

Control of Vectors, Other Pests and Animal reservoir of infection

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What is a vector of Disease?

- A vector is an arthropod or invertebrate which carries and transmits diseases directly or indirectly from an infected host to another host
- Transmission can be: Direct or indirect
- Host can be Animal or human

Common vectors and associated diseases

- Mosquito – Malaria, Dengue fever, Filariasis, Yellow fever, Rift valley fever
- House fly – Cholera, dysentery, Typhoid fever,
- Rat – Leptospirosis, Salmonellosis, Plague
- Flea – Typhus, Plague
- Mite – Scabies, Scrub
- Lice – Epidemic typhus, Relapsing fever, Pediculosis
- Ticks – Relapsing fever, Spotted fever, Viral Encephalitis
- Tsetse fly – Trypanosomiasis
- Cockroach – Diarrhoea, Salmonellosis, Cholera
- Black fly – Onchocerciasis, Riverblindness
- Cyclops – Guinea worm/ Dracunculiasis
- Molluscs – Schistosomiasis/ Bilharziasis

Methods of Vector Control

- Environmental Control:
- This implies modifying the environment such that it's no longer suitable for the breeding or development of the vectors
- If the breeding sites are eliminated they can no longer proliferate. For eg. Mosquitoes breed in water, so if we clear drainages, discard stagnant water containers, mosquitoes will no longer breed

Chemical control

Larvicides:

- Used to eliminate the vector at the earliest point in its life cycle (Larva stage)
- Most times it's impossible to totally eliminate breeding sites. In such cases, target the vectors in their infant stages before they mature. Eg Larvicides such as abate can be used to eliminate the larval stage of mosquito vectors

Chemical Control (2)

- Adulticide:
- Used to eliminate the vector to prevent disease transmission. This is the most suitable control measure during epidemic ie, to target adult vectors to prevent transmission
- Other chemical methods include;
 - Space spraying or residual spraying of insecticides,
 - mosquitoes or setting traps
 - and poisons against rodents

Personal Protection:

- PPEs can reduce the risk of infection.
- Examples include:
 - long sleeves and socks,
 - rubber gloves,
 - use of insecticide treated bed nets to sleep
 - chemoprophylaxis