



Clinico-Social Study of Dengue Cases Admitted in Government Tertiary Hospital

Authors

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Abstract

In many parts of the world, the incidence of dengue has grown dramatically around the world in recent decades. The actual numbers of dengue cases are underreported and many cases are misclassified. One recent estimate indicates 390 million dengue infections per year, of which 96 million (67–136 million) manifest clinically.

Objectives: 1) To study clinical profile of dengue cases. 2) To study sociodemographic factors of dengue cases. 3) To study outcome of dengue cases.

Materials and Methodology: Type of study: Hospital record based descriptive study. Duration of study: July 2014 – Oct 2014. Statistical analysis is with rate, proportion and chi-square test.

Results: In present study, out of 74 cases, dengue fever cases were seen more prevalent in males (66.66%) as compare to female. Out of total 74 cases, in above mentioned period, 66% were cured, 21% relieved and 6% cases reported dead. Cured rate was high when patients contacted the health facility within first 1-10 days of illness.

Conclusion: The study is a Clinico-social findings of dengue cases admitted in hospital. In this study most of the affected persons were from young age group and from rural area. Patients came with main complains of fever and main complication seen among them was thrombocytopenia.

Keywords: Sociodemographic, dengue cases, clinicosocial.

Introduction

The term Break Bone Fever was applied by Benjamin Rush in 1789 report from the Philadelphia epidemic. He used the name “bilious remitting fever”. The term dengue fever came into use after 1828. The first record of a case of probable dengue fever is in a Chinese medical encyclopaedia from Jin Dynasty (265-420AD) which referred to a “water poison” associated with flying insects.¹

In many parts of the world, the incidence of dengue has grown dramatically around the world

in recent decades. The actual numbers of dengue cases are underreported and many cases are misclassified. One recent estimate indicates 390 million dengue infections per year, of which 96 million (67–136 million) manifest clinically.² Another study, of the prevalence of dengue, estimates that 3.9 billion people, in 128 countries, are at risk of infection with dengue viruses. Member States in 3 WHO regions regularly report the annual number of cases. The number of cases reported increased from 2.2 million in 2010 to 3.2 million³ in 2015. Other features of the disease

include its epidemiological patterns, including hyper-endemicity of multiple dengue virus serotypes in many countries and the alarming impact on both human health and the global and national economies. In India, Till provisional data on NVBDCP oct 2014 cases were 3551⁴. Since 2014 the total cases of dengue were rising, in 2017 the total cases were 153635 & deaths among dengue were 226.

Because of urbanization the incidence of disease has been increased, in present hospital record based study we like to throw light on trends and clinico-social characteristic of the dengue cases.

Objectives

- 1) To study clinical profile of dengue cases.
- 2) To study sociodemographic factors factors of dengue cases.
- 3) To study outcome of dengue cases.

Materials and Methodology

Type of study: Hospital record based descriptive study.

Duration of study: July2014 – Oct 2014.

Patient selection: All age group pt. admitted in the period mentioned above in Hospital. Records of patients was collected. Indoor papers and relevant information was collected and analyzed in Microsoft excel sheet.

Statistical analysis: was done by rate, proportion and percentages and chi-square test.

Data analysis: Descriptive and inferential analysis of data was carried out using qualitative and quantitative methods with hypothesis testing by appropriate test of significance.⁵

Results

In present study, out of 74 cases, dengue fever cases were seen more prevalent in males (66.66%) as compare to female. The dengue cases were

Table 2: Area wise distribution of patient:

Region Gender	Male	Female	Total
Rural	26(54.16%)	22(45.83%)	48(64.86%)
Urban	17(65.38%)	09(34.61)	26(35.15%)
Total	43(58.10%)	31(41.89%)	74(100%)

more common among the 0-20 years age group. [Table No.1]

Dengue cases those were admitted most of them were from rural areas (64.86%). [Table No.2]

In socio demographic factors, most of them (78.37%) belong to Hindu religion. [Table No.3]

Most of the cases clinically present with fever (98.64%), myalgia /arthralgia (98.64%) followed by headache (12.16%). [Table No.4]

Out of total 74 cases, in above mentioned period, 66% were cured, 21% relieved and 6% cases reported dead. Cured rate was high when patients contacted the health facility within first 1-10 days of illness. Most of the patients 56% stays in hospital for 5 days. But no significant association found between duration of illness and status of patient. ($P > 0.05$) [Table No.5] [Table No.6]

Patient admitted in hospital mainly shows hypotension (18.91%) and thrombocytopenia (51.35%) as main complication. Followed by hemetemesis (12%) and Jaundice (4%) [Table No.7]. The case fatality rate and proportional mortality rate in present study is 6.76% and 0.86%. [Table No.8]

Table 1: Age and gender wise distribution of patient

Age group	Sex		Total
	Male	Female	
1-10years	09(69.23%)	04(30.76%)	13(17.56%)
11-20years	12(75%)	04(25%)	16(21.62%)
21-30 years #	10(76.92%)	03(23.07%)	13(17.56%)
31-40 years#	08(80%)	02(20%)	10(13.51%)
41-50 years	08(80%)	02(20%)	10(13.51%)
51-60 years	02(15%)	01(33.33%)	03(4.05%)
61-70 years	02(33.33%)	04(66.66%)	06(8.10%)
≥70 years	02(66.66%)	01(33.33%)	03(4.05%)
Total	53(71.63%)	21(28.37%)	74(100%)

$\chi^2 = 1.20$, Df = 2, $P > 0.05$, Statistically insignificant., # combined Observation.

Table:3 Religion wise distribution of patient:

Religion	No of cases	Total %
Hindu	58	78.37%
Muslims	16	21.62%
Others	00	00%
Total	74	74%(100%)

Table:4 Distribution of patient according to their morbidity profile:

Clinical morbidities(signs/symptoms)	No. of Cases
Fever	73 (98.64%)
Myalgia/Arthralgia	27 (36.48%)
Headache	09 (12.16%)
Retro orbital pain	02 (2.70%)
Nausea/ vomiting	07 (9.45%)
Constipation	00 (00.00%)
Diarrhoea	02 (2.70%)
Coryza	07 (9.45%)
Rash	11 (14.86%)
Conjunctival redness	03 (4.05%)
Heptomegaly/spenomegaly	07 (9.45%)
Hematuria/Hemetemesis	02 (2.70%)
Malena	04 (5.40%)
Total	154 (100%)

Table 5: Distribution of outcome of patient with duration of illness:

Duration of illness	Cured	Relieved	Death	Treatment uncompleted	Total
1-5 days	29(63.04%)	11(23.91%)	05 (10.86%)	01 (2.17%)	46(62.16%)
6-10 days	18(72%)	05(20%)	00 (00%)	02 (8%)	25(33.78%)
11-15 days	02(66.66%)	-----	-----	01(33.33%)	03(4.05%)
Total	49(66.21%)	16(21.62%)	05 (6.75%)	04 (5.40%)	74(100%)

$\chi^2 = 9.56$, Df = 6, P > 0.05, Statistically insignificant.

Table 6: distribution of hospital stay days of patient:

Hospital stay	No.of cases
1-5 days	50 (67.56%)
6-10 days	18 (24.32%)
11-15 days	04 (5.40%)
16-20 days	02 (2.70%)
Total	74(100%)

Table 7: Distribution of various complication of patient:

Complication	No.of cases
Hypotention	14 (18.91%)
Thrombocytopenia	38 (51.35%)
Hemetemesis/Hematuria	12 (16.21%)
Jaundice	03 (4.05%)
ARDS	05 (6.75%)
Plural effusion	05 (6.75%)
Ascities	05 (6.75%)
Oliguria	04 (5.40%)
Shock/coma	04 (5.40%)
Total	90(100%)

Table 8: Relation of distribution of Case fatality rate and Proportional mortality rate:

Distribution	Case fatality rate	Proportional mortality rate
Total	6.76%.	0.86%

Conclusion

The study is a Clinico-social findings of dengue cases admitted in hospital. In this study most of the affected persons were from young age group and from rural area. Patients came with main complains of fever and main complication seen among them was thrombocytopenia. Patients those admitted early in hospital get cured and relived from complication early. But no significant association found between duration of illness and status of patient.

Discussion

In present study, most of the cases belonged to age group 11-20yr of age (21.62%), predominantly more in males (71.63%). Higher prevalence in this age group can be explained by more exposure to vector. A similar kind of study conducted by Ram V et al⁶ in North India had similar findings, they had the most cases (46%) in age group 15-24yr. Another study conducted by Bhardwaj LM et al⁷ found that it was common in the age group 20-25yr with predominance in males. While study conducted by Oza JR et al⁸ in Rajkot found more common in age group 15-44yr.

In present study most of the cases (78.37%) belonged to Hindu religion & were from rural areas(64.86%), comparable findings were found in studies conducted by Oza JR et al⁸, S. Fayaz Ahmmmad et al⁹, Srividya V et al.¹⁰ Regarding clinical features in present study, we found fever as the commonest (98.64) clinical features , followed by myalgia (36.48%) & rash (14.86%) similar findings were found in studies by Hemant kumar et al¹¹ & A abrol et al¹². In present study, retro -orbital pain was found in only 2.7% cases, while study conducted by Hemant kumar et al¹¹ had found very high percentages (44.90%) of retro-orbital pain. In present study, thrombocytopenia was seen among 51.35% followed by other complications such as hypotension (18.95%) & hematuria (16.25%). These findings were comparable with study conducted by Shivkumar s. et al¹³. They found

46% cases with thrombocytopenia & 15% cases with hypotension as complication.

Thrombocytopenia was on higher side in studies conducted by Ram V et al⁶ & Srividya V et al¹⁰, it was 97.72% & 77.1% respectively.

Assessing the outcomes of the Dengue cases, we found that half of cases had hospital stay of 1-5 days followed by 6-10 days longer stay for 18% of cases. Similar findings was seen in a study by Mallhi TH et al¹⁴. They found the mean length of hospital stay as 4.88 +- 2.74 days & Prolonged hospitalization (>3 days) in 49.2% cases.

In Present study, case fatality rate & proportional mortality in Dengue cases was 6.76% & 0.86% respectively . Case fatality rate was quite higher compared to 0.25% of CFR in 2014 by NVBDCP data⁴ & study by Hemant kumar et al¹¹.

Recommendations

As in present study rural population was more affected, active monitoring and surveillance of vectors should be carried out to determine effectiveness of control interventions in those areas. Increase awareness about the disease so that patients can seek treatment early and avoid further complication and death. In present study male patients were affected more than female patients so those going for outdoor activity should be educated for prevention and precaution to be taken against vector borne diseases.

Acknowledgements

Authors would like to thank college authorities for co-operating toward health appraisal. We would like to acknowledge all the senior faculties in the Department of Community Medicine for conducting the study.

Declarations

Funding: None

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee.

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