Vector Borne Diseases Control Program

- Launched in 2003-04 by merging NAMP (National Anti Malaria Programe), NFCP (National Filaria Control Programe) & Kala Azar Control programmes .
- Japanese B Encephalitis and Dengue/DHF have also been included in this Program
- Directorate of NAMP is the nodal agency for prevention and control of major Vector Borne Diseases

Strategies for National Vector Control Program

- Disease management
- Insecticide resistance assessment.
- Involvement of NGOs /private sector/community
- Quality assurance on laboratory diagnosis
- Long lasting insecticide treated nets
- Improve quality and efficiency of services at primary, secondary and tertiary levels
- Environmental management
- Monitoring and evaluation
- Collaboration with National Malaria Institute of malaria research and medical colleges
- Inter-sectoral collaboration

It includes Malaria, filarial, Kala-azar programmes

National Anti Malaria Program

Introduction

- Started in **1953** as National Malaria Control Program
- In this NMCP : 2 rounds of residual insecticidal (DDT) spray as the mainstay of the program.

Reduction of malaria mortality and morbidity lead to formation of National Malaria Eradication Program with malaria eradication as a goal in **1958.**

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Areas with API > 2

- Regular 2 rounds of insecticidal spray - DDT/ Malathion / Synthetic Pyrethroids at the dose of 1, 2, 0.5 mg/sq meter respectively.
- Entomological assessment for Vector behavior and development of insecticidal resistance
- Active and passive surveillance - on every fortnight
- Presumptive Treatment - to fever cases
- Radical treatment - to slide positive cases

Areas with API < 2

- Regular spray is not carried out but 'focal' spray is carried out around falciparum cases detected during surveillance
- Regular passive surveillance - fortnight
- Treatment :All positive cases - radical treatment
- Follow up- All positive cases to be followed up for 1 year at monthly intervals after completion of radical treatment

Urban Malaria Scheme (UMS)

- Launched in 1971

Objectives

- To overcome the increasing incidence of malaria in urban areas
- Intensive anti larval measures
- Drug treatment are the mainstay of UMS

P. falciparum containment Programme

- Launched in October 1977
- Has assistance of SIDA

Objective

- Control the spread of falciparum malaria

This programme is operative in the North Eastern States, and parts of Orissa, Bihar, WB, AP, MP, Gujrat, Maharashtra and Rajasthan

National Filaria Control Program

Magnitude of the problem

- **Filariasis** is major public health problem in India next to malaria.
- The **discovery** of microfilariae (mf) in the peripheral blood was made first by **Lewis in 1872** in Calcutta (Kolkata).
- Indigenous cases have been reported from about 250 districts in 20 states/Union Territories.
- The North-Western States /Union teritories are known to be free from indigenously acquired filarial infection.
- Cases of filariasis have been recorded from Andhra Pradesh, Assam, Bihar, Chhattisgarh, Goa, Jharkhand, Karnataka, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal, Pondicherry, Andaman & Nicobar Islands, Daman & Diu, Dadra & Nagar Haveli and Lakshadweep

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- Resurgence / re-occurrence of malaria out break due to technical, operational and administrative causes, given rise to formation of **'Modified Plan of Operation' in1977.**

Magnitude of the problem

Year 2003:

- **1.87 million** cases of malaria (including 0.86 million P.falciparum cases) and
- **1006 deaths** were reported from the country

Year 2004 :

- **Largest numbers of cases** - Orissa, Gujarat, Chhattisgarh, West Bengal, Jharkhand, Karnataka, Uttar Pradesh and Rajasthan and the
- **Largest numbers of deaths** - Orissa,West Bengal, Mizoram, Jharkhand, Meghalaya, Karnataka, Tripura and Assam.

Vectors of malaria

- *Anopheles culicifacies* is the main vector of malaria

1. Feeding habits

- It is a zoophilic species
- When high densities build up relatively large numbers feed on men

2. Resting habits

- Rests during daytime in human dwellings and cattle sheds

3. Breeding places

- Breeds in rainwater pools and puddles, borrow pits, river bed pools, irrigation channels, seepages, rice fields, wells, pond margins, sluggish streams with sandy margins.
- Extensive breeding in monsoon rains.

4. Biting time

- Generic character and environmental conditions vectors like *Anopheles culicifacies*, start biting soon after dusk.
- Biting starts much: earlier in winter than in summer
- Peak time varies from species to species.

Malaria control strategies

1. Early case Detection and Prompt Treatment (EDPT) is the main strategy of malaria control

Radical treatment is necessary for all the cases of malaria to prevent transmission of malaria

- Chloroquine is the main anti-malaria drug for uncomplicated malaria.
- Drug Distribution Centers (DDCs) and Fever Treatment Depots (FTDs) - established in the rural areas
- Alternative drugs for chloroquine resistant malaria are recommended as per the drug policy of malaria.

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2. Vector Control

(i) Chemical Control

- Use of Indoor Residual Spray (IRS) with insecticides
- Use of chemical larvicides like Abate in potable water
- Aerosol space spray during day time
- Malathion fogging during outbreaks

(ii) Biological Control

- Use of larvivorous fish in ornamental tanks, fountains etc.
- Use of biocides.

(iii) Personal Prophylactic Measures

- Use of mosquito repellent creams, liquids, coils, mats etc.
- Screening of the houses with wire mesh
- Use of bed nets treated with insecticide
- Wearing clothes that cover maximum surface area of the body

4. Community Participation

- Community participation for detection of *Anopheles* breeding places and their -elimination
- NGO involvement.
- Collaboration with private sector.

5. Environmental Management & Source Reduction Methods

- Source reduction i.e. filling of the breeding places
- Proper covering of stored water
- Channelization of breeding source

6. Monitoring and Evaluation of the Program

- Monthly Computerized management information system(CMIS)
- Field visits by state by State National Program Officers
- Field visits by Malaria Research Centers and other ICMR Institutes
- Feedback to states on field observations for correction actions.

'Modified Plan of Operation'

Objectives

- To prevent mortality
- To reduce malaria morbidity
- To maintain agriculture and Industrial areas
- Production of intensive anti malaria measures in such areas
- To consolidate the gains achieved so far

Area classification

- Areas were reclassified based on the Annual Parasitic Incidence (API)
- API > 2 and those having < than 2 - for operational purposes

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