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Original Research Article

Knowledge and Preventive Practices Regarding Dengue among Dengue Fever Cases Admitted at Tertiary Care Hospital, Rajkot, Gujarat, 2014

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Abstract: Dengue is the most common disease among all the arthropod-borne viral diseases. Due to remarkable changes in the epidemiology of dengue, currently dengue ranks the most important mosquito-borne viral disease in the world. The aim this study is to assess knowledge and practices of patients regarding Dengue Fever, its transmission, mosquito breeding places and preventive practices. A cross-sectional prospective study was conducted at PDU Government Medical College, Rajkot, Gujarat, during 1st January to 31st December, 2014. All confirmed Dengue cases were admitted in this institute during 2014 included in the study. This study included 145 patients who were admitted to the institute during the calendar year 2014. 62% cases were males. 69% cases were in the age group 15-44 yrs. Almost 1/3 i.e. 33.79% cases had no any knowledge regarding symptoms of Dengue fever. Among 145 cases, 66.90% cases told that Dengue is transmitted by mosquito bite while 31.72% cases had no any knowledge regarding Dengue fever transmission. 67.59% cases didn't know about Dengue mosquito breeding places. 51.03% cases were tightly covering the water container for protection from mosquito breeding in their homes. 53.79% cases were wearing full sleeve cloths as personal protective measures.
Keywords: Dengue Fever, knowledge, prevention, practices.

INTRODUCTION

Dengue is the most common disease among all the arthropod borne viral diseases [1]. Dengue viruses (DV) belong to family Flaviviridae and there are four serotypes of the virus referred to as DV-1, DV-2, DV-3 and DV-4 [2]. Dengue virus infection is increasingly recognized as one of the world's emerging infectious diseases [3-6]. About 50–100 million cases of dengue fever and 500,000 cases of Dengue Hemorrhagic Fever (DHF) resulting in around 24,000 deaths, are reported annually [7, 8]. Over half of the world's population resides in areas potentially at risk for dengue transmission, making dengue one of the most important human viral disease transmitted by arthropod vectors in terms of morbidity and mortality [9].

Dengue fevers (DF), transmitted by Aedes aegypti, is an arboviral disease endemic in the Asian subcontinent [10]. According to the World Health Organization(WHO), incidence of dengue has shot up 30 fold in the past 50 years [11]. South-East Asia is one of the regions with highest risk of DF/DHF, accounting for 52% of the global risk [12].

The rapid increase in human population, lack of awareness among people, environmental changes, social changes and increased breeding of vector mosquitoes resulted in increased dengue transmission [8, 13].

Since there is no vaccine, vector control is the ideal way to control dengue. Vector control methods can be successful, only if there is community participation, and for the success of a community – based programme, it is important to assess the community's perception regarding the disease, its mode of transmission and breeding sites. Considering the magnitude of the problem the present study was undertaken to assess the knowledge and prevention practices among dengue patients admitted at PDU Govt. Medical College, Rajkot.

MATERIALS & METHODS

A cross-sectional prospective study was conducted at PDU Government Medical College, Rajkot during the calendar year 2014. Suspected cases

of Dengue were tested and confirmed for Dengue in the department of Microbiology. All confirmed Dengue cases admitted in this institute from 1st January, 2014 to 31st December, 2014 were included in this study.

The inclusion criteria for selection of cases were all those patients who gave oral consent for participating in the study and in case of children, interview of parents will be conducted to collect the information. The exclusion criteria for selection of cases were all those patients not willing to participate in the study and all those patients who were discharged before Dengue test confirmation report.

A pre-tested semi-structured questionnaire was used for collection of data. At first the data was collected regarding Dengue confirmed cases from Microbiology Department of PDU Government Medical College, Rajkot then personal interview was conducted to collect information regarding socio-demographic profile, knowledge and preventive practices of Dengue fever from patients admitted Medicine and Paediatrics in this institute.

Data collected from the patients included demographic data like age, sex, education, knowledge regarding Dengue fever, breeding places of mosquito and preventive practices amongst dengue fever patients admitted in this institute. The data entry was done in Microsoft Office Excel 2007 and analysis was done using the same software.

RESULTS AND DISCUSSION

The present study was conducted among total of 145 confirmed Dengue fever cases admitted in PDU Government Medical College, Rajkot during Year 2014.

Table 1 revealed that 69% of 145 cases admitted were in the age group 15-44 years. These finding are similar to the study by Ashwini Kumar *et al.* [14] in Karnataka and Saini *et al*. [15] in Western Maharashtra, India. Among 145 Dengue fever cases, 62.1% were males while 37.9% were females which was similar to the study by Ashwini Kumar *et al.* [14] in Karnataka but more compared to the study by Karoli et al.[16] in North India. The difference between male and female cases was statistically highly significant (χ^2= 8.448, df =1, p=0.004**)**. Among 128 cases (excluding children ≤ 7 years of age), 39.06% had primary level education followed by higher secondary level education in 25% cases. 8.59% cases were illiterate while In a study of Acharya *et al*. [17] showed 38% had primary level education and 25.6% were illiterate.

Table 2 shows that 65.52% cases had knowledge of fever and 42.76% had knowledge myalgia/arthralgia as common Dengue fever symptoms while in a study of Itrat *et al*. [18] reported fever as a symptom replied by 81.5% dengue cases. 41.9% cases of fever told bleeding as common Dengue fever symptoms. Almost 1/3 i.e. 33.79% cases had no any knowledge regarding symptoms of Dengue fever. Among 145 Dengue fever cases, 66.90% cases told that Dengue is transmitted by mosquito bite while 31.72% cases had no any knowledge regarding Dengue fever transmission while in a study of Geetu Malhotra *et al.* [19] revealed that 72.62% cases replied mosquito bite as a cause of Dengue and 25.5% did not know about Dengue fever transmission. 67.59% cases didn't know about Dengue mosquito breeding places while 42.37%, 15.86% and 6.90% cases replied tanks, vehicle tyre, flower plot plate as Dengue mosquito breeding place respectively, while in a study by Matta *et al*. [20], 42.4% cases replied coolers as breeding place, 24.2% replied coolers and tyre as breeding place and 20.2% not aware about mosquito breeding place.

Table 3 revealed that 52.41% cases knew that Dengue fever can be prevented by using mosquito net while 22.76%, 11.03% and 6.90% cases were replied liquid repellent, insecticidal spraying and fogging respectively prevents dengue transmission. Acharya *et al*. [17] showed that 55.7% dengue cases replied cleaning house, 46.5% replied prevention of water stagnation and 26.6% replied mosquito net prevents Dengue.

Table 4 shows that 51.03% cases were tightly covering the water container for protection from mosquito breeding in their homes, 44.14% cases regularly scrubing water container while 18.62% cases were not doing anything regarding protection of domestic water container from mosquito breeding while Tyagi BK *et al.* [21] showed 65% of households informed that they did not follow any measures.

Table 5 revealed that 53.79% cases were wearing full sleeve cloths, 28.97% cases were using liquid repellent vaporizer, 24.83% cases were closing windows and doors at evening time while only few 11.72% cases were using mosquito net as personal protective measures. Only 5.52% cases were not using any personal protective measure while Acharya *et al.* [17] showed 59% used matt/liquid vaporizer/coil, 5% used mosquito nets and 8% used nothing for protection against mosquito bites.

Table 1: Socio-demographic profile of Dengue patients (N=145)

Variable	Number	Percentage (%)
Age Group (In Years)		
<5 yrs	08	05.52
5-14 yrs	24	16.55
15-44 yrs	100	68.97
45-60	08	05.52
>60	05	03.45
Sex		
Male	90	62.1
Female	55	37.9
Education* (N=128)		
Primary	50	39.06
Higher Secondary	32	25.00
Secondary	22	17.19
Illiterate	11	08.59
Graduate	10	07.81

*Excluding children ≤ 7 years of age

χ^2 (Male:Female) = 8.448, df =1, p=0.004

Table 2: Distribution of patients according to their knowledge about Dengue Fever (N=145)

Knowledge	Number	Percentage (%)
Knowledge of Symptoms of Dengue*		
Fever	95	65.52
Myalgia/Arthralgia	62	42.76
Headache	27	18.62
Vomiting	13	08.97
Epistaxis	07	04.83
Retro-orbital pain	06	04.14
Don't know	49	33.79
Modes of transmission		
Through Mosquito bite	97	66.90
Via Water	01	00.69
Through Food	01	00.69
Don't know	46	31.72
Dengue Vector breeding places*		
Tanks	25	17.24
Vehicle tyre	23	15.86
Flower pot plate	10	06.90
Others	20	13.79
Don't know	98	67.59

*multiple answers

Table 3: Knowledge of patient regarding prevention of mosquito bites* (N=145)

Knowledge of Preventive Measures for dengue	Number	Percentage (%)
Using mosquito net	76	52.41
Liquid Repellent	33	22.76
Insecticidal Spraying	16	11.03
Fogging	10	06.90
Applying repellent cream	03	02.07
Don't know	53	36.55

*multiple answers

Table 4: Practice of patient regarding protection of domestic water container from mosquito breeding* (N=145)

Measures for Protection of water	Number	Percentage (%)
Tight covering of water container	74	51.03
Regular scrubbing water containers	64	44.14
Kerosene/oil Application water sources	32	22.07
Do nothing	27	18.62

*multiple response

Table 5: Usage of Common preventive measures against Dengue* (N=145)

Personal protective Measures Used	Number	Percentage (%)
Wearing Full sleeve cloths	78	53.79
Usage of Liquid repellent vaporizer	42	28.97
close window and door at day and evening time	36	24.83
Screening of windows with net	33	22.76
Mosquito net	17	11.72
Usage of Repellent cream	14	09.66
Do nothing	08	05.52

*multiple answers

CONCLUSION

The knowledge of patients about Dengue fever symptoms, its mode of transmission and breeding places of dengue mosquito was not satisfactory. Preventive practices followed by patients were not sufficient to protect them against Dengue. Awareness generation programmes should be strengthen through various activities to increase knowledge, correct preventive practices to reduce the burden of dengue in the community.

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