

A Clinical Study on Dengue Fever

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Abstract

Background: Dengue fever is caused by Flavivirus and it is transmitted by Aedes aegyrti Mosquito each year 68 to 280 million cases of dengue fever are registered. It is endemic in South east Asia, India, Srilanka, Africa and in Caribbean and America. It causes high morbidity and mortality. **Subjects and Methods:** We have conducted this study in Teleangana and Andhrapradesh in South India. Patients with dengue fever are included in this study. Total 450 patients were included in this study. Males and 275 and Female were 175. We have collected the blood and send for NS1 antigen and IgM antibody Elisa. **Results:** Dengue fever is positive in 85 Males(17%) and 58 Females(13%) and the total dengue fever positive patients are 193 and out of these 193 positive 96 are IgM positive 47 are NS1 positive. **Conclusion:** Dengue fever is common in Indian subcontinent throughout the year particularly more common during in rainy season i.e June to September. So there is need to control mosquitoes by public health department and NGO's and educate the people regarding protection from mosquitoes.

Keywords: Dengue fever, Complications, Hemorrhagic Shock, Thrombocytopenia.

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Introduction

Dengue fever is a very common world wide disease. It is also common in India, China, Srilanka . It is caused by Aedes aegypti mosquito. Aedes Albopictus is a vector in some south east Asian Countries Aedes aegypti which breeds in standing water,^[1,2] Collection of water in containers, Water based air coolers and tyre dumps are a good environment for vector in large cities.^[3]

The increasing in cases of dengue fever are due to change in climatic factors urbanization. Around 2.4 Billion people live in dengue prone areas across the globe.^[4] There are 4 serotypes of dengue virus, all producing similar syndrome. All serotypes are prevalent in india.

Severe epidemics of dengue hemorrhagic fever with serotype 3, Occurred over the past 20 years in east Africa, Srilanka and Latin America . Bangladesh, India.

Dengue is endemic in all the states in India but more in Kerala, Karnataka, Tamil Nadu comparatively less no. of cases in Uttar Pradesh Haryana 74,168 cases were reported in 2013 in India. Case fatality rate is 0.22, in 2013.^[5]

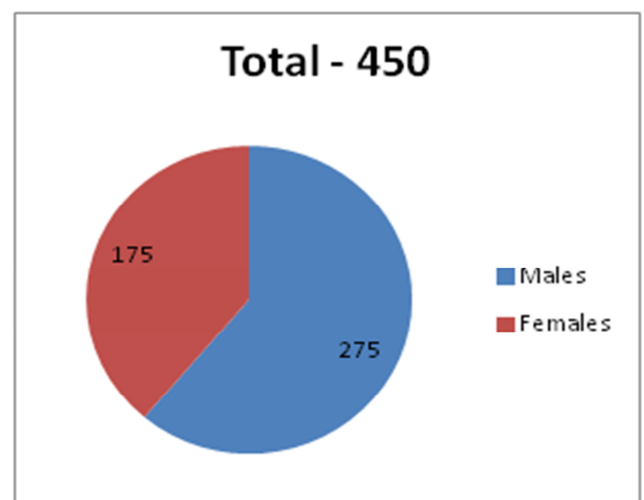
The population of aedes aegypti fluctuates with rainfall and water storage. Its life span is influenced by temperature and humidity, survives best between 16°C and 30°C.

The common symptoms are non specific, self limited biphasic febrile illness with high fever, chills, break bone aching of head back, extremities, accompanied by sore throat. Dengue hemorrhagic fever usually affects children living in endemic area & is most likely to occur in secondary infection and infection with serotype 2. After few

days signs of hemorrhage such as ecchymoses, gastro intestinal bleeding and epistaxis appear. Gastro intestinal complications including hemorrhage, tenderness, ascites are more common with dengue hemorrhagic fever.^[6]

Continuous abdominal pain with vomiting, bleeding, decreases in level of consciousness, rash conjunctival congestion and hypothermia should raise concern about dengue shock syndrome.

Males	275
Females	175
Total	450

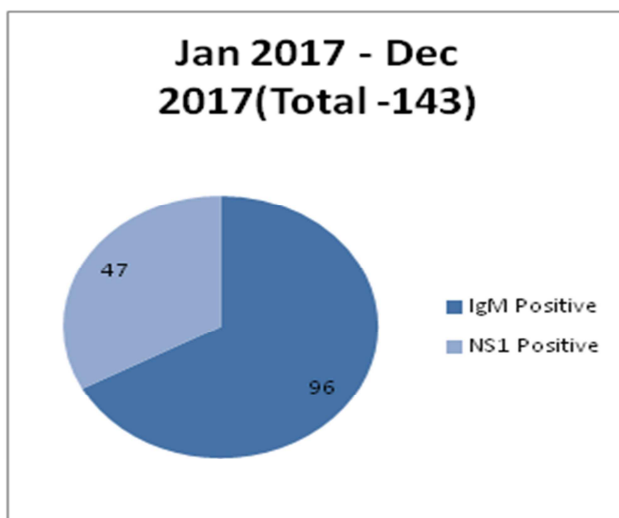
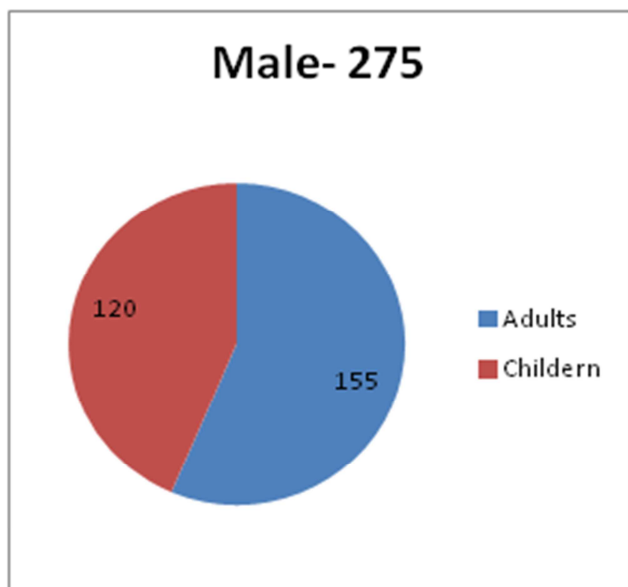
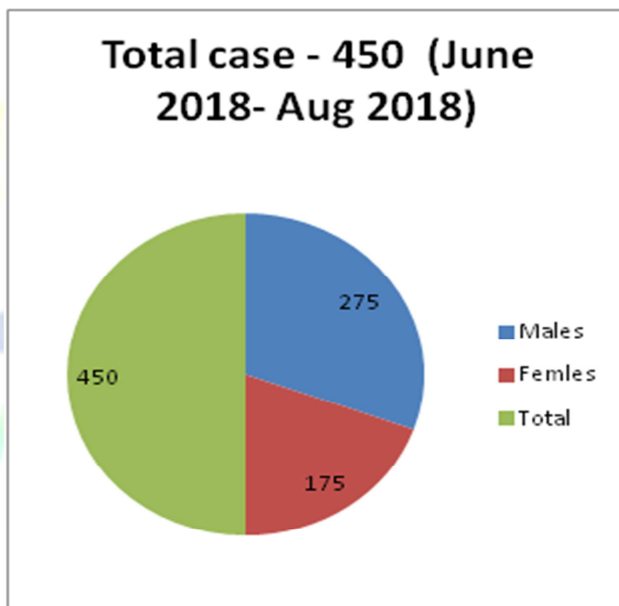
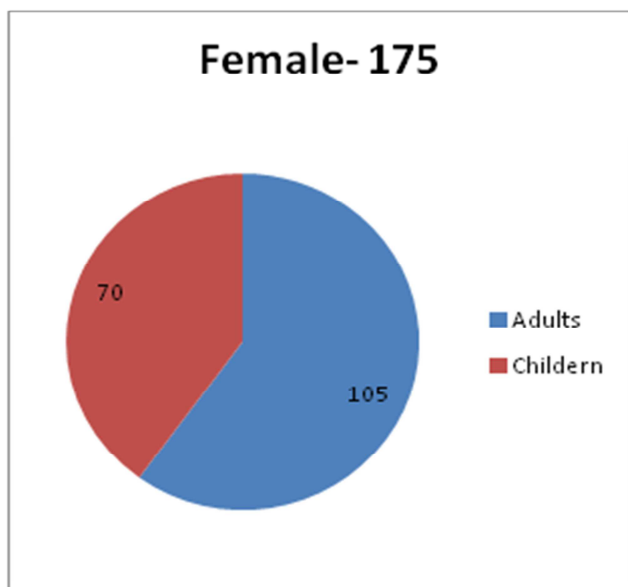
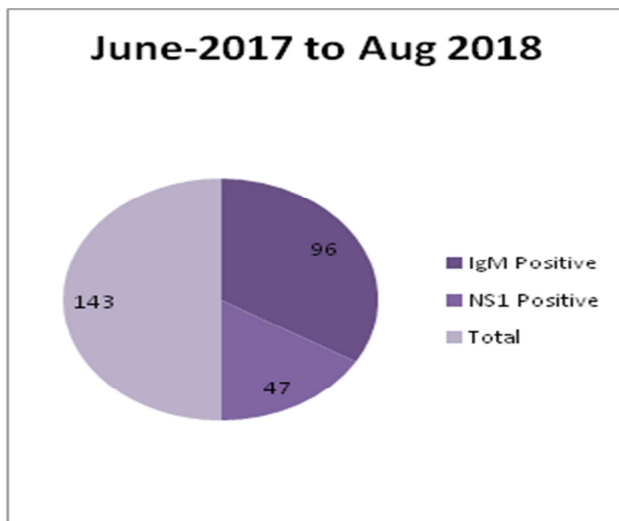


Subjects and Methods

We have conducted This study between 2017 June and 2018 August. Patients with acute febrile illness were included in this study. Total number of patients were 450, Females 175 and Males 275 were included in this study. Among Female girls were 70 Case identification and diagnosis was done as per the guidelines of world health organization(WHO). Blood samples were collected between 2nd to 7th days of the fever and samples were tested for dengue NS1 Elisa or Dengue specific IgM.^[7,8]

Table 2: Gender wise distribution

Gender	Total Cases	Adults	Children
Male	275	155	120
Female	175	105	70



Results

We have examined total 450 patients of these 450 patients males were 275 and females were 175. Dengue fever is positive in 143 patients (32%), IgM positive in 96 patients (21%) and NS1 positive in 47 patients (10%).

Discussion

In India dengue fever cases were increasing in 1964 first case was reported.^[9] In 1965 serotype 1 and serotypes 4 was reported. According to one study all serotype 1,2,3,4 are reported from different part of the country. Children are more affected according to study conducted by Killignat et al.

Incidence of dengue is common throughout the year particularly more in July/August months at the onset of monsoons.

Macrophage, Monocyte infection is central to the pathogenesis of dengue fever and to the origin of Dengue hemorrhagic and Dengue shock syndrome. A subset of patients with secondary infection may progress to severe dengue fever which is defined by presents of serum leakage, hemorrhage or organ involvement Acute kidney injury in dengue largely occurs with dengue shock syndrome and shows high mortality.^[10,11]

The induction of shock and vascular permeability depends on multiple factors 1) presence of enhancing non neutralizing antibodies 2) Age 3) Sex 4) Race 5) Nutritional status malnutrition is protective.^[12]

Dengue hemorrhagic fever is identified by detection of bleeding tendencies (tourniquet test, petechia) or overt bleeding in the absence of underlying cases. Dengue shock syndrome usually accompanied by hemorrhagic signs, and in its results from increased vascular permeability. The period of shock lasts only for 1 or 2 days and most patients responds promptly to close monitoring, oxygen

administration and infusion of crystalloids or in severe cases colloids.

Conclusion

Dengue fever is more common in India. Especially during rainy season. Children are more commonly affected with dengue hemorrhagic fever. The key factor in controlling the dengue fever is control of *Aedes aegypti* mosquito. So public health department from Govt. side and NGO's are to take initiation in controlling the mosquitoes and educating the people.

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