



CLINICAL PROFILE OF DENGUE IN CHILDREN ADMITTED TO A TERTIARY CARE HOSPITAL

Paediatrics

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ABSTRACT

Background: Dengue is a major arboviral infection transmitted by Aedes mosquitoes, with significant morbidity and mortality in children. Despite preventive measures, India continues to face a heavy dengue burden. **Aim:** To study the clinical profile and outcome of dengue fever in children admitted to a tertiary care hospital. **Methods:** A prospective observational study was conducted at Nirmal Hospital, Surat, from August 2020 to March 2022. Ninety-one paediatric patients (1 month–18 years) with serologically confirmed dengue were enrolled. Clinical features, laboratory parameters, complications, and outcomes were analysed. **Results:** The mean age was 8.6 ± 4.7 years; 69.2% were male. Maximum cases occurred in the 5–10 years age group. Fever was universal, followed by abdominal pain (51.6%), vomiting (49.5%), myalgia (15.4%), and headache (9.9%). Hepatomegaly (42.9%) and ascites (17.6%) were common findings. Raised haematocrit was observed in 47 patients, while 25 had leukopenia and 56 developed thrombocytopenia. Majority received crystalloids (98.9%); 9.9% required colloids, 11% oxygen, 2.2% ventilatory support, and 3.3% blood transfusion. Complications included ARDS (5.5%), encephalopathy (4.4%), hepatic injury (4.4%), and shock (3.3%). Most patients recovered (94.5% discharged), while mortality was 1.1%. **Conclusion:** Dengue in children predominantly presents with fever, gastrointestinal symptoms, hepatomegaly, and thrombocytopenia. Early diagnosis, categorization, and timely supportive management are essential to reduce morbidity and mortality.

KEYWORDS

Dengue fever, Children, Clinical profile, Tertiary care, Outcomes

INTRODUCTION

Dengue is a mosquito-borne viral illness caused by Aedes aegypti and Aedes albopictus. It is a single-stranded positive-sense RNA virus of the Flaviviridae family, with four distinct serotypes (DENV-1 to 4). Severe dengue is mainly associated with Asian serotypes DENV-2 and DENV-3. Globally, 100–400 million dengue infections occur annually, with 80% being asymptomatic. India has witnessed multiple outbreaks, with Gujarat showing rising numbers in recent years. The WHO 2012 classification divides dengue into dengue without warning signs, dengue with warning signs, and severe dengue. Severe disease is more common in infants and well-nourished children. This study was therefore undertaken to assess the clinical profile and outcomes of paediatric dengue cases admitted to a tertiary care hospital.

Review Of Literature

Dengue has emerged globally, with 3.9 billion people at risk. In India, dengue burden has consistently increased, with fluctuating morbidity and mortality trends since 2015. Gujarat contributes significantly to the caseload. Transmission occurs through the bite of an infected mosquito, with extrinsic incubation lasting 8–12 days. Clinical presentation ranges from mild fever to severe plasma leakage and multi-organ dysfunction. Previous studies across India (Karnataka, Kerala, Odisha, and others) have reported varied prevalence of abdominal pain, hepatomegaly, thrombocytopenia, and raised liver enzymes in paediatric cases. These highlight the need for regional profiling to aid management.

Aim And Objectives

Aim: To study clinical profile of dengue patients admitted in tertiary care hospital.

Objectives:

- To study the clinical profile and outcome of dengue fever in children.
- To assess the clinical manifestations of the disease.

MATERIALS AND METHODS

Study Design: Prospective observational study.

Setting: Nirmal Hospital Pvt. Ltd., Surat (Paediatric ward and PICU).

Duration: 28th August 2020 – 31st March 2022.

Sample: 91 admitted children (1 month–18 years) with serologically confirmed dengue (IgM, IgG ELISA, NS1Ag).

Inclusion Criteria: All serologically confirmed dengue patients in the specified age group.

Data Collection: Pre-structured proforma covering demographic

details, history, clinical features, examination findings, investigations, management, complications, and outcomes.

Statistical Analysis: Data entered in Microsoft Excel, analysed with SPSS v28. Descriptive statistics (frequencies, proportions, mean, SD) and inferential tests (Chi-square, t-test) applied.

RESULTS

A total of 91 patients were included.

Table No 1: Types Of Dengue Across All Patients

S No	Diagnosis	Frequency	Percentage
1	Dengue Fever	40	44.0
2	Dengue with Warning Signs	41	45.1
3	Severe Dengue	10	11.0
Total		91	100

Demographics: Mean age = 8.6 ± 4.7 years; majority (33%) were 5–10 years; 69.2% male.

Clinical Features: Fever (100%), abdominal pain (51.6%), vomiting (49.5%), myalgia (15.4%), headache (9.9%). Hepatomegaly (42.9%) and splenomegaly (9.1%) were frequent findings. Ascites (17.6%), pleural effusion (14.3%), rash (13.2%), seizures (4.4%), altered sensorium (5.5%) were noted.

Laboratory Findings: Raised haematocrit in 47 cases; decreased in 4 severe cases. Leukopenia in 25 cases (27.5%). Thrombocytopenia in 56 cases (61.5%).

Management: Nearly all received crystalloids (98.9%); 9.9% received colloids; 20.9% antibiotics; 22% diuretics; 11% oxygen; 2.2% ventilatory support; 3.3% blood transfusion.

Table No.2: Management Of Dengue Across All Patients.

S.No	Treatment	Frequency	Percentage
1	Crystalloid	90	98.9
2	Colloids	9	9.9
3	Antiemetics	73	80.2
4	Antibiotics	19	20.9
5	Diuretics	20	22
6	Inotropes	3	3.3
7	Antiepileptics	4	4.4
8	Antihypertensive	5	5.5
9	Oxygen	10	11
10	Ventilatory support	2	2.2
11	Blood Transfusion	3	3.3

Complications: ARDS (5.5%), encephalopathy (4.4%), hepatic injury (4.4%), renal injury (1.1%), shock (3.3%).

Table No.3: Complications Of Dengue Across All Patients

S.No.	Complications	Frequency	Percent
1	Encephalopathy	4	4.4
2	Acute Hepatic Injury	4	4.4
3	Acute Renal Injury	1	1.1
4	Acute Respiratory Distress	5	5.5
5	Shock	3	3.3

Outcomes: 94.5% discharged; 4.4% left against medical advice; 1.1% mortality (1 case of severe dengue).

DISCUSSION

The study confirms dengue's predominance in school-age children (5–10 years) with male preponderance. Fever was universal, with abdominal pain and vomiting as common accompanying symptoms. Hepatomegaly and ascites reflect plasma leakage. Raised haematocrit was seen in severe cases, aligning with earlier findings from Kerala and Odisha. Leukopenia and thrombocytopenia were prominent haematological markers. Management was largely supportive, with crystalloids as first-line therapy. Complications such as ARDS and encephalopathy were observed in a minority, with only one fatality (1.1%), highlighting the effectiveness of timely intervention.

CONCLUSION

Dengue in children most frequently presents with fever, gastrointestinal symptoms, hepatomegaly, and thrombocytopenia. While most cases recover with supportive care, a minority develop life-threatening complications. Early recognition and timely management remain the cornerstone of reducing paediatric dengue mortality.

Recommendations

1. Emphasize vector control and preventive measures during monsoon.
2. Launch immediate response in high-risk breeding areas (schools, parks).
3. Strengthen early diagnosis and prompt categorization of paediatric dengue cases to prevent mortality.

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