

# Insecticides of Public Health Importance

Dr Kanu, N. Esther

Department of Community Medicine,  
University of Medical Sciences, Ondo

# Types of Insecticides

Two major types of insecticides are used in  
Public Health

- Residual Insecticides
- Non-residual insecticides

# Non-residual Insecticides

- Do not possess a lasting effect
- Are unstable in light and air
- Eg is Pyrethrum – quick-acting with a knock down effect
  - Can be used as dusting powder , atomised space spray or in slow-burning coils which produce insecticidal smoke

# Residual Insecticides

- Stable, organic chemicals when applied to a surface
- They remain toxic for sometime, usually several months to insects resting on that surface

Commonly used residual insecticides are:

1. Organochlorides
2. Organophosphates
3. Carbamates

# 1. Organochlorines (Chlorinated Hydrocarbons)

Examples include;

- DDT (Dichloro-diphenyl-Trichloroethane)
- Gamma BHC (Gammaxane, Lindan)
- Chlordane (Octachlor)
- Dieldrin
- Aldrin

## 2. Organophosphates

### Examples

- Abate (Temephos)
- Ronnel (Fenchlorphos)
- Malathion (Cynthion)
- Dichlorvos (Nuvan)
- Fenthion (Baytex)
- Fenithrothion (Sumithion)

# 3. Carbamates

- Examples
- Carbaryl (Sevin),
- Propoxure (Baygon)

# Insecticide Poisoning

## Organochlorides

- Signs of acute poisoning by organochlorides include: Convulsion, Liver damage
- Chronic poisoning ; will lead to nervous symptoms (hyperexcitability, anxiety and tremors), Loss of appetite and weight loss
- Treatment: Phenobarbitone, Remove patient from contact with insecticide



# Insecticide Poisoning

## Organophosphates

- Organophosphates inhibit cholinesterase leading to symptoms of excess acetylcholine
- Symptoms of organophosphate poisoning include bronchial disturbance, headache, faintness, blurred vision, nausea, abdominal cramps, bronchospasm, excessive salivation, muscle twitching, convulsion and coma.
- Treatment – IV Atropine, and 2-pyridinium aldoxin methiodide (2-PAM-iodide)

# Insecticide Poisoning

## Carbamates

- Poisoning by carbamates leads to irreversible cholinesterase inhibition complex.
- Treatment – Atropine only