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MOSQUITO- BORNE DENGUE DISEASE SPREAD IN SATPUDA MOUNTAINS OF DHULE AND NANDURBAR DISTRICT OF MAHARASHTRA, INDIA.

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Abstract :-

Dengue is one of the fastest spreading infectious diseases are a serious of the twenty first century, its profile is changing as it moves from urban areas to rural areas and to new geographic area of due to climate change. It is caused by dengue virus of the genus **Flavivirus(family-Togoviridae)** which is RNA virus. *Aedes aegypti* acts as a main vector, but there are other species of *Aedes albopictus*, *A. Polynesiensies*, *A. Scutellaris*

Key-words :-

Mosquitoes, *A. Aegypti*, *A. Albopictus*, *A. Polynesiensies*, *A. Scutellaris*, Dengue, Dhule, Nandurbar district.

Introduction:-

The dengue disease is a common cause of fever and acute systemic illness in the tropics. It is endemic in South-east Asia, India, Indonesia, and also seen in Africa, the Carribean and the American people. It is caused by the virus, called Flavivirus of family Togoviridae. It is RNA virus. On the basis of their antigenicity, Dengue viruses are of 5, Serotypes as, DENV-1, DENV-2, DENV-3, DENV-4, and the 5th type of dengue virus was declared in year 2003. These viruses survives for several years in the dry state in the blood serum at 5 °C.. The transmission cycle is man-mosquito-man. *Aedes aegypti* acts as a main vector. Man and mosquitoes are the reservoirs of infection. While other species of *Aedes albopictus*, *A. Polynesiensies*, *A. Scutellaris* also acts as vector main vector, when become infective by feeding on the blood of a patient. The incubation period is of 8-10 days. Then the mosquitoes becomes infective and is able to transmit the infection to man. The infection can be acquired via a single bite. The virus seems to have a detrimental effect on the mosquitoes, which remains infected without any harm. *Aedes* bite during the early in the morning and evening but it may bite and spread infection at any time of the day.

Dengue is transmitted by virus through the bite of tiger mosquitoes. Dengue is also known as Dandy fever, and it's Subgenus **Stegomyia**. It cause, fever with, headache, muscle and joint pains in the patients. Patients may suffer swollen glands and rashes, Acute dengue fever could be with bleeding gums, eyes-pain, palm turning red, signs of circulatory failure, manifested by rapid and weak pulse and restlessness, mean the patient going to Shock Syndrome disease. (1) *(4) *

Every year in the world 4 million people are infected with dengue fever, (8) *(11) *(12) *(13) *.

In Konkan region, district like, Sindhudurg, Ratnagiri and Raigad also survey were conducted, during dry month (January-March), and (November-December) 2008.(2*)

A preliminary study was carried out in Goa, region during both dry and wet season in rural and urban areas. At rural areas infection is Macro level while in urban areas it is at Micro- level. (*).

Dengue virus disease report from Delhi, India due to *A. Aegypti*, and *A. albopictus* are screening taken through out the Delhi, areas like, central, urban areas of Delhi from August to October 2008. Breeding places reported, man-made containers, plastic, in addition to their natural habitat of bamboo bushes. (6*)

,It breaks out in explosive epidemics. In one such epidemic in Texas (USA) in 1922. There are 6-10 lac people lost their lives in the dengue fever. Men and monkey are the reservoir of this disease. Such an outbreak are also taking place in various places in India, state like Gujarat, and Maharashtra. District like Mumbai, Yavatmal, Pune, Kolhapur, Dhule and Nandurbar district. During monsoon season, the increase in the number of patients from various Tahsils of Dhule and Nandurbar district. In this disease mostly children are very easily susceptible, during year October-November 2002, 8-patients were reported from Dhule district of various Tahsils. (1) *

In Maharashtra alone there were four incident were recorded and 9 deaths reported from last One and Half month. In which there are near about 1000 patients out of which Two died in Dhule district and 1 in Yavatmal district of Pandharkavada tahsil, there are 700 patients in Yavatmal, 4 – death were reported on 9th, December 2004, Tahsils like Pusad, Mahur, Mahagaon, Savana, Shirpur, Dhanora,, Umarkhed number of people are suffering from Dengue fever, For prevalence and prevention of disease, blood check up and other test can be done by Medical officers. So it is essential to control this disease and save the lives and economy of the government. (9*) Punyanagari

Study areas:-

The Satpuda mountain ranges are located in the northern part of Maharashtra state, bordered with Gujarat state on its western side and Madhya Pradesh on its northern side. These chain of mountain is an extension of the species rich Western Ghats and spread in three districts namely Nandurbar, Dhule and Jalgaon. The Satpuda mountain lies approximately between 20°38'–22°30' N and 72°30' E and covers an area of 12143 sq. Kms. Though the entire mountainous region is not as high as the other parts of the Western Ghats, at least some of the peaks, such as Boksa, Nandan peak, Asthamba dongar etc. Reach a height of about 1208-1325m. Above M. S. L. The climate of Satpuda mountain is generally dry except in the rainy season. The average precipitation is about 647 mm. Where as the mean maximum and minimum temperature of the area are 41°C and 25°C respectively. Satpuda mountain is rich in vegetation due to its geographical location. The sub-humid and sub-arid nature of the region allow many plants from the Indus plain and Western Ghats region to penetrate well into the territory of Satpuda mountain. Nandurbar district lies in the rivers Narmada and Tapti forms the Northern and Southern boundaries of the study areas which comprises of the major part of Nandurbar district. The area lies between 73° 46' 42" to 74°22'33" east longitude and 21°29'50" to 21°43'53" north latitude.

Materials and Methods:-

Survey of Dengue disease was made from different Hospital and Public Health Center of Dhule and Nandurbar district.. It is reported that the civic body has taken surveillance to tackle the 56% increase in the dengue disease are compared to last year survey (2001-, 2012.) More and more cases are reported every time due to climate change occurred in the world and also in Dhule and Nandurbar district.

Observation and Results:-

I have given a only one private Hospital diagnosed results from September 2012 from Dhule City and Tahsils, According to Government Statistics, from various, hospital reported 13 cases of Dengue disease. District Civil Hospital, and PHC reports during 05th September-25th October 2012 totally 45 cases were reported at various PHC, and reports from private Dhule city Children care Hospital are also given as follows:-

Sr. No.	PHC	Number of dengue patients.
1.	Nane	05.
2.	Ner	06 .
3.	Behed	13.
4.	Wadi Budruk	11.
5.	Tarwade	07.
6.	Kokale	03.
	Total=-	45.

As well as **Dhule city** and **Children Hospital** Reported number are as follows:-

A)	Hari Chaya Child Hospital	:-20.
B)	Chirantan Child Hospital	:- 25.
C)	Meher Child Care Hospital	:- 15-20.
D)	Akshdeep Child Care Hospital	:- 09.
E)	Keemay Child care Hospital	:- 10.
F)	Chiraayu child care Hospital	:- 05
	Total:-	= 89.

Discussion :-

It is obviously seen that, all the species of *Aedes aegypti*, *A. Albopictus*, *A. Vittatus* they are remain active through out the year. It breeds in pools, ponds, ditches and man-made containers, natural habitat of Bamboo bushes in urban areas of Delhi.

In Konkan region, it is also seen that, it is even present in dry month like January to March and November-December also spread, established, for that prevalence of Dengue fever and related virus is a great tedious job to control *theA. aegypti*, *A. albopictus* *A. Vittatus species*.

Survey conducted in the Goa, also showing that, *A. aegypti*, (Lin.) prevalence in the urban areas during dry month and wet month. It is scattered over in a rural areas and cause Dengue infection at large scale. In residential area it occurred in house hold tap water supplies, water-tamks, , water-Storage, and communities attitude and practices sustained the Meso-level risk of *A. Aegypti*, prevalence dependent DENV. The non-residential areas after transient Meso-level risk as a *A. aegypti* prevalence was seasonally unstable and monsoon dependent. Risk at micro-level was due to the preferred larval habitats of *A. aegypti* breeding viz. Residential plastic, waste, tyres, and transport tyres in monsoon season.

Conclusion :-

During all survey in both dry and wet season, 9.52% , *A. aegypti* acts as very serious species that, they may leads to fatal disease like dengue encephalitis, during high infection in various tahsils also in rural and urban areas of Dhule and Nandurbar district and also available survey indicated that(1) * ,(3*) (4)*(5)*(6)*(7)* ,it is very dangerous vector of various fever. Many times may be fatal. All survey for dengue disease and serotypes are showing burdens over the global population and their economic problems for their government, of tropical, , African, Asian, Indonesian government American, and Carribean island etc.

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