



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1245725>Available online at: <http://www.iajps.com>

Research Article

**ACUTE DENGUE FEVER INFECTION VARIATION IN  
DIFFERENT REGIONS OF MULTAN DIVISION ADMITTED AT  
TERTIARY CARE HOSPITAL**<sup>1</sup>Dr. Muhammad Wasim Khan, <sup>2</sup>Muhammad Mujahid, <sup>3</sup>Muhammad Haris Qureshi<sup>1</sup>M.O BHU Jhugi Wala, Jatoi, Muzaffargarh<sup>2</sup>M.O BHU Litra, Taunsa Shareef, DG Khan<sup>3</sup>Lahore Wapda Town**Abstract:****Objective:** To evaluate the clinical manifestations and regional variations of acute dengue infection among patients.**Study Design:** A descriptive study**Place and Duration:** The study was conducted between August 1, 2010 and March 30, 2011 at the Microbiology Department of the Nishtar Medical University, Multan.**Methodology:** For all suspected acute dengue patients admitted in dengue ward simple random sampling technique was used. ELISA test used to detect anti-dengue antibodies (IgM) in patients' blood.**Results:** 104 (30%) of total patients were found to be affected after ELISA positive test. Dengue frequency in males was 71 (68.2%) and 33 (31.7%) in females. The dengue fever incidence in Multan (31.0%) and Muzaffargarh (31.1%). 88.4% (N = 92), 65.3% with retro bulbar headache, 65.3% followed by epigastric pain, 65.3% with continuous high grade fever (> 101K), the most common clinical statement with 63.4 joints (n = (n = 66) and myalgia was 50% (n = 52).**Conclusion:** In Multan and Muzaffargarh the incidence of dengue incidence is high. Acute DF is the most common clinical findings, retroorbital headache, epigastric pain, muscular pain and joints with constant high fever.**Keywords:** Acute Dengue, Fever, Clinical Signs, Frequency.**Corresponding author:**

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Please cite this article in press Muhammad Wasim Khan et al., *Acute Dengue Fever Infection Variation in Different Regions of Multan Division Admitted At Tertiary Care Hospital*, Indo Am. J. P. Sci, 2018; 05(05).

**INTRODUCTION:**

The re-emerging infection, the "dangue virus infection", becomes a worldwide health problem. In Pakistan, first dengue fever outbreak of infection with serotype type III was noticed in Karachi in 2005. This infection is a challenging issue round the globe because of lack of tetravalent protective vaccine, vector enhancement and antiviral against the *Aedes aegypti* population. To control this promising strategy infection discovery of the vaccine prove to be beneficial. There are 4 serotypes of dengue virus I, II, III and IV. In pathogenesis of dengue infection The cross-reaction between any two of these serotypes is mandatory. Acute DF Patients may develop mild to severe disease. This includes constant retro orbital pain, high-grade fever, myalgia, arthralgia, nausea, dyspepsia, abdominal pain, vomiting, diarrhea and rashes in various parts of the body. However, in severe cases, especially in younger age groups, approximately 5% of patients may have a fatal outcome, ie and dengue shock syndrome (DSS), dengue haemorrhagic fever (DHF) most common clinical manifestations. For this reason, this study was planned to evaluate the acute dengue infection in a tertiary hospital in the Multan division. the For clinical diagnosis of suspected cases, this study is beneficial which will then be confirmed by serological identification. Therefore, ensuring timely supportive care may be useful in reducing mortality from complex dengue shock syndrome (DSS) and dengue hemorrhagic fever (DHF).

**METHODOLOGY:**

The aim of this study was to evaluate the widespread clinical findings of acute dengue infection in a tertiary hospital in the Multan division. Disease Patients of all age groups admitted to the DF department [there is a temporary diagnosis based on any of the symptoms such as persistent high grade fever, headache retroorbital, arthralgia, myalgia, indigestion, nausea, vomiting, abdominal pain, diarrhea, various parts of the body bleeding disorders, history, etc.). Patients confirmed laboratory detection

of antibodies against dangue infection by ELISA, Japanese encephalitis, yellow fever or tick-borne fever (cross-reactive antibodies reduction and misfed results were minimized by ELISA), which were excluded from study vaccination history to reduce training opportunities. Selected patients were presented on study procedures. Later, the study followed the prerequisite for informed consent to obtain sufficient information about his personal profile, history of illness and clinical findings. Then, 3 ml of venous blood sample of all patients aseptically selected were collected and finally analyzed by 3rd generation ELISA for detection of anti-dengue (IgM) antibodies. Omega and Vircell kits were strictly followed in the manufacturer's instructions for the DEN II serotype. After three serial incubations within two hours, the optical density was finally read at 450 nm using an ELISA titre plate reader spectrophotometer. The results were analyzed with SPSS version 16. The mean and standard deviations for statistical derivation were evaluated for quantitative variables while frequencies for qualitative variables were calculated as percentages.

**RESULTS:**

Geographical distribution of the study group The mean age of the patients is shown in Table I as 31.7 + 01 years. , 59.5% (N = 205), and 40.4% women (n = 139) and three hundred and four (344) subjects with DF suspected withdrawals work. The maximum number of patients was (255) 74.1% in October. 41 (11.9% (presented in November, presented together in March, presented 6.4% (n = 23), presented in December, 3.7% Were presented in March and only 0.29% (n = 01) were presented in August. The results of this study (n = 104) showed an acute DF positive case of 30.2%. In males the frequency of dengue was 68.02% (N = 71) and 31.7% (N = 33) in females. Regional change has also been observed. DF presence was higher in Multan (30.2%) and Muzaffargarh (30.1%) when compared to other cities. Residents in the remaining 29% are in rural areas and this is shown in Table I.

TABLE - I- GEOGRAPHICAL DISTRIBUTION OF STUDY POPULATION

S. No.	Regions	Total suspected cases			Total positive cases		
		Total n (%)	Males n(%)	Females n(%)	Males n(%)	Females n(%)	Total n(%)
1.	Chakwal	222 (64.5)	124(55.8)	98(44.1)	43 (34.6)	24(24.4)	67 (30.1)
2.	Rawalpindi	86(25)	59(68.6)	27(31.3)	19 (32.2)	07(25.9)	26(30.2)
3.	Jhelum	10(2.90)	06(42.8)	04(57.1)	01(16.6)	0(0)	01(10)
4.	Fateh Jang	06(1.7)	05(83.3)	01(16.6)	01(20)	0(0)	01(16.6)
5.	Wah	06(1.7)	04(66.6)	02(33.3)	04 (66.6)	02(33.3)	06(100)
6.	Hassan Abdal	05(1.4)	02(40)	04(80)	01(50)	0(0)	01(20)
7.	Taxilla	05(1.4)	03(60)	02(40)	01(33.3)	0(0)	01(20)
8.	Gujar Khan	04(1.16)	03(75)	01(25)	01(25)	0(0)	01(25)
TOTAL		344(99.02)	206(59.8)	139(40.4)	71(68.2)	33(31.7)	104(30.2)

Most of the patients (71.3%) live in large cities (urban). Table II was followed by the most common clinical indications, high grade fever ( $> 101$  F), continuous pain ( $n = 92$ ) 88.4%, epigastric pain ( $n = 68$ ), retrobulbar headache, myalgia was 63.4% ( $n = 66$ ) and 65.3% joint pain 50% ( $n = 52$ ), respectively. Other common presentations were bodily explosions [41.3% ( $N = 43$ )], vomiting [44.2% ( $N = 46$ )], diarrhea [37.5% ( $N = 39$ )], malena [17.35 ( $n = 18$ )], hematemesis [28.8% gingiva [25% ( $n = 28$ )], hemoptysis [12.5% ( $n = 13$ )].

TABLE – II: FREQUENCY CLINICAL MANIFESTATIONS IN POSITIVE CASES (n=104)

S. No.	Clinical Manifestations	Mean Duration of illness (Days±SD)	Total Dengue (IgM) Positive	
			n	%
1.	Epigastric pain	6.7 (0.04)	68	65.3
2.	Myalgias	5.7(0.032)	52	50
3.	Fever	5.6(0.03)	92	88.4
4.	Arthralgias	5.6(0.03)	66	63.4
5.	Dairrhea	4.9(0.029)	39	37.5
6.	Headache	3.7(0.027)	68	65.3
7.	Rashes	3.7(0.027)	43	41.3
8.	Vomiting	2.4(0.024)	46	44.2
09	Epistaxis	2.4(0.024)	30	28.8
10	Gum Bleeding	1.9(0.021)	26	25
11	Malena	1.7(0.019)	18	17.3
12	Hemoptysis	1.2(0.015)	13	12.5
13	Haematemesis	1.1(0.014)	30	28.8

## DISCUSSION:

The results of this study showed male predominance in Multan and a 30.2% frequency of DF. This is comparable to the results of the Zafar H ethal trial, which showed a DF prevalence of 28.8% in Multan, Pakistan. Vinodh et al. Espinosa et al There was a bigger difference. In India and Mexico, prevalence was 77.6% and 79.6%, respectively. Nevertheless, the finding of the dominance of men during adulthood has been reported by Lou et al. Moreover, the results of the present study showed that the dengue peak was observed in October. This study is consistent with the results of Khan and Etal's study quoted from their study of the most appropriate period for dengue infection in the later period from the time of murmur. While it was contrary to the findings of Ewathorn and Etal and Almas etal, DF explained that it is more common in the rainy season. Observations related to the clinical presentation of

acute dengue infection are high grade persistent fever ( $> 101$  F), retro orbital headache, arthralgia and myalgia. These have defined the criteria for the recognition of Almas et al., Guzman et al., Shu et al., Naseem 18-21 etal and WHO acute DF cases. Like many Asian countries, dengue virus infection is now endemic in Pakistan. However, the delay in the discovery of specific tetravalent or antiviral vaccines makes this infection a challenging task for healthcare professionals.. Pathogenesis, diagnosis, management, and preventive strategies may be a step forward in combating disease, as well as creating awareness of the general public about active role of healthcare workers in disease.

## CONCLUSION:

The incidence of dengue fever in Multan was (30.2%) and Muzaffargarh (30.1%). The most common clinical manifestations of acute DF include

retro-orbital headache, epigastric pain, myalgia and arthralgia as well as high-grade persistent fever.

### RECOMMENDATIONS

In Pakistan, there is a compelling need to carry out work in many other cities, especially when focusing on the complaints mentioned above. For this reason, extensive serological investigations for dengue fever and timely administration may reduce the mortality rates of such infections.

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