

# **EPIDEMIOLOGI FILARIASIS**

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# ***WHAT IS LYMPHATIC FILARIASIS ?***

- **Disease of the poor**
- **Maybe acquired during childhood**
- **Chronic parasitic infection**
- **Caused by nematode parasites**
- **Parasites live in lymphatics for 5-15 yrs**
- **Transmitted by mosquitoes**



# FILARIAL SPECIES IN THE PHILIPPINES



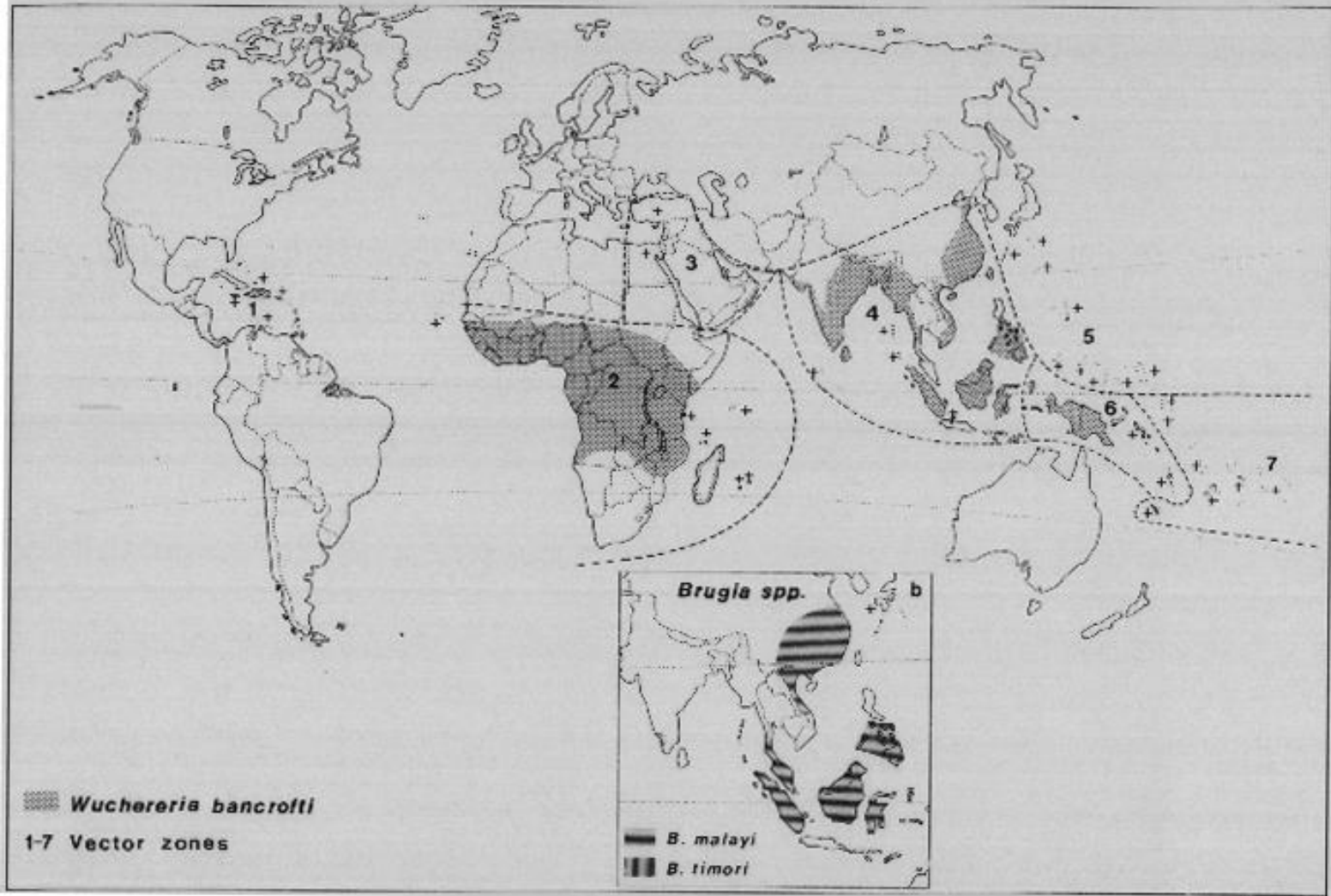
# HUMAN FILARIAL PARASITES

- **7 Filarial species**
- **2 are present in the Phil-**  
**Wuchereria bancrofti**  
**Brugia malayi**




# Epidemiologi

Map 9 Distribution of Human Lymphatic Filarial Parasites in the Major Endemic Zones



## Lymphatic Filariasis Endemic Countries and Territories



 Endemic Countries



The presentation of material on the maps contained herein does not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or areas or of its authorities, or concerning the delineation of its frontiers or boundaries.

0 2000 4000 Km

Data Source: Lymphatic Filariasis  
Elimination Programme  
Map Production:  
Public Health Mapping  
Communicable Diseases (CDS)  
World Health Organization

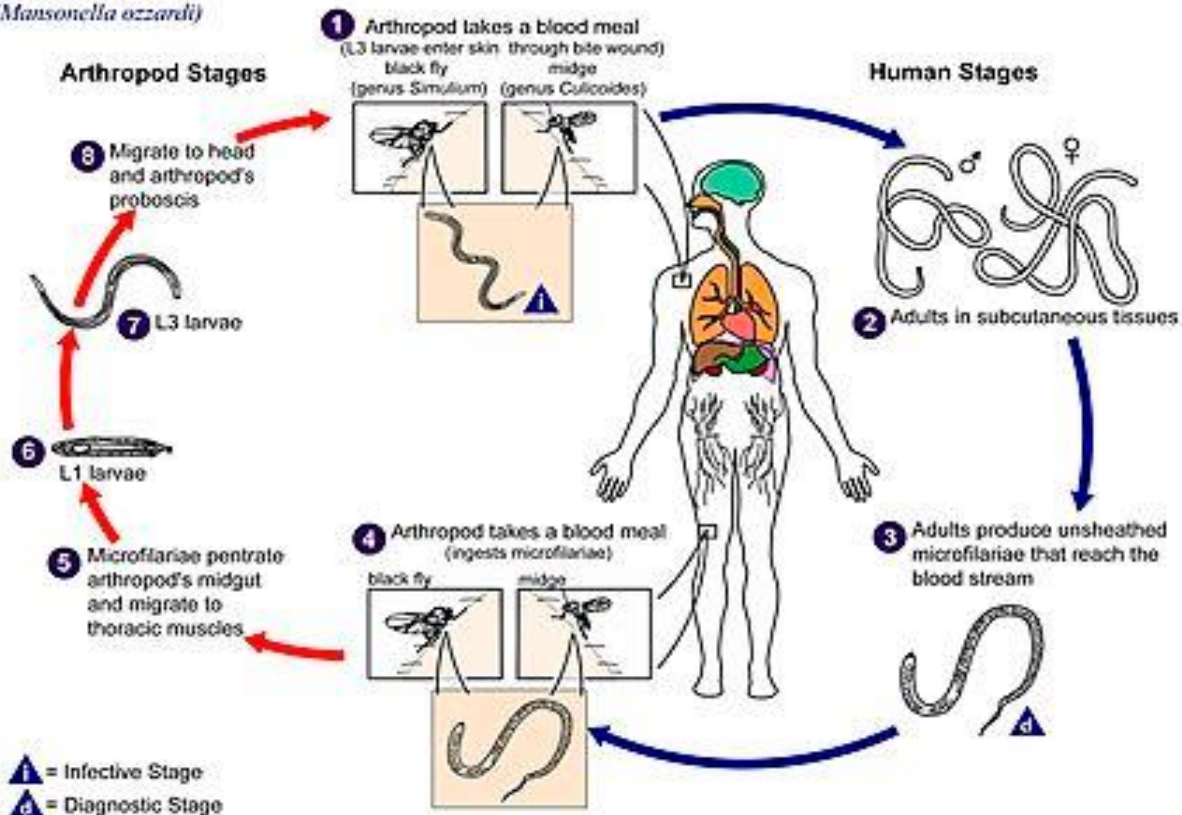
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- **Wuchereria bancrofti** → endemis di daerah dengan kelembaban tinggi (Amerika Latin-fokus di Suriname, Guyana, Haiti, Republik Dominika dan Costa Rica, Afrika, Asia dan Kepulauan Pasifik)
- Umum ditemukan di daerah perkotaan dengan kondisi ideal untuk berkembangbiakan nyamuk
- **Brugia malayi** endemis di pedesaan di India, Asia Tenggara, daerah pantai utara China dan Korea Selatan
- **Brugia timori** keberadaannya di daerah pedesaan di Kepulauan Timor, Flores, Alor dan Roti di Tenggara Indonesia

# Cara Penularan

## Filariasis

(*Mansonella ozzardi*)





## **Masa inkubasi**

- **Manifestasi inflamasi alergik mungkin timbul lebih cepat yaitu sebulan setelah terjadi infeksi,**
- **Mikrofilaria belum pada darah hingga 3-6 bulan pada *B. malayi* dan 6-12 bulan pada *W. bancrofti*.**

# FILARIAL VECTORS



# FILARIAL MOSQUITO VECTORS

- *Aedes poecilus* - primary vector for Bancroftian filariasis
- *Anopheles flavirostris* - 2ndary vector for Bancroftian filariasis
- *Mansonia bonnea* - vector for brugian filariasis
- *Mansonnea uniformis* - vector for brugian filariasis
- *Culex quinquefasciatus* - potential vector



*Musa textilis*

**Plants which provide  
ideal breeding sites for  
mosquitoes**

*Colocasia esculenta*



Water  
lilies

# HOW DOES A PERSON GET FILARIASIS ?



**Transmitted through bites of *infected female mosquito***



# **CLINICAL COURSE**

- **PREPATENT PERIOD**
- **INCUBATION PERIOD**
- **ASYMPTOMATIC STAGE**
- **ACUTE STAGE**
- **CHRONIC STAGE**

# Efek Lymphatic Filariasis

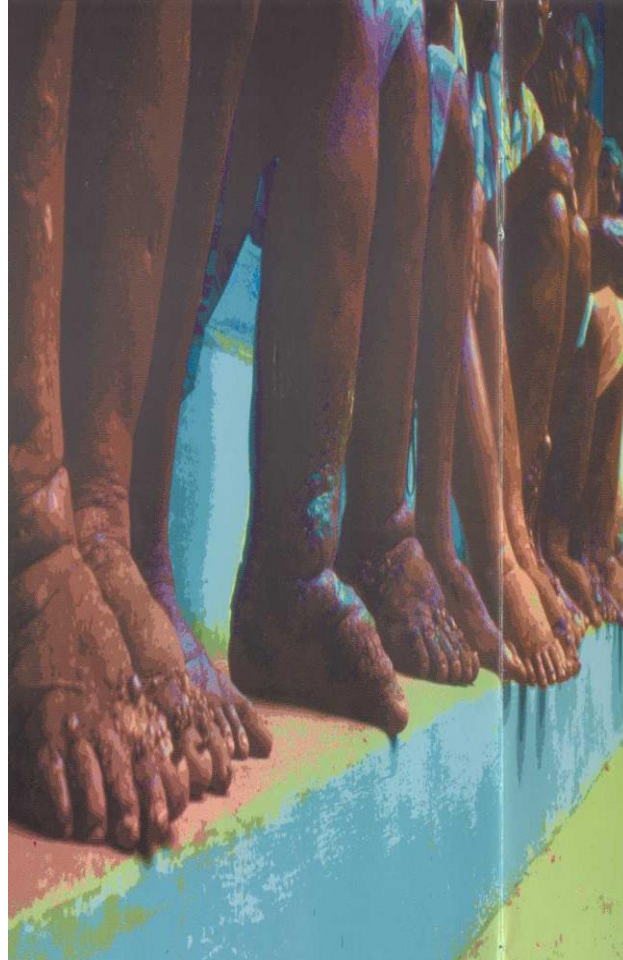


# ELEPHANTIASIS OF THE SCROTUM (HYDROCOELE)





# ELEPHANTIASIS OF THE LOWER EXTREMITIES







**ELEPHANTIASIS  
OF THE UPPER  
EXTREMITIES**

**ELEPHANTIASIS OF  
THE BREAST**



# MAGNITUDE of the PROBLEM

## A. MORBIDITY SPECTRUM

OVERT

CHRONIC Hydrocoele / Elephantiasis

ACUTE Episodic Lymphangitis(Fevers)

CRYPTIC INFECTIONS

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ASXTIC

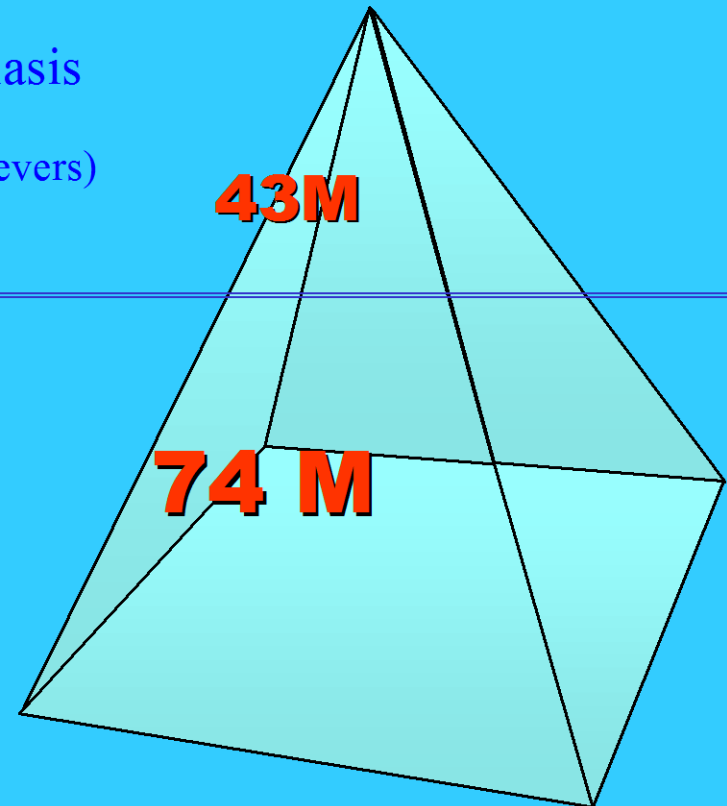
SILENT PROGRESSION

LYMPHATIC PATHOLOGY

RENAL PATHOLOGY

MICROFILAREMIA

Millions of worms in the body



# MAGNITUDE OF THE PROBLEM

## B. IMPACT

### 1. HEALTH

**2nd**  
**LEADING**  
**CAUSE**



**Permanent Long Term Disability**

# Cara pencegahan

- ❖ Penyuluhan tentang cara penularan dan pengendalian
- ❖ Mengidentifikasi vektor dengan mendeteksi adanya larva infektif dalam nyamuk dengan menggunakan umpan manusia; mengidentifikasi waktu dan tempat menggigit nyamuk serta tempat perkembangbiakannya
- ❖ Pengendalian vektor jangka panjang mungkin memerlukan perubahan konstruksi rumah
- ❖ Lakukan pengobatan misalnya dengan menggunakan diethylcarbazine (DEC, Banocide<sup>®</sup>, Hetrazan<sup>®</sup>, Notezine<sup>®</sup>)

# Pengendalian wabah

- ❖ Mengidentifikasi vektor kemudian mengendalikannya .
- ❖ Di daerah dengan tingkat endemisitas tinggi, penting sekali mengetahui dengan tepat bionomik dari vektor nyamuk, prevalensi dan insidensi penyakit, dan faktor lingkungan yang berperan dalam penularan di setiap daerah.

# PRINCIPLE FOR ELIMINATION

- **REDUCTION/ELIMINATION OF MF THRU TREATMENT**

- **Treating the infected will reduce or prevent transmission**
- **Mass Treatment: Long-term microfilaremia suppression**

- **MASS TREATMENT FOR 4-5 YEARS**

***INTERRUPT TRANSMISSION***



# **The Elimination of Filariasis**

## **Goal:**

**Elimination of Filariasis**

**(Prev. Rate =  $<1/1000$  population)**

## **Objectives:**

- 1) Mass Tx of established endemic communities x 4-5 yrs**
- 2) Identify other endemic municipalities at the end of 2 years**
- 3) Continued surveillance of treated areas**

**5 years after Mass Treatment**



# **PROGRAM STRATEGIES**

**STRATEGY 1. Endemic Mapping**

**STRATEGY 2. Capability Building**

**STRATEGY 3. Mass Treatment**

**STRATEGY 4. Support Control**

**STRATEGY 5. Monitoring and  
Supervision**

**STRATEGY 6. Evaluation**

**STRATEGY 7. National Certification**

**STRATEGY 8. International  
Certification**





# LYMPHATIC FILARIASIS

HOPE FOR  
A BETTER  
LIFE