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The Community knowledge, attitude and practices regarding Dengue fever in field practice area of urban training health centre of Patiala

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ABSTRACT

Background: Dengue is one of the major public health concerns and an emergent disease in India. It has endemicity in some parts of country with periodic outbreaks in the post monsoon period; Punjab is one such region which showed major outbreaks every year.

Aims & Objectives*:* The objective of the study was to assess the knowledge, attitudes and practices regarding dengue fever among community of urban area of Patiala district.

Materials and methods: This cross-sectional study was carried out in the month of September and mid October 2013 after the monsoon season when there was sudden increase in the number of dengue cases diagnosed in Rajindra hospital Patiala with majority of them reported from Tripuri area of Patiala. 410 houses were selected by systematic sampling and pre-tested and pre-defined questionnaire were filled by adult member in the house. Data was analyzed by SPSS and MS Excel.

Results*:* Out of 410, respondents, 87.32% were aware about dengue fever. Fever as presenting symptom was known to 90.5% but very less awareness about other symptoms of dengue fever. Majority of them believe that dengue mosquito breeds in dirty water. Mosquito spray and coil/liquid vaporizer is used by most of them during night time only. Most of the respondents neither check their coolers for mosquito breeding nor changed water in their coolers within a week. Television news channels and newspaper are main source of their information.

Conclusion*:* In the light of the present study we recommend the district health authorities to increase the knowledge and application of preventive measures by massive awareness campaign before monsoon season, so as to ensure that knowledge imparted to community get translated into practice as well is the emergent need.

Key words: ***Awareness, Dengue fever, Epidemic, Mosquito, Outbreak***

Introduction

"Dengue Fever" (DF) an outbreak prone viral disease is transmitted by *Aedes* mosquitoes. DF is characterized by fever, headache, muscle and joint pains, rash, nausea and vomiting. Some infection results in Dengue Hemorrhagic Fever (DHF) - a syndrome that in its severe form can threaten the patient's life primarily through increased vascular permeability and shock. DF and DHF are caused by the four dengue viruses DEN 1, 2, 3 and 4, which are closely related antigenically. Infection with one serotype provides lifelong immunity to that virus but not to the others [1]. Dengue virus infection is increasingly recognized as one of the world's emerging infectious diseases [2–5]. 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 [6, 7]. 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 diseases transmitted by arthropod vectors in terms of morbidity and mortality [8]. WHO declares dengue and dengue hemorrhagic fever to be endemic in the Asian sub-continent. Presently, dengue is endemic in 112 countries of the world [2**].** India is endemic for dengue fever and this year (2013) there has already 22,092 cases and 74 deaths reported in India according to ministry of health family welfare [9]. The state of Punjab is endemic for dengue. Dengue cases have been reported from 19 districts of the state. Majority of the dengue cases have been reported from the urban areas of the state. In

2012 there were 770 cases and 9 deaths due to dengue fever as reported by department of health and family welfare, Punjab, Chandigarh. Rapid and unplanned urbanization and low socioeconomic areas and slums not only contribute to the spread of disease but also make it difficult to curb the vector population effectively in urban areas [10].

The rural spread of Aedesis a relatively recent occurrence associated with expanding network of rural water supply schemes and other development projects without health impact assessments, scarcity of water with consequent water storage, changing lifestyle with improper use of air coolers and indiscriminate use of disposable containers, bottles, etc, improved transport system[11].

Delhi had its largest outbreak of DHF/DSS in 1996. The outbreak started inthe last week of August and continued until the end of November, peaking in mid-October [12, 13]. A total of 8,900 cases were reported, with a death rate of 4.2% [13]. Dengue fever has periodic surges leading to considerable mortality and morbidity in endemic areas. In the absence of a vaccine or specific antiviral to treat DF, vector control is one of the most important preventive measures in combating dengue. The recurrence of DF each year and the rising number of cases with each epidemic suggest that vector control efforts are probably ineffective and need to be improved [14].

The health authorities of Patiala district of Punjab have distributed 5000 pamphlets to create awareness about dengue fever in Patiala district in the month of May and June 2013 but still 10-12 suspected cases of dengue fever were reported to civil surgeon office every day in the post monsoon month of September with majority of them from Tripuri area of Patiala district. There has been sudden spurt in the number of cases in Patiala district in the first half of month of September 2013 and by October end, 473 confirmed cases of dengue fever have been reported by District Health authorities and civil Surgeon office. “It has been uphill task for Rajindra hospital to manage such patients with limited number of beds and mosquito nets in the isolation ward for dengue fever. District health authorities feel that govt. should approve NSI antigen detection test instead of Elisa to diagnose the dengue cases at an early stage so that prompt action can be taken.” The upsurge in the number of cases shows that there is still need to increase the level of awareness of people about dengue fever in Patiala district despite aggressive awareness drive by district authorities.

So a KAP study will not only help in assessing the level of awareness and practices in relation to dengue fever among at risk community but will also help to develop strategies to fill the gap in their level of awareness and practices by increasing their participation and increasing demand for services and developing integrated programs which are more culturally and socially acceptable to at risk population.

Objectives

The objective of the study was to assess the knowledge, attitudes and practices regarding dengue fever among community of urban area of Patiala district.

Materials and Methods

This cross-sectional study was carried out in the month of September and mid-October after the monsoon season when there was sudden increase in the number of dengue cases diagnosed in Rajindra hospital Patiala with majority of them from Tripuri area of Patiala district. According to guidelines for conducting knowledge, attitude and practice study, Minimum sample required is 200, but to be more representative of the population a total of 410 participants were included in the study. This cross sectional study was undertaken in field practice area of UTHC, Tripuri of Patiala district. Out of 2 field practiceareas which are under Govt. Rajindra Hospital Patiala, one area was selected randomly for study. Total houses in the area were 2500.Every fifth house was selected by systemic random sampling method for collecting information. Therefore, 500 houses were selected for the study. Out of which90 houses were locked at the time of visit. Hence, total houses visited were 410. In the selected house, an adult member in the family, who was present at the time ofvisit, was interviewed for collection of information using pre-tested structured questionnaire. The present study was carried out from 1st September to 15th October 2013. Informed consent (verbal) was taken from all the respondents and confidentiality was ensured throughout the study. The questionnaire was translated into Punjabi language for the ease of the respondents. The questionnaire covered the following areas; (a) demographic information (gender, age, occupation, and education.), (b) knowledge about DF (c) attitude towards DF and (d) preventive practices. The questionnaire comprised of both close ended questions where the respondents could select the answer (yes / no questions) and open-ended questions.

The data was compiled using Microsoft excel 2007 and Analyzed through Statistical Package for Social Science (SPSS 16.0) software program for Windows. Apart from

education & occupation of the respondents, questions on knowledge about Dengue fever, its signs & symptoms & preventive practices for mosquito breeding were included in the questionnaire. Overall 410 interviews were taken in 45 days (from 1st September to 15th October 2003). Interviews were taken by junior resident of Community Medicine Department, Government Medical College, Patiala.

Results & Discussion

Although studies have been done on dengue fever in other parts of India, none has been done in Punjab as per the best of our knowledge; with the explosive increase in number of cases of dengue fever in Patiala district, this study can help the District Health authorities to fill the gap in their endeavor against dengue fever. The results of the study are compared with some of the studies done in India and other parts of South East Asia Region.

As shown in table 1, 410 respondents participated in the study, which were divided into six age groups, majorities were between 18-26 years old (41.7%) and the median age was 30 years. Out of these 231 (56.3%) were male and 179 (43.7%) were female. Out of 410 respondents, 9.27% were illiterate, 8.05% were having primary education, 29.51 % were matriculate, 31.71% were graduate and 21.46% were postgraduate ,majority of them were students (32.93%) followed by salaried employee (25.12%), house wife (17.32%), self-employed (16.10%), and professional (8.54%). Out of 410 respondents, 358 (87.32%) were aware about dengue as disease which is lesser than the Chinnakali et al [10] which reported 96.3% and 52(12.68%) have not heard of dengue fever. So further analysis was done on responses obtained from 358 respondents.(Table: 1)

Mosquito bite is the mode of spread of dengue is known 96.09% (344/358) which is more that Matta et al (82.4%) [15]. On the other hand 35.47% believed that dengue was transmitted by other methods such as house fly (6.42%), eating unhygienic food (8.38%), kissing and hugging (7.82%). Some the participants have given multiple responses.

When respondents were asked about the symptoms of dengue, fever was the most common response (90.5%), which was similar to the result shown by Gupta et al [16], followed by severe headache (41.9%), muscular pain/backache (32.96%).However, only 11.17% identified rash as a symptom. A low percentage identified pain behind eyes (10.06%) as a symptom of Dengue. The study showed less knowledge among respondents about symptoms of dengue when compared with Gunesekara et al [14] and Itrat et al [17]. Regarding the biting habits of dengue mosquito, 56.15% responded mosquito bites during day time, 28.21% responded night time and 15.6% have no knowledge about biting time. In comparison with the present study Chinnakali et al [10] showed less knowledge whereas Gunasekara et al [14] showed higher knowledge about mosquito biting time. Majority of the participants (74%) thinks that dengue mosquito breeds in standing dirty water, (23%) responded clean water and 3% had no knowledge. Majority of respondents knew about the common breeding sites of dengue mosquito which were coolers/pots /tyres/empty containers consistent with the results shown by Chinnakali et al [10]. (Table: 2)

Overall 94.13% thinks that dengue is preventable. Majority of the respondents (95.53%) would seek doctor and hospital treatment in case any of their family members has dengue fever, which is consistent with the results of Gunasekara et al [14]. (Table: 3)

When asked about their source of knowledge about dengue fever majority responded television (69.27%) followed by newspaper (47.49%) and then doctor (36%) which is consistent with study results of [20-23]. (Table: 4)

Majority of the respondents (68.99%) think that preventing water stagnation in discarded empty containers/tyres/pots will eradicate mosquito breeding sites. When asked about preventive measures from mosquito bite, Mosquito sprays (65.36%) and mat/coils/liquid vaporizer (56.70%) were most common choices This showed that respondents were aware of measures to protect themselves against mosquito bite through mosquito coil/mats, use of bed nets, covering standing water and removal of standing water. Previous studies have also reported similar results [18, 19].Regarding the preventive practices used at home by the respondents, majority of them used mosquito mats/coil/liquid vaporizer (68.44%) followed by mosquito spray (55.6%). Almost similar results were shown by Chinnakali et al and Jogdand et al [10, 24]. Mosquito repellants/coils/vaporizers are used mostly during night time (64.23%). Coolers are used by 81% of respondents but majority of them (75.5%) were not checking their coolers for mosquito larvae and 53.6% change water in their coolers after one week. Cooler users are much more in our study as compared with Matta et al [15].Moreover respondents are less cautious in checking their coolers frequently for mosquito breeding in present study compared with Matta et al [15]. (Table: 5)

TABLE: 1. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF STUDY POPULATION

Variable	Number(n=410)	(%)
Age		
18-26	171	41.71
27-37	108	26.34
38-48	62	15.12
49-59	47	11.46
60-70	14	3.41
71-81	8	1.95
Gender		
Male	231	56.34
Female	179	43.66
Education		
Illiterate	38	9.27
Primary	33	8.05
Matriculate	121	29.51
Graduate	130	31.71
Postgraduate	88	21.46
Occupation		
Student	135	32.93
Salaried employee	103	25.12
Self employed	66	16.10
House wife	71	17.32
Professional	35	8.54

TABLE: 2. KNOWLEDGE REGARDING DENGUE FEVER

Questions	Number	%
Are you aware about dengue fever?		
Yes	358	87.32
No	52	12.68
Total	410	
How dengue fever spread?		
Mosquito bite	344	96.09
House fly	23	6.42
Drinking dirty water	46	12.85
Unhygienic food	30	8.38
Kissing/hugging	28	7.82
What are the symptoms of dengue fever?		
Fever	324	90.50

Severe Headache	150	41.90
Muscular pain/backache	118	32.96
Bleeding	46	12.85
Nausea/Vomiting	80	22.35
Rash/spots on body	40	11.17
Pain behind eyes	36	10.06
Dengue mosquito bites during which time?		
Day time	201	56.15
Night	101	28.21
Don't know	56	15.64
What are common breeding sites of dengue mosquitoes?		
Water storage jars/ discarded containers/coolers/tyres	259	72.35
Overhead tanks	111	31.01
Dirty Water	194	54.19
Garbage/Trash	112	31.28
Plants/Vegetation	54	15.08
Don't know	5	1.40
Dengue mosquito breeds in?		
Clean water	82	22.91
Dirty water	265	74.02
Don't know	11	3.07
What are the various methods to prevent mosquito bite?		
Mosquito Spray	234	65.36
Mosquito repellant cream/odomas	172	48.04
Mosquito Mat/Coil/Liquid Vaporizer	203	56.70
Mosquito Net	173	48.32
Window & Door Screen	123	34.36
Use of Smoke to drive away mosquitoes	94	26.26
Covering of body with clothes	158	44.13

TABLE: 3. ATTITUDES TOWARDS DENGUE FEVER

Question	Number	%
Can dengue fever be prevented?		
Yes	337	94.13
No	21	5.87
What will you do if your family member has dengue fever?		
I would treat the patient at home	16	4.47
I will take the patient to a doctor/Hospital	342	95.53

TABLE: 4. SOURCE OF KNOWLEDGE ABOUT DENGUE FEVER

Questions	Number	%
What is your source of knowledge about dengue fever?		
Television	248	69.27
News paper/magazine	170	47.49
Radio	67	18.72
Friends and relatives	81	22.63
Hoarding /banners	40	11.17
Health Dept. Staff	89	24.86
Personal Doctor	130	36.31
Advertisement/ Messages/ pamphlets in Print media	39	10.89

TABLE: 5. PRACTICES TOWARDS DENGUE FEVER

Question	Number	%
What you will do to eradicate breeding sites of dengue mosquitoes?		
Prevent water stagnation in discarded empty containers/tyres/pots	247	68.99
Covering water containers and frequent water change in coolers	157	43.85
Covering overhead water storage tanks	148	41.34
Cutting trees and vegetation	82	22.91
Prevent collection of water near houses	180	50.28
What practices you use at your home for mosquito control?		
Mosquito Spray	199	55.59
Mosquito Mat/Coil/Liquid Vaporizer	245	68.44
Mosquito repellant cream/odomas	94	26.26
Mosquito Net	82	22.91
Window & Door Screen	121	33.80
Use of Smoke to drive away mosquitoes	38	10.61
Prevent Water Stagnation in coolers/ empty containers/tyres/overhead tanks	151	42.18

At what time you use mosquito repellent/ cream/ vaporizer?

During day time only	30	8.38
During night time only	230	64.25
Both times	84	23.46
Not at all	14	3.91
Do you have cooler at your residence?		
Yes	290	81.01
No	68	18.99
If yes, do you check cooler for mosquito breeding?		
Yes	71	24.48
No	219	75.52
How frequently you change water in your coolers?		
Less than one week	95	32.76
More than one week	192	66.21
Never	3	1.03

Conclusion

The present study showed that though majority of study people know that dengue is caused by mosquito bite, but they have very less knowledge as far as mosquito breeding is concerned as majority of them were of the view that it breeds in dirty water and their knowledge about symptoms was deficient, fever as a symptom was known to them but they were not aware about other symptoms of dengue fever. Regarding their preventive practices majority of them used mosquito coil/repellant only during night time and very less used participants during both time. Most of respondents used coolers, but were not checking them regularly for mosquito larvae and are not changing water in their coolers within one week. So there are gaps in their knowledge and preventive practices focused mainly on protecting themselves from mosquito bite and less on other environmental control measures. In the light of the present study we recommend the district health authorities to increase the knowledge and application of preventive measures by massive awareness campaign. Information, education and communication (IECs) materials should be distributed in the community. Use of mass media to disseminate more information about dengue fever and more aggressive health education programs with involvement of health workers and public health professionals so as to ensure that knowledge imparted to community get translated into practice as well is the emergent need.

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