URBAN MALARIA SCHEME

INTRODUCTION

Considering the recommendations of the Health Survey and Development Committee of Govt. of India, 1946 and also keeping in view the widespread adverse effect of malaria on the National Health, economy, industrial and agriculture growth in the country, the Planning Commission accorded highest priority to a nation-wide Malaria Control Programme.

The remarkable success of the NMCP and the fact that malaria had been eradicated in certain countries paved the way for launching the National Malaria Eradication Programme (NMEP) in the country in 1958. In the plan of operations under NMEP, all roofed structures in the rural areas received insecticidal coverage under the attack phase, excepting those in urban towns with population of over 40,000 and in such areas the residual insecticidal coverage was confined only to the houses in the peripheral belt to a depth of 0.5 to 1.0 mile. In the rest area in such towns and cities, the antilarval measures were recommended. The implementation of antilarval measures was made the responsibility of the local bodies. Many of the local bodies that had been carrying out antilarval operations earlier failed to continue the same due to paucity of funds. While on other side, the activities of NMEP have brought down malaria incidence considerably in rural areas. The malaria incidence in towns and cities went up manifold after 1963. This was mainly due to the species, *A.stephensi,* supplemented by *A.culicifacies* mosquitoes breeding in wells, cisterns, low-lying areas and wet cultivations within the urban limits. It has also been observed in some towns of Andhra Pradesh and Tamil Nadu that. *A.stephensi* had also started breeding in drains and pools. Secondly, there have been tremendous developmental activities in the urban areas of the country leading to conditions very favourable for mosquito breeding. As a result of this, malaria now being freely disseminated from urban areas to rural areas by the free movement of people to the big cities and towns in search of employment in various developmental activities like industries, constructions, etc. While moving out of urban areas they carry the infection to rural areas that are already cleared of malaria. Thus the fresh foci of transmission are established in rural areas.

The control of malaria in the urban areas was thought to be an important strategy complimentary to the NMEP for rural areas. Modified Plan of Operation (MPO) was designed and submitted to the Cabinet to tackle the malaria situation in both urban and rural areas in the country simultaneously. Under MPO, it was decided to initiate antilarval and antiparasitic measures to abate the malaria transmission in urban areas. The proposal to control malaria in towns was named as Urban Malaria Scheme which was approved during 1971. It was envisaged that 132 towns would be covered under the scheme in a phased manner. This scheme was sanctioned during November, 1971 and the expenditure on this scheme is treated as plan expenditure in centrally sponsored sector. The central assistance under this scheme was treated 100 per cent grant to the State Govts., in kind or in cash. From 1979-80, the expenditure on this scheme is being shared between the centre and the state Governments on 50:50 basis.

Initially only 23 towns worst affected with malaria were approved by the Ministry of Health & Family Welfare for assistance under this scheme. During 1972-73, five more towns were selected. Due to drastic cut in the budget, only these 28 towns continued to receive assistance under Urban Malaria Scheme and no more towns were brought under this scheme till 1976-77. Again, a fresh approach was made to the Ministry of Health and Family Welfare and additional 87 towns were brought under this scheme in three phases – (1977-78 :38, 1978-79;37 and 79-80:12). During 1980-81, it was proposed to extend the activities of Urban Malaria Scheme to 17 additional towns worst affected with malaria. At present scheme is functioning in 131 towns.

OBJECTIVES

In Malaria Control Programme, the main aim is the reduction of the disease to a tolerable level in which the human population can be protected form malaria transmission with the available means.

The main objectives of Urban Malaria Scheme (UMS) are:

a) To control malaria by reducing the vector population in the urban areas

b) Reduce morbidity and mortality through EDPT.

Anti-larval measures

Anopheles stephensi - domestic water breeder an important vector of Urban Malaria

- Container breeder
- Piped water supply system
- Overhead and storage tanks
- Water storage at construction sites
- Wells
- Desert coolers

Aedes aegypti - domestic habitat species

This species breeds in domestic and peri-domestic water collections in a variety of containers in association with Anopheles stephensai. In outdoor, old tyres and drums are most preferred sites.

Culex quinquefasciatus - Pest mosquito

The breeds mainly in sullage lakes around houses under un-organized sectors, drains, septic tanks.

Control Strategies

The control measures recommended under UMS are as follows:

Source Reduction

Environmental methods for controlling most of the breeding include source reduction by filling ditches, areas, pits, low lying areas, streamlining, channelising, desilting, deweeding, trimming of drains, water disposal and sanitation, empty water container once in a week, etc.

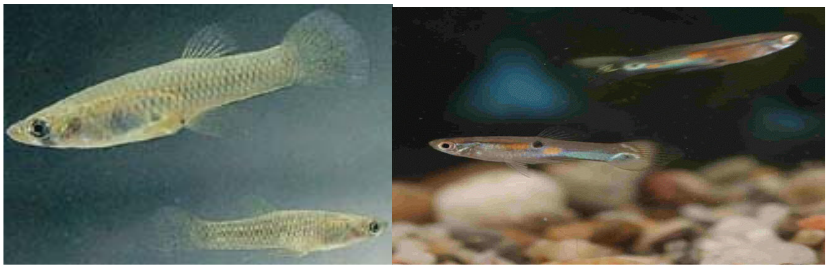
Chemical Control

Recurrent anti-larval measures with approved larvicides to control the vector mosquitoes are recommended. The following larvicides are used under UMS

- Temephos
- Fenthion

Biological Control

Bilogical control of mosquito breeding through biological agents specially larvivorous fish and by larvicides.



Aerosol Space Spray

Space spraying of Pyrethrum extract(2%) in 50 houses in and around every malaria positive case to kill the infective mosquitoes.

Anti-parasitic measures

Anti-parasitic measures through passive agencies like hospitals, dispensaries, clinics and private practitioners to reduce the reservoir of infection, by early case detection and prompt treatment.

Organizational Set-up

The Urban Malaria Scheme is a centrally sponsored programme being implemented mainly by local administrative authorities/Municipalities under the active supervision of state health authorities. The scheme is implemented at the following levels:

- Town level - Biologist is the incharge of the programme implementation
- State level - Additional Director (Malaria & Filaria) or Joint Director (Malaria & Filaria) or Deputy Director (Malaria & Filaria) is the incharge of the scheme at state level and also supervise the scheme by offering technical and administrative guidelines for better execution of the scheme.

- Central Level - Director NVBDCP monitors the UMS at central level monitors the scheme and provides technical guidance for its implementation. The Director of NVBDCP supplies the approved items as per the norms directly to the UMS towns.

NORMS OF SELECTION OF A TOWN UNDER URBAN MALARIA SCHEME

a) The towns should have a minimum population of 50,000.

b) The API should be 2 or above.

c) The towns should promulgate and strictly implement the civic by-laws to prevent/eliminate domestic and peri-domestic breeding places.

STRATEGY

a) Early case detection & prompt treatment (EDPT) to patients through passive surveillance institutions such as hospitals, dispensaries and malaria clinics.

b) Recurrent anti-larval measures through conventional larvicides in towns.

c) Minor engineering methods like source reduction, channelisation, de-weeding, etc.

d) Biological control using larvivorous fish at appropriate breeding sites.

e) IEC campaigns for community awareness and their involvement.