

NATIONAL VECTOR BORNE DISEASE CONTROL PROGRAMME (NVBDP)

INTRODUCTION: The National Vector Borne Disease Control Programme (NVBDP) is an umbrella programme for prevention and control of Vector borne diseases.

Earlier the Vector Borne Diseases were managed under separate National Health Programmes, but now NVBDP covers all 6 Vector borne diseases namely:

- 1. Malaria**
- 2. Dengue**
- 3. Chikungunya**
- 4. Japanese Encephalitis**
- 5. Kala-Azar**
- 6. Filaria (Lymphatic Filariasis)**

MALARIA

At the time of independence, there were an estimated 75 million cases of malaria and 0.8 million deaths due to malaria were being reported annually. Government of India launched National Malaria Control Programme (NMCP) in 1953. Under this programme indoor residual spray was being done with DDT twice a year. As a result, incidence of malaria cases came down from 75 million cases in 1953 to 2 million cases in 1958 in India.

In 1958 this control programme was switched over to National Malaria Eradication Programme (NMEP), under which initially every house in the State was to be sprayed with DDT twice a year. Later on, spraying was with-drawn but surveillance activities were carried out vigorously. This went on but gradually malaria incidence began to rise. In Punjab State the number of malaria cases went from 321 in 1966 to 5 lac in 1977.

Due to this set back to the programme a revised strategy was started called "Modified Plan of Operation" (MPO) w.e.f. 1.4.1977. Under this all the rural population and towns having less than 40,000 populations were under active surveillance. Every dwelling unit is visited by health worker fortnightly to detect fever cases and to give presumptive treatment to them against malaria. Radical Treatment was administered to declared positive cases.

THE MAIN FEATURES OF THIS PROGRAMME ARE AS FOLLOWS:-

7. Surveillance
8. Malaria Clinics
9. Drug Distribution Centers(DDCs)
10. Fever Treatment Depots(FTDs)
11. Spray Operations
12. Urban Malaria Scheme(UMS)

SURVEILLANCE

A) ACTIVE SURVEILLANCE:- Under this, the fortnightly domiciliary visits are made by MPHWS (M) under primary health care system & by this fortnightly visit large number of secondary cases can be avoided where malaria transmission is seasonal. The components of active surveillance are:-

1. Search for fever cases
2. Collection of Blood smears from fever cases.
3. Administration of appropriate presumptive treatment.

Malaria surveillance includes maintenance of on going watch over the status of malaria in a group or community. It provides a basis for measuring effectiveness of anti malaria programme and helps control measures. Malaria surveillance presumes that every malaria case presents itself with symptoms of fever at some point of time during the course of infection . These all fever cases are examined for blood smears to know the malaria parasite load.

Malaria Surveillance Includes:-

- Laboratory confirmation of presumptive diagnosis.
- To find out the source of the infection.
- Identification of cases and susceptible contacts in order to prevent further spread of disease.

The timely collection and examination of blood smears is the key elements in the National Malaria Control strategy. By giving early radical treatment to detected cases, the human reservoir of malaria parasite is reduced.

B) PASSIVE SURVEILLANCE:- All the health institutions screen the fever cases visiting the hospital for malaria by blood slides collection.

Achievements for the year 2007,2008 and 2009 (upto September is as under:-

Year	Blood slides target (10% of population)	No. of Blood slides collected	% achievement	Total Malaria +ve cases	P.F. cases
2007	2664628	2723253	102.2	2017	41
2008	2695967	2979882	110.53	2494	38
2009 upto Sept.	2751159	2273310	110	2633	20

C) Malaria Clinic:-

Malaria Clinics are working in the state in Medical Institutions where the blood slides are examined same day and Radical Treatment is also given to positive cases on the spot.

Achievements:-

Year	No. of Malaria Clinics	Blood slides collected	Found +ve	Radical Treatment
2007	604	440264	1078	1078
2008	608	419498	1049	1049
2009 upto Sept.	623	298046	1393	1393

D) Drug Distribution Center (DDCs):-

Anti Malaria drugs are distributed to fever cases through Drug Distribution Centre (DDC) in the village; free of cost . The DDC's do not collect blood slides but administer presumptive treatment to fever cases. As per revised National Malaria Drug Policy 2008 DDCs are being phased out and instead establishment of FTDs is being promoted.

Achievements:-

Year	No. of DDC Established	No. of treated without blood slides
2007	16772	444411
2008	16374	218191
2009 upto Sept.	471	72937

13. Fever Treatment Depots (FTD):-

Fever Treatment Depots have been established in villages of Punjab which are remote and with low population density to detect malaria at the earliest cases is by collection of blood slides Community members are involved by imparting training blood slides collection and rendering treatment.

Achievements:-

Year	No. of FTD	Blood Slides Collection/ Examined	Found +ve	Radical Treatment
2007	1146	30105	1	1
2008	1162	27497	6	6
2009 upto Sept.	5008	39778	28	28

F) SPRAY OPERATION:-

As per Modified Plan of spray operation of Government of India in a Sub Centre having population 1000 and A.P.I. (Annual parasite Index) 2 or more than 2 of Malaria Positive cases in any year during last three years, spray operation is carried out. The spray operation is commenced on 15th may lasts till 30th September every year. DDT & Malathion are used for IRS (Indoor residual Spray) as per policy of GOI.

G) Urban Malaria Scheme :- Urban Malaria Scheme is being implemented in 21 towns of Punjab State i.e. Amritsar, Jalandhar, Patiala, Ferozepur, Malerkotla, Bathinda, Kapurthala, Rajpura, Nabha, Jagraon, Hoshiarpur, Gurdaspur, Ludhiana, Sangrur, Barnala, SAS Nargar, Phagwara, Khanna, Faridkot, Malout and Tarn Taran

In these towns , breeding of mosquitoes is checked by carrying out Anti Larval Operations regularly at weekly intervals in the following manner:

a) SOURCE REDUCTION:-

Permanent & Temporary breeding sources of mosquitoes are eliminated by filling of burrow pits, ditches, small irrigation canal and unused well.

b) CHEMICALS AGAINST VECTOR MOSQUITO LARVES:-

Fenthion, Temphos and Bti larvicides are used to eliminate larvae of Vector Mosquito .

MALARIA DRUG POLICY:

Government of India revises the drug policy for treatment of Malaria and suspected malaria patients. New drug policy has been revised in 2008 with strong emphasis on:

a) The presumptive treatment given earlier in the programme to all the fever cases after collection of the blood slide has been stopped and radical treatment is given after confirmation of the blood slide in the laboratory.

b) The radical treatment with Primaquine being given to malaria positive patients has been increased to 14 days.

c) The fever cases found by the staff in far flung areas, looking like a malarai case can be given full course of Chloroquine after labelling it as a case of clinical malaria and the radical treatment can be given after laboratory confirmation of the case.

DENGUE & CHIKUNGUNYA

Dengue is a self limiting viral disease, caused by the bite of infected *Aedes aegypti* mosquitoes. These mosquitoes are day biters & outbreaks are sustained by human mosquito human transmission. The peak biting times of the *Aedes aegypti* mosquito are early morning or late evening. These mosquitoes usually breed in clean water collections in containers, tanks, disposable junk material such as discarded buckets utensils tyres flower pots etc. So all such containers should be emptied regularly, atleast once a week to stop breeding of these mosquitos Health education is imparted to create awareness in the community regarding preventive measures against Dengue Fever:-

Year wise detail of Dengue cases in Punjab State is as under:-

Year	Total Dengue Cases	Deaths	Chikungunya	Death
2007	28	Nil	NIL	NIL
2008	4349	21	NIL	NIL
2009 upto Sept.	1	NIL	NIL	NIL

PREVENTION AND CARE OF DENGUE & CHIKENGUNYA :-

The department of Health and Family Welfare has curative, preventive and educative role to prevent and control of Dengue fever.

Five Sentinel Surveillance Centres have been approved for Punjab by Govt of India in 2009 thus increasing the number of there centers to six.

1. Govt Medical College Amritsar.
2. Govt Medical College Patiala
3. Civil Hospital Jalandhar
4. Civil Hospital Ludhiana
5. Civil Hospital Bathinda
6. Civil Hospital Mohali

Testing of all dengue cases done free of cost at these centres.

Blood component separators have been installed at Civil Hospital Ropar, Hoshiarpur, Pathankot, Ludhiana, Jalandhar, Bathinda and Ferozepur Hospitals and Medical colleges Patiala and Amritsar. In the remaining districts blood component separator unit are being installed in the District Hospitals

Aphoresis Machines are being installed in six districts, namely Ludhiana, Amritsar, Jalandhar, Sangrur, Bathinda and SAS Nagar. Microbiologists/ Pathologists of these districts had got training for working of Aphoresis Machines at PGI Chandigarh from 23-7-2009 to 6-8-2009.

Special dengue wards are reserved in hospitals for free of cost treatment of dengue cases.

Training to Senior Medical Officer, Medical Officer, Multipurpose Health Supervisor, MPHWS (M), LT has been imparted under national Vector Borne Control disease Programme. All the Epidemiologists of 20 Districts had been trained for two days for vector borne diseases at National Institute of Communicable Diseases, Delhi.

42 Knapsack spray pumps for spray of anti-larvicides have been purchased for new towns brought under UMS. For the districts where number of dengue cases were more in 2008, 10 spray pumps for indoor Pyrethrum space spray were supplied. Four fogging Machines for fogging have been purchased for effective control of adult mosquito & purchase of another 4 fogging machines is under process. Control rooms have been established at State & District head quarters

Deptt. of Health has formed mass media teams to educate the public that Aedes Aegypti Mosquito breeds in places in the house like desert coolers, tanks which should be emptied and cleaned every week. Month of July was observed as Dengue month.

Public is made aware through News papers and pamphlets to prevent stagnation of water in their houses and in the surrounding areas.

Awareness campaigns to impart knowledge to general community and school children will be organized.

The public is advised to do the following :-

- i. To sprinkle oil in the stagnant water
- ii. To keep the water pots covered
- iii. To keep over head water tanks tightly covered
- iv. To prevent stagnation of water in the broken bottles, flower pots, buckets, tyres etc.
- v. People are advised to use mosquito nets, Mosquito repellent oils & creams etc.

JAPANESE ENCEPHALITIS

No case of J.E. is reported in the State during the year 2007. Three cases of J.E. reported in year 2008 in Punjab (One each usfrom District SAS Nagar, Patiala & Jalandhar). All preventive & curative measures were under taken. No case of J.E. has been reported up to September 2009.

KALA – AZAR & FILARIA

There is no problem of Kala Azar & Filaria in Punjab State till date.

ACTION POINTS:

1. To sustain the zero mortality due to Malaria and decreased morbidity due to Malaria.
2. Early detection and prompt response measure through more prompt surveillance and timely supply of medicines & other supplies in peripheral health institution.
3. To decrease the morbidity due to Dengue and Dengue Haemorrhagic Fever and to sustain zero mortality due to Dengue.
4. Strengthening IEC/ BCC, with focus on rural, slums and other vulnerable areas.
5. Inter sectoral coordination especially with the Department of Local Bodies to ensure elimination and control of breeding of the vector of Dengue in urban areas to minimize the problem of Dengue throughout the state of Punjab.

Officers Responsible for Above said actions:

All the above said actions have to be undertaken at the district level and the District Health Officer and District Epidemiologist with their team of NVBDCP are responsible to ensure decreased breeding of the vectors, strengthened surveillance for early detection of the cases of vector borne diseases and their treatment.

Prevention and measures taken during inter epidemic season i.e. when the diseases are at their low prevalence by the officers at the district level with coordination of the other departments like Urban Local Bodies, Panchayats and Schools to impart awareness to the public can help in achieving the targets of zero mortality due to vector borne diseases and low morbidity due to vector borne diseases.

PROBLEMS TO IMPLEMENT THE PROGRAMME

1. Shortage of Staff to implement anti larval measures in the urban areas which is essential to curb Dengue/Malaria in the incipient stage.
2. Shortage of Staff for implementation of NVBDCP in field areas.
3. intersectoral coordination with Local bodies and Panchayat is less so that breeding of mosquitoes is not prevented
4. Contruction sites/Project sites have increased in Punjab which leads to increased breeding places of vectors as well as increased Man-mosquoto contact.
5. Municipal Corporation ACT and urban civic-by-law are not being implemented in the state of Punjab
6. Staff sanctioned for NVBDCP is not as per the present population of Punjab. To streamline the implementation of NVBDCP is residual and urban areas the staff should be allotted as per IPHS guidelines.

NATIONAL MALARIA ERADICATION PROGRAMME
CENTRALLY SPONSORED PLAN SCHEME
C.S.I/PH 6.2(RURAL)

National Malaria Control Programme was implemented in Punjab State during the year 1953 and was switched over in the National Malaria Eradication Programme during the year 1958-59. Out of 10 Units, 9.65 areas entered into maintenance and rest of the area of 0.35 Units in consolidation phase during 1967. Due to the increase of malaria positive cases, the Government of India introduced Modified Plan of operation from the year 1977-78. On the recommendation of Government, the scheme was introduced in the Punjab State and since then the scheme is in existence in the State on 50:50 sharing basis. Under this scheme, only those sub-centres of the blocks will be covered for spray, who having Annual Parasitic Index(API) is 2 or more than 2. Under this scheme, the Govt. of India supplied the commodities(in kind) i.e. DDT 50%, Tab.Chloroquine, Primaquine 2.5mg and Primaquine 7.5mg.,etc. as its 50% share.

JUSTIFICATION:

To prevent the transmission of malaria to maximum extent possible under the existing circumstances with means available.

To prevent deaths due to malaria.
To keep the malaria morbidity under check.
To prevent advance effects of malaria on agriculture sector and industry

NATIONAL MALARIA ERADICATION PROGRAMME
CENTRALLY SPONSORED PLAN SCHEME
C.S.II.PH 6.3(URBAN)

The Urban Malaria Scheme (Anti Larval Operation) was started in the Punjab State during the year 1977-78 on 50:50 sharing basis on the recommendation of Government of India. Initially, 5 towns namely Amritsar, Ludhiana, Jalandhar, Ferozepur and Patiala were taken up under this scheme during the year 1980-81. Three more towns i.e. Malerkotla, Bathinda and Kapurthala, in the year 1987-88 and five more towns i.e. Rajpura, Nabha, Jagraon, Hoshiarpur and Gurdaspur were also included under this scheme. During the year 2008, the Punjab Govt. has also decided to implement the Urban Malaria Scheme with the internal adjustment, in the new eight towns, namely, Sangrur, Barnala, SAS Nagar, Phagwara, Khanna, Faridkot, Malout and Taran–Taran, as per guidelines/approval of Govt. of India. Under this scheme, the Govt. of India supplies the material (in kind) i.e. Fenthion, Temephos and Pyrethrum for anti larval operations in the urban areas, as its 50% share. Presently this scheme is operative in total 21 towns and 11 more towns with population of 40,000 and above are to be included in future.

JUSTIFICATION:

The objective of this scheme is to control and eliminate malaria by carrying out anti-larval operations in the towns with population of more than 40,000.

URBAN MALARIA SCHEME-Aims.

- a) To prevent deaths due to malaria and Dengue Hemorrhagic Fever.
- b) Reduction in transmission and morbidity.

CONTROL STRATEGY:

Vector control.

- 1. Source reduction.
- 2. Use of larvicides.
- 3. Use of larvivorous fish.
- 4. Space spray.