



**NMEP (National Malaria Eradication Programme),  
NDDCP (National Diarrhoeal Diseases Control Programme),  
NTCP (National TB Control Programme)**

**Introduction**

Since India has become free, several measures have been undertaken by the national government to improve the health of the people. Prominent among these measures are the National health programmes, which have been launched by the central government for the control/eradication of communicable disease, improvement of environmental sanitation, raising the standards of nutrition, control of population and improving rural health. Various international agencies like WHO, UNICEF, UNFPA, World Bank, as also a number of foreign agencies like SIDA, DANIDA, NORAD and USAID have been providing technical and material assistance in the implementation of these programmes.

How to achieve National health programmes

- By improving host resistance to environmental hazards
- By improving environmental safety
- By improving health systems designed to increase the likelihood, efficiency & effectiveness of the first two goals

Objectives of National health programmes

- To know about the National Health Programs (NHP) in India
- Understand the relevance of the NHP
- Understand difference between vertical and horizontal programs

Why National Health Programs?

- Disease burden is high
- Geographical spread
- Proven strategies for prevention and control are available
- Adequate infrastructure is in place
- Resources for programme implementation are available

**Prevention of infectious disease transmission in sports**

A variety of infectious diseases can be transmitted during competitive sports. Modes of transmission in athletic settings include person-to-person contact, common-source exposures and airborne/droplet spread. This paper reviews the most commonly reported infectious diseases among athletes and discusses the potential for transmission of blood borne diseases in sports. Guidelines are provided regarding measures to prevent transmission of infectious diseases in athletic settings, including hygiene and infection control practices, vaccination, and education of officials, coaches, trainers and sports participants.

An understanding of the most prevalent diseases and associated risk factors is crucial to conceptualise the role of sport in health prevention and promotion. In developing countries, sport is widely used as a tool to educate individuals and communities on the risk factors associated with HIV/AIDS. In spite of the fact that HIV/AIDS and other communicable diseases continue to affect millions of people around the world, there is a significant increase in the global burden of non-communicable diseases related to lifestyle changes in physical inactivity, unhealthy diets and tobacco use.

### **Communicable diseases**

Communicable diseases, also known as infectious diseases or transmissible diseases, are illnesses that result from the infection, presence and growth of pathogenic (capable of causing disease) biologic agents in an individual human or other animal host.

Following are the some examples of communicable or infectious diseases:-

- Hepatitis,
- polio,
- Influenza,
- HIV/AIDS,
- Malaria
- Leprosy
- HIV/ AIDS
- Diarrhoeal
- Tuberculosis

These diseases caused by viruses, bacteria, fungi and parasites are capable of spreading among people through the air, blood and other bodily fluids. In this chapter we are discussing about, National Malaria Control Programme (NMCP), Diarrhoeal diseases control programme and National TB Control Programme.

### **National Malaria Control Programme (NMCP)**

A national malaria eradication effort was originally proposed by Louis Laval Williams. The NMEP was directed by the federal Communicable Disease Center (now the Centers for Disease Control and Prevention, or CDC created in 1946 and based in Atlanta, Georgia. It was a cooperative undertaking by federal, state and local health agencies. The Program had evolved from the Office of Malaria Control in War Areas, which had been created in 1942 to suppress malaria near military bases in the United States during World War II. The CDC's first director – Justin M. Andrews – was also Georgia's chief malariologist.

In 1947, at India's independence 22% population of country was estimated to suffer from malaria with 75 million cases and 0.8 million deaths due to Malaria annually. To combat devastating effects of Malaria, the National Malaria Control Programme (NMCP) was launched in 1953 built around three key activities –

- insecticidal residual spray (IRS) with DDT
- monitoring and surveillance of cases and
- treatment of patients

Malaria related morbidity and mortality in India rapidly brought down within a few years. Encouraged by the programme's success. It was converted to National Malaria Eradication Programme (NMEP) in 1958. But in 1976, there was a massive resurgence of malaria with 6.46 million cases reported attributed to poor

health infrastructure and sub-optimal monitoring and logistics in many parts of the country.

A major international effort along the lines of the NMEP – the Global Malaria Eradication Programme (1955–1969), administered by the World Health Organization – was unsuccessful.

### **Symptoms of Malaria**

Typically, malaria produces fever, headache, vomiting and other flu-like symptoms. The parasite infects and destroys red blood cells resulting in easy fatigue-ability due to anemia, fits/convulsions and loss of consciousness. Parasites are carried by blood to the brain (cerebral malaria) and to other vital organs. Malaria in pregnancy poses a substantial risk to the mother, the fetus and the newborn infant. Pregnant women are less capable of coping with and clearing malaria infections, adversely affecting the unborn fetus.

### **Treatment of Malaria**

Malaria is an entirely preventable and treatable disease. The primary objective of treatment is to ensure a rapid and complete elimination of the *Plasmodium* parasite from the patient's blood in order to prevent progression of uncomplicated malaria to severe disease or death, and to chronic infection that leads to malaria-related anaemia. From a public health perspective, treatment is meant to reduce transmission of the infection to others, by reducing the infectious reservoir and by preventing the emergence and spread of resistance to antimalarial medicines.

### **National Diarrhoeal diseases control programme**

Objectives and activities of the Diarrhoeal Disease Control Programme launched by WHO in 1978 are described. The programme aims to reduce mortality and malnutrition due to diarrhoea by making available oral rehydration salts and training in the treatment and prevention of diarrhoeal diseases. Research on the causes, prevention and treatment of diarrhoeal diseases is also being organized with the collaboration of national and international agencies.

National Diarrhoeal Disease Control Programme NDDCP was launched in 1981. Main objectives were reduction of mortality through introduction of ORT. Goals were: Reduce diarrhoeal associated mortality in children less than 5 years by 30% by 1995 and by 70% by 2000 A.D. Reducing CFR to less than 1%. Improvement in water and sanitation facilities was the long term goal of NDDCP. Diarrhea, also spelled diarrhoea, is the condition of having at least three loose or liquid bowel movements each day. It often lasts for a few days and can result in dehydration due to fluid loss. According to World Health Organisation (WHO) Diarrhoea is defined as passage of unusually loose or watery stools usually at least three times in a 24 hour period. However it is the consistency of the stools rather than the number that is more important. Passage of even one large watery stool in young child is diarrhoea. Frequent passage of normal stool is no diarrhoea.

### **Signs and symptoms associated with diarrhea may include:**

1. Loose, watery stools.
2. Abdominal cramps.
3. Abdominal pain.
4. Fever.

5. Blood in the stool.
6. Bloating.
7. Nausea.
8. Urgent need to have a bowel movement.

### **Treatment of diarrhea**

The rational treatment of diarrhea consists in prevention of dehydration in a by oral rehydration therapy (ORS) Breastfeeding should be continued. In dysentery cotrimoxazole is given in addition to ORS. If unsatisfactory response to the patient, nalidixic acid is given for five days. Any programme for diarrheal disease control must include provision of portable water.

### **National TB Control Programme**

The Revised National TB Control Programme (RNTCP), based on the internationally recommended Directly Observed Treatment Short-course (DOTS) strategy, was launched in 1997 expanded across the country in a phased manner with support from World Bank and other development partners. Full nation-wide coverage was achieved in March 2006. In terms of treatment of patients, RNTCP has been recognized as the largest and the fastest expanding TB control programme in the world. RNTCP is presently being implemented throughout the country.

Under the programme, diagnosis and treatment facilities are provided free of cost to all TB patients. For quality diagnosis, designated microscopy centers have been established for every one lac population in the general areas and for every 50,000 population in the tribal, hilly and difficult areas. More than 13000 microscopy centers have been established in the country. Free treatment services are available for TB at all Government hospitals, Community Health Centers (CHC), Primary Health Centers (PHCs). DOT centers have been established near to residence of patients to the extent possible. All public health facilities, subs centres, Community Volunteers, ASHA, and Women Self Groups etc. also function as DOT Providers/DOT Centers.

### **Goal of the programme**

The goal of TB control Programme is to decrease mortality and morbidity due to TB and cut transmission of infection until TB ceases to be a major public health problem in India.

### **Objectives of the programme:**

1. To reduce the incidence of and mortality due to TB
2. To prevent further emergence of drug resistance and effectively manage drug-resistant TB cases
3. To improve outcomes among HIV-infected TB patients
4. To involve private sector on a scale commensurate with their dominant presence in health care services
5. To further decentralize and align basic RNTCP management units with NRHM block level units within general health system for effective supervision and monitoring

### **TB Risk Factors**

Anyone can get TB, but people at high risk generally fall into two categories:

- People recently infected with TB bacteria

- People with medical conditions that weaken the immune system

TB bacteria can live in the body without making the person sick. This is called latent TB infection. In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop them from growing. People with latent TB infection do not feel sick, do not have any symptoms, and cannot spread TB bacteria to others. On the other hand the TB bacteria begin to multiply, the person become with tuberculosis. Doctors call this active TB.

A person with active TB disease may have any or all of the following symptoms:

1. A persistent cough.
2. Constant fatigue.
3. Weight loss.
4. Loss of appetite.
5. Fever.
6. Coughing up blood.
7. Night sweats.

### **Prevention of transmission of infection**

Those with pulmonary tuberculosis are contagious up to about two to three weeks once their treatment is begun. Earlier these patients were isolated. These days isolation is not practiced but some precautions are important to prevent spread. These include:-

1. Isolation from workplaces, schools and college and areas with crowds.
2. Covering one's mouth and nose while coughing or sneezing.
3. Adequate and careful disposal of tissues. Usually burning or disposal in sealed plastic bags is recommended.
4. Sharing beds and rooms with un-infected persons while sleeping should be avoided.

### **Conclusion**

Recent outbreaks of infectious diseases in athletes in competitive sports have stimulated considerable interest. The environments in which these athletes compete, practice, receive therapy for injuries, and travel, both domestically and internationally, provide varied opportunities for the transmission of infectious organisms. The purpose of this medical literature review is to identify the agents most commonly reported in the medical literature as responsible for infectious disease outbreaks in specific sports and their modes of transmission and to guide targeted prevention efforts.