ORIGINAL ARTICLE

Knowledge, Awareness and Practices about Dengue Fever among University Students

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ABSTRACT

Aim: To find out knowledge of Dengue fever among university students, studying different courses.
Duration: Study was conducted during month of June, July and August, 2011.
Methods: It was ac cross-sectional study conducted on 374 students studying at intermediate bachelors and master level in University of Gujrat. Pretested questioners were used to collect primary data. Composite cumulative scores were used to determine knowledge about dengue fever. Students enrolled in engineering, medical, basic sciences, It& business administration and social sciences were major groups of study. Data was entered and analysed in SPSS17.
Results: Response was collected from 374(53.5% females & 36.5% males participants. Mean age with SD was 21.3±1.72. IT & business administration students scored the highest in knowledge. No considerable difference seen among high and low socio-economic groups (p=0.06)
Conclusion: Good knowledge in IT students among different groups (p=0.000), support the fact that internet is strong source of information and helpful tool for raising awareness amongst general public. High knowledge of preventive measures is not depicted in practice and needs awareness strategies towards ensuring implementation of preventive measures.
Keywords: Dengue fever, students, knowledge

INTRODUCTION

Dengue fever, dengue hemorrhagic fever and dengue shock syndrome has emerged as most important arthropod –borne viral disease of humans all over the world in the last 20 years[1,2].During the past decade, DHF epidemics have occurred in China, Sri Lanka, India, Maldives, Bangladesh, and Pakistan[3,4,5.]

An increased frequency of dengue fever has occurred in pakistan[6]. Small outbreaks have been observed in different towns and cities of Pakistan in recent years though the first outbreak was reported in 1994 in Sindh province[5]. In 2008 Lahore capital city of Punjab province suffered from Dengue outbreak with three different dengue serotypes identified[7.] Pakistan notified WHO of more than 1500 laboratory confirmed cases of dengue fever including 15 deaths in Punjab province in the year 2010.[8]In 2011 rapid rise was observed in number of patient in all provinces of Pakistan. Total number of dengue patients in the province of Punjab raised to 17,772, of which, 15,235 were from Lahore[.9] .The death toll now stands at 227 in Lahore and 253 in the Punjab province till 20th October, 11[10].

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Pakistan has annual per capita income of only $ 1254 in 2010-2011[11]. With this low income per capita, disease like dengue is substantial loss to economy. Dengue fever has total diagnostic estimated cost per case of nearly US$ 70, while hospital charges are nearly USD 100[12.] There is lack of data on reported cases of dengue Fever /DHF in Pakistan specially underreporting from private health providers gravely hides seriousness of issue. Studies have shown that median age of dengue patients has decreased now and younger patients may be more susceptible in recent outbreaks[13]. Also very few studies have been conducted about the Dengue serotype prevalent in Pakistan.

Dengue vector control requires effectual participation of the local community[14]. Because an effective vaccine is not yet available, dengue control is limited to reduction of the vector population[2.] It is imperative to recognize about community knowledge awareness and practices regarding Dengue for improving preventive measures in Pakistan.

Objectives of this study were to identify community trends toward utilization of preventive measures in controlling the dengue spread by asking the knowledge of dengue, practices of dengue control, relationship between level of education and awareness about disease among the study community .Also it is worth noticing that which preventive measure is most frequently used so that market supply should be efficiently maintained. The

study may be useful in designing evidence based effective preventive and control strategies and sustainable community involvement.

MATERIAL & METHOD

A cross sectional study was conducted. Total numbers of 374 students were interviewed and pretested questioners were filled. Convenient sampling was done. Medical terminologies were written in simple language and interviewers were trained for data collection. Study was conducted from June, July and August, 2013 at University of Gujrat, Jalal Pur Jattan campus. Questioners were designed to gather information about socio-demographic profile including monthly family income and area of residence. The aim was to identify any difference between high and low socio economic groups. Course of study was also presumed to have impact on knowledge of Dengue. Questions regarding malaria were also incepted to find out misconception about dengue and malaria. Multiple responses were recorded for mode of spread, vector breeding sites, mosquito bite time and treatment options. Cumulative score of 24 was used to categories responses into good, fair and poor knowledge. Also knowledge preventive measure in routine was scored with 10 and difference was noted in scoring of with practices in routine life. Data was entered in excel and analysed in SPSS 17.Incomplete forms (13) were cancelled.

RESULTS

Total number of respondents was 374. (Table 2) Respondents who never heard of dengue were 4.5%.Females were 53.5% and males 46.5%.In data analysis valid percentages were used, Table 1 summarises the demographic features of study population. In response to marital status only 1 student responded married remaining all were unmarried.2/3 students belonged to urban areas. Data analysis on the section of knowledge, awareness and practices was performed on 357 respondents.

Malaria and Dengue spread by same type of mosquito was reported by 17% while 66% correctly identified that both diseases spread by different vector. Both vectors have different breeding and feeding habits and needs different type of preventive measures.17% did not know about the vector. Mosquito bite was identified as common reason of Dengue fever, although misconceptions were also documented. Fever was recognised as most common symptom of Dengue (n=279/357, 74.2%) followed by headache, bleeding, myalagia, rash and vomiting.

Bleeding and rash are specifically related to fever and 6(1.6%) recognised all the symptoms, while 69(18.4%) recognised 3 symptoms in multiple response options.

Standing clean water was identified as common vector breeding site 278(78%) said that flower pots and plants does not contribute to spread of mosquito. Sunset is reported as frequent bite time (56.3) but sunrise was reported by 36.4% only.287(76.4%) respondents considered dengue as a treatable illness .14.8% correctly said that treatment is symptomatic only; remaining 10.9%, 16.2% and 16.5% identified antimalarial, antibiotic and antiviral as treatment choices. A higher response was (41.5%) not knowing that what type of treatment is available. 70(18.7%) respondents considered Dengue as not treatable. 61.2% scored 6 or below out of 10 in cumulative score in knowledge about preventive measures against dengue fever.83.7% scored 6 or below out of 10 in preventive measures practiced. High percentage of respondents was not using preventive measures in spite of having knowledge.

Most common preventive measure identified was mosquito killing spray 323(90.5%) and also this is the most common preventive measure practiced 268(75.1%). Other important preventive measures identified were windows & door net protection 253(70.9%), covering clean water containers 255(71.4%), wearing completely covered clothes & using mosquito repellent coils and mats.

Socio-Demographic profile of respondents	Frequency (n=374)	%age
Mean age ± SD	21.31±1.72	N/A
Male	174	46.5
Female	200	53.5
Rural	137	36.6
Urban	237	63.4
Intermediate	111	29.7
Bachelor	228	61.0
Basic sciences	44	11.8
IT & business administration	128	34.2
Social sciences	133	35.6
Less than Rs.10000/- income	68	18.2
10001-20000	70	18.7
20001-35000	85	22.7
35001+	121	32.4
Mo response	30	8.0

213(59.7%), preventing water stagnation 206(57.7%).Less important measures reported were bed covering nets 146(40.9%), smoke to drive away mosquito 133(37.3%), and cutting indoor plants/vegetations 95(26.6%).

Table 2: Knowledge & awareness Dengue

Knowledge about Dengue Fever (Vector & Illness)	Yes%	No%	Do not know%
Mode of spread of dengue disease*			
Dengue spreads by mosquito bite	82	3	32
Dengue spreads by direct contact	23	43	5
Dengue spreads by fly bite	8	87	5
Dengue spreads by dirty drinking water	10	85	5
Dengue spreads by unhygienic food	4	91	5
Common symptom of dengue fever			
Fever	78	14	8
Headache	36	56	8
Bleeding	23	69	8
Rash	15	77	8
Myalagia	12	80	8
Vomiting/Nausea	6	76	8
Malaria & dengue spread by same mosquito	17	66	17
Common breeding sites of dengue vector*			
Standing clean water	58	36	6
Standing dirty water	32	62	6
Garbage	25	69	6
Plants/flower pots	16	78	6
Frequent mosquito bit timing			
Sunset	56.3	38.1	6
Sunrise	36.4	58	6
Night	28.3	68.1	6
Morning	14.6	79.8	6
Treatment options			
Medical treatment available	76.7	18.7	4.5
Symptomatic	14.1	NA	NA
Antimalarial	10.4	NA	NA
Antiviral	15.5	NA	NA
Antibiotic	15.7	NA	NA

Table 3:Respondents Knowledge on Dengue Infection

Score Range	Frequency	%age	Inference
10 & below 10	132	37.0	Poor
11-16	163	45.7	Fair
17-24	62	17.4	Good

DISCUSSION

Monthly family income had nearly no significant association with knowledge (p=0.06) in contrast to study conducted by Syed et. al[6], reported significant association of high socio economic group with knowledge (p=0.02). Though this difference could be because of different criteria for scoring .Similarly area of residence had no significance. Course of study had significant association (p=0.000) with knowledge. It & business administration students had highest cumulative score attributable to use of internet technology.

Fever was recognised as most common symptom of Dengue (279/357, 74.2%) similar to findings of (74.5%) by Syed et al in Karachi and almost similar to study of Chinnakali et.al. (84%) in Dehli.[6,15] Though symptoms specifically associated to dengue fever like rash, body and muscle aches were recognised by very few which depicts poor knowledge of illness as fever alone is sign of many common illnesses. This lack of information can delay the contact with health professional.

Important finding of this study was that instead of having the knowledge people still not utilise the measure of door and windows net coverage, application of mosquito repellent oil& bed covering nets. These strategies may be considered costly and prime importance may be given by government to enhance the implementation of knowledge into practice through community mobilization.

Key result of this study explored the insignificant relationship between knowledge about dengue and preventive practices. Knowing the path and following the path is different. Many people knew about preventive measures yet they did not practice them. Knowledge about dengue fever did not essentially transform to improve preventive measures. This result is inconsistent with previous studies conducted in Pakistan [16] but consistent with findings of study in Philippines[14], Jamaica[17], Brazil[18], Thailand [19] and India[20].

Instead of repeated outbreaks still knowledge of population is lacking in breeding and feeding habits of vector Adeas Ageypti Emphasis should be directed to internet based awareness raising campaigns. Focus has to be directed towards transformation of knowledge into practice.

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