

# A study of clinical profile and factors associated with the outcome in patients of dengue fever at tertiary health care centre

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## Abstract

**Background:** Incidence of dengue fever and dengue hemorrhagic fever increased thirty folds globally over the last few decades **Aims and Objectives:** To Study Clinical profile and Factors associated with the outcome in patients of dengue fever at tertiary health care centre. **Methodology:** This was a cross-sectional study carried out in the department of Medicine during the one year period in the suspected patients of Dengue so during the one year period all the suspected patients were screened by Dengue antigenic Kit those showing the positive results with clinical features with written and explained consent were included into the study hence in the study period 77 patients were enrolled. The data was entered into excel sheet and analyzed excel software's for windows 10. **Result:** In our study we have seen that the majority of the patients were in the age group of 40-50 were 32.47%, followed by 50-60 Were 24.68%, 30-40 were 16.88%, >60 were 14.29%, 20-30 were 11.69%. The majority of the patients were Male i.e. 57.14% followed by Female were 42.86%. The most common clinical features were Fever in 94% followed by Myalgia in 92%, Headache in 80%, Retro-orbital pain in 79%, Arthralgia in 68%, Rash in 43%, Diarrhea in 24%, Mucosal bleeding in 5%, Spontaneous bleeding of skins in 4%. The majority of the patients improved i.e. 82% and 16% Improved with Complications, DAMA was given in 1% and Death occurred in only 1%. The most common factors associated were Old age (>50) in 69.23% followed by H/o Diabetes in 53.85%, H/o Hypertension in 53.85%, H/o CVD in 46.15%, H/o Smoking in 38.46%, Recurrent infection in 30.77%, Renal failure -23.08, H/o Immuno compromised disease - 15.38%. **Conclusion:** It can be concluded from our study that the majority of the patients were in the age group of 4th or 5th decade and male outnumbered than females, the most common clinical features were Fever and myalgia, the majority of the patients improved and the factors associated with poor outcome were Old age (>50), H/o Diabetes , H/o Hypertension , H/o CVD , H/o Smoking , Recurrent infection, Renal failure, H/o Immuno-compromised disease etc.

**Key Word:** dengue fever.

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family.<sup>1</sup> It has 4 serotypes DENV1, DENV2, DENV3 and DENV.<sup>4</sup> Dengue virus believed to be originated in Africa about 300year ago.<sup>2</sup> Aedes aegypti is the principal vector dengue for fever. DENV is maintained in a humanmosquito-human cycle.<sup>3</sup> Incidence of dengue fever and dengue hemorrhagic fever increased thirty folds globally over the last few decades. India first major outbreak was in 1996 at Delhi where more than 10,000 cases and 400 deaths were repored.<sup>4,5</sup> So we have studied the clinical profile and Factors associated with the outcome in patients of dengue fever at tertiary health care centre.

## INTRODUCTION

Dengue fever is a viral infection caused by one of the four serotype of dengue viruses belongs to flaviviridae

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## METHODOLOGY

this was a cross-sectional study carried out in the department of medicine during the one year period in the suspected patients of dengue so during the one year period all the suspected patients were screened by dengue antigenic kit those showing the positive results with clinical features with written and explained consent were included into the study hence in the study period 77 patients were enrolled. all details of the patients like age, sex, clinical features, Outcome and the factors if any associated with the poor outcome were included into the study. The data was entered into excel sheet and analyzed excel software's for windows 10.

## RESULT

**Table 1:** Distribution of the patients as per the Age

Age	No.	Percentage (%)
20-30	9	11.69
30-40	13	16.88
40-50	25	32.47
50-60	19	24.68
>60	11	14.29
<b>Total</b>	<b>77</b>	<b>100.00</b>

The majority of the patients were in the age group of 40-50 were 32.47%, followed by 50-60 Were 24.68%, 30-40 were 16.88%, >60 were 14.29%, 20-30 were 11.69%.

**Table 2:** Distribution of the patients as per the sex

Sex	No.	Percentage (%)
Male	44	57.14
Female	33	42.86
<b>Total</b>	<b>77</b>	<b>100.00</b>

The majority of the patients were Male i.e. 57.14% followed by Female were 42.86%

**Table 3:** Distribution of the patients as per the various clinical features

Symptoms	No.	Percentage (%)
Fever	72	94%
Myalgia	71	92%
Headache	62	80%
Retro-orbital pain	61	79%
Arthralgia	52	68%
Rash	33	43%
Diarrhea	18	24%
Mucosal bleeding	4	5%
Spontaneous bleeding of skins	3	4%

(\*More than one symptoms were present in the patients so total may be more than 77) The most common clinical features were Fever in 94% followed by Myalgia in 92% Headache in 80%, Retro-orbital pain in 79%, Arthralgia in 68%, Rash in 43%, Diarrhea In 24%, Mucosal bleeding in 5%, Spontaneous bleeding of skins in 4%.

**Table 4:** Distribution of the patients as per the Outcome

Outcome	No.	Percentage (%)
Improved	63	82%
Improved with Complications	12	16%
DAMA	1	1%
Death	1	1%

The majority of the patients improved i.e. 82% and 16% Improved with Complications, DAMA was given in 1% and Death occurred in only 1%.

**Table 5:** Distribution of the factors associated with the poor outcome

Poor outcome	No.(n=13)	Percentage (%)
Old age (>50)	9	69.23
H/o Diabetes	7	53.85
H/o Hypertension	7	53.85
H/o CVD	6	46.15
H/o Smoking	5	38.46
Recurrent infection	4	30.77
Renal failure	3	23.08
H/o Immuno compromised disease	2	15.38%

(\*More than one factors associated with patients so total may be >13) The most common factors associated were Old age (>50) in 69.23% followed by H/o Diabetes in 53.85%, H/o Hypertension in 53.85%, H/o CVD in 46.15%, H/o Smoking in 38.46%, Recurrent infection in 30.77%, Renal failure -23.08, H/o Immuno compromised disease - 15.38%

## DISCUSSION

Dengue has recently become a major public health problem causing significant morbidity, mortality and economic loss. Dengue is endemic in more than 100 countries. Worldwide around 2.5 billion people live in dengue prone regions and about 100 million new cases are detected each year.<sup>6</sup> The WHO 2009 classification divides dengue fever into two groups: uncomplicated and severe;<sup>7</sup> though the 1997 WHO classification is still widely used, classifying dengue in to 3 groups: dengue fever (DF), dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS).<sup>8,9</sup> The resurgence of dengue has been observed in India and varied clinical presentations are being reported in the outbreaks reported from different geographical locations.<sup>10-16</sup> Severity of dengue infection varies from influenza-like self-limiting illness to life-threatening complications like dengue hemorrhagic fever (DHF) and dengue shock syndrome. Thrombocytopenia in dengue is related to oxidative stress.<sup>18</sup> In our study we have seen that the majority of the patients were in the age group of 40-50 were 32.47%, followed by 50-60 Were 24.68%, 30-40 were 16.88%, >60 were 14.29%, 20-30 were 11.69%. The majority of the patients were Male i.e. 57.14% followed by Female were 42.86%. The most common clinical features were

Fever in 94% followed by Myalgia in 92%, Headache in 80%, Retro-orbital pain in 79%, Arthralgia in 68%, Rash in 43%, Diarrhea in 24%, Mucosal bleeding in 5%, Spontaneous bleeding of skins in 4%. The majority of the patients improved i.e. 82% and 16% Improved with Complications, DAMA was given in 1% and Death occurred in only 1%. The most common factors associated were Old age (>50) in 69.23% followed by H/o Diabetes in 53.85%, H/o Hypertension in 53.85%, H/o CVD in 46.15%, H/o Smoking in 38.46%, Recurrent infection in 30.77%, Renal failure -23.08, H/o Immuno compromised disease - 15.38% These findings are similar to Frederico Figueiredo Amâncio *et al*<sup>19</sup> they found A total of 97 patients were studied. The in-ICU and in-hospital mortality rates were 18.6% and 19.6%, respectively. Patients classified as having severe dengue according to current World Health Organization classifications showed an increased risk of death in a univariate analysis. Nonsurvivors were older, exhibited lower serum albumin concentrations and higher total leukocyte counts and serum creatinine levels. Other risk factors (vomiting, lethargy/restlessness, dyspnea/respiratory distress) were also associated with death The mortality and other complications were more in this study this may be due to the fact that we have taken all patient but present study only taken the patients admitted to ICU hence the overall mortality and complications were more.

## CONCLUSION

It can be concluded from our study that the majority of the patients were in the age group of 4<sup>th</sup> or 5<sup>th</sup> decade and male outnumbered than females, the most common clinical features were Fever and myalgia, the majority of the patients improved and the factors associated with poor outcome were Old age (>50), H/o Diabetes, H/o Hypertension, H/o CVD, H/o Smoking, Recurrent infection, Renal failure, H/o Immuno-compromised disease etc

## REFERENCES

1. Auzman MG, Kouri G. Dengue: an update. *Lancet Infect Dis.* 2001; 2(4):33-42.
2. Wang E Ni, H, Xu R, Barret, AD, Watowich, SJ, Gubler, DJ, Weaver, SC. Evolutionary relationships of endemic/epidemic and sylvatic dengue virus. *J Virol.* 2000 Apr; 74(7):3227-34.
3. Thongrunkiat S, wasinpiyamonkol L, Maneekan P, prummongkol S, Samung. Natural transovarial dengue virus infection rate in both sexes of dark and pale forms of *Aedes aegypti* from an urban area of Bangkok, Thailand. *Southeast Asia J Trop Med Public Health.* 2012; 43(5):1146-52.
4. Sharma S, Sharma SK, Mohan A, Wadhwa J, Dar L, Thulkar S, *et al.* Clinical profile of dengue haemorrhagic fever in adults during 1996-outbreak in Delhi, India. *Dengue Bull. (WHO-SEARO).* 1998; 22: 20-27.
5. Hati AK. Studies on dengue and dengue hemorrhagic fever in West Bengal State, India. *J Commun Dis.* 2006; 38: 124-9.
6. World Health Organization. Dengue and Severe Dengue. Fact sheets, 2013. Available at: <http://www.who.int/mediacentre/factsheets/fs117/en/>. Accessed 26 September 2013.
7. World Health Organization. Dengue: Guidelines for Diagnosis, Treatment, Prevention and Control, 2009. Available at: [whqlibdoc.who.int/publications/2009/9789241547871\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241547871_eng.pdf).
8. World Health Organization. Dengue Haemorrhagic Fever: Diagnosis, Treatment, Prevention and Control, 2nd ed. Geneva, Switzerland: WHO; 1997: 1-83.
9. Deen JL, Harris E, Wills B, Balmaseda A, Hammond SN, Rocha C, *et al.* The WHO dengue Classification and case definitions: time for a reassessment. *Lancet.* 2006;368:170-3.
10. Rajadhyaksha A, Mehra S. Dengue fever evolving into systemic lupus erythematosus and lupus nephritis: a case report. *Lupus.* 2012;21:999-1002.
11. Kanungo S, Shukla D, Kim R. Branch retinal artery occlusion secondary to dengue fever. *Indian J Ophthalmol.* 2008;56:73-4.
12. Matlani M, Chakravarti A. Changing trends of dengue disease: a brief report from a tertiary care hospital in New Delhi. *Braz J Infect Dis.* 2011;15:184-5.
13. Karoli R, Fatima J, Siddiqi Z, Khursheed, KazmiKI, Sultania AR. Clinical profile of dengue infection at a teaching hospital in North India. *J Infect Dev Ctries* 2012;6(7):551-4.
14. Rachel D, Rajamohanam, Philip AZ. A Study of Clinical Profile of Dengue Fever in Kollam, Kerala, India. *Dengue Bulletin.* 2005;29:197-202.
15. Vinod HR, Shepur TA, Wari PK, Chavan SC, Mujahid IB, Yergolkar PN. Clinical Profile and Outcome of Dengue Fever Cases. *Indian J Pediatr* 2005;72(8):705-6.
16. Bandyopadhyay B, Bhattacharyya I, Adhikary S *et al.* "A Comprehensive Study on the 2012 Dengue Fever Outbreak in Kolkata, India," *ISRN Virology.* 2013;2013:5.
17. Shukla V, Chandra A. A study of hepatic dysfunction in dengue. *J Assoc physician India.* 2013;61.
18. Soundravally R, Sankar P, Bobby Z, Hoti SL. Oxidative stress in severe dengue viral infection: association of thrombocytopenia with lipid peroxidation. *Platelets.* 2008;19:447-54
19. Amâncio FF, Heringer TP, Oliveira CdCHBd, Fassy LB, Carvalho FBd, Oliveira DP, *et al.* (2015) Clinical Profiles and Factors Associated with Death in Adults with Dengue Admitted to Intensive Care Units, Minas Gerais, Brazil. *PLoS ONE* 10(6): e0129046. doi:10.1371/journal.pone.0129046

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