National Vector Borne Disease Control Programme

HEALTH BULLETIN FOR ASHA
ON PREVENTION AND CONTROL OF VECTOR BORNE DISEASES

Bulletin 1 – January 2007

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Vector Borne Diseases

Diseases, whose pathogens are transmitted to a healthy person through the bite of an infected insect (vector), are referred to as Vector Borne Diseases (VBDs). Six such diseases, namely Malaria, Filariasis, Dengue/ Dengue Haemorrhagic Fever, Chikungunya, Japanese Encephalitis (JE) and Kala-azar, are of public health importance in India. While five of these vector-borne diseases are mosquito borne, Kala-azar is transmitted by sand-fly.

Transmission of Vector Borne Diseases

Transmission Cycle (Man-Mosquito Cycle)

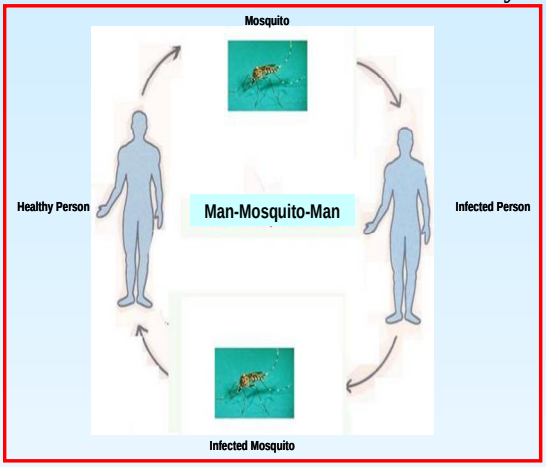

Fig 1: Transmission Cycle (Man-Mosquito Cycle)

Vector Borne Diseases are transmitted only through the bite of a pathogen carrying (infected) mosquito/sand-fly. The infected person infects the vector, when it bites him for a blood meal. This infected insect (vector) will bite a healthy person and transmit disease pathogen to him. Now, the healthy person also becomes infected and in this way, the spread of the vector borne diseases goes on in the community unless effective prevention and control measures are undertaken. Man is the carrier of the disease in all vector borne disease cycles except the Japanese Encephalitis cycle.

Transmission Cycle of Japanese Encephalitis (Pig/Bird-Mosquito Cycle)

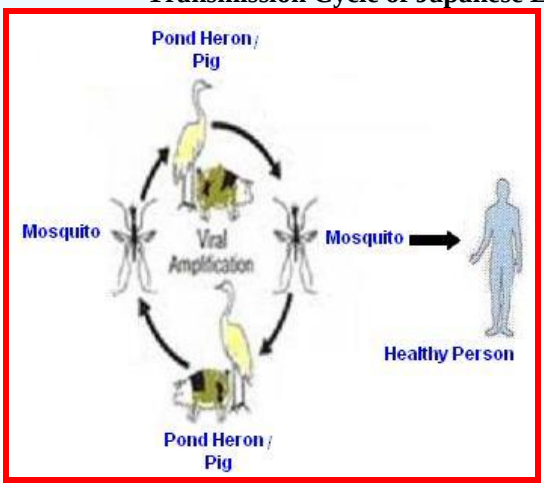

Fig 2 : Transmission Cycle of Japanese Encephalitis (Pig/Bird-Mosquito Cycle)

The natural hosts of JE virus are pond herons, cattle egrets and other migratory birds. Pig is an amplifier host since it facilitates rapid multiplication of the virus, within its bloodstream without suffering from the disease. The disease virus is spread among animals and birds through infected mosquitoes. When the mosquito density is high during rainy and post rainy season, man is infected accidentally. There is no transmission of infection from an infected individual to others in the community. This is the reason that human being is considered as the dead end of infection. Mosquitoes, once infected, remain so, for the entire duration of their adult life.

There is no other mode of vector borne disease transmission.

Malaria is preventable

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VBDs as Epidemic prone diseases

Most of these diseases are epidemic prone and show seasonal trend. Control of these vector borne diseases are complex because of multiple mosquito breeding places and environmental conditions such as rain, temperature, humidity etc. The vector densities and the propensity of biting humans are two important factors responsible for disease transmission.

National Vector Borne Disease Control Programme

The National Vector Borne Disease Control Programme (NVBDCP) is an umbrella programme responsible for planning and guidance for prevention and control of vector borne diseases. The programme is implemented by the States / UTs. The state government implements the programme through the districts, Primary Health Centres and local bodies. However, the role of every individual in the community is important for the effective control of Vector Borne Diseases.

Role of ASHA

ASHA would implement the programme at the village level.

Malaria

1. **Conducting fever surveillance –** Malaria is a disease associated with high fever, chills with rigors, headache, vomiting and other flu like symptoms. ASHA would conduct door-to-door fever surveillance activity on a weekly basis and report any occurrence of fever to the ANM/ health workers as well as the Medical Officer, Sector PHC.

2. **Conducting Rapid Diagnostic Test for diagnosis of malaria –** ASHA would be trained in the use of Rapid Diagnostic Test kits for malaria, a blood test on the person suffering from malaria symptoms to determine the presence of malaria.

3. **Acting as Fever Treatment Depot –** If the Rapid Diagnostic Test for malaria is positive, ASHA would make treatment available at the village level as a Fever Treatment Depot so that people get treatment at the earliest to prevent any complication and death. The worker will be imparted adequate training before assigning her the responsibility of a Fever Treatment Depot.

4. **Referral of severe malaria cases to hospitals –** If the disease becomes serious, and the patient suffers from symptoms of severe malaria as high fever with convulsions (fits), anaemia, severe dehydration, inability to stand or sit, ASHA would refer the patient to a hospital. Treatment is effective if it is started early.

5. **Indoor Residual Spraying** – To stop the transmission of malaria, it is very essential to control the mosquito populations. Two rounds of Indoor Residual Spray with DDT or other insecticides (timing of the spray will depend on the area) on the walls and roofs of houses are conducted. ASHA would be engaged in increasing community acceptance of indoor residual spraying.

6. **Promotion of use of Insecticide Treated Nets (ITNs) -** ASHA would be involved in identification of people living below the poverty line for distribution of free ITNs. ASHA would also be trained for retreatment of community owned ITNs and would educate the community to do the same. In particular, ASHA would also encourage pregnant mothers and children under five to use ITNs.

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Filariasis

7. **Mass Drug Administration –** ASHA would conduct awareness generation for MDA campaign to increase coverage and compliance. The people, who are living in filaria affected areas, may be having microfilariae in their blood. These people look healthy and may not show signs and symptoms at early stage. ASHA would be visiting the village to motivate people to take DEC, because DEC kills microfilariae and the disease progression will be halted. ASHA would be making house-to-house visits on National Filaria Day along with the team for distribution of DEC. The benefits of MDA should be explained as well as the side effects that may occur in persons who are microfilaria carriers.

8. **Mop up round –** ASHA would be making repeated visits along with the team to cover those family members who have been absent or have been seriously ill and not been able to take the drug on National Filaria Day as well as cover inmates of locked households or refusal cases through intensified Behaviour Change Communication.

9. **Counselling for home based case management** - ASHA would be counseling and encouraging patients and family members to take up home based morbidity management and limb hygiene practices for lymphodema cases and motivate patients for operating Hydrocele cases at PHCs/CHCs.

Kala-azar

10. **Conducting fever surveillance –** ASHA would conduct door-to-door fever surveillance activity on a weekly basis to find out and enlist all cases of prolonged fever of more than a fortnight not responding to anti-malarials and antibiotics and refer them to the PHCs for confirmation of diagnosis.

11. **Referral of Kala-azar and Post Kala-azar Dermal Leishmaniasis (PKDL) cases** - ASHA would be referring Kala-azar and PKDL cases to the PHC for confirmation and initiation of treatment. PKDL, which manifests in the community as a painless skin condition is often overlooked by the patient himself. PKDL is a potent reservoir for further transmission of disease, and all such cases must be detected and completely treated.

12. **Counselling and Treatment Completion** - After being diagnosed with Kala-azar / PKDL, the patient must be counselled to initiate treatment immediately. ASHA would be counseling the patient for completing the full course of treatment. As the treatment is of a long duration, there is often a tendency on the part of the patient to discontinue treatment as the patient starts feeling better in a few days. The patient and his family must be made aware about the necessity of the complete treatment for individual relief as well as bringing down parasite load. Discontinuation of treatment midway is dangerous for the patient, as well as the community, as the parasites of Kala-azar if not removed from the body of the patient will again cause the disease in him/her, and what is even worse, some of them be transmitted, though the bite of the insect to other healthy individuals. ASHA would be motivating the patient's family to provide emotional support to the patient during the period of illness.

13. **Indoor Residual Spraying with DDT** – To stop the transmission of Kala-azar, it is very essential to control the sand-fly populations. ASHA would be responsible for coordination with the spray team, informing the community in advance about the spray through IEC,

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motivating the community for acceptance of IRS, ensuring over 85% coverage of rooms and cattle sheds with DDT in the allotted villages and ensuring that mud plastering is not done after the DDT spray.

Japanese Encephalitis (JE)

14. **Report suspected cases of JE** - ASHA would be reporting the suspected cases of JE immediately to the nearest PHC/CHC/any hospital and advise parents to do the same. Symptoms of JE include headache, fever, disorientation, coma, tremors, paralysis and loss of coordination. ASHA must also inform the health worker about any abnormal death of piglets in the village. Pigs play an important role in JE transmission, as the JE virus multiplies (amplifies) in the pigs without suffering from the disease causing and maintaining the virus for a long time. Mosquitoes while biting pigs, pick up the infection easily and pass it on to the man when it bites again.

15. **JE Vaccination** - ASHA would also be advising the community for JE vaccination of children. Government provides this vaccine for children in JE affected areas.

16. **Fogging –** ASHA would be informing the village community about the purpose of fogging during an outbreak and would be engaged in increasing community acceptance of fogging through information dissemination.

Dengue / Chikungunya

17. **Conducting fever alert surveillance and timely reporting –** ASHA would conduct door-to-door fever alert surveillance activity on a weekly basis and report any occurrence of fever outbreak to the ANM/ health workers as well as the Medical Officer, Sector PHC. If the number of fever cases reported is five or more in a village in a week, it would be considered as an outbreak of fever.

18. **Source reduction through health education –** As *Aedes* mosquitoes breed in clean water collections in and around houses, ASHA would provide health education to the community for preventing breeding of mosquitoes and advising the community for protection from mosquito bites by taking the following steps –

    - Keeping clean environment in and around houses.
    - Covering all water tanks and containers with tight lids.
    - Emptying & drying water coolers, tanks, other water storage containers, at least once a week before refilling.
    - Disposing & destroying all containers, junk materials, tyres, coconut shells, etc.
    - Wearing full sleeved clothing to cover the body, Using mosquito nets, preferably insecticide treated ones and repellants.

Behaviour Change Communication

19. **Awareness Generation and Dissemination of information**- ASHA would be providing information to the community pertaining to prevention and control of all six VBDs like elimination of breeding sites and the importance of early detection and complete treatment through Inter-personal communication.