

## Threat and Stretegic control of Dengue infection in Man

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Dengue is a homonym of African word **ki denga pepo** , a mosquito borne emerging viral zoonoses primarily urban illness showing cosmopolitan spread. Besides typical form of the disease, occurrence of dengue haemorrhagic fever (DHF) and dengue shock syndrome (DSS) have reported word wide. During 1996 ever reported severe outbreak was noticed in Delhi with 10252 recorded cases and 423 deaths. Till date more than 80 epidemics have been observed from among 16 states / Uts of India, where cyclical epidemics recorded every year with the presence of multiple serotypes of the virus.

The infection is caused by a virus of genus **Flavivirus** belonging to family **Flaviviridae**, having 4 potential pathogenic serotypes as **DEN-1, DEN-2, DEN-3** and **DEN-4** (Pal, 2007). The virus infects human and primates. Vertical transmission from mother to child is reported in Bangladesh (Ahmed, 2003). The studies conducted in Africa and Malaysia demonstrated monkey as likely reservoir hosts for the infective agent (Monath, 1994). Dengue fever if transmitted by **Aedes aegypti** mosquito. During acute febrile phase, if female mosquito sucks the

blood of the patient, after extrinsic incubation period of 8 to 10 days, it will be capable of donating disease to a susceptible host. Once infected mosquito bites a person, after 3 to 14 days there will be sudden onset of signs like fever, headache, rashes, anorexia, malaise, nausea and vomiting. Viraemia persists for about a period of a week. Vertical transmission is seen in mosquitoes, too (Kuno, 1995).

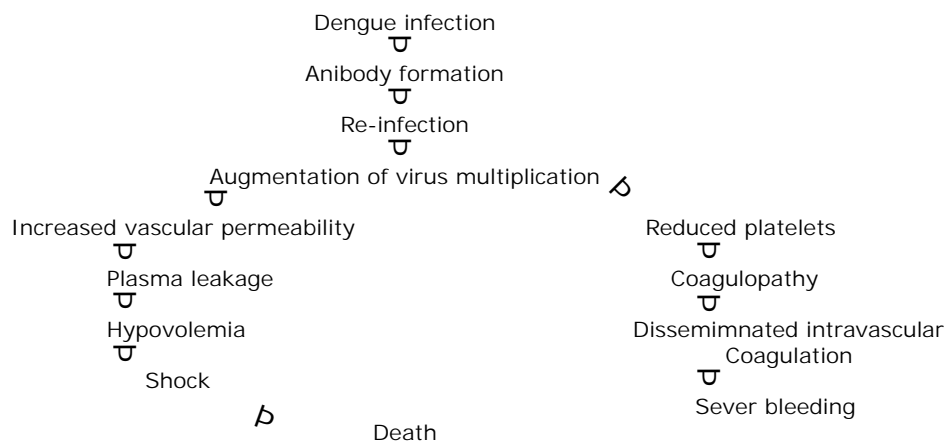
The pathogenesis of the dengue fever is poorly understood, however, the knowledge gained can be summarized in Figure-1.

Resurgence of infection is likely in gangue infection due to the following factors:

1. Human population explosion
2. Unplanned urbanization
3. Inadequate waste management and water supply
4. Increased mosquito population
5. Increase in the movement of virus

To make diagnosis of the disease number of diagnostic tools are available viz., blood picture, liver function tests, stool examination, haemagglutination inhibition test, compliment fixation test, neutralizing test, IgG ELISA, IgM capture ELISA etc.

Dengue infection is required to be differentiated



from disease like Influenza, Infectious Hepatitis, Rubella infection, Leptospirosis, Meningococemia, Malaria, Rickettsial infections etc.

Strategic measures useful in prevention and control of dengue infection

1. Personal prophylaxis
  - a. Use mosquito repellents like cream, liquids, coils, mats etc.
  - b. Wear full sleeve shirts and full pants with socks
  - c. Use bed nets while going to sleep
2. Source reduction methods for mosquito control
  - a. Detect and eliminate mosquito breeding places
  - b. Cover stored water
  - c. Reliable water supply
  - d. Observe weekly dry day
3. Community participation: Sensitize and involve community for detection and elimination of breeding places for *Aedes* mosquitoes.
4. Health Education: Impart knowledge to common

people regarding etiology, transmission, common signs of dengue, danger, vector through various media sources viz., Television, Radio, News papers, Hand bills, Cinema, Slide shows etc.

5. Chemical Control
  - a. Use chemical larvicides in breeding places of mosquitoes
  - b. Aerosol sprays during day time
6. Biocontrol
  - a. Use larvivorous fishes in ornamental tanks, fountains etc.
  - b. Use of biocides

#### References

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## **Organic farming uses environment-friendly inputs and therefore generates environment-friendly foods and services**

By Ijaz Kakakhel

ISLAMABAD: To keep country's environment, soil and water clean, the government has to make some legislation to promote organic farming, as India did.

Asian Productivity Organisation's (APO) agriculture expert, Muhammad Saeed expressed these views here Friday during a chat with Daily Times. He said organic farming uses environmental friendly inputs and therefore generates environmental friendly foods and services. Such farming, therefore, positively contributes to marked reduction in air, soil and ground water pollution. Saeed said, India did proper legislation for promotion of organic farming by exporting a huge quantity of agriculture, produced by organic farming. He added that in EU, USA and other western countries, there is great demand for agriculture produce through organic farming.

The food security concerns were on rise in Pakistan and suggested organic farming for local consumption as well as for foreign exchange earning. In Pakistan, he said at individual level, farmers in some parts of Balochistan, AJK, Chitral and others were using organic farming.

However, the main hurdle in organic farming in Pakistan was the certificate issuing authority. Those who were applying the organic farming, they got their certificate from abroad and stressed that local body should be established to issue the certificate. He said India has issued certificate for organic farming and that was accepted to EU countries. An Indian participant, Deoghare told Daily Times that India introduced organic farming in 2004 and up till now 538,000 hectares were converted in to organic farming.

Recent trends indicate that Pakistan now exports fruit mainly to Middle East and Sri Lanka, where quality standards were not as stringent as compared to the developed countries. The current export of Kinnow to European countries was almost zero. Pakistan has, therefore, decided to introduce Euro Good Agricultural Practice (Euro GAP) to upgrade its farming standards in line with international standards.

They said the 'organic farming' would have a direct impact to alleviate poverty by providing large-scale employment to unskilled semi-skilled labour. Consequently, organic farm labour could be involved in the post-harvest operations of grading, washing, packing, labelling, and loading because such measures would further help in increasing farm income and in maintaining freshness as part of high quality produce leaving transport and consumers market between the farm and the dining table.

**Source: <http://www.dailytimes.com.pk/>**