

**A Clinical Study of Early Manifestations of Dengue Fever and Its Outcome****Sandhya Jalagam<sup>1</sup>, Ratnamala K.<sup>2</sup>, Sridevi B.<sup>3</sup>, Ramya C.<sup>4</sup>, Shanmuga Raju P.<sup>5</sup>**<sup>1</sup>Asst. Professor, Department of Paediatrics, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana, India<sup>2</sup>Senior Resident, Department of Paediatrics, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana, India<sup>3</sup>Asst. Professor, Department of Paediatrics, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana, India<sup>4</sup>Professor, Department of Paediatrics, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana, India<sup>5</sup>Professor, Department of Physiotherapy & Rehabilitation, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana, India

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**Abstract:****Background:** Dengue is one of the leading causes of significant morbidity and economic burden in different regions across the world including Southeast Asia and the Indian subcontinent.**Aim of the study:** The study aim was to find out the early clinical manifestations and its outcome in dengue fever.**Materials and Methods:** Seventy-five children between the age group of 6 months to 15 yrs presenting with symptoms and signs suggestive of dengue fever as per WHO criteria were included in the study, between August 2024 and January 2025.**Results:** Out of 75 children, 45 (60 %) belong to DHF, 15 (20%) belong to DSS and DF group each. Out of 75 children, 72 (96%) recovered completely, whereas 3 (4%) children who presented in the late stages succumbed.**Conclusion:** This study that though the treatment of dengue is mainly supportive, early institution and meticulous monitoring are the corner stone for positive outcome.**Keywords:** Dengue, Fever, Outcomes, Clinical Symptoms.**DOI:** 10.25258/ijcpr.18.6.206

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**Introduction**

Dengue infection is a major public health problem and has been reported from the Americas, Africa, Southeast Asia, Europe, Western Pacific, and Eastern Mediterranean regions. This arboviral disease is found to be endemic in more than 100 countries and around 96 million infected individuals are symptomatic with varying levels of severity. [1] Dengue is one of the leading causes of significant morbidity and economic burden in different regions across the world including Southeast Asia and the Indian subcontinent. [2]

Dengue is a mosquito-borne Flavivirus infection, primarily transmitted by *Aedes aegypti* followed by *Aedes albopictus* mosquito and other species of genus *Aedes*. [3] There are four serotypes of dengue virus which are antigenically distinct namely DENV-1, DENV-2, DENV-3, and DENV-4. [4] A fifth serotype (DENV-5) has been detected using isolation and genetic sequence analysis in Sarawak state of Malaysia in October 2013. [5] In India the annual incidence is estimated to be 7.5 to 32.5

million.3 According to the WHO the case fatality rate of dengue is roughly 5%. [6] *Aedes albopictus* was found to be the most abundant vector in the areas surveyed, followed by *Aedes aegypti*. DENV-2 is the prevailing serotype.

The case fatality rate in patients with severe dengue infection which consists of dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS) can be as high as 44%. [7] Dengue fever presents as common viral fever which causes dangerous complications. Dengue re infection is observed to be more severe in children due to immunological phenomenon. 8 The incubation period of dengue virus infection is 4-7 days. The disease spectrum ranges from asymptomatic infection and moderate febrile illness (dengue fever) to more serious manifestations such as dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). [7] The most severe clinical syndrome can manifest in the form of dengue shock syndrome (DSS).

Every year, dengue virus infection results in approximately 20,000 deaths especially among secondary dengue cases associated with DHF/DSS. With subsequent uncontrolled growth of cities, epidemics of Dengue fever associated with Dengue Hemorrhagic fever emerged as major public health problems. Dengue virus is now the most common cause of arboviral diseases in the world.

The purpose of this study was to conduct this study to find out the early clinical manifestations and its outcome in dengue fever.

### Materials and Methods

The present study was conducted at Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar, Telangana. An alarmingly increasing epidemic of dengue was noticed in this part of state, with more number of admissions in the pediatric age group. Hence the following study was conducted to find out the early clinical manifestation and its outcome in dengue fever.

Seventy-five children between the age group of 6 months to 15 years presenting with symptoms and signs suggestive of dengue fever as per WHO criteria were included in the study, between August 2024 and January 2025.

### Inclusion Criteria:

- Children between 6 months to 15 years presenting with symptoms and signs suggestive of dengue fever as per WHO criteria.

### Exclusion Criteria:

- Children below 6 months and above 15 years of age.
- Children with symptoms not suggestive of dengue fever as per criteria.

**Method of Collection of Data:** Written consent was taken from parents before enrolling in study. Complete history and clinical examination was done. Investigations were performed as per the proforma.

### Results

The present study was conducted on over 75 cases of dengue fever admitted in the Department of Paediatrics, Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar from August 2024 to January 2025. Following observations and results were obtained from the study.

**Table 1: Age distribution**

| Age          | No. of cases | Percentage   | DF        | DHF       | DSS       |
|--------------|--------------|--------------|-----------|-----------|-----------|
| < 1 year     | 4            | 5.3          | 01        | 03        | 00        |
| 1-4          | 11           | 14.6         | 02        | 08        | 01        |
| 4.1-8        | 30           | 40           | 05        | 20        | 05        |
| 8.1-12       | 22           | 29.3         | 05        | 11        | 06        |
| >12          | 8            | 10.8         | 02        | 03        | 03        |
| <b>Total</b> | <b>75</b>    | <b>100.0</b> | <b>15</b> | <b>45</b> | <b>15</b> |

Majority of the children (40%) belonged to age group 4 to 8 years amongst whom highest number

(20) children suffered with dengue haemorrhagic fever (DHF).

**Table 2: Clinical spectrum of cases**

| Type         | No. of cases | Percentage (%) |
|--------------|--------------|----------------|
| DF           | 15           | 20             |
| DHF          | 45           | 60             |
| DSS          | 15           | 20             |
| <b>Total</b> | <b>75</b>    | <b>100</b>     |

Out of 75 children, 45 (60%) belong to DHF, 15 (20%) belong to DSS and DF group each.

**Table 3: Analysis of Symptomatology**

| Symptoms           | No. of Cases | Percentage (%) | DF | DHF | DSS |
|--------------------|--------------|----------------|----|-----|-----|
| Fever              | 75           | 100            | 15 | 45  | 15  |
| Vomiting           | 34           | 45.3           | 05 | 26  | 03  |
| Retro-orbital pain | 11           | 14.6           | 01 | 07  | 03  |
| Abdominal pain     | 28           | 37.3           | 07 | 18  | 03  |
| Edema              | 09           | 12             | 00 | 06  | 03  |
| Bleeding           | 29           | 38.6           | 00 | 18  | 11  |
| Rash               | 47           | 62.6           | 12 | 29  | 06  |
| Headache           | 30           | 40             | 11 | 12  | 07  |
| Altered sensorium  | 09           | 12             | 00 | 02  | 07  |
| Seizures           | 03           | 4              | 00 | 02  | 01  |
| Bodyache           | 53           | 70.6           | 15 | 30  | 08  |
| Loose stools       | 06           | 8              | 03 | 03  | 00  |

75(100%) children presented with fever as the predominant complaint followed by body ache (70.6%), rash (62.6%), vomiting (45.3%), headache

(40%), bleeding (38.6%), pain abdomen (37.3%), retro-orbital pain (14.6%), edema (12%), loose stools (8%) and seizures (4%).

**Table 4: Association of platelets counts with bleeding**

| Platelet count  | DF   |          | DHF  |          | DSS  |          |
|-----------------|------|----------|------|----------|------|----------|
|                 | Case | Bleeding | Case | Bleeding | Case | Bleeding |
| <20,000         | 0    | 0        | 4    | 4        | 3    | 3        |
| 20,001–50,000   | 6    | 0        | 36   | 13       | 10   | 8        |
| 50,001–75,000   | 8    | 0        | 3    | 1        | 2    | 0        |
| 75,001–1,00,000 | 1    | 0        | 2    | 0        | 0    | 0        |
| Total           | 15   | 0        | 45   | 18       | 15   | 11       |

Bleeding was more frequent with low-platelet count in DHF and DSS group. However, it was statistically not significant ( $P < 0.05$ ).

**Table 5: Final diagnosis and outcome**

| Grade | No. of cases | Percentage (%) | Recovered Cases | Expired |
|-------|--------------|----------------|-----------------|---------|
| DF    | 15           | 20             | 15              | -       |
| DHF   | 45           | 60             | 44              | 01      |
| DSS   | 15           | 20             | 13              | 02      |
| Total | 75           | 100            | 72              | 03      |

Out of 75 children, 72 (96%) recovered completely, whereas 3(4%) children who presented in the late stages succumbed.

### Discussion

Dengue fever is the most important arboviral infection and has become a major global public health problem. In India, epidemics are becoming more frequent. Involvement of younger age group and increasing in the frequency of epidemics are indicators of higher incidence of infection.

Classical dengue fever is an acute febrile illness but in a small percentage of Dengue infection, a more severe form of disease known as DHF occurs. Early recognition and meticulous management are very important to save precious lives from this killer disease. [8]

Rathod N P et al (2018) in their study stated that 26% cases had bleeding manifestations. [9] Pothapregada S et al (2018) in their study stated that 16.7% cases had bleeding symptoms at the time of admission. [10].

In the present study, bleeding manifestations were found in 29 (38%) of cases at the time of admission. Malena is the common manifestation in 12 cases (16 %) followed by skin bleeding in 11 cases (14.6%), hematemesis and epistaxis in 1 case (1.3 %). The bleeding manifestations were more in DHF (18 cases), than DSS group (11 cases) and were not seen in children with DF.

### Conclusion

The present study had an objective of studying early clinical manifestation, hematological and hepatic dysfunction associated with the disease and to prepare scoring chart for the assessment of severity.

It is concluded from this study that though the treatment of dengue is mainly supportive, early institution and meticulous monitoring are the corner stone for positive outcome.

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