
بسم الله الرحمن الرحيم

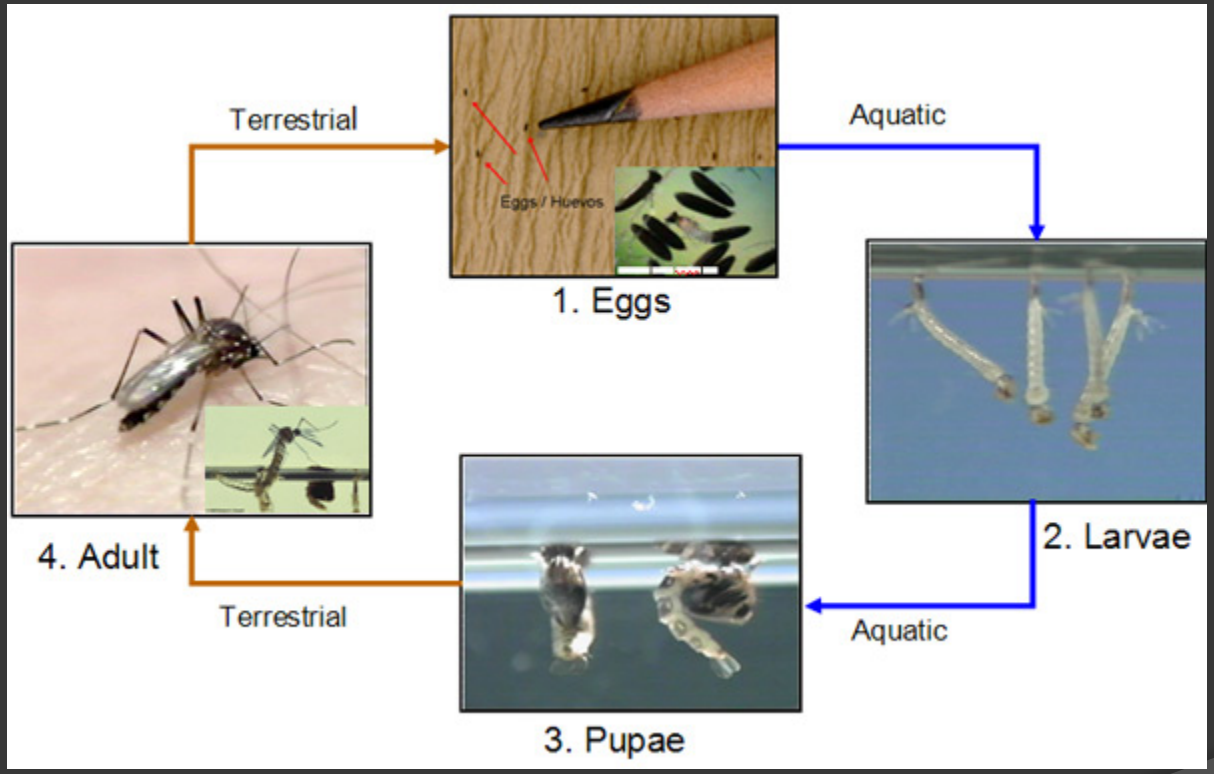

ภาควิชาปรสิตวิทยา
DEPARTMENT OF PARASITOLOGY

KEY MESSAGE

"IF THEY BREED, YOU WILL BLEED"

- If you want to fight with mosquito, think like mosquito.

Life Cycle


Terrestrial
Aquatic
Eggs / Huevos
1. Eggs
2. Larvae
3. Pupae
4. Adult
Terrestrial
Aquatic

KEY LEARNING POINTS

Data Collection and Transmission System

- Hospitals/Clinics/volunteers
- District Health Office
- Provincial Health Office
- Bureau of Epidemiology.

KEY LEARNING POINTS

- Target is Larva not Adult Mosquito
  - **Methods**
    - **Physical** (Environmental Management, School Health Education & Promotion, Community Participation, Larva Survey and Media Campaign)
    - **Chemical** (Fenthion,Temephos, Permethrine & Delta Metherine)
    - **Biological** (Larvivorous Fish e.g Guppy Fish, Bacterial Control e.g BTI spray i.e Bacillius Thermophilius Israelenesis)
    - **IGRs** (Insect Growth Regulators e.g Juvenile Harmone)
      - Prevent larvai to change into adult mosquito

Vector control and surveillance

Objectives:

1. reduce vector population
2. reduce man-vector contact

Adult stage  Immature stages (Breeding sites)

- chemicals
- traps
- bioagents
- biting protection

- mechanicals
- chemicals
- bioagents

Research needs for management of breeding sites

- What and where is(are) the key container(s)?
- Where is(are) the hot spot(s)?
- What is(are) appropriate approach(es)?
- How to achieve community participation?
- Are the mosquitoes resistant to temephos?

KEY LEARNING POINTS

- Role of Religious Leaders
- SRRTs (Surveillance Rapid Response Teams)
- Regional approach
- Cross border movement of dengue
- Strong clinical management

Success Story of Thailand

- Pro-active Surveillance Through:-
  - Rapid Data Transmission and Sharing
  - Community Participation / Competition
- Integrated Service Delivery
  - Coordination among all Departments
- Timely Response Through:-
  - SRRTs
- Evidence-based decision making
  - Not on presumptions
- Capacity-building of Health Promotion Volunteers

INNOVATIVE IDEAS

- Targeted fogging/spray
- Off season vector management
- Marking of houses
- Use of artificial light for larva survey
- Larva free schools & school education
- Incentive based media campaigns

False Concepts

- This mosquito breeds in clean water.
- Papaya leaves extract are effective to cure Dengue fever.

How to prevent outbreaks?

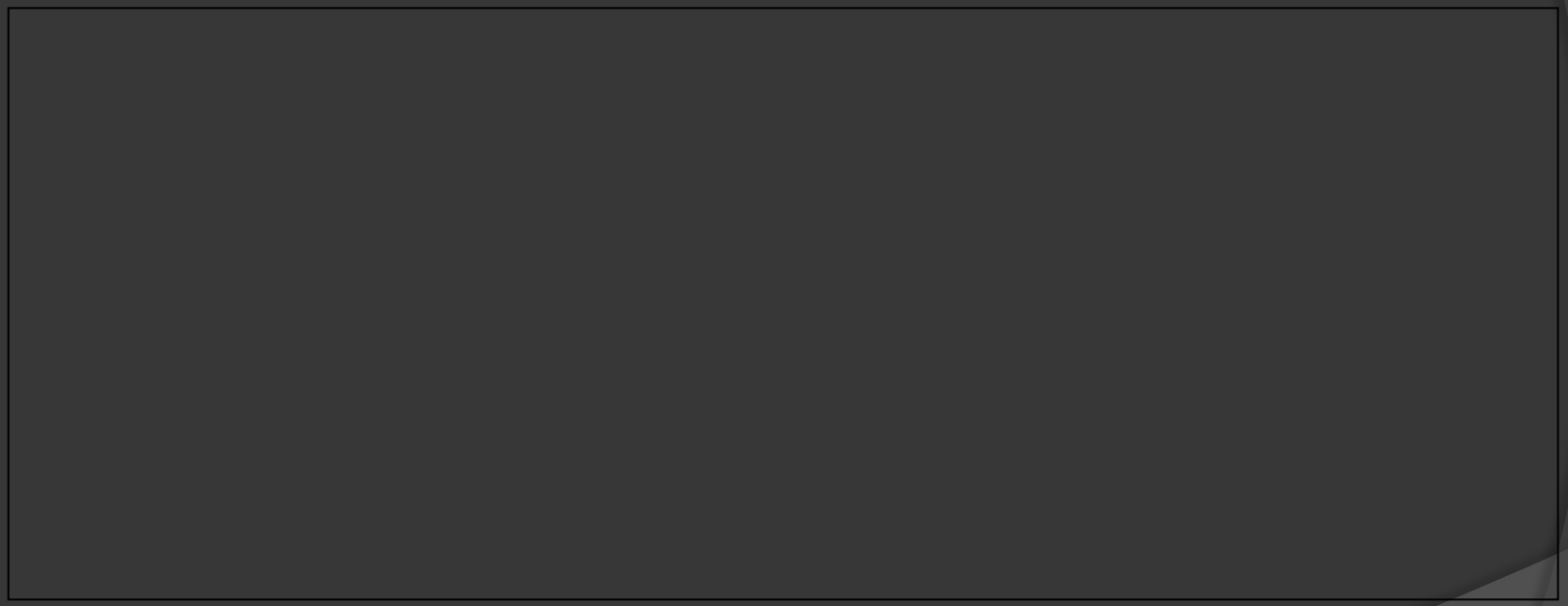
General recommendations:

Control breeding sites (mechanical, biological, chemical)
Campaign
Space sprays (fogging, ULV)
Community participation
Improve public hygiene

Theoretically simple but practically complicated

ULV (Ultra-low-volume) Spraying

ULV spraying fills a 20-foot column with an ultra low volume of active ingredient (droplet ~20 µ)



Problems in using space sprays

Is it really effective?

- The insecticide hardly reaches the target mosquitoes.
- *Ae. aegypit* is widely resistant to pyrethroids.
- May cause more resistant level of vector.
- Toxic to environment and useful insects.

Research needs for space sprays

- Are the mosquitoes resistant to the insecticide used?
- What is(are) the resistance mechanism(s)?
- Are space sprays effective in killing indoor and outdoor mosquitoes?
- Do space sprays stop dengue epidemic waves?

Conclusion

- Dengue transmission is complicated involving several factors.
- Control of dengue transmission is not simple and could not be successful without active community participation which must be supported by the government policies.
- Lack of research could result in the failure of dengue control.

Training Module.

TARGET AUDIENCE

"Officers/Officials of Local Governments participating in Dengue Epidemic Prevention, Control and Management"

AIMS

- Formulation of Short & Long Term Plans
- Imparting Education
- Problem Sensitization
- Training/Capacity Building
- Data Base Management

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Communication Methods

- Multi-Media
- Printed Material
- Lectures
- Use of Local Language
- Signs

SYLLABUS

- What is Dengue?
  - Types?
  - Symptoms?
  - Causes?
  - Vector?
- How to Prevent?
  - Physical Means
  - Biological Means
  - Botanical Means
  - Chemical Means

LEARNING

- Interest of Audience
  - Get feed-back
- Lectures
- Quiz
- Practical Demonstration
- Community Visits
- Experience Sharing

OBJECTIVES

- Prevention of Dengue through
  - Capacity Building of Participants
  - Community Mobilization through Participation

Protective Gadgets

Water proof

- Mask
- Spray suits
- Goggles
- Gloves
- Long shoes

Visit to Faculty of Medicine, Chiang Mai University

VISIT TO SWM TRANSFER STATION

Hand to Hand Training at PPHO Chiang Mai

Hand to Hand Training at PPHO Chiang Mai

Visit to Tambon Pongnamrhon (sub-distt:)

Visit to Distt: Hospital Fang

Visit to PHO & Community Centre (Chiang Mai):

- Thank you