



Vector-borne diseases and Their Prevention

Dr. Kelvina Patel

Veterinary Officer, Bharatia Polytechnic in Animal Husbandary
Kamdhenu University, Surat-395007

<https://doi.org/10.5281/zenodo.7421985>

Abstract

Vector-borne diseases account for more than 17% of all infectious diseases, causing more than 700 000 deaths annually. Most common vector borne diseases are Malaria, Dengue, chikungunya fever, Zika virus fever, yellow fever, West Nile fever, Japanese encephalitis, tick-borne encephalitis. They cause severe health problems and economical losses to human being as well as animals too. Most of vector-borne diseases are preventable, through vector control, protective measures, and area mobilisation.

Introduction

Vector-borne diseases are human and animals' disease caused by parasites, viruses and bacteria that are transmitted by vectors. The trouble of these diseases is highest in tropical and subtropical areas, and they disproportionately affect the poorest populations. Distribution of vector-borne diseases is determined by a complex set of demographics, environmental and social factors.

Table 1. Most common vector born disease and its possible vector of transmission

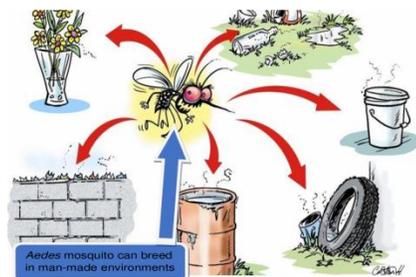
Vector	Disease caused
Mosquito <i>Aedes</i>	Chikungunya
	Dengue
	Lymphatic filariasis
<i>Anopheles</i>	Rift Valley fever
	Yellow Fever
<i>Culex</i>	Zika
	Lymphatic filariasis
	Malaria
Fleas	Japanese encephalitis
	Lymphatic filariasis
	West Nile fever
Lice	Plague (transmitted from rats to humans)
	Typhus
Sand flies	Louse-borne relapsing fever
	Leishmaniasis
	Sandfly fever (phlebotomus fever)



Ticks	Crimean-Congo haemorrhagic fever Lyme disease Relapsing fever (borreliosis) Rickettsial diseases (eg: spotted fever and Q fever) Tick-borne encephalitis Tularaemia
Triatome bugs	Chagas disease (American trypanosomiasis)
Tsetse flies	Sleeping sickness (African trypanosomiasis)

Measures Taken for Prevention of Vector Born Diseases

- ✓ WHO Secretariat provides strategic, normative and technical guidance to countries and development partners for strengthening vector control as a fundamental approach based on GVCR to preventing disease and responding to outbreaks.
- ✓ Vector control programmes is required, supported by increased technical capacity, improved infrastructure, strengthened monitoring and surveillance systems, and greater community mobilization.
- ✓ For Mass awareness of community people, hoarding, banners and flexes can be displayed at prominent places, venues & UPHCs. Provide education and improve public awareness, so that people know how to protect themselves and their communities from mosquitoes, ticks, bugs, flies and other vectors.
- ✓ Access to water and sanitation is a very important factor in disease control and elimination.
- ✓ Conducting House-To-House survey as per the Schedule of Health & Family Welfare.
- ✓ Surveillance of fever cases and collection of detailed information of those fever cases whose blood test report is positive for Dengue/Malaria promptly
- ✓ School awareness camps to generate awareness among students which can percolate deep into the society through behaviour and practices.
- ✓ One Health Approach for control Vector born Diseases.



Vector Control through Proper Education on Hygiene



Chemical Control of Vector with experts



Intensive Health Survey for a Disease



Education to People for diseases and its prevention.

Reading References:

1. <https://nvbdc.gov.in>
2. <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases>
3. <https://www.cdc.gov/ncezid/dvbd/index.html>

