RESEARCH REPORT

Status of Vector Borne Disease, Dengue in Buldana Town-A study report

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ABSTRACT

Dengue, a major tropical & Vector Borne Disease; in this case the vector is mosquito (Female *Aedes aegypti*). In this paper, present status of Dengue in Buldana Town (M.S.) is going to report based on survey conducted by Government agencies like Municipal Committee, Z.P. & Malaria & Dengue Era diction Department. Other *Aedes* species that transmit the disease include *A.albopictus*, *A. polynesiensis* and *A. scutellaris*. During 2013-14 about 57samples are examined out of them positive samples are 01.Need of health education and penetration of hygiene sense are preventive measures against such vector borne diseases.

Key Words: Tropical, vector, transmitted, penetration, preventive, measures.

INTRODUCTION

Dengue is transmitted by several species of mosquito within the genus *Aedes*, principally *A. aegypti*. *Aedes ageypti* female mosquitoes that breed in household water containers and unused materials on the roof and around the houses. Vector of Dengue/Dengue Hemorrhagic fever. *Aedes aegypti* is the vector of Dengue/Dengue hemorrhagic fever. It is a small, black mosquito with white stripes and is approximately 5 mm in size. It takes about 7 to 8 days to develop the virus in its body and transmit the disease. The virus has five different types. Dengue fever is also known as break bone fever, is a mosquito borne tropical disease caused by the dengue virus. A number of important human diseases caused by organism ranging from virus to worm, which are transmitted by blood. Feeding arthropods, these vectors insect are the organisms who bite and suck blood from humans (Kotpal, 1980). Arthropod, transmitted infections are common in warmer countries, but occur worldwide. Humans are the primary host of the virus (Varatharaj, 2010; Gould and Solomon., 2008) but it also circulates in nonhuman primates. *Aedes* mosquitoes are visually distinctive because they have noticeable black and white markings on their body and legs. Unlike most other mosquitoes, they are active and biting only during the daytime.

***Review of Research and Development in the Subject*:**

A.ageypti mosquitoes usually live between the latitudes of 35° North and 35° South (Gould *et al*., 2008). They typically bite during the day, particularly in the early morning and in the evening (WHO, 2009). But they are able to bite and thus spread infection at any time of day all during the year. Treatment of acute dengue is supportive, using either oral or intravenous rehydration for mild or moderate disease, and intravenous fluids and blood transfusion for more severe cases. The number of cases of dengue fever has increased dramatically since the 1960s, with between 50 and 528 million people infected yearly (Bhatt *et al*., 2010). Early descriptions of the condition date from 1779, and its viral cause and the transmission were figured out in the early 20th century. Dengue has become a global problem since the Second World War and is endemic in more than 110 countries.

***Transmission of disease by vectors*:**

In a small proportion of cases the disease develops into the life threatening dengue hemorrhagic fever, resulting in bleeding, low levels of blood platelets and blood plasma leakage, or into dengue shock syndrome, where dangerously low blood pressure occurs. Dengue can also be transmitted via infected blood products and through organ donation. Apart from eliminating the mosquitoes, work is ongoing on a vaccine, as well as medication targeted directly at the virus. *Aedes aegypti*, is particularly involved, as it prefers to lay its eggs in artificial water containers, to live in close proximity to humans, and to feed on people rather than other vertebrates (Gubler, 2010). The symptoms of dengue fever are similar to acute fevers of viral origin. These are sudden onset of fever, headache, body ache, joint pains, and retro–orbital pain. Other common symptoms are anorexia, altered taste sensation, constipation, colicky pain, abdominal tenderness, dragging pains in the inguinal region, sore throat and general depression. Patient may or may not have rash. Some of the patients may also show signs of bleeding from the gum, nose, etc. The most widely accepted hypothesis is that of antibody dependent enhancement (ADE). The exact mechanism behind ADE is unclear. It may be caused by poor binding of non-neutralizing antibodies and delivery into the wrong compartment of white blood cells that have ingested the virus for destruction (Guzman *et al*., 2010 and Rodenhuis *et al*., 2010).

MATERIAL AND METHODS

Study of this topic "Status of Vector Borne Disease, Dengue in Buldana Town"-A study report, investigation is done on the basis of survey conducted by Government agencies like Municipal Committee, Z.P. & Malaria& Dengue Eradication Department. Investigation and search for the said topic is essential. Data will be collected after survey of different agencies. Analysis will be done. After due discussion, conclusion will made.

RESULTS AND DISCUSSION

Table 1: National Vector Borne Disease Control Programme Unit Buldana Month wise positive

Month	Year 2013-14	
	Total	Positive
April	04	00
May	06	00
June	05	00
July	07	00
Aug.	02	00
Sep.	09	01
Oct.	03	00
Nov.	03	00
Dec.	03	00
Jan.	04	00
Feb.	05	00
Mar.	06	00
Total	**57**	**01**

Table 2: National Vector Borne Disease Control Programme Unit Buldana Month wise Surveillance Wise Blood Smear Collection Data

Month	Year 2013-14			
	ACT	PASS	MCM	Total
April	02	01	01	04
May	04	02	00	06
June	03	02	00	05
July	05	02	00	07
Aug.	02	00	00	02
Sep	06	02	01	09
Oct.	02	01	00	03
Nov.	03	00	00	03
Dec.	02	01	00	03
Jan.	04	00	00	04
Feb.	03	02	00	05
Mar	04	01	01	06
Total	40	14	03	57

CONCLUSIONS AND TREATMENTS

Typically, people infected with dengue virus are asymptomatic (80%) or only have mild symptoms such as an uncomplicated fever (Whitethorn *et al.,* 2010; WHO, 2009; Reiter, 2010). Others have more severe illness (5%), and in a small proportion it is life threatening. (Whitethorn and Farrar, 2010; Reiter, 2010). The incubation period (time between exposure and onset of symptoms) ranges from 3–14 days, but most often it is 4–7 days. (Gubler, 2010) Therefore, travelers returning from endemic areas are unlikely to have dengue if fever or other symptoms start more than 14 days after arriving home (Ranjit and Kissoon, 2011). Children often experience symptoms similar to those of the common cold and gastroenteritis (vomiting and diarrhea) WHO, 2009; Varatharaj, 2010) and have a greater risk of severe complications (Ranjit and Kissoon, 2011; Simmons *et al.,* 2012) though initial symptoms are generally mild but include high fever Simmons *et al.,* 2012 Dengue is spread through the bite of an infected *Aedes aegypti* mosquito. The mosquito gets the virus by biting an infected person. The virus has five different types (Normile, 2013), infection with one type usually gives lifelong immunity to that type, but only short-term immunity to the others. There is no way to tell if a mosquito is carrying the dengue virus. Therefore, people must protect themselves from all mosquito bites. All control efforts should be directed against the mosquitoes. It is important to take control measures to eliminate the mosquitoes and their breeding places. Efforts should be intensified before the transmission season (during & after the rainy season) and during epidemics. Break the cycle of mosquito - human - mosquito infection. Use mosquito nets to protect babies, old people and others who may rest during the day. The effectiveness of such nets can be improved by treating them with permethrine (Parathyroid insecticide). Curtains (Cloth or Bamboo) can also be treated with insecticide and hung at windows or doorways, to repel or kill mosquitoes. To tighten all water containers regularly. Prevention of *Aedes Aegypti* mosquitoes breeding by emptying of household water containers at least once in a week.

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