Prospective interventional study of clinical profile, hospital outcomes, knowledge , attitude and practice of dengue positive patients in tertiary care teaching hospital.

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ABSTRACT
Dengue fever, a mosquito-borne viral infection, continues to pose a significant public health challenge in India. Dengue spreads through the bite of an infected *Aedes* mosquito. The country experiences periodic outbreaks, particularly during the monsoon season, with varying severity across different regions. The present study was therefore undertaken to estimate the prospective interventional study on clinical profile, hospital outcomes, knowledge attitude and practice of dengue positive patients in the tertiary care teaching hospital. The main objective of this study was to obtain the demographics and socio-economic status, to assess the clinical manifestations, complications, various serotypes, to evaluate the clinical laboratory findings, hospital outcomes and knowledge attitude and practice of dengue positive subjects. The study involved 200 subjects, which was conducted during Aug 2023 to Jan 2024. 11 to 20 age groups are mostly affected and the M:F ratio is 53:47. The predominant clinical presentations are high grade fever (79.9%), headache (89.5%), vomiting (51.5%) and the investigation was thrombocytopenia (67%). The study also sheds light on hospitalization patterns. The majority of patients required hospitalization for 4-5 days and blood transfusions were necessary for subjects due to a critical drop in platelet count, emphasizing the burden placed on healthcare systems during dengue outbreaks. Notably, while dengue fever was the dominant form, a concerning case progressed to dengue haemorrhagic fever, a more severe complication.
KEYWORDS: Dengue virus, *Aedes* mosquito, Clinical manifestations, serological assays, public health.

INTRODUCTION:

Dengue fever is generally a mosquito-borne viral infection transmitted from female Aedes Aegypti mosquito to a human or infected human to a mosquito, this virus is classified into five serotypes. Presenting features may range from asymptomatic to symptomatic (high-grade fever, vomiting, haemorrhage, joint pain, headache..etc.[(3)] Early and accurate diagnosis is critical to reduce mortality. Hematological test includes RBC count, WBC count and platelet count. We can protect ourselves from mosquito bites by using mosquito nets treated with Permethrin and getting rid of mosquito breeding sites[(1)(5)]. It is important to visit a doctor when the symptoms become severe. This viral infection occurs worldwide in certain tropical and subtropical areas. The recurring of this viral infection in a particular individual causes severe complications and significant risk which Intensively begins with high fever, muscle and joint agony, myalgia, rash, hemorrhagic episodes, and circulatory shock are the normally seen side effects. Oral signs are uncommon in dengue infection, but few cases might have oral elements as the just introducing sign[(21)]. DHF presents with the febrile stage are like those in DF. The distinct feature of DHF is the expansion in vascular permeability i.e., plasma leakage that which separates DHF from DF. The plasma leakage is into the pleural and peritoneal cavities that outcomes in pleural effusion and ascites[(22)].

DSS presentation are equivalent to those in DHF but the plasma leakage is extreme to the point that the patient creates shock in some cases causing organ damage[22]. Generally, this dengue virus is classified into 4 serotypes[DEN-1,DEN-2,DEN-3,DEN-4] and one of the types affecting the individual can cause short-term immunity dysfunctions. Subsequent infection with a different type increases the risk of severe complications[10][19].

There are many diagnostic tests to confirm the dengue virus such as IgG, rRt-PCR or NS1. IgM detection is most useful in the beginning phases the Dengue, which can present as a gentle undifferentiated ‘‘flu-like fever’’with side effects like those of different sicknesses like flu, measles, zika, chikungunya, yellow fever for patients presenting > 1 week after fever onset & malaraia[21][22] and NS1 has been reported positive up to 12 days after fever onset. Before 5 days of illness, dengue infection can be diagnosed by virus isolation cell culture during the febrile period. Generally, the viral RNA by nucleic acid amplification tests (NAAT) or detection of antigen ELISA. The Tourniquet test is a simple tool thet helps in the early diagnosis of Dengue infection [23] . In the initial stage, CBC can be performed to know the decrease in the platelets hemoglobin and RBC count which is the main cause of dengue complications[21][22]. Dengue infection illness can last from 1 to 2 weeks and in severe cases can last up to 20 days to 1 month. Generally, there is no treatment for dengue including pain medications, iron supplements, and blood transfusion if needed[11]. The contamination effectively disseminated over the body and caused them to be tainted[2][21]. Female Aedes go about as a vector for dengue in the wake of benefiting from the blood of the individual contaminated with the dengue infection, in this way, the tainted mosquitoes keep on sending dengue with each blood feast until the end of their lives[17]. This well-known Aedes mosquito according to research resulted in transmittingcertain veterinary diseases[17].

THE COMMON DENGUE SYMPTOMS INCLUDE:

High-grade fever, joint pain, Severe headache, Nausea, Vomiting, Weakness Swollen glands.

SEVERE DENGUE INFECTION SYMPTOMS CAN INCLUDE:

Pale and cold skin, Polydipsia, Hematemesis, Hematochezia Melena ,Hemorrhage of blood vessels, Hypersensitivity reactions ,Trouble breathing. Incase of body pains individual is suggested to take paracetamol for a few days[11].

When coming to dengue infection in pediatric patients it is generally caused from the age of below 15 years. There are few warning signs of dengue infection caused in pediatric patients at the time of admission[3] –Persistent vomiting. (77.1%) ,Liver enlargement.(60%) ,Peripheral circulatory failure. (45.6%),Abdominal pain. (32%),Hypotension. (30%),Oliguria. (20%),Lethargy. (50%).

AIM:

To conduct a prospective interventional study on clinical profile, hospital outcomes, knowledge, attitude and practice of dengue positive patients in the teritary care teaching hospital.

OBJECTIVES:

- To obtain the demographics and socioeconomic status of the subjects.
- To assess the clinical manifestations.
- To evaluate the clinical laboratory findings.
- To evaluate the hospital outcomes.

- To assess the complications associated with dengue fever.
- To assess the various serotypes in dengue fever in subject group.
- To evaluate knowledge, attitude and practice by a standard questionnaire.

METHODOLOGY

STUDY SITE:

- The study was conducted in general medicine (FMW and MMW) at Maharaja Institute of Medical Sciences.
- The participants enrolled in the study were involved in patients after filling out a proper written informed consent form (ICF).
- The data was collected in a pre-design CRF/Data collection form.

STUDY DURATION: 6 Months (From Aug 2023-Jan 2024)
STUDY DESIGN: Prospective interventional study
STUDY POPULATION: 200 Subjects.
SELECTION OF STUDY SUBJECTS:
INCLUSIVE CRITERIA:

- Selection of patients from all age groups.
- Patients tested positive for dengue.
- Patients who are willing to participate in the study and provide ICF.
- Patients belonging to all socio-economic groups.

EXCLUSIVE CRITERIA:

- Patients from special population groups (paediatrics, lactating mothers, pregnant women and geriatrics etc..).
- Patients who are not willing to participate in the study.
- Retrospective cases are excluded.

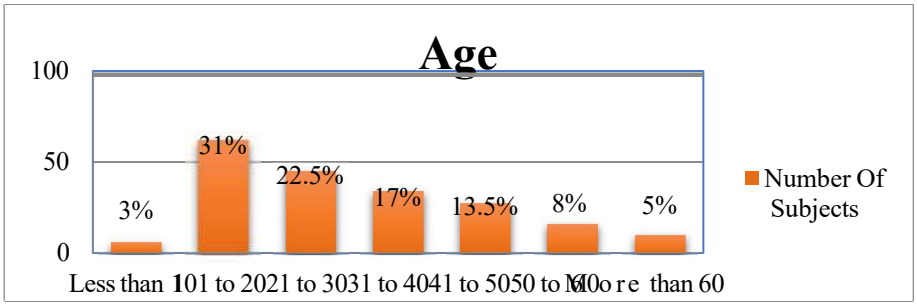
RESULTS

1. AGE:

Out of 200 subjects population, the details regarding Age were, 6 subjects were in the age group of 1-10 years (3%), 62 subjects were in the age group of 11-20 (31%), 45 subjects were in the age group of 21-30 (22.5%), 34 subjects were in the age group of 31-40(17%), 27 subjects were in the age group of 41-50 (13.5%), 16 subjects were in the age group of 51-60 (8%), 10 subjects were in the age group of more than 60 (5%).

Age	Number Of Subjects	Percentage (%)
Less than 10	6	3
11 to 20	62	31
21 to 30	45	22.5
31 to 40	34	17
41 to 50	27	13.5
51 to 60	16	8
More than 60	10	5
Total	200	100

TABLE- 1: Age group representing number of subjects.



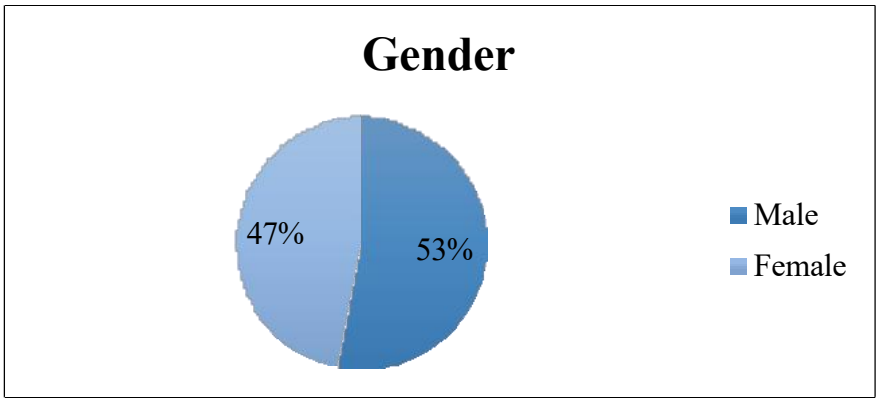
GRAPH- 1: Representing age group (x-axis) vs. number of subjects (y-axis).

2. GENDER:

From the population of 200 subjects the percentage of male were 106(53%) and female were 94(47%).

Gender	Number Of Subjects	Percentage (%)
Male	106	53
Female	94	47
Total	200	100

TABLE- 2: Gender group representing number of subjects and the percentages of male and female subjects.



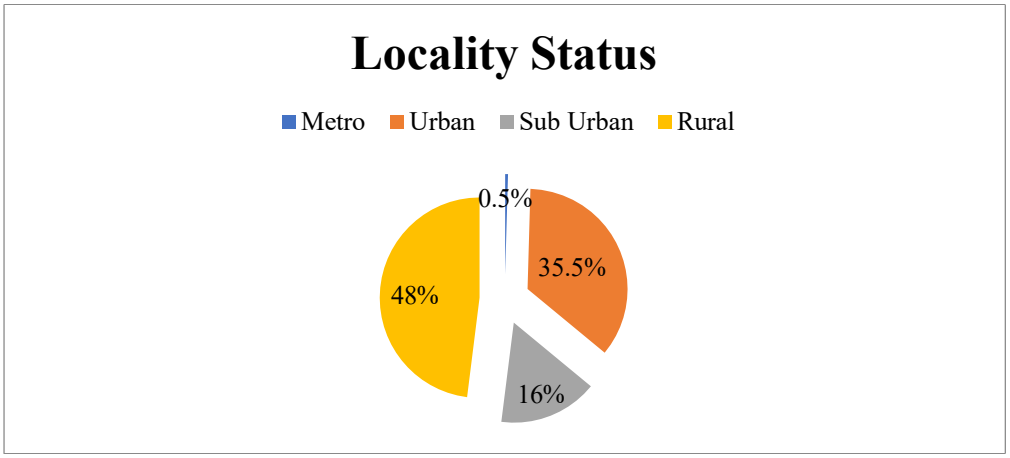
GRAPH- 2: Representing the gender of the subjects.

3. LOCALITY STATUS:

In the population of 200 subjects, the numbers of subjects in the metro area were 1(0.5%), urban areas were 71(35.5%), suburban areas were 32(16%) and rural areas were 96(48%).

Locality Status	Number Of Subjects	Percentage (%)
Metro	1	0.5
Urban	71	35.5
Sub Urban	32	16
Rural	96	48
Total	200	100

TABLE- 3: Represents the number of subjects and their locality status.



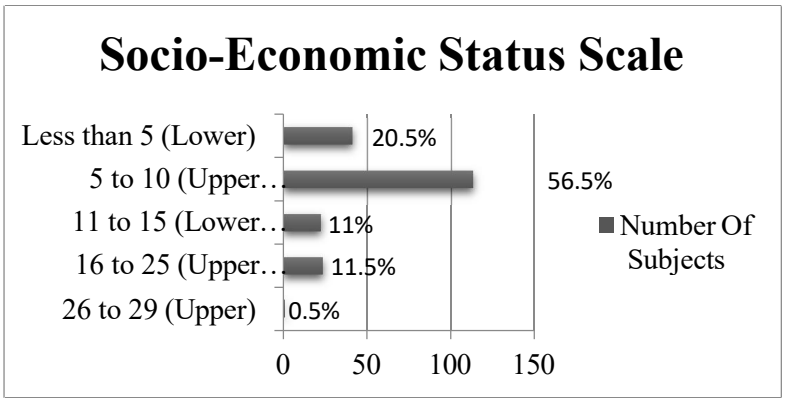
GRAPH- 3: Represents the percentage of locality status in the observed subjects.

4. SOCIO-ECONOMIC STATUS:

In this study socio-economic class of most of the subjects were found to be UPPER LOWER 113(56.5%), followed by LOWER 41(20.5%), UPPER MIDDLE 23(11.5%), LOWER MIDDLE 22(11%), and UPPER 1(0.5%).

Socio-Economic Status Scale	Number Of Subjects	Percentage (%)
26 to 29 (Upper)	1	0.5
16 to 25 (Upper Middle)	23	11.5
11 to 15 (Lower Middle)	22	11
5 to 10 (Upper Lower)	113	56.5
Less than 5 (Lower)	41	20.5
Total	200	100

TABLE- 4: Distribution based on socio-economic status of the subjects.



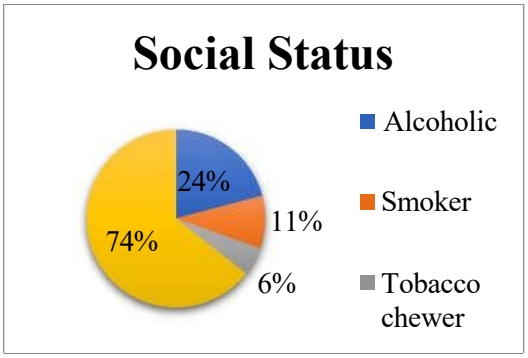
GRAPH- 4: Representing number of subjects(x- axis) vs. socio-economic status(y- axis).

5. SOCIAL STATUS:

Out of 200 subjects, 48(24%) of the subjects were alcoholics, 22(11%) of the subjects were smokers, 12(6%) of the subjects were tobacco chewer and 148(74%) of the subjects had negative social status.

Social Status	Number Of Subjects	Percentage (%)
Alcoholic	48	24
Smoker	22	11
Tobacco chewer	12	6
None	148	74

TABLE- 5: Represents the social status of the subjects.



GRAPH- 5: Represents the social status in the observed subjects.

6. CLINICAL PRESENTATIONS:

The clinical presentations was categorised as fever, vomiting, headache, bleeding and hepatomegaly.

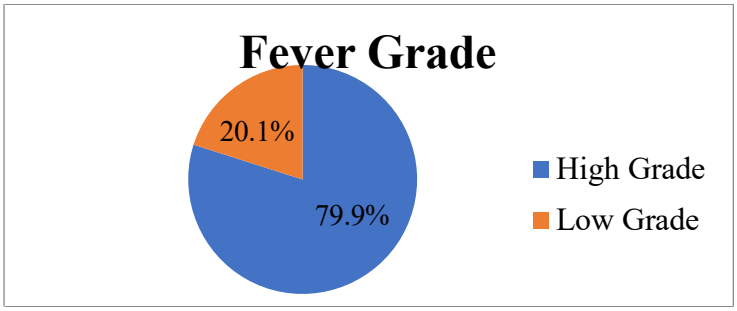
A. FEVER:

Out of 200 subjects, 199 subjects had suffered fever in early stages and one subject did not suffer with fever.

Out of 199 subjects who were suffering with fever, 159(79.9%) subjects had high grade fever and 40(20.1%) subjects had low grade fever.

Fever Grade	Number Of Subjects	Percentage (%)
High Grade	159	79.9
Low Grade	40	20.1
Total	199	100

TABLE- 6A: Represents the fever grading of the subjects.



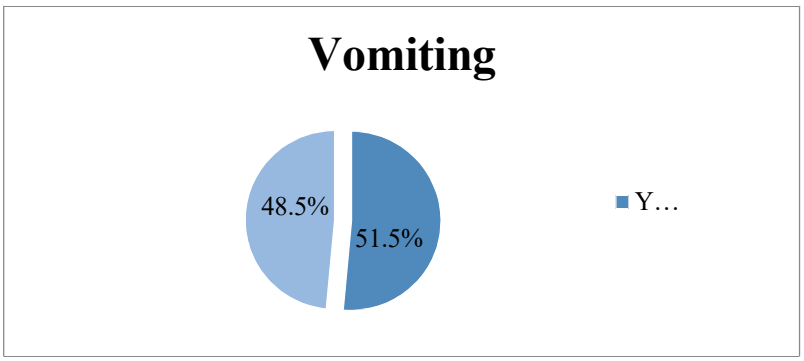
GRAPH- 6A: Represents the fever in the observed subjects.

B. VOMITING:

Out of 200 subjects, 103(51.5%) had episodes of vomiting and 97(48.5) subjects did not suffer with any vomiting episodes.

Vomiting	Number Of Subjects	Percentage (%)
Yes	103	51.5
No	97	48.5
Total	200	100

TABLE- 6B.1: Represents the vomiting observed in the subjects.

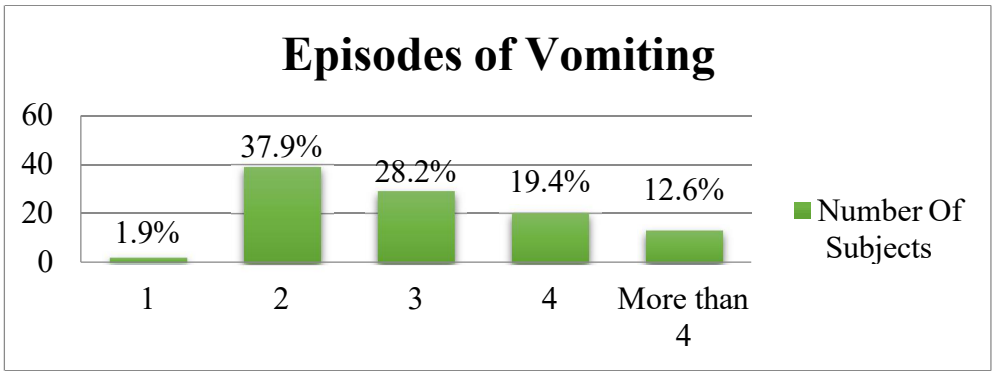


GRAPH- 6B.1: Represents the vomiting observed in the subjects through a pie- chart.

Episodes of Vomiting: Out of 103 subjects who had vomiting episodes, 2 subjects had one episode of vomiting and 39 subjects had two episodes of vomiting, 29 subjects had three episodes of vomiting, 20 subjects had four episodes of vomiting and 13 subjects had more than four episodes of vomiting.

Episodes of Vomiting	Number Of Subjects	Percentage (%)
1	2	1.9
2	39	37.9
3	29	28.2
4	20	19.4
More than 4	13	12.6

TABLE- 6B.2: Represents the episodes of vomiting observed in the subjects.



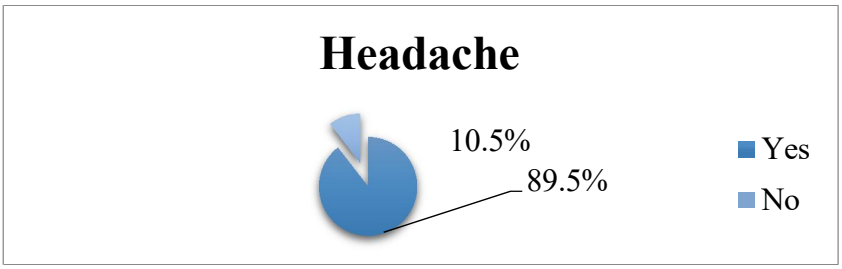
GRAPH- 6B.2: Representing the episodes of vomiting(x- axis) vs. number of subjects(y- axis).

C. HEADACHE:

Out of 200 subjects, 179(89.5%) subjects suffered with headache.

Headache	Number Of Subjects	Percentage (%)
Yes	179	89.5
No	21	10.5
Total	200	100

TABLE- 6C: Represents the number of subjects suffered from headache.



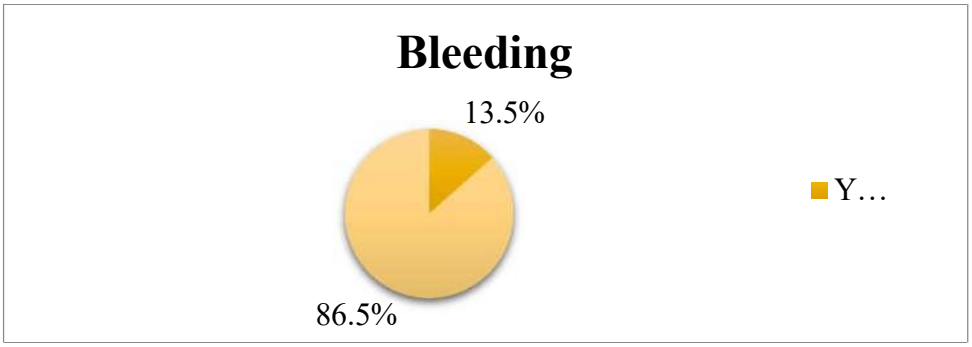
GRAPH- 6C: Represents the number of subjects suffered from headache.

D. BLEEDING:

Out of 200 subjects, only 27(13.5%) of the subjects suffered with bleeding, rest of the 173(86.5%) of the subjects had no bleeding symptoms.

Bleeding	Number Of Subjects	Percentage (%)
Yes	27	13.5
No	173	86.5
Total	200	100

TABLE- 6D: Represents the number of subjects having bleeding symptoms.



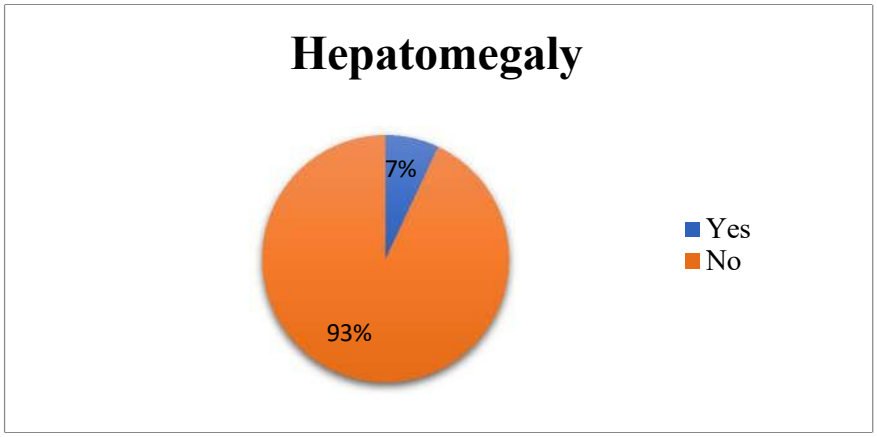
GRAPH- 6D: Represents the number of subjects having bleeding symptoms in a pie chart.

E. HEPATOMEGALY:

Out of 200 subjects, 14(7%) of them were suffering from hepatomegaly, rest of 186(93%) subjects had no such clinical manifestation.

Hepatomegaly	Number Of Subjects	Percentage (%)
Yes	14	7
No	186	93
Total	200	100

TABLE- 6E: Represents the number of subjects having hepatomegaly as a symptom.



GRAPH- 6E: Represents the number of subjects having hepatomegaly as symptom through a pie chart.

7. CLINICAL INVESTIGATIONS:

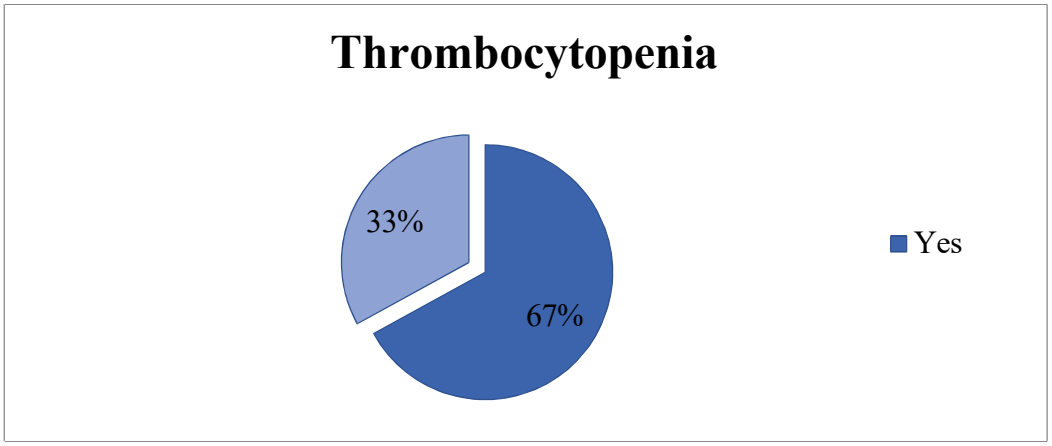
The clinical investigation includes thrombocytopenia.

A. THROMBOCYTOPENIA:

A total of 134(67%) subjects with thrombocytopenia had been noticed, and the remaining 66(33%) subjects had no such clinical investigation.

Thrombocytopenia	Number Of Subjects	Percentage (%)
Yes	134	67
No	66	33
Total	200	100

TABLE- 7A: Represents the number of subjects having thrombocytopenia as a clinical investigation.

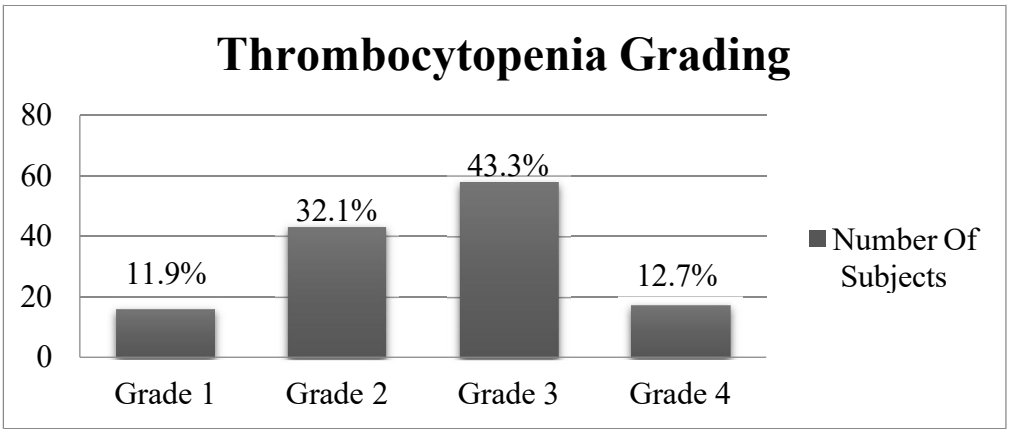


GRAPH- 7A: Represents the number of subjects having thrombocytopenia as a clinical investigation.

Thrombocytopenia Grading: Out 134 subjects, 16(11.9%) subjects were seen with GRADE 1 thrombocytopenia, 43(32.1%) subjects were seen with GRADE 2 thrombocytopenia, 58(43.3%) subjects were seen with GRADE 3 thrombocytopenia and 17(12.7%) subjects were seen with GRADE 4 thrombocytopenia.

Thrombocytopenia Grading	Number Of Subjects	Percentage (%)
Grade 1	16	11.9
Grade 2	43	32.1
Grade 3	58	43.3
Grade 4	17	12.7

TABLE- 7A.1: Represents the grades of thrombocytopenia and the number of subjects.



GRAPH- 7A.1: The bar graph representing the grading of thrombocytopenia(x- axis) vs. number of subjects (y- axis).

8. HOSPITAL OUTCOMES:

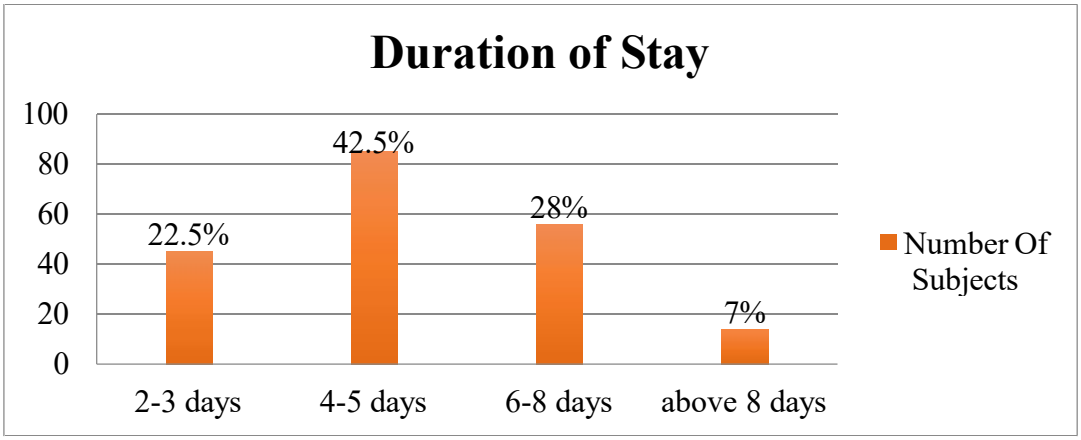
We consider several outcomes which includes duration of stay, dengue serotypes, mortality, blood transfusion and units of blood transfusion, which are responsible for dengue fever.

A. DURATION OF STAY:

Among 200 subjects, 45(22.5%) subjects were hospitalised for 2-3 days, 85(42.5%) subjects were hospitalised for 4-5 days, 56(28%) subjects were hospitalised for 6-8 days, 14(7%) subjects were hospitalised for above 8 days.

Duration of Stay	Number Of Subjects	Percentage (%)
2-3 days	45	22.5
4-5 days	85	42.5
6-8 days	56	28
Above 8 days	14	7
Total	200	100

TABLE- 8A: Represents the duration of stay of the observed subjects.



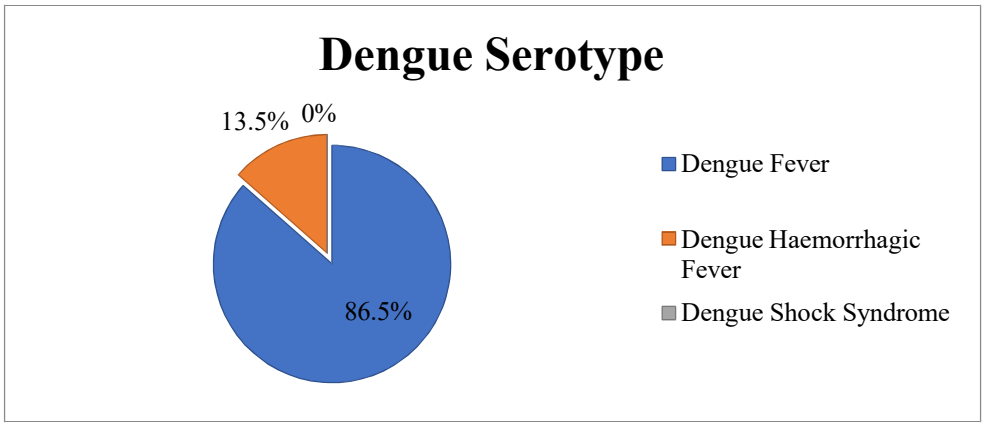
GRAPH- 8A: Representing the duration of stay(x- axis) vs. the number of subjects(y- axis) with the help of a bar graph.

B. DENGUE SEROTYPES:

Among all dengue serotypes, 173(86.5%) subjects had suffered dengue fever, 27(13.5%) subjects had suffered dengue hemorrhagic fever and none had suffered dengue shock syndrome.

Dengue Serotype	Number Of Subjects	Percentage (%)
Dengue Fever	173	86.5
Dengue Haemorrhagic Fever	27	13.5
Dengue Shock Syndrome	0	0
Total	200	100

TABLE- 8B: Represents the Dengue serotypes in the observed subjects.



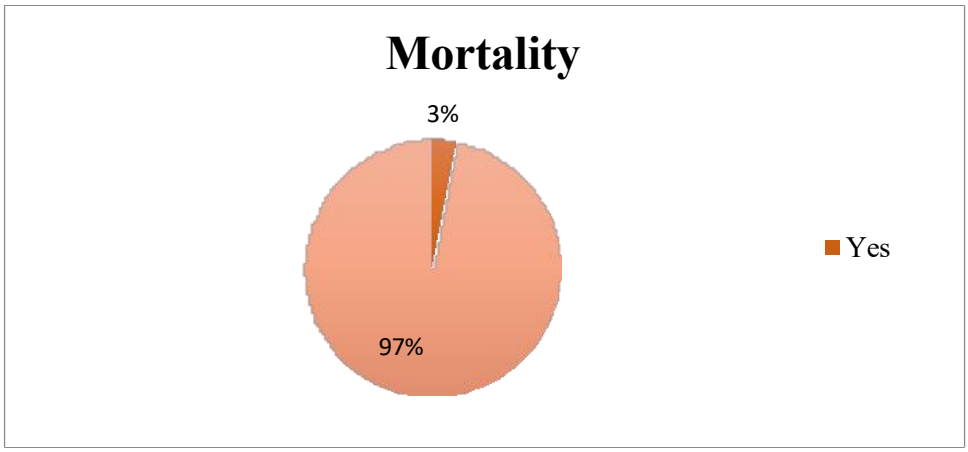
GRAPH- 8B: Represents the Dengue serotypes in the observed subjects with the help of a pie chart.

C. MORTALITY:

In 200 patients, 6(3%) of the subjects suffered death due to dengue.

Mortality	Number Of Subjects	Percentage (%)
Yes	6	3
No	194	97
Total	200	100

TABLE- 8C: Represents the Mortality of the subjects.



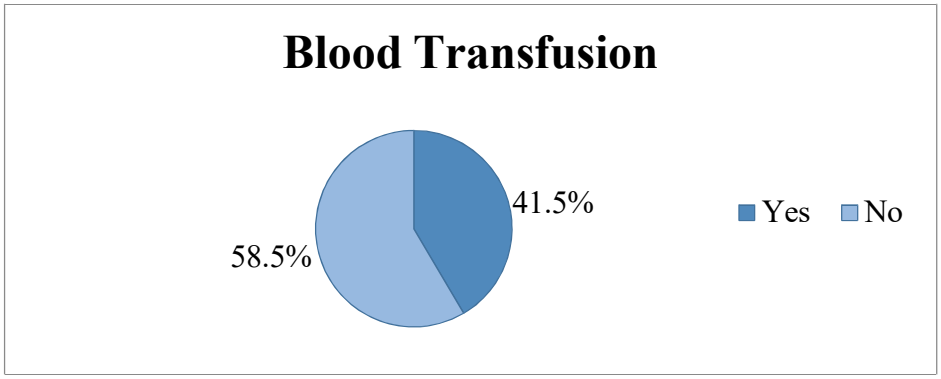
GRAPH- 8C: Represents the mortality of the subjects through a pie chart.

D. BLOOD TRANSFUSION:

Out of 200 subjects, 83(41.5%) subjects needed the blood transfusion as their platelets were highly decreasing. 117(58.5%) of them did not require any kind of blood transfusion.

Blood Transfusion	Number Of Subjects	Percentage
Yes	83	41.5
No	117	58.5
Total	200	100

TABLE- 8D.1: Represents the number of subjects who needed the blood transfusion.

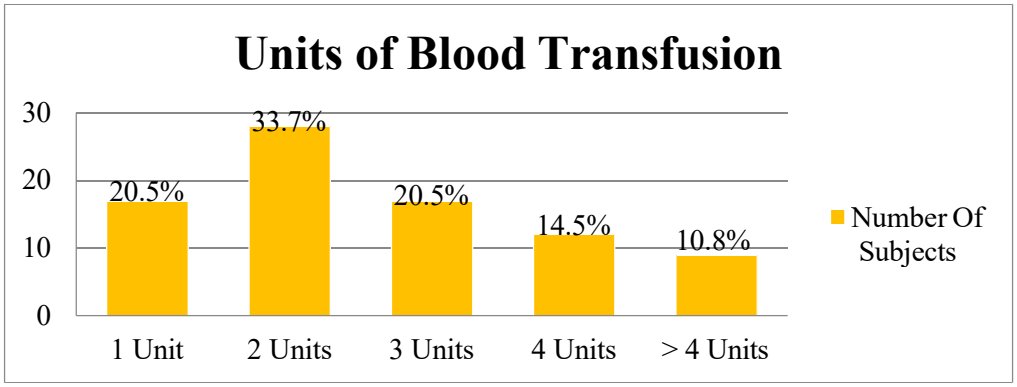


GRAPH- 8D.2: Represents the number of subjects who needed the blood transfusion through a pie chart.

Units Of Blood Transfusion: Among 83 subjects, 17(20.5%) subjects needed 1 unit of blood transfusion, 28(33.7%) subjects needed 2 units of blood transfusion, 17(20.5%) subjects needed 3 units of blood transfusion, 12(14.5%) subjects needed 4 units of blood transfusion and 9(10.8%) subjects needed more than 4 units of blood transfusion.

Units Of Blood Transfusion	Number Of Subjects	Percentage (%)
1 Unit	17	20.5
2 Units	28	33.7
3 Units	17	20.5
4 Units	12	14.5
> 4 Units	9	10.8

TABLE- 8D.2: Represents the units of blood transfused to the subjects.



GRAPH- 8D.2: The bar graph represents the units of blood transfused(x- axis) vs. number of subjects(y- axis).

9. K.A.P. OF THE SUBJECTS:

All the 200 subjects were asked for their knowledge, attitude and practice on the disease dengue fever.

A. KNOWLEDGE OF RESPONDENTS:

105 subjects in our study have demonstrated a certain level of knowledge that dengue is an infectious disease whereas, 152 subjects have no certain clue about the mortality rate of the dengue. Majority of the subjects around 144 of them don't have any idea about the vector of dengue. 97 subjects are aware that dengue is transmitted through water. Only 23.5% of the subjects are aware of the Aedes mosquitoe breeds in the dirty water. 164 subjects had an idea that *Aedes* mosquito can transmit the dengue virus into its eggs. 167 subjects in our study understood that eliminating *Aedes* mosquito breeding sites helps control dengue. In our survey of 200 subjects, 75 (37.5%) indicated that they believe the peak biting period for *Aedes* mosquitoes is in the early morning after dawn.

Sl. No.	Questions	Yes	%	No	%	Don't Know	%
1	Is dengue an infectious disease?	105	52.5	7	14	88	44
2	May dengue lead to death?	38	19	10	20	152	76
3	The vector of dengue is male *Aedes* mosquito?	49	24.5	7	14	144	72
4	*Aedes* has stripes on the body?	33	16.5	22	44	145	73
5	Dengue virus can be transmitted by :-	**Yes**				**%**	
	a) Water	97				48.5	
	b) Air	51				25.5	
	c) Mosquito bite	123				61.5	
	d) Direct contact with an infected person	27				13.5	
6	*Aedes* mosquito breeds in dirty water?	47	23.5	9	18	144	72
7	Adult *Aedes* mosquito can transmit dengue virus into its eggs?	30	15	6	12	164	82
8	The spread of dengue virus can be overcome by removing *Aedes* breeding areas?	29	14.5	4	8	167	84
9	The peak biting period of *Aedes* mosquitoes :-	**Yes**				**%**	
	a) Early in the morning after dawn	75				37.5	
	b) In the afternoon	51				25.5	
	c) In the evening before dusk	71				35.5	
	d) At night	107				53.5	
10	The common symptom of dengue fever:-						
	a) Rash	113				56.5	
	b) Ocular pain	67				33.5	
	c) Diarrhoea	83				41.5	
	d) Headache	176				88	
	e) High fever	181				90.5	
	f) Numbness	43				21.5	
	g) Joint pain	160				80	

Table- 9A: Represents the knowledge percentage of the respondents.

B. ATTITUDE OF RESPONDENTS:

The family members of 171 subjects have reached a consensus to prevent dengue. The neighbors of 130 subjects are not accountable for preventing dengue. 105 subjects disagree that their family members should spend some time during weekends to remove *Aedes* breeding sites. 107 subjects are tasked with ensuring the absence of *Aedes* eggs and/or larva in many house hold areas. 147 subjects agree that water containers used for storing water must be adequately covered. 144 subjects agree that the inner sides of the containers should be scrubbed and cleaned. 133 subjects agree to open the doors and windows of their houses during fogging activities. 48 subject's family members disagreed with the statement "if family members have symptoms of dengue fever, I will bring him/her to see a doctor for immediate treatment."

Sl. No.	Questions	Agree	%	Disagree	%
1	My family can help to prevent dengue.	171	85.5	29	14.5
2	My neighbour should be responsible to prevent dengue.	70	35	130	65
3	Family members should spend some time during weekends to remove *Aedes* breeding sites.	95	47.5	105	52.5
4	It is my responsibility to make sure there are no *Aedes* eggs and/or larvae in my house areas.	93	46.5	107	53.5
5	Water containers used for water storage must be covered properly.	147	73.5	53	26.5
6	The inner sides of the containers should be scrubbed and cleaned.	144	72	56	28
7	I shall open the doors/windows of my house during fogging activities.	133	66.5	67	33.5
8	If my family member has symptoms of dengue fever, I will bring him/her to see a doctor for immediate treatment.	152	76	48	24

Table- 9B: Represents the attitude percentage of the respondents.

C. PRACTICE OF RESPONDENTS:

156 subjects utilize aerosol and/or liquid mosquito repellents, mosquito coils, electrical mosquito mats, and mosquito bed nets.118 subjects disagreed with the statement "check for the presence of *Aedes* eggs and/or larvae inside the house." 72 subjects were practicing checking for the presence of *Aedes* eggs and/or larvae outside their homes or within the compounds of their residences. 54 subjects agreed to add larvicide to the water storage containers. 63 subjects disagreed with storing water in open containers. 137 subjects agreed with the practice of scrubbing the inner sides of water storage containers. 151 subjects would open the windows or doors early in the morning after dawn and in the evening before dusk.

Sl. No.	Questions	Yes	%	No	%	Don't Know	%
1	Use aerosol and/or liquid mosquito repellents and/or mosquito coils and/or electrical mosquito mats and/or mosquito bed net.	156	78	6	3	38	19
2	Check for the presence of *Aedes* eggs and/or larvae inside the house.	79	39.5	3	1.5	118	59
3	Check for the presence of *Aedes* eggs and/or larvae outside the house or the house compounds.	72	36	4	2	124	62
4	Add larvicide into the water storage containers.	54	27	21	10.5	125	62.5
5	Store water in open containers.	82	41	55	27.5	63	31.5
6	Scrub the inner side of water storage containers.	137	68.5	8	4	55	27.5
7	Open windows or doors a) Early in the morning after dawn b) In the evening before dusk	151	75.5	5	2.5	44	22

Table- 9C: Represents the practice percentage of the respondents.

DISCUSSION:

Our prospective interventional study aimed to understand the epidemiology of dengue feverby analysing its incidence across different age groups, gender, geographic locations, and socioeconomic statuses. We also explored the clinical manifestations, severity, and knowledge, attitude, and practices (KAP) of the affected individuals regarding dengue prevention and management.

AGE AND GENDER DISTRIBUTION

Adolescents aged 11-20 years emerged as the most affected group, representing 31% of thecases, followed by young adults aged 21-30 years at 22.5%. Children under 10 years and adults over 50 years were less affected, indicating a reduced susceptibility in these age groups. Among the 200 subjects, males accounted for 53% (106 individuals), while femalesrepresented 47% (94 individuals). This gender disparity is likely due to males' increased exposure to outdoor environments, as many were outdoor workers, which heightened their risk of encountering mosquito vectors.

GEOGRAPHIC DISTRIBUTION

Geographic analysis revealed that rural areas had the highest dengue incidence, with 48% (96subjects) of cases, followed by urban areas (35.5%, 71 subjects), suburban areas (16%, 32 subjects), and metro areas (0.5%, 1 subject). The predominance in rural regions could be

attributed to a lack of awareness, inadequate preventive measures, and limited access to healthcare resources.

SOCIOECONOMIC BACKGROUND

A significant proportion of subjects (56.5%, 113 individuals) belonged to the upper-lower socioeconomic class, followed by the lower class (20.5%, 41 subjects), upper middle class(11.5%, 23 subjects), and lower middle class (11.0%, 22 subjects). Only 0.5% (1 subject) were from the upper class. Higher socioeconomic groups showed a lower incidence, likelydue to better living conditions, access to preventive resources, and improved awareness.

CLINICAL SYMPTOMS AND SEVERITY

Fever: Among the 200 subjects, 159 (79.9%) experienced high-grade fever lasting about a week, while 40 (20.1%) had low-grade fever.

Vomiting: 51.5% (103 subjects) experienced vomiting episodes. Of these, 39 individuals hadtwo episodes, 29 had three, 20 had four, and 13 had more than four episodes.

Headaches: A striking 89.5% (179 subjects) reported headaches during their illness, underscoring its high prevalence among dengue patients.

Bleeding Manifestations: Only 13.5% (27 subjects) experienced bleeding, while 86.5% (173subjects) did not exhibit such symptoms.

Hepatomegaly: Clinical signs of hepatomegaly were observed in 7% (14 subjects), whereas93% (186 subjects) showed no such manifestations.

Thrombocytopenia: The distribution of thrombocytopenia severity was as follows: grade 3(43.3%, 134 subjects), grade 2 (32.1%, 43 subjects), grade 4 (12.7%, 17 subjects), and grade
1 (11.9%, 16 subjects).

HOSPITALIZATION AND OUTCOMES

Hospitalization durations varied, with 42.5% (85 subjects) staying for 4-5 days, 28% (56 subjects) for 6-8 days, 22.5% (45 subjects) for 2-3 days, and 7% (14 subjects) for more than 8
days. Among the dengue subtypes, 86.5% (173 subjects) had dengue fever, 13.5% (27 subjects) experienced dengue haemorrhagic fever, and none suffered from dengue shocksyndrome. Unfortunately, six individuals (3%) succumbed to the disease.

BLOOD TRANSFUSIONS

Platelet depletion necessitated blood transfusions in 41.5% (83 subjects). Among them, 28received 2 units, 17 received 1 or 3 units, 12 received 4 units, and 9 required more than 4 units. The remaining 58.5% (117 subjects) did not require transfusions.

KNOWLEDGE, ATTITUDE, AND PRACTICES (KAP) ANALYSIS

To evaluate subjects' understanding and behaviours regarding dengue prevention and management, we conducted a KAP survey.

KNOWLEDGE

Awareness of Dengue as Infectious: 52.5% of subjects recognized dengue as an infectious disease, while 44% were unaware.

Mortality Risk: Only 19% (38 subjects) knew dengue could lead to death.

Vector Identification: A mere 24.5% identified *Aedes* mosquitoes as the causative agent, and 72% were unaware of mosquito breeding sites.

General Knowledge: Only 23.5% of participants demonstrated adequate knowledge aboutdengue and its transmission.

ATTITUDE

Protective Measures: 85.5% (171 subjects) were willing to protect their families by following preventive guidelines.

Positive Attitudes: After being informed, 76% of subjects expressed a positive outlook toward implementing preventive measures, while 62.8% agreed to adopt recommendedbehaviours.

PRACTICES

Preventive Measures: 78% agreed to use repellents, nets, and coils.

Water Storage Hygiene: 68.5% practiced cleaning water containers to prevent mosquito breeding.

Monitoring Mosquito Larvae: Only 39.5% checked for *Aedes* larvae in their homes, indicating a gap in preventive practices.

IMPLICATIONS AND RECOMMENDATIONS

This study highlights several critical findings:

Age and Rural Vulnerability: Adolescents and rural populations are particularly vulnerable.Awareness campaigns and healthcare resources should prioritize these groups.

Socioeconomic Barriers: The prevalence in lower socioeconomic groups underscores theneed for accessible preventive measures, such as community sanitation and affordable repellents.

Symptom Management: Early recognition and management of symptoms like fever,vomiting, and headaches can reduce disease severity.

KAP Interventions: Addressing knowledge gaps and fostering positive attitudes and practices are vital. Public health efforts must focus on educating communities about denguetransmission, prevention, and the importance of early medical intervention.

CONCLUSION

Dengue fever is a serious viral infection with the potential for severe complications. By understanding the transmission, symptoms, and prevention methods, we can effectively control the spread of this disease and protect ourselves and our communities. Remember, early diagnosis and medical attention are essential for optimal outcomes. Let's work together to raise awareness and implement preventive measures to combat dengue fever on a global scale.

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