination (rooting out/pulling out the roots) of occurrence of malaria by getting rid of malarial parasites. The eradication measures included:

- Spraying of DDT, BHC or malathion in houses and covered structures (cowsheds etc).
- House to house search of malaria cases (surveillance and their radical treatment to get rid of malarial parasites in human beings).

The National Malaria Eradication Programme made progress till 1965. But this success was short lived. In 1976, the number of confirmed malaria cases reached 6.47 million (of which 753,713 were due to falciparum malaria) with 59 deaths. The failure was due to various reasons. Some of the reasons are:

- i) Shortages of insecticide drugs and labour (manpower).
- ii) Inadequate surveillance (search) and insecticide spray.
- iii) Resistance of mosquitoes to insecticides and resistance of malarial parasites to drug.

### ***The Revised Programme***

The NMEP was revised by the Government of India, in consultation with experts. A modified plan of operation, under the NMEP was evolved and put into operation with effect from April 1977. The incidence of malaria thereafter declined each year. However, one disturbing change was observed i.e. the gradual increase in falciparum malaria during this period. Hence, within the NMEP, a programme for containment of Plasmodium falciparum was also started.

### ***Infrastructure***

The Programme in the rural and remote areas relies considerably on community participation i.e. involving local people in their care. The drug distribution centres are manned by panchayat members, village health guides and other community workers. Fever treatment depots are manned by teacher and other officials. However, insecticides spraying are kept under the supervision of District Malaria Officer.

### ***Malaria Action Plan and Achievements***

In 1994 re-occurrence of malaria compelled the Government of India to appoint an Expert Committee to identify the problem and specific measures against the malaria. Thus, the Malaria Action Plan (MAP) was evolved and was being implemented. The objectives of the new action plan are as follows:

- Management of services and complicated cases.
- Prevention of mortality with particular reference to high risk groups.
- Reduction of morbidity/sickness.
- Control of out breaks/epidemics.
- Reduction of P. Falciparum.
- Containment of drug resistant malaria.

### ***Achievements***

During 1994, 54 towns showed a decrease in malaria cases by 51% as compared to the corresponding period of 1993. Total of 1.15 lakh malaria cases were reported from urban areas during 1994 till September end.

In the year 2000 a total of 1101243 malaria cases including 517476 P. falciparum cases have been reported. During the same period malaria incidence in the country has shown a decrease by 11.18% in total malaria cases.

### ***Integration with Primary Health Care***

India's commitment to the goal of Health for All by 2000 AD necessitated the integration of anti-malaria activities with primary health care. Primary health centres are involved in the collection and examination of blood smears from fever cases through health workers. The programme in the rural and remote areas rely on community participation i.e. involving local people in their care. Community leaders are involved at drug distribution centres.

### ***Role of Health Workers***

As a health worker/MPHW your role is to prevent malaria, help in its treatment in early stage and encourage referrals when it is diagnosed at latter stages. Your role is as follows:

- Educate public about malaria, how it spreads, what are the symptoms and how it can be prevented.
- Educate about mosquito breeding and importance of environmental sanitation in malaria prevention.
- Collect blood samples/slides from malaria patients.
- Surveillance – find out cases.
- Insecticide spray.
- Integration of malaria programme with primary health care.

### ***Role of ANM in Prevention and Treatment of Malaria***

#### ***i) Case Findings***

- Early detection of fever cases in the community by house-to-house visits by the health workers in every 15 days.



- The collection of blood films (thick and thin) from fever cases.
- The laboratory examination of all blood films collected from fever cases for malaria parasite.

ii) *Mosquito Control Measures*

Arrange following measures:

- Anti-adult measures e.g. insecticide spraying.
- Anti-larval measures e.g. larvicidal spraying.
- Protection against mosquito bites e.g. mosquito nets, repellent creams.

iii) *Action at Community Level*

- Surveillance measures, active and passive.
- Source reduction, measures i.e. elimination of mosquito breeding places around houses.
- Health education of the public regarding the importance of receiving treatment for malaria, and the importance of their co-operation in spraying of houses and all other aspects related to the control of malaria.
- The provision of health facilities such as subcentres and fever depots within the reach of the community.

**Check Your Progress 4**

- i) Malaria control programme was launched in India in .....
- ii) In 1976, confirmed number of malaria cases reached to .....
- iii) In suspected fever cases primary health centres are involved in
- a) .....
- b) .....
- c) .....
- iv) Insecticide spraying operation is the responsibility of .....
- v) Objectives of malaria action plan are:
- a) .....
- b) .....
- c) .....
- d) .....
- e) .....
- f) .....

**Filariasis**

It is a world wide problem caused by filarial parasite which is one type of worm (nematode). The filarial parasites are transmitted to human beings by the bite of infected mosquitoes at night while asleep. The mosquitoes, which are responsible for transmission, are **culex, anopheles** and **aedes**. In Filariasis there is inflammation and blockage of the **lymph glands and lymph vessels** leading to **swelling of legs, arms and genitals (elephantiasis)**. There is frequent attack of **fever, bronchitis and asthma**. The disease causes **disfiguration, disabilities** and lot of **sufferings**.

**Occurrence**

It occurs in hot and humid places and where there is poor drainage system, inadequate sewage disposal, poorly maintained sewage pits and septic tanks etc. These conditions help in breeding of mosquitos, which is mainly responsible for transmission of parasites. Filaria infection can occur at all ages. The chances of infection increases from childhood up to the age of 20-30 years, thereafter it decreases. Only few infected people get the filaria disease. Infection occurs more in males than in females. It is associated with illiteracy, poverty and poor sanitation.

### ***Causes***

It is caused by filarial parasites and is transmitted by the bite of culex mosquitoes.

### ***Signs and Symptoms***

Attacks of fever, lymphangitis (inflammation and blockage of lymph glands and vessels), elephantiasis of genitals, legs and arms, frequent attacks of fever, bronchitis and asthma. The disease is not fatal but is a cause of great suffering, deformity and disability.

### ***Treatment***

Hetrazan (Diethyl carbamate) is the only safe and effective drug against filarid infection. The recommended dose is 6 mg per kg of body weight daily for 12 doses to be completed in 2 weeks (i.e. 6 days a week). Dosage of once a week or once a month has also been recommended. The drug destroys the microfilarial and possibly adult worms too.

### ***National Filaria Control Programme***

The National Filaria Control Programme was launched in 1955. In India, Filariasis is found all over the country, but large number of infected cases are found in Uttar Pradesh, Bihar, Orissa, Tamilnadu, Kerala and Gujarat. It occurs in places which are hot and humid and where there is poor drainage system, inadequate sewage disposal, poorly maintained soakage pits and septic tanks etc. These conditions help in breeding of culex mosquito, which is mainly responsible for transmission of parasites. Filaria infection can occur at all ages. The chances of infection increases from childhood up to the age of 20-30 years, thereafter it decreases. Only few infected people get the filaria disease. Infection occurs more in males than in females. It is associated with illiteracy, poverty and poor sanitation.

It is estimated that 420 million (42 crores) of people in the country are exposed to the risk of getting infection. Out of these 311 million (3.11 crores) live in rural areas and the rest in urban areas. Six million get acute attack of Filariasis. At present 45 millions (4.5 crores) have Filariasis.

For the control of Filariasis the National Filaria Control Programme activities include:

- i) Detection of filaria cases by doing survey.
- ii) Treatment of filaria cases.
- iii) Anti larva measures.

The programme was implemented in urban areas as filaria was considered an urban health problem. In 1978 the programme was included in urban malaria scheme.

The filaria control programme is now also implemented in rural areas because filaria is also found in rural areas. The programme activities are implemented through filaria survey units, filaria control units and filaria clinics. At present there are 27 survey units, 206 control units and 198 clinics.

It is now considered necessary to implement activities through primary health care system so as to have adequate coverage of population at risk in endemic areas.

### ***Programme Achievements***

At present, about 47 million out of 420 million at risk are protected through anti-larval measures by 206 control units and 198 filaria clinics which are giving treatment with Diethyl carbamazine (DEC) single dose therapy; to clinical cases and micro filaria carriers. Twenty seven survey units have so far surveyed 238 out of 300 districts situated in endemic areas and 175 have been found to be endemic for Filariasis. The districts where control measures are in operation for more than five years have shown marked reduction in filaria cases.

You should know all the measures to control and prevent filaria and educate the public in endemic areas.

### ***Role of ANM in Prevention and Treatment of Filaria***

- i) **Early detection of cases:** Cases are detected by microscopic examination of night blood smears (thick smears) taken from apparently healthy individuals in endemic areas.
- ii) **Specific treatment:** Hetrazan as discussed in treatment.
- iii) **Control of mosquitoes:** Elimination of mosquito breeding places such as open drains, cesspools and other collections of standing water are long-term measures for the control of culex mosquitoes. Elimination of aquatic plants (water plants e.g. pistia) is

an important control measure for Mansonoids. Antilarval measures such as weekly application of larvicidal oils on all mosquito breeding places are important temporary measures of mosquito control

### Check Your Progress 5

- i) Chronic filaria is .....
- ii) National Filaria Control Programme was launched in .....
- iii) In rural areas the programme activities are implemented through:
  - a) .....
  - b) .....
  - c) .....
- iv) Filaria clinics are providing treatment with ..... to clinical cases.

### Health Education

You have to educate community regarding prevention of filaria because filariasis is a man-made disease. It is associated with bad drainage and poor environmental sanitation. Therefore, health education of the general public is very important in dealing with this problem. Primary health care is now seen as an instrument to control filariasis.

### 1.3.2 Kala-azar and Dengue Fever

#### Kala-azar

##### Definition

Kala-azar is a dreaded disease and occurs throughout the world. It is a protozoal disease caused by *Leishmania donovani* and transmitted by the sandfly.

##### Causes and Occurrence

It is caused by Parasite (Protozoa) called as *Leishmania donovani*.

The parasite is transmitted by the bite of infective sandfly. The sandfly gets infected by biting the infected person.

In India, Kala-azar is a serious public health problem in Bihar and West Bengal. It also occurs in some parts of Uttar Pradesh, Sikkim, Tamil Nadu and Orissa. It can occur in all age groups but the most affected age group is 5-9 years. It occurs more in males than in females and especially those who work in farms, forests, mines and fishing. Incidence is more during and after the rains and also in rural areas and in areas where there is poor ventilation and poor sanitation. This is due to the nature of sandflies, which can breed in such areas. During 1958-1964, the number of Kala-azar cases decreased due to DDT spray under malaria eradication programme.

But the number started increasing gradually. In 1977 there were 100,000 cases and 4500 deaths in Bihar state. With modified malaria eradication programme, the number of cases gradually decreased to 17806 in 1986 and the number of deaths reported were 72 only. But the cases were again on the increase. By 1990 there were 77102 cases and 1419 deaths. Till August 1999 there were 6694 cases and 220 deaths reported from Bihar, Delhi, West Bengal and Sikkim.

##### Signs and Symptoms

Fever, enlargement of spleen, liver, anaemia, weight loss, darkness of the skin of face, hands, feet and abdomen.

##### Treatment

Treatment includes daily intravenous injection of sodium antimony gluconate, 600 mg daily for 10 to 14 days or by daily intravenous injection of pentamidine isethionate in the dose of 3 mg/kg of body weight for 10 days. Either course may have to be repeated if fever occurs.

##### National Kala-azar Control Programme

The strategy for Kala-azar control broadly includes three activities (i) interruption of transmission by reducing vector population by insecticidal spray twice annually, (ii) early diagnosis and treatment of Kala-azar cases, (iii) health education for community awareness.

- You should educate the community to spray insecticides and improve the general environmental sanitation.
- Refer the suspected cases in time for proper treatment and do the follow up.

### ***Role of ANM in Prevention and Treatment of Kala-azar***

You have an important role in prevention and treatment. Help the community in following activities.

- i) ***Insecticidal sprays:*** Sandflies are susceptible to the residential insecticides such as DDT, BHC and Dieldrin. Application of DDT as 10 per cent spray is often sufficient to destroy sandflies.
- ii) ***Improvement of Environmental Sanitation:*** Elimination of breeding places of sandflies such as cracks and crevices in buildings, removal of shrubs and vegetation near human dwellings, location of cattle sheds and poultry at a fair distance from dwellings are some of the long-term measures in the control of Kala-azar.
- iii) ***Early Diagnosis:*** By referring the suspected cases to PHC/hospitals.
- iv) ***Treatment:*** Administer the prescribed drug as indicated above.

### **Dengue Fever**

#### ***Definition***

Dengue or break-bone fever is a serious viral disease transmitted by bite of mosquito. Incubation period is 1-7 days.

#### ***Occurrence and Causes***

Dengue Fever is caused by virus. The virus is transmitted to human beings by aegyptie mosquito through its bite. It occurs all over the world. About 20 million cases occur each year. It occurs in the form of epidemic. Several epidemics have occurred in India. The frequency of epidemic has increased. In October, 1996, 7247 cases and 297 deaths were reported in New Delhi. During 1998 there was 40 per cent reduction in dengue cases and 50 per cent reduction in deaths. In 1999 there was 33 per cent increase in dengue cases. Only 457 cases and 4 deaths due to dengue were reported in the year 2000. The increase in epidemic is due to increasing **urban slums, poor housing and environmental sanitation and over crowding**. It occurs in all age groups and in both sexes. Maximum occurrence is from August to October because of rain water collection in small pits, pots and vessels etc.

#### ***Signs and Symptoms***

Sudden onset of high fever with chills, severe headache, joint and muscle pain, vomiting, rash frontal and retroorbital pain. In Dengue Haemorrhagic Fever (DHF) there is haemorrhage (bleeding) under the skin, from the nose, gums or from the intestines and stomach etc. Patient may have signs of shock (cold extremities, warm trunk, sweating, restlessness and epigastric pain).

#### ***Treatment***

Symptomatic treatment : treat fever, chills, headache and other pains with antipyretics and analgesics. Treat haemorrhage as per standing orders.

Meetings at the national and state level are held to review the measures for prevention and control of dengue fever. Senior officials are urged to be vigilant and intensify prevention and control measures in their respective states. Measures are taken to strengthen IEC activities.

### ***Role of ANM in Prevention and Treatment of Dengue Fever***

Your role as a health worker is to control vector with the involvement of the community. Educate them to keep the water containers covered. Eliminate the other breeding places of mosquitoes in and around the house e.g. discarded tins, broken bottles, flower pots, earthen pots, etc. These can hold water. Teach community to empty water containers before refilling, clean coolers every week and cover water tanks with tight fittings.

You as ANM can prevent and treat dengue fever by following measures:

- a) ***Vector Control :*** The *Aedes aegypti* mosquito should be the main target of control activities. Involve community to keep water storage containers free of mosquitoes and to eliminate the other breeding places of mosquitoes in and around houses and dwellings, the organophosphorus insecticide, abate is used as a larvicide. It prevents breeding for up to 3 months when applied on sand granules. It does not harm man and does not affect the taste of water. Anti larval measures can prevent an epidemic. Use of nets and protective clothes. Screen the houses and destroy the mosquitoes.
- b) ***Vaccination :*** No vaccine has yet been developed that is considered suitable for use.

### 1.3.3 Tuberculosis and Leprosy

In this section we shall discuss tuberculosis and leprosy and their control programmes.

#### Tuberculosis

Tuberculosis is a major health problem in India. Nearly 1.5 per cent of the total population is estimated to be suffering from radiologically active tuberculosis disease of lungs of which about 0.4% is sputum positive or infectious.

#### Definition

Tuberculosis is a chronic infectious disease caused by tubercle bacilli (*Mycobacterium tuberculosis*). The disease primarily affects lungs and causes pulmonary tuberculosis (Fig. 1.2). It can also affect intestine, meninges, bones and joints, lymph glands, skin and other tissues of the body.

#### Cause/Mode of Transmission

It is caused by *Mycobacterium tuberculosis* and transmitted by:

- a) **Droplet infection:** By an infective case. Coughing generates the largest number of droplets. It can also be transmitted by inhalation of infected dust.
- b) The disease is associated with poverty. Poor housing, overcrowding and large family etc.

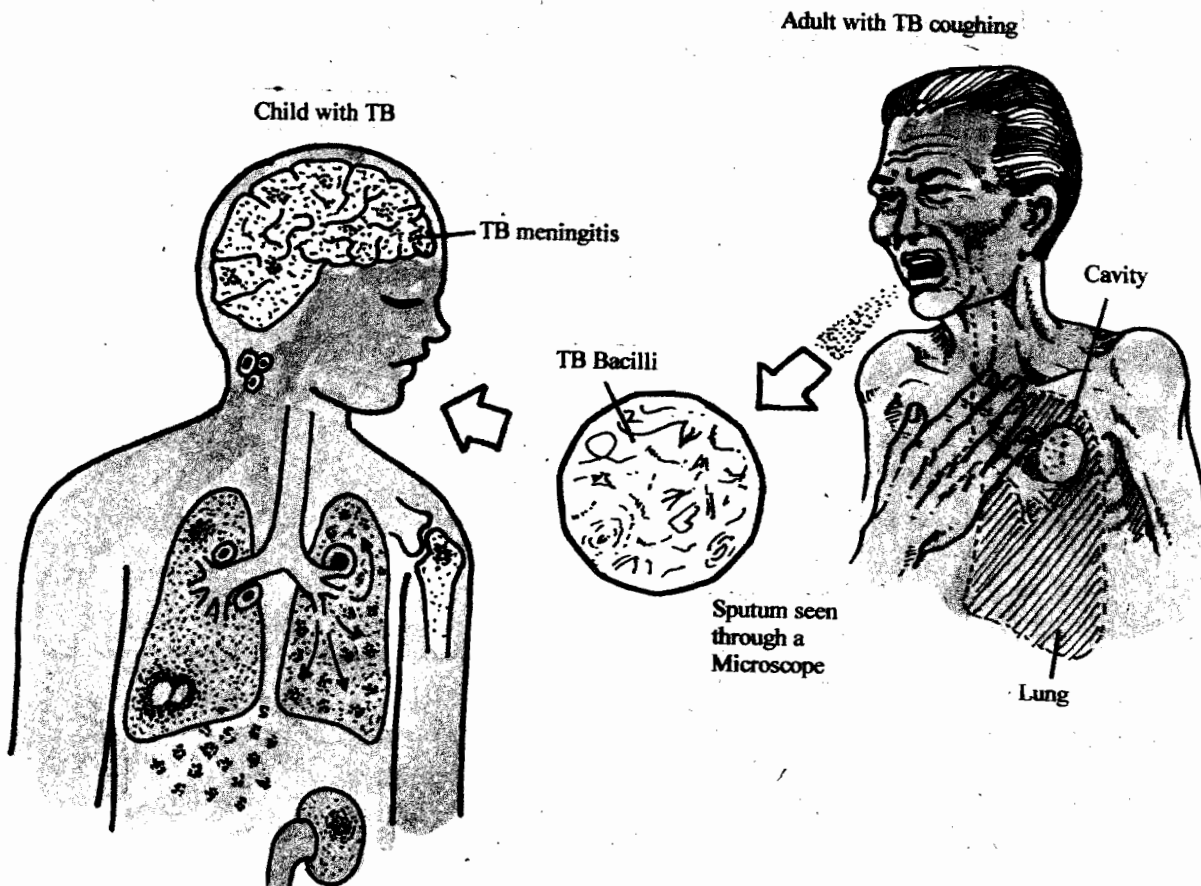


Fig. 1.2: Mode of transmission of tuberculosis

#### Signs and Symptoms

The commonest signs and symptoms which are likely to bring the patient to medical care institutions are:

- a) Chronic cough
- b) Continuous low grade fever
- c) Chest pain
- d) Haemoptysis
- e) Loss of weight

### **Diagnosis**

**Tuberculin testing:** By this test, we can find out those people who are infected by the tubercle bacilli. The tuberculin test is carried out by injecting intradermally one tuberculin unit (TU) of purified protein derivative of tuberculin (PPD) into the forearm. The result is read on the third day (72 hours). The test is read as positive, if there is swelling of at least 10 mm in diameter at the site of injection. The redness of the skin is not taken into consideration. Reactions under 5 mm are considered negative. Reactions between 6 and 9 mm are considered doubtful. Positive test indicates the person is infected by tubercle bacilli. Those who are negative should be given BCG Vaccines.

### **Treatment :**

Chemotherapy is the treatment of pulmonary tuberculosis. The currently used drugs are usually divided into two groups:

- a) The bactericidal — drugs which kill bacilli.
- b) The bacteriostatic — drugs which inhibit the multiplication of bacilli.

A brief description of drugs/treatment is given below:

a) **Bactericidal drug : Rifampicin in combination with INH.** It can cure patient within 9 months. The drug must be given empty stomach in one dose daily. The conventional daily dose is 10 mg/kg of body weight (450-600 mg), side effects include liver damage.

Rifampicin is an expensive drug.

The dosage of drugs is given below:

- i) INH : The daily dose is 4-5 mg per kg of body weight to a maximum of 300 mg. INH is given in a single dose.
  - ii) Streptomycin : The daily dose is 0.75-1 gm in a single injection.
  - iii) Pyrazinamide : Given orally. Daily dose is 25-35 mg/kg of body weight. Given in divided doses.
  - iv) Ethionamide : It is given as 7-10 mg/kg body weight in two divided doses.
- b) **Bacteriostatic drugs :** These are PAS, Thiacetazone, ethambutol, cycloserine etc. These drugs stop multiplication of bacillus.

You should give drugs as prescribed by the medical officer.

### **National Tuberculosis Control Programme**

The National Tuberculosis Control Programme (NTCP) is a centrally sponsored programme. The activities of NTCP comprise:

- 1) Early detection and domiciliary treatment of TB cases.
- 2) BCG vaccination of infants and children.
- 3) Isolation facilities especially for those who require surgery or emergency treatment.
- 4) Training and demonstration .
- 5) Rehabilitation.
- 6) Research.

### **District Tuberculosis Control Programme (DTCP)**

A DTCP was evolved in 1962 as a new approach to the community control of tuberculosis. Early detection of TB cases by all primary health centres in the district and other hospitals and agencies, domiciliary treatment of all sputum positive cases and BCG vaccination of all those below 20 years of age are the main concern of the district TB control programme.

### **Programme Implementation**

National Tuberculosis Programme (NTP) is a centrally sponsored scheme. Seventeen tuberculosis training and demonstration centres have been established in major states of the

country. BCG vaccination was taken up under National Immunization Programme. Anti-tuberculosis drugs for free treatment are being supplied to the TB clinics run by the state governments on a 50-50 sharing basis between the centre and the states. For the union territories and voluntary organizations, the pattern of assistance is 100%.

NTP has been accorded high priority by the Government with the inclusion of NTP in the 20-point programme, there is expansion of essential activities under the programme.

#### Check Your Progress 6

- i) Out of total tuberculosis patients ..... are sputum positive.
- ii) The activities of National Tuberculosis Control Programme are:
  - a) .....
  - b) .....
  - c) .....
  - d) .....
  - e) .....
  - f) .....
- iii) One of the aims of district TB control programme is ..... vaccination for all ..... of age.
- iv) Because of high priority to NTP it is included in ..... programme.

#### **Role of ANM in Prevention and Treatment of Tuberculosis**

You as ANM can assist in a health team in prevention and treatment of tuberculosis as follows:

##### a) *Early Case Finding*

The first step in a tuberculosis control programme is early detection of all cases in the community. The WHO defines a case of pulmonary tuberculosis as a person whose sputum is positive for tubercle bacilli.

##### b) *Chemotherapy*

The objective of chemotherapy is to achieve bacterial cure rapidly. The potent regimens of short-course chemotherapy have reduced the duration of treatment from 18 months to 6-8 months. Every patient diagnosed by sputum examination should be put on multi drug treatment. If treatment is irregular or interrupted, the patient may develop drug resistance and it becomes more difficult to treat the patient.

##### c) *BCG Vaccination*

BCG vaccination is given soon after birth. If not given at birth, give it at 6 weeks age with DPT (but in different arm).

##### d) *Health Education*

Educate the public about advantages of early diagnosis and regular treatment. Inform them about free treatment and complications if not treated. Educate about follow-up, disposal of sputum and co-operation with health services in control of tuberculosis.

#### **Leprosy**

There are about 1.3 million leprosy cases in the world. About 60-90% of these cases are in India. On March 2000 there were 5.20 lakh cases and prevalence rate was 5.20/10000 in the country.

#### **Definition**

Leprosy is a chronic disabling disease caused by *Mycobacterium leprae*. The disease affects mainly the peripheral nerves. It also affects the skin, muscles, the eye, bones, testes and internal organs (Fig. 1.3).

### Causes and Occurrence

It is caused by *Mycobacterium leprae*. Leprosy is believed to be transmitted by contact between an infectious patient and a healthy but susceptible person. The contact may be direct (skin-to-skin) or indirect (contact with fomites Droplet infection - There is more and more evidence of transmission by droplet infection).

In India out of every 10,000 population about 7 people suffer from leprosy. About 15-20 per cent suffer from deformities. Most of the cases are from Tamil Nadu, Andhra Pradesh, Madhya Pradesh, Orissa, West Bengal, Daman & Diu, Nagaland, Bihar and Assam. The disease is associated with poverty, over crowding and lack of ventilation etc.

### Signs and Symptoms

- Hypopigmented patches
- Partial or complete loss of sensation in the affected areas (the earliest to be affected is light touch).
- Presence of thickened nerves.
- Presence of acid fast bacilli in the skin and nasal smears.

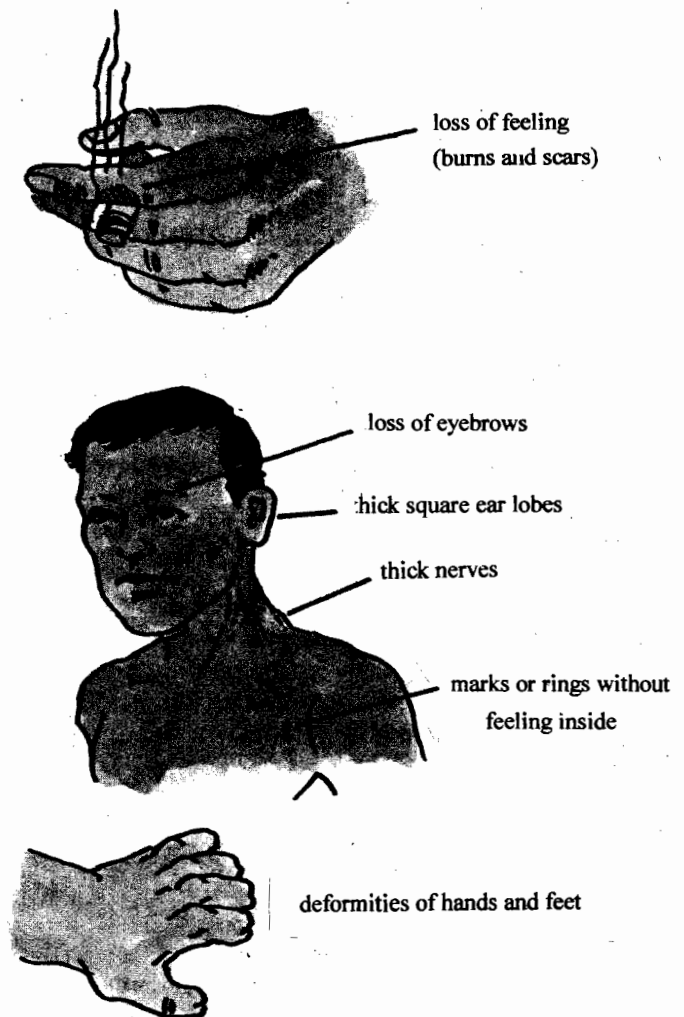


Fig. 1.3: Possible signs of leprosy

### Treatment

Treatment by Multi Drug Therapy (MDT).

- Multi bacillary cases:** DDS 100 mg daily plus rifampicin 600 mg daily for the initial 2 weeks and then once a month plus clofazimine 100 mg on alternate days is given for a period of 2 years. Children and adults with small build should receive proportionate lower doses.
- Paucibacillary cases:** DDS 100 mg daily plus rifampicin 600 mg once a month is given for 6 months. At the end of this period, DDS may be continued in the same dosage.



The National Leprosy Control Programme (NLCP) has been in operation since 1955 as a centrally aided programme to achieve control of leprosy through early detection of cases and DDS (dapsone) mono-therapy on an ambulatory basis. The NLCP moved at a slow pace for two decades (20 years) for want of clear-cut policies. During fourth five-year plan, NLCP showed good results.

In 1980 Government of India declared to eradicate leprosy by the year 2000 and formulated a working group. The prevalence of leprosy was already the highest in India when multi drug therapy (MDT) was first made available in 1981. The working group submitted its report in 1982 and recommended a revised strategy based on multi drug therapy aimed at leprosy eradication through reduction in the source of infection and breaking the chain of transmission of disease. In 1983, the control programme was redesignated as National Leprosy Eradication Programme with the goal of eradicating the disease by 2000 AD.

### **Strategies**

The latest strategy is based on early detection of cases (by population surveys, school surveys, contact examination and voluntary referral), short term multi-drug therapy, health education and rehabilitation activities. In terms of detection of new cases in the year 1999-2000 India has detected 5.2 lakhs patients.

National Leprosy Eradication Programme (NLEP) provides free domiciliary/home treatment in endemic districts through mobile leprosy treatment units and primary health care personnel. Leprosy patients were getting multi drug therapy (MDT) which has been extended to all the districts in the country. Number of cases discharged as treated and cured are increasingly progressive over the years. During 1998-99 a total of 7.73 lakh cases were cured. During 1999-2000 5.7 lakh patients were discharged.

### **Objectives of the Programme**

With the availability of highly effective treatment, the Dapsone Monotherapy, in 1991 the objective of the Programme was defined to eliminate leprosy by the end of century in the country by reducing the case load to 1 or less 10,000.

### **Infrastructure**

Leprosy Eradication Programme is implemented through establishment of leprosy control units, survey, education and treatment (SET) centres and urban leprosy centres. Leprosy control units are established in highly endemic areas and other areas. SET centres are attached to the Primary Health Centres. A leprosy control unit covers a population of 4.5 lakhs and is headed by a medical officer under whom 15-20 para-medical workers (PMWS) work at the rate of one PMW for 20,000 population, two non-medical supervisors for 10 PMW. The SET centre covers a population of 25,000 and is looked after by a para-medical worker who works under the guidance of the medical officer of the primary health centre.

One urban leprosy centre is established for every 30-40 thousand population. Until the end of March 1999, there existed 781 leprosy control units, 907 urban leprosy centres, and 6097 SET centres. Even after the achievement of the goal of eradication, the task of promoting the social acceptance of the treated cases and their economic rehabilitation would remain to be accomplished. You as a health worker have a big role to play to educate and motivate the family and community at large to help in socio-economic rehabilitation of the treated cases. WHO has set a target to eliminate leprosy by 2005.

Modified Leprosy Elimination Campaign (MLEC) has been implemented in all the states and UT's under MLEC health staff; medical officer, Voluntary Health Workers have been provided orientation training. Intensive public awareness has been created throughout the states to eliminate leprosy in majority of states by the end of 2000AD.

### **Role of ANM in Prevention and Treatment of Leprosy**

You as a member of health team can prevent and treat leprosy as follows:

- i) **Case detection** : The first step in leprosy control programme is early detection of all cases in the community. This may be done by contact survey, group survey or mass survey.
- ii) **Chemotherapy**: As discussed in the treatment.
- iii) **Chemo Prophylaxis**: DDS Prophylaxis may be tried in individual cases, especially healthy children in contact with leprosy patients.

**Rehabilitation:** You will work as a team member in rehabilitation i.e restoration of all treated cases physically, mentally and socially. This is an important aspect of leprosy control.

- iv) **Health Education:** No antileprosy treatment is complete without health education. The patient, the family and the community should be educated on the need for regular treatment, protection of children and family planning.

We should organise health education to patients, their families and community to increase awafeness and to remove social stigma attached to the disease.

Provide deformity and ulcer care and medical rehabilitation services to the needy patients.

**Check Your Progress 7**

- i) National Leprosy Eradication Programme was launched in .....
- ii) Early detection of leprosy cases is done through:
  - a) .....
  - b) .....
  - c) .....
  - d) .....
- iii) Latest strategy is based on:
  - a) .....
  - b) .....
  - c) .....
  - d) .....
- iv) Till March 1996 ..... cases were getting multi drug therapy (MDT).
- v) Infrastructure of NLEP is :
  - a) .....
  - b) .....
  - c) .....

**1.3.4 Poliomyelitis**

**Definition**

Poliomyelitis is a viral infection. It is primarily an infectious disease of the human alimentary tract, but may affect the brain, spinal cord and nerves resulting in paralysis.

**Causes**

The causative agent is polio virus. It is transmitted by

- i) **Faecal-oral route:** This is the most common route of transmission, via contaminated water, food or flies.
- ii) **Droplet infection:** Polio may also spread by droplets from the nasopharynx.

**Sign and Symptoms**

Ninety per cent of cases are asymptomatic. Among the symptoms are fever, headache, diarrhoea, vomiting and drowsiness. The warning signals are pain, weakness and stiffness of the neck and back. There may be paralysis of the affected limb (Fig. 1.4).



Fig. 1.4: Paralysis of the affected limb

#### Role of ANM in Prevention and Management of Polio

All of you must be aware of pulse polio programme which aims at eradication of polio. Polio is preventable, thus educate the people about it.

##### i) *Prevention*

- a) Polio can be prevented by active immunization of all infants and children. The vaccine widely used is oral polio vaccine (OPV) which is a sabin type of vaccine. It is given 1 dose soon after birth and three more doses at monthly interval. Booster dose is given at the age of 18-24 months.
- b) Avoid polio vaccine during diarrhoea, dysentery, vomiting and fever. Avoid hot fluids at least half an hour after the administration of the vaccine.
- c) Polio vaccine should be stored at sub zero temperature in a deep freeze to prevent inactivation.

##### ii) *Management*

- a) There is no specific treatment for polio. Paralytic cases require bed rest. Provide good care to minimize and prevent crippling. Arrange physiotherapy. Physiotherapy helps the weakened muscles to regain strength. Child may have to put on metal calipers.

Patients in hospitals should be isolated and soiled articles, respiratory discharges and excreta should be thoroughly disinfected.

- b) Protect the community by:

- Improving environmental sanitation
- Active immunization of all infants & children.
- Community health education in matters of personal hygiene such as hand washing with soap and water after defecation and before handling food.

### 1.3.5 Viral Hepatitis

The term 'viral hepatitis' includes 2 major types of hepatitis, namely hepatitis A and hepatitis B. Both are viral diseases affecting the liver and both are widely prevalent infections.

#### Hepatitis A

**Hepatitis A** (infectious hepatitis) is caused by an enterovirus Hepatitis A virus (HAV). It is clinically, characterised by malaise, fever, nausea, vomiting and jaundice.

It is transmitted by faecal oral route - via contaminated water, food and by direct contact with contaminated hands and objects. It is associated with poor sanitation and overcrowding.

#### *Role of ANM in Prevention and Control*

You have to perform following activities in prevention and control:

- i) Isolation of cases and disinfection of faeces and fomites.
- ii) Provide better hygiene and sanitary conditions e.g. safe water supply, sanitary disposal of human excreta, promoting food hygiene, enforcing sanitary measures in hotels, restaurants and other eating establishments.
- iii) Proper sterilization of needles and syringes.
- iv) Administration of human normal immunoglobulin to all contacts.

#### Hepatitis B

Hepatitis B (serum hepatitis) is an acute systemic infection with major pathology in the liver. It is characterized by a tendency to a long incubation period and a chronic liver disease including cancer of liver.

It is caused by Hepatitis B virus (HBV). It is transmitted by parenteral route following exposure to blood of a case or carrier e.g. blood transfusion, ear piercing, sexual contact, vertical transmission from infected mother to foetus in utero.

#### *Role of ANM in Prevention and Control*

- i) Prevent the occurrence of infection by immunization. Fortunately, active immunization with hepatitis B vaccine is now available which is effective in 95% of cases. The vaccine is given in 3 doses of 1 ml each.  
There is no specific treatment.
- ii) Educate public about transmission and spread of HBV, which is more infectious than AIDS.
- iii) Follow all the general precautions which are used for the control of AIDS.

### 1.3.6 Cholera, Typhoid and Diarrhoea

#### Cholera

##### *Definition*

**Cholera is an acute infectious disease caused by cholera virus (vibrio cholerae)**

##### *Causes*

Cholera is caused by 2 kinds of vibrios — i) classical cholera vibrios and ii) Eltor vibrios. Eltor vibrios have replaced the classical vibrios in most places. Cholera is transmitted by ingestion of contaminated water, food or drink. It is associated with poor environmental sanitation, poor personal hygiene and poor socio-economic conditions. Cholera cannot spread in places where safe water and proper sewage disposal systems exist, even if the disease is introduced.

##### *Signs and Symptoms*

**Classical Cholera** : Onset is sudden with acute severe diarrhoea (watery stools) and vomiting. The loss of water and salts in the stool and vomit produces dehydration, acidosis and hypokalaemia. The patient complains of intense thirst and cramps in legs and abdomen. The typical signs of cholera are — sunken eyes, hollow cheeks, subnormal temperature, washerman's hands and feet, low blood pressure, suppression of urine. In severe cases the

patient may pass into coma because of dehydration. If death does not occur the patient shows signs of gradual improvement.

**Eltor Cholera** : Diarrhoea may not be severe and there is a greater frequency of occurrence of mild and inapparent cases and mortality is low.

### **Role of ANM in Control of Cholera**

- i) **Develop** and implement national programme for control of diarrhoeal diseases.
- ii) **Identification** of cholera outbreak.
- iii) Cholera is a notifiable disease locally, nationally and internationally.

The number of cases and deaths are to be reported daily and weekly till the area is out of danger.

iv) **Case finding**: As you know cholera control is greatly facilitated by early detection of cases. Then only it will be possible to initiate treatment before patients go into shock. So you should find the cases only to prevent mortality.

v) **Oral rehydration**: The modern treatment of cholera is based on oral rehydration. The oral fluid contains:

Sodium Chloride	-	3.5 g
Sodium bicarbonate	-	2.5 g
Potassium Chloride	-	1.5 g
Glucose (dextrose)	-	20.0 g
Potable water	-	1 litre

ORS packets are freely available at PHCS.

In severe dehydration the best form of treatment is intravenous rehydration.

- vi) **Antimicrobial treatment**: Antibiotics cut short the duration of illness. Tetracycline is the antibiotic of choice. The adult dose is 500 mg 6 hourly × 3 days. Septran has also been recommended.
- vii) **Disinfection**: Encourage disinfection of stool and vomit, clothes, room, hands, feeding and cooking vessels.
- viii) **Sanitation measures**: You should educate community regarding sanitary measures.
  - **Water control**: The water should be adequately chlorinated containing free residual chlorine. Individual householders should resort to boiling or adding chlorine.
  - **Excreta disposal**: Use water seal type of latrines.
  - **Flies**: Improve sanitation to prevent fly breeding.
  - **Food Sanitation**: Eat freshly cooked hot food. Avoid foods and sweets exposed to flies.
- ix) **Vaccination**: Cholera vaccine is the only specific preventive measure against cholera. Vaccine is given subcutaneously in two doses of 0.5 ml each at an interval of 4-6 weeks.
- x) **Chemoprophylaxis**: Tetracyclines 500 mg BD × 3 days.
- xi) **Health Education**: about good personal and food hygiene practices should be given.

### **Typhoid Fever**

#### **Definition**

Typhoid fever is an acute communicable disease caused by salmonella typhi. The disease is marked by prolonged fever, toxic symptoms and constitutional disturbances.

### **Causes**

It is caused by salmonella typhi and is transmitted by faeco-oral-route and urine oral route.

### **Signs and Symptoms**

- The onset is gradual with headaches, gradually rising fever and marked malaise. The pulse may be slow in relation to the temperature.
- The abdomen, may be distended and tender. Constipation is often present in the early stage.
- Usually after a week, diarrhoea occurs with frequent watery motions (pea soup stools) sometime, with blood. The patient at this stage has a high temperature and is dehydrated and exhausted.

Treatment : Chloramphenicol is a very effective antibiotic in the treatment of typhoid fever and is given by mouth in capsule form 0.5 g every 6 hours for a week or more.

### **Role of ANM in the Treatment and Control of Typhoid Fever**

You as a health worker should remember the principles to control and treat typhoid fever in your area:

- After the case is confirmed do the following :
  - Notification
  - Isolation
  - Treatment
  - Disinfection of clothing, linen and fomites.
  - Proper disposal of faeces and urine.
  - Immunization of contacts with typhoid vaccine.
- Take community level action :
  - Immunization with typhoid vaccine.
  - Provision of safe water and improvement of sanitation.
  - Food sanitation : Protection of food from flies and dust. Preventing carriers from handling food. Cooks and food handlers should observe sanitary precautions.
  - Detection of typhoid carriers and treating them.
  - Health education in matters of food and personal hygiene.

### **Diarrhoea**

The term diarrhoeal diseases refers to a group of diseases in which the predominant symptom is diarrhoea. It is called acute when it lasts for 3 to 7 days, or at the most up to 10-14 days.

### **Definition**

Diarrhoea is the passage of loose, liquid or watery stool. These liquid stools are usually passed more than three times a day. However, it is the recent change in consistency and character of stools than the number of stools that is more important. Passage of even one large watery stool in a young child is considered as diarrhoea.

### **Causes**

A wide range of organisms cause acute diarrhoea.

**Viruses:** rotavirus, echovirus, E-coli, Shigella, Campylobacters, Cholera Vibrio, Salmonellosis, Giardia etc.

These organisms are transmitted by the faecal oral route. This may be water borne, food borne or direct transmission such as through unwashed hands.

### **Types of Diarrhoea**

**Acute Watery Diarrhoea :** Starts suddenly and is characterized by passage of loose watery motions ( 65% mortality )

**Dysentery:** This is diarrhoea with visible blood in faeces. The presence of blood may also be accompanied with abdominal cramps, fever, anorexia and rapid weight loss. (15% mortality )

**Persistent Diarrhoea:** An acute watery diarrhoea and dysentery may last up to 14 days. If it persists longer and is associated with weight loss it is known as persistent diarrhoea (20% mortality)

### Consequences of Diarrhoea

The two serious consequences of diarrhoea are dehydration and malnutrition.

#### Dehydration

Dehydration leads to loss of water and electrolytes (sodium, chloride, potassium and bicarbonates) from the body. Dehydration occurs when these losses are not replaced adequately. This can lead to shock and death.

#### Signs of Dehydration (Fig. 1.5)

- Restlessness, irritability
- Increased thirst
- Decreased skin turgor
- Dry mouth and tongue
- Tears absent
- Scanty or no urine
- Sunken eyes

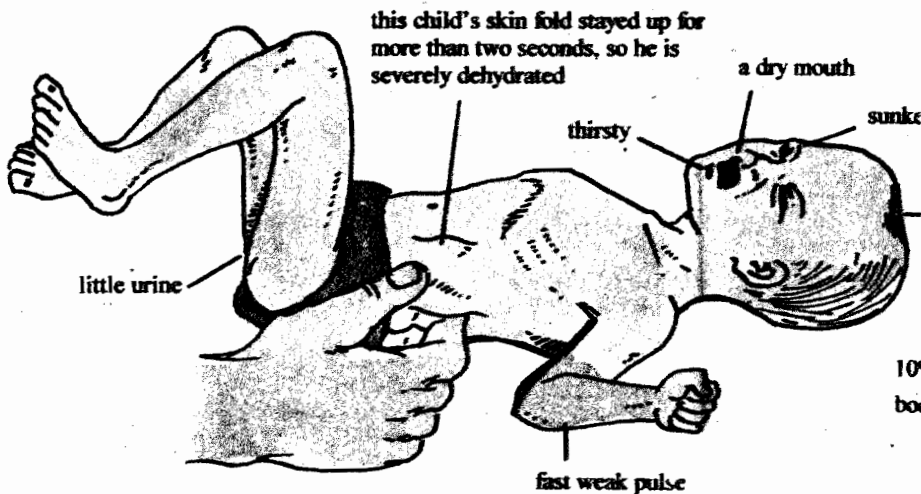


Fig. 1.5 : A severely dehydrated child

#### Malnutrition (Under nutrition)

Diarrhoea has a significant negative impact on nutritional status of the child. Even a brief episode of diarrhoea leads to the loss of 1 to 2% of body weight. Under nutrition in diarrhoea occurs due to loss of nutrients and because children are not given enough food during diarrhoea.

#### Principles of Management of Acute Diarrhoea

- a) **Fluid Replacement :** Watery diarrhoea requires fluid and electrolyte replacement irrespective of the cause or type. ORS is the best solution available for fluid and electrolyte replacement. In the early stages of diarrhoea or when ORS packets are not available, home available fluids (HAF) and water can be used.
- b) **Feeding :** Feeding must be continued during all types of diarrhoea to the extent possible and should be increased during recovery to prevent malnutrition/under nutrition.

- c) **Rational use of Drugs :** ORS is the drug of choice for all cases of diarrhoea. It is life saving when used timely and in adequate quantities.
- Only a small proportion of the cases of diarrhoea (dysentery, cholera and associated illness) need specific antimicrobials.
  - Amoebiasis and giardiasis are rare in children and drug therapy should be started only when trophozoites of *E.histalytica* or giardia are seen in the faeces.
  - Anti-diarrhoeals (anti-motility drugs, steroids and other drugs) should not be used. Since anti-diarrhoea have no clinical benefits and are potentially dangerous, their marketing has been banned in India.

**Role of ANM in Prevention and Treatment of Diarrhoea**

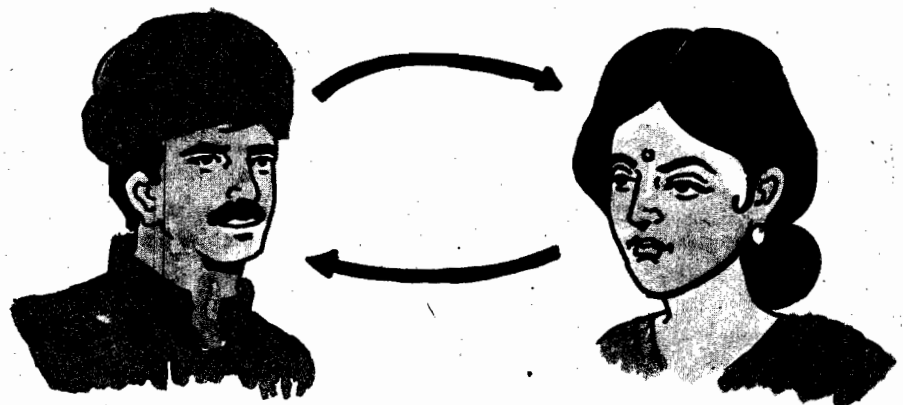
- a) **Educate the Public about Oral Rehydration therapy:** The oral rehydration therapy is a life saving measure to combat dehydration, regardless of the causative agents.
- b) **Appropriate feeding:** The current trend is that during diarrhoea normal food intake should be promoted, including breast feeding. This will help the child to recover faster.
- c) **Appropriate drugs:** Give drugs only where causative agent is clearly identified by culture and sensitivity.
- d) **Other Strategies:** There are other strategies that will help prevent or reduce diarrhoea. They include:
- improved water supply
  - better personal and domestic hygiene (promotion of hand washing)
  - breast feeding
  - proper weaning practices
  - use of latrines
  - measles immunisation
  - Vitamin A supplementation
- e) **Health Education :** This is essential for the ultimate control of diarrhoeal diseases.

**1.3.7 Sexually Transmitted Infections and AIDS**

**Sexually Transmitted Infections**

**Definition**

The sexually transmitted diseases are group of communicable diseases that are transmitted by sexual contact and are caused by bacterial, viral, protozoal and fungal agents and ectoparasites (Fig. 1.6).



**Fig. 1.6: Transmission of sexually transmitted infections by sexual contact**



Common sexually transmitted infections are:

- Gonorrhoea
- Syphilis
- Genital Herpes
- Chancroid
- Genital Warts
- Bacterial Vaginosis
- Candidiasis
- Trichomoniasis

### ***Gonorrhoea***

It is caused by gonococcus, an organism which infects primarily, the mucous membranes of the genital tract of both sexes. Incubation period is generally from three to ten days.

In men: Symptoms are burning pain on micturition, purulent urethral discharge.

In Women : 80% women have no symptoms. Some women complain of pain, frequency of micturition, red & inflamed vulva.

### ***Diagnosis***

You can make diagnosis by following methods:

- i) ***Signs and symptoms:*** Lesions on labia major or minor. Lassitude, anorexia, headache, pyrexia. If untreated it may lead to attack on bones, joints, blood vessels, eyes, heart, central nervous systems.
- ii) ***Laboratory tests:*** Smears from urethra, cervix and rectal, slides are stained and examined under microscope. Smears from lesions or fluids under microscope shows T. Pallidum.

### ***Treatment***

Pencillin is the drug of choice.

### ***Syphilis***

Syphilis is caused by treponema pallidum. It may occur as a result of intercourse with contagious person or appear in congenital form in children of a syphilitic mother.

### ***Treatment***

Benzathine Benzyl pencillin 1.8 gm is a single dose after sensitivity test.

or

Doxycycline 100 mg orally twice a day for 15 days.

or

Erythromycin 500 mg OD for 15 days in women who are sensitive to pencillin.

### ***Genital Herpes***

It is caused by herpes simplex virus.

### ***Symptoms***

Painful genital ulcers that heal spontaneously but recur.

### ***Treatment***

Treat the symptoms. No specific treatment.

### ***Chancroid***

**Soft sore:** Caused by Haemophilus, it causes a painful ulcer in men. It may occur without symptoms in women.

### ***Genital Warts***

Genital Warts are small painless growths caused by the human papilloma virus (HPV) and may be the most common viral STD in industrialized countries.

Prevalence unknown.

#### *Symptoms*

Asymptomatic

#### *Treatment*

Treat the sign and symptom.

### ***Bacterial Vaginosis***

Bacterial Vaginosis (BV) results from rapid multiplication of vaginal flora/bacteria.

#### *Symptoms*

Excessive vaginal discharge, unpleasant odour

#### *Treatment*

Antibiotic and betadine vaginal tablets

### ***Candidiasis***

Like BV, it also results from overgrowth of normal vaginal flora.

#### *Symptoms*

Vaginal discharge, irritation, vaginal itching

#### *Treatment*

Candid 6V vaginal tablets.

### ***Trichomoniasis***

It is very common STD.

#### *Symptoms*

Profuse discharge, burning during urination, bad odour or occasionally lower abdominal pain.

#### *Treatment*

Vaginal tablets and antibiotics. Norfloxacin 800 single dose orally.

Doxycycline 100 mg orally BD × 10 days

In case of pregnant women:

Norfloxacin 800 mg single dose orally

or

Erythromycin 500 mg O 1D for 7 days.

### ***National Sexually Transmitted Diseases Control Programme***

The STD programme was brought under the purview of National AIDS Control Organisation (NACO) in 1992 and was integrated with AIDS Control Programme (see Annexure 1).

### ***Role of ANM in Prevention and Treatment of STD***

As HWF/ANM you should take following measures to prevent and treat STDs:

- i) ***Case Finding:*** For every case of STD there must be at least one other case hidden in the community, which must be found out. Case finding is carried out by 'medico-social' workers who interview the cases and find out their sexual contacts. This technique is called contact tracing. Pursue contacts to seek treatment.
- ii) ***Case Holding and Treatment:*** There is a tendency with STD cases to disappear before the treatment is complete. Every effort should be made to ensure complete and adequate treatment. Govt. of India under National STD control programme is offering free diagnosis and treatment to all STD cases.
- iii) ***Personal Prophylaxis:*** Condoms and diaphragms can be recommended for personal prophylaxis against STDs. These barrier methods of contraception, especially when used with spermicides will minimise risk of acquiring STDs.

### ***Acquired Immuno Deficiency Syndrome (AIDS)***

AIDS has emerged a serious public health problem. It is caused by human immuno deficiency disease virus (HIV).

### **Magnitude and Causes**

First case of AIDS in India was detected in 1986 and it is estimated that there are over 8 million cases in India. The incidence of AIDS varies from state to state but major concentration is in Mumbai, Pune, Madras, Vellore, Goa, and North-east states.

In India 18 persons out of 1000 are at high risk. In July 2000, there were 12239 HIV/AIDS known cases. Majority of the cases are in the age group of 15-49 year and 2/3rd of these are males and 1/3rd are females.

It is transmitted by transfusion of contaminated blood, use of contaminated syringes and needles or piercing instruments, sharing of syringes and needles by drug addicts or unprotected sex, mother to child. The infection remains in body throughout life. AIDS is a last stage of HIV. The infected person becomes weak due to destruction of white blood cells (low immunity) and gets many infections e.g., long lasting diabetes, loss of weight, fever, night sweats, oral thrush, enlarged lymph nodes and spleen.

**Mode of transmission:** AIDS is transmitted by

- i) Sexual transmission:
- ii) Transmission through blood e.g. blood transfusion.
- iii) Using unsterilized syringes, needles and other equipment etc
- iv) Perinatal transmission: Mother to foetus before or during birth.

### **Signs and Symptoms**

Clinical features of HIV infection are divided into four categories:

- 1) **Initial infection:** Mild fever, sore throat, rash. Infected person looks well and healthy.
- 2) **Asymptomatic carrier state:** No signs of disease except generalized lymphadenopathy.
- 3) **AIDS related complex (ARC):** Illness caused by damage to immune system. Unexplained diarrhoea lasting longer than a month, fatigue, malaise, loss of weight (nearly 10 per cent), fever, infection, lymphadenopathy etc.
- 4) **AIDS:** Infections, cancers, tuberculosis and death due to uncontrolled and untreatable infection.

### **Treatment/Control Measures**

Till date there is no treatment for AIDS. Basic approaches to control AIDS are prevention, specific treatment for the infection and part of primary health care. Health education regarding various aspects of AIDS is very important. Health education and counselling of the patient and family regarding various aspects of AIDS is very important. As rejection by community, can cause psychosocial problems. Counsel and educate community at large also.

You should educate the people regarding following:

- Avoiding sex with several partners.
- Unprotected sex.
- Use of condoms.
- Avoid sharing of razors and toothbrushes.
- I/V users should not share needles and syringes.
- Women suffering with AIDS should avoid pregnancy.
- High-risk groups should be advised not to donate blood.

### **National AIDS Control Programme**

Programme was launched in 1987. In 1991 strategic plan for prevention and control of AIDS was developed and implemented. National AIDS Control Organization was set up by Ministry of Health and Family Welfare as a separate wing to implement the programme. See Annexure 2 for background. Important components of strategy were as follows:

- Establishment of surveillance centres to cover whole country.
- Strengthening clinical management capabilities. Identification of high risk groups and screening.

- Issuing specific guidelines for management of detected cases and follow up.
- Prevention of transmission through blood and blood products. Formulating guidelines for blood banks and blood product manufactures, blood donors and dialysis units.
- Strengthening of communication (IEC). Health education at individual level, group level and mass education.
- Control of sexuality transmitted diseases.
- Promoting the use of Condom.

Some people have multiple sex partners and engage in sexual behaviour, which put them at risk of acquiring STD/HIV. Government of India strongly supports the promotion of good quality, low cost condoms. You have to motivate and educate the community to practice safe sex and use condom.

#### ***AIDS Programme Achievements***

Government of India has established 62 Surveillance Centres for screening persons practising high-risk behaviour. 39 zonal blood testing centres in 4 big cities of the country viz. Mumbai, Calcutta, Delhi and Chennai, 115 blood testing centres in 83 large cities are established.

#### **Check Your Progress 8**

Components of AIDS control programme are:

- .....
- .....
- .....
- .....
- .....
- .....

#### ***Role of ANM in Prevention and Control of AIDS***

You here to perform vital role in prevention of HIV/AIDS.

- Health Education:** Provide information and education to general public—to avoid indiscriminate sex and to use condoms as the first line of protection against AIDS.
- Prevention of Blood Borne Infection:** All blood and blood products should be screened for AIDS before transfusion. Strict sterilization procedures should be ensured at home, at subcentre, at PHC, hospitals and clinics. Prevent re-use of syringes, needles and other skin-piercing equipment without proper sterilization. On the whole you have to perform the following role:
  - Help in surveillance activities
  - Health education
  - Counselling to individual, family and community
  - Case finding and providing specific treatment
  - Spreading messages to public to make them aware of real situation and concepts of diseases.

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## **1.4 LET US SUM UP**

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In this unit, we have discussed the major health problems in India. We have also discussed the existing major health problems of India like communicable disease problem, nutritional problem, environmental problems, health care services problems, population explosion and maternal and child health problems. We need to overcome the existing major health problem of the community by providing primary health care services to all and motivating for family planning. While providing primary health care you should provide health education at every step to promote health.

We have also focussed on the major communicable diseases like malaria, filaria, tuberculosis, leprosy, STD/AIDS, worm infestation etc. and their control programmes. Your main role is to educate and motivate the community to participate fully in these programmes, utilize the available services and improve the quality of life.

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## **1.5 MODEL ANSWERS**

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### **Check Your Progress 1**

- i) These problems are National Health Problems because these are wide spread, present in all the states and interfere with the health and development of the entire Nation.
- ii)
  - a) Communicable diseases problem
  - b) Sexually transmitted diseases and AIDS Problem
  - c) Nutritional problems
  - d) Environmental sanitation problems
  - e) Health care services problems
  - f) Population explosion problems
  - g) Maternal and child health problems

### **Check Your Progress 2**

- i)
  - a) Transfusion of contaminated blood.
  - b) Use of contaminated syringes and needles.
  - c) Sexual contact
  - d) Mother to fetus
- ii) The exact number of STD cases are never reported because of social stigma attached and many go unnoticed.

### **Check Your Progress 3**

- i)
  - a) Lack of safe drinking water
  - b) Primitive methods of excreta disposal
- ii) 25, 75
- iii) 1 billion in May 2000.
- iv) 1.5

### **Check Your Progress 4**

- i) 1953.
- ii) 6.47 million.
- iii)
  - a) Collection of blood
  - b) Examination of blood smears
  - c) Treatment of cases
- iv) District Malaria Officer.
- v)
  - a) Management of serious and complicated cases
  - b) Prevention of death of high risk groups
  - c) Reduction of sickness
  - d) Control of outbreaks
  - e) Containment of drug resistant malaria
  - f) Reduction of P Falciparum incidence

**Check Your Progress 5**

- i) irreversible.
- ii) 1955.
- iii) a) Filaria Control units  
b) Filaria Survey units  
c) Filaria Clinics
- iv) Diethyl Carbamazine

**Check Your Progress 6**

- i) 0.4 %
- ii) a) Early detection and domicillary treatment  
b) BCG vaccination  
c) Isolated facilities  
d) Training and demonstration  
e) Rehabilitation  
f) Research
- iii) BCG, below 20 years
- iv) 20- Point Programme

**Check Your Progress 7**

- i) 1983.
- ii) a) Population surveys  
b) School surveys  
c) Contact examination  
d) Voluntary referral
- iii) a) Detection of cases  
b) Short-term MDT  
c) Health education  
d) Rehabilitation activities
- iv) 92%
- v) a) Leprosy control units  
b) Survey, education and treatment centres  
c) Urban leprosy centres

**Check Your Progress 8**

- i) Strengthen programme management capabilities
- ii) Strengthening of information, education and communication
- iii) Prevention of transmission through blood and blood products
- iv) Strengthening clinical management capabilities
- v) Controlling sexually transmitted diseases.
- vi) Encouraging use of condom.

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## **1.6 FURTHER READINGS**

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## SEXUALLY TRANSMITTED DISEASES (STD) CONTROL

### Introduction

The growing evidence available from all over the world undoubtedly indicates that the incidence of HIV infection is higher in conditions of presence of sexually transmitted diseases (STD). Our country has a high incidence of STD in urban as well as rural areas. Within a short period, in Mumbai alone HIV infection has reached 50 per cent among sex workers and 36 per cent among STD patients. Evidence also suggests that concomitant infection with other STDs, particularly those characterized by genital ulcers, increase the chance of HIV infection. Therefore, a person already having STD has the greater risk of acquiring HIV from sexual intercourse if he/she comes in contact with an infected partner.

The importance of treatment and control of STD in relation to HIV infection was recognized by NACO. After taking over the STD control programme, NACO made it an integral component of AIDS control policy. Suitable strategies were devised for the control and prevention of STD as a priority in the over all planning to control the spread of the infections.

### STD Control Programme in India

Programme for control of STD among the population of India is present for many decades. Even before the country achieved independence, a National STD Control programme was started in 1946. This programme continued to operate till 1991 and with the arrival/spread of HIV infection in the country and because of its strong relation with STD, the programme was brought under the purview of NACO in the year 1992. This programme earlier had only a limited number of specialized facilities for diagnosis and treatment. Therefore, the programme emphasized more on health seeking behaviour of the individuals having STD and on the removal of the social stigma attached to the problem of STD.

It has been found that a very small proportion (only 5-10%) of people suffering from the disease attend public STD facilities. The majority chooses to seek clinical assistance from various other formal as well as informal sources, some times even resorting to self-medication. In the rural areas, STD treatment facilities are generally not available. The only health care facility, which is available easily, is that of family welfare services through Maternal and Child Health (MCH)/ Family Welfare (FW) and Ante-natal Care (ANC) clinics. These services apart from their mandatory activities also include treatment of STD in their purview. The total gamut of facilities available for diagnosis and treatment for STD, however were not sufficient considering the need and demand for treatment of STD.

### STD as a Cofactor for HIV Transmission

- Increasing evidence suggests that STD significantly enhance the acquisition and transmission of HIV.
- The predominant mode of transmission of both HIV infection and STD is through sexual route, other routes of transmission are both blood and blood products, donated organs and tissues, and infected women to their new-born.
- Many of the measures for preventing the sexual transmission of HIV are the same as for prevention of STD.
- STD clinical services are important access point for persons at high risk for both HIV and STD, not only for diagnosis and treatment, but also for health education counselling and prevention.
- Trends in STD incidence and prevalence of sexual behaviour are easier to monitor than trends in HIV sero-prevalence and thus valuable for determining the impact of HIV/AIDS control programme.

### Policy on Control of HIV/STD

The Ministry of Health and Family Welfare has adopted a policy of integrating HIV/AIDS and STD Control within the existing health care systems, both in the public and private sector. Special emphasis is being placed on the integration of comprehensive STD management at the primary health care level to provide non-stigmatized services with greater accessibility and acceptability to the patients while maintaining confidentiality and privacy of the patients. The policy strategy also emphasizes on the co-operation and collaboration with the private sector as well as non-government organization for the control of STD. The STD policy document has been widely circulated. A number of manuals and guidelines have been prepared and also distributed in all states and UTs.

### **Objectives of the STD Control Programme**

The STD control component of the National AIDS Control Programme has two major objectives:

- Reduce STD cases and thereby control HIV transmission by minimizing the risk factor and;
- Prevent the short term as well as long term morbidity and mortality due to STD.

In order to accomplish these objectives, following strategies have been incorporated in the strategic plan for the prevention and control of AIDS in India.

#### ***Strategies***

The broad strategies for controlling STD, as outlined in the strategic plan for the prevention and control of AIDS in India are the following:

- Adequate and effective programme management.
- Prevention of the transmission of STD/HIV infection through IEC and promotion of safer sexual behaviour by the use of condoms.
- Adequate and comprehensive case management including diagnosis, treatment, individual counselling, partner notification and screening for other diseases.
- Increasing access to health care for STD by strengthening existing facilities and structures and creating new facilities wherever necessary.
- Early diagnosis and treatment of mostly asymptomatic infections through case finding and screening.
- Special emphasis on early detection and prompt treatment of STDs among high risk groups through targeted intervention projects.

#### ***Actions***

The following major actions have been taken along the lines suggested in the strategies:

- Training of health care workers in both public and private sectors in comprehensive STD case management.
- Developmental of appropriate laboratory services for the diagnosis of STD.
- Conduction of Microbiological, Socio-behavioural and Operation research.
- Surveillance to assess the epidemiological situation, and monitor and evaluate the on-going STD control programme.

The details of other actions related to specific strategies are explained below:

#### ***Strategy 1: Develop adequate and effective programme management***

- Strengthening existing 504 STD clinics in the country by providing drugs, consumables and laboratory support for diagnosis and treatment
- Appointment of STD Programme Officers in State AIDS Control Societies and identification of district nodal officers in each district to supervise the working of STD clinics.

#### ***Strategy 2: Promote IEC activities for the prevention and transmission of STD and HIV infection***

- Within the parameters of National AIDS Control Programme, IEC activities have been designed for the prevention of STD and HIV infection including raising of awareness and promotion of appropriate health care seeking behaviour of the people.
- Awareness generation activities are being implemented to educate the people for responsible sexual behaviour, safer sex and condom use.

#### ***Strategy 3: Make adequate arrangement for comprehensive case management including diagnosis, treatment, individual counselling, partner notification, and screening of other diseases.***

- Two sets of guidelines have been published and distributed for use in all first level Health care facilities and for reference for STD specialists.



- Training has already been imparted to medical and paramedical workers and Supervisors by the State AIDS Control Societies.
- Since laboratory facilities have been extremely limited in most primary health care settings, syndromic approach has been favoured in the management of STD cases because of its cost effectiveness.
- In case of improving secondary and tertiary facilities, the existing 504 STD clinics have been further strengthened in different district and taluk hospitals in the country and medical colleges.
- The five Regional Centres with attached regional STD referral laboratories have already been upgraded to provide necessary training for medical and paramedical staff; conducting research and laboratory tests and to ensure quality control of VDRL results.

**Strategy 4: Increasing access to health care for STD by strengthening existing facilities and structures and creating new facilities wherever necessary.**

- Efforts are on to strengthen the available STD Clinics both in the Government as well as private sectors. The HIV prevention efforts such as IEC and the NGO programmes are increasing the demand for quality STD services. New facilities are being upgraded to function as First Referral Units in collaboration with Department of Family Welfare.

**Strategy 5: Creating facilities for diagnosis and treatment of asymptomatic infections.**

- Efforts are on to train lady medical officers in diagnosis and treatment of asymptomatic reproductive tract infections, including sexually transmitted diseases in MCH clinics.
- Sensitisation of community about the problems related to RTI/STD through Family Health awareness campaign for early detection and referral to Primary health centres for treatment.

**STD and Gender Perspective**

- Many sexually transmitted infections in women are asymptomatic. For instance, more than 50 per cent of gonorrhoeal infection in women are asymptomatic; thus there is no felt need to seek health care.
- Most women have very limited understanding and awareness about reproductive health symptoms related to reproductive tract infections and reproductive of symptoms, they either frequently ignore them or not associate them with RTI/STIs.
- The taboos surrounding sexuality and STD lead to a situation where people, particularly women, seeking health care for STDs are stigmatised. This is specially the case where STD care is provided through easily identifiable specialist STD Clinics.
- Women feel uncomfortable being examined by male doctors, but very few female doctors are available in STD Clinics; thus even if women attend STD Clinics, they are usually not examined properly and the necessary treatment may not be given.

**Achievements**

**STD Facility Survey:** A 504 STD clinics facility survey is being conducted all over the country covering all STD clinics. The objective of the survey is to assess the functioning of STD clinics in reference to their utilization and to find out the deficiencies which influence their functioning. The results will help in formulating a strategy for better utilization of these STD Clinics.

**STD Referral, Research and Training Centre:** A 2-day workshop was organized for conducting facility survey of the 5 STD regional referral centres. The objective of the workshop was to develop tools and action plan for assessing the performance of these centres. A team of four experts visited each site and submitted their observations in regard to the functioning and shortcomings of these institutions. The recommendations of the teams would be utilized for improving the working of these centres.

**Production of Training Material**

- Interactive training modules have been published and circulated to all states/UTs for different categories of health professionals and peripheral health workers. Prevention and control of STDs is one of the key topics in all modules.
- A reference manual "Laboratory Diagnosis of Sexually Transmitted Diseases", for laboratory workers working in STD laboratories has been published and distributed.

- A protocol and training module on STD surveillance has been prepared.
- Training materials, "Simplified STD treatment guidelines" and STD treatment recommendations have been revised and published.

#### **Laboratory Services**

- Laboratory services in the five Regional STD referral centres and in the STD clinics in medical colleges and district as well as taluk hospitals have been upgraded.
- Laboratory support is provided for diagnosis of difficult cases, management of treatment failures and research and antibiotic susceptibility monitoring.
- A proposal has been mooted for strengthening the quality assurance system for STD laboratories in relation to serology testing and diagnosis of syphilis and gonorrhoea.

#### **Research**

- Baseline studies on STD prevalence in Tamil Nadu, Calcutta and Jaipur have been completed. Similar studies are being conducted in Andhra Pradesh, Himachal Pradesh, and Assam.
- A study on the prevalence of STD in pregnant and non-pregnant women in the family planning and child health clinics in East Delhi has been completed.
- Studies to validate the flow charts used in the syndromic approach have been completed.
- Activities have been initiated on development of an antibiotic susceptibility-monitoring network for gonorrhoea.

#### **Surveillance**

Guidelines on STD surveillance based on syndromic approach as well as aetiological diagnosis have been developed for district down to health centres for implementation in a phased manner.

**Background**

Soon after reporting of the first few HIV/AIDS cases in the country in 1986, Government recognised the seriousness of the problem and took a series of important measures to tackle the epidemic. By this time AIDS had already attained epidemic proportion in the African region and was spreading rapidly in many countries of the world. Government of India without wasting any time initiated steps and started pilot screening of high risk population. A high powered National AIDS Committee was constituted in 1986 itself and a National AIDS Control Programme was launched in year 1987.

**National AIDS Committee**

To formulate strategy and plan for implementation of prevention and control of HIV/AIDS in the country, Ministry of Health and Family Welfare constituted a National AIDS Committee in the year 1986, under the chairmanship of the Union Minister of Health and Family Welfare with representatives from various sectors. The committee was formed with a view to bring together various ministries, non-Government organisations and private institutions for effective co-ordination in implementing the programme. The committee acts as the highest-level deliberation body to oversee the performance of the programme and to provide overall policy directions, and to forge multisectoral collaborations. Last meeting (5th) of the National AIDS Committee was held on 24th September, 1998 in Vigyan Bhavan, presided over by the Hon'ble Minister of state for Health and Family Welfare.

In the initial years the programme focussed on generation of public awareness through more communication programmes, introduction of blood screening for transfusion purpose and conducting surveillance activities in the epicenters of the epidemic.

**Medium Term Plan for HIV/AIDS Control**

In year 1989, with the support of WHO, a medium term plan for HIV/AIDS Control was developed with a US \$10 million budget provided from external sources. Project documents for the implementation of this plan were developed and implemented in 5 states and UTs which were most affected, namely Maharashtra, Tamil Nadu, West Bengal, Manipur, and Delhi. Initial activities focused on the reinforcement of programme management capacities as well as targeted IEC and Surveillance activities. Actual preventive activities like implementation of education and awareness programme, blood safety measures, control of hospital infection, condom promotion to prevent HIV/AIDS, strengthening of clinical services for both STD and HIV/AIDS gained momentum only in 1992.

**NACP in the States and UTs****State Level Strengthening**

In order to strengthen the programme management at the state level, the state Governments have established their own managerial organisations which include state AIDS control societies (formerly, State AIDS cells), technical advisory committees and empowered committees as per the guidelines of the strategic plan. The structure of the State AIDS Societies is shown below. Progress in the development of state management teams has been satisfactory, although some states have responded effectively than others.

**Empowered Committee**

At the state level, an empowered committee has been constituted by the states either under the chairmanship of chief secretary or additional chief secretary at par with the National AIDS Control Board at central level.

This committee takes the policy decisions for implementation of the HIV/AIDS control programme in the respective states and approve administrative and financial actions which otherwise would have been approved by the state department of finance.

**State AIDS Control Societies**

State AIDS Cells were created in all the 32 States and UTs of the country for the effective implementation and management of National AIDS Control Programme. However over the period of time it was realised that due to many cumbersome administrative and financial procedures there was delay in release of financial outlay sanction by Government of India

due to which the implementation of the Programme at different levels suffered. In order to remove the bottlenecks faced by the programme implementation at State level, Ministry of Health and Family Welfare advised the State Governments/Union Territories to constitute a registered society under the chairmanship of the Secretary Health. The society should be broad based with its members representing from various ministries like social welfare, Education, Industry, Transport, Finance etc. and Non Government Organisations. On an experimental basis Tamil Nadu AIDS Control Society was created which was followed by Pondicherry. Successful functioning of these societies led to the Government of India to advise other states to follow this pattern for implementation of the National AIDS Control Programme.