Original Article

Dengue Fever

A Hospital Based Study of Knowledge, Attitude and Practices Regarding Dengue Fever among the Population of Peshawar

Saminullah Khan[1], Sher Bahadur[2], Attaullah Jan[2] and Gohar Rehman[2]

ABSTRACT

Objective: To determine the knowledge, attitude and practices among patients and visitors in two tertiary care hospitals of Peshawar, Khyber Pakhtunkhwa, Pakistan.

Study Design: Cross sectional study.

Place and Duration of Study: This study was conducted at the Khyber Teaching Hospital (KTH), Peshawar and Lady Reading Hospital (LRH) from September to November 2016.

Materials and Methods: Data Collection was based on indigenous questionnaire. Using Convenient sampling techniques, a total of 448 adult patients and visitors were recruited in the study from two selected public sector tertiary care hospitals in Peshawar. The patients and visitors presented to outpatient department (OPD) were requested to take part in the study. Data were analyzed SPSS version 20 for descriptive statistics.

Results: Out of 448 sampled subjects, 435 (age 18-40 years) participated in the study, whom 289(66.4%) were male and 146(33.6%) were female. Regarding knowledge, only 239(54.9%) knew about mosquito bite as the main mode of transmission, 234(53.7%) believe that dengue is contagious diseases, while 72(16.5) were unaware. Similarly, 189(43.4%) reported that fresh water is main breeding site. Knowledge about prevention measures revealed that 72(16.5%) were lacking information of preventive measures and 137(31.4%) had no ideas about eradication strategies. More than half 253(58.1%) considered dengue could be dangerous if not treated early. Similarly, 239(54.9%) also believed that it should be prevented before onset. However 196(45.1%) of them were not in favor of prevention. The preventive measures proposed by participants included; Sprays 126(28.9%), Matt/ coil/ repellant 46(10.5%), Screening 32(7.3%) and Covering with cloths 31(7.1%), while 126(28.9%) were of the view that there is no need of any precautionary measures.

Conclusion: The knowledge among the adult participants was not optimal; there were wide variation in interpretations of causes, preventive aspects and consequences of dengue fever.

Key Words: Dengue Fever, Population, Peshawar

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INTRODUCTION

Dengue fever is vector borne infectious disease; mostly occurring in tropical regions and is suspected to be transmitted to susceptible human, characterized by mild influenza (flu) like symptoms, fever and some time presenting by hemorrhage, known as dengue hemorrhagic fever which can then lead to a shock like state called dengue shock syndrome.[1]

[1.] Department of Community Medicine, Rehman Medical College, Peshawar.

[1.] Department of Community Medicine, Khyber Institute of Child Health, Peshawar.

Correspondence: Samin Ullah Khan:, Asst. Prof Community Medicine, Rehman Medical College, Peshawar.
Contact No: 03339390129
Email: samin.khan@rmi.edu.pk

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It is believed that dengue fever is infecting around 50 to 100 million people every year.[2] There have been drastically around 30 fold increase in the prevalence of dengue fever in 2010.[1] The reasons behind this trend are: increased in population, travelling around the globe, and most importantly the phenomenon of global warming. The problem is that 70% people live near the equator which is around 2.5 billion, making huge endemic areas in Asia and pacific.[3 4] In some area of developing countries the dengue has still come up as a lethal disease transmitted[5]. The mortality and morbidity being caused by dengue, DHF and dengue shock syndrome is becoming a mammoth concern for the health authorities worldwide. It is still a vital health problem in Asian and African countries where the outbreak of dengue fever reported every year.[6 7]As half of World population is living in areas endemic to dengue, there is a need of urgency of devising a policy against it. These being underdeveloped nations, cannot further bear the financial loss which occurs in terms of loss of daily wages and health expenditure.[4] In the Asian subcontinent WHO has now labeled dengue and

DHF endemic. As of now it is present as endemic in 112 countries.[7] In Pakistan the outbreak goes back to 1994 and after that a large number of cases come up every year. In a poor and developing country like Pakistan it has the potential to cause havoc.[8] After 2005-6 there occurred an unprecedented upsurge in the spread of dengue and a huge number of cases were reported in Karachi.[9] In Pakistan the cases reported are on the on the rise annually.[10] In spite of the gravity of situation, no documented evidence regarding the awareness and practices among people regarding dengue fever is present. [11] Knowledge, attitude, and practice play a vital role in prevention of diseases, including dengue fever,[12] Literature in this regards indicates that poor knowledge among respondents was negatively associated with preventive measures of dengue through protection of containers in close vicinity of the houses. Similarly increased awareness lead to positive attitude of practices of mosquito reducing acts like using mosquito's repelling coil, screening on doors and windows.[13] It is worrying that despite of the drastic level of threat being posed by dengue here in Pakistan, the health care has not come up with a serious policy. In the near past dengue has been causing havoc especially in Punjab province and it also took several precious lives in KPK leaving more with more morbidities in KPK. A need is felt to assess the knowledge attitude and practice of the adult population of Peshawar regarding dengue which ultimately led to this study hence. This study encompasses the knowledge, attitude and awareness of the adult population of Peshawar regarding dengue fever and various variables are taken into consideration to assess the Knowledge attitude and practices of adult population.

MATERIALS AND METHODS

This was a cross sectional study conducted in two public sector tertiary care hospital; the Khyber Teaching Hospital (KTH) and Lady Reading Teaching Hospital (LRH), Peshawar. The study was conducted from September to November 2016 as in this period the occurrence of cases was at peak. All adult residents of Peshawar who were visiting KTH and LRH Peshawar during data collection period were requested to take part in the study. Assuming 95% confidence level and 0.50 prevalence, sample size was 448. Using convenience sampling technique the individual who were residents of Peshawar aged 18 years or above, who visited the outpatient departments (OPDS) of LRH and KTH either patients or their attendants and who can read/understand/speak Urdu/Pashto/English were included in the study. Those who refused to be part of the study were excluded. After taking verbal consent participant were given self-administered questionnaire, however they were also assisted in filling the questionnaire when they needed. Data were analyzed using SPSS version 20 and the results recorded as mean, standard deviation and frequencies.

RESULTS

A total of 435 out of 448 (response rate 97%) participated in the study out of whom 289 (66.4%) were male and 146 (33.6%) were female. Among them majority 158(36.3%) and 165 (37.9%) were in the range of 18-30 and 31-40 years age respectively, whereas 336 (77.2 %) were married. The sources of information from which the participant became aware about the dengue fever included; television, friend/family, poster/pamphlets and banners as shown in figure 1.

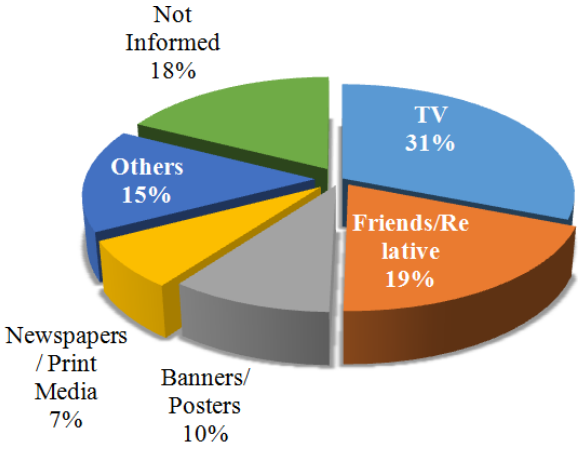

Figure No.1: Various information sources about dengue

Table 1a: Knowledge of participant about different aspects of dengue fever

Variables	Options	Frequency	%tage
Dengue History	Yes	29.	6.7
	No	406.	93.3
Spreading Mode	Mosquito Bite	239	54.9
	Fly bite	69	15.8
	Unhygienic water/ food	55	12.6
	Don't know	72	16.5
Contagious	Yes	234	53.7
	No	104	23.9
	Don't know	96	22
Symptoms of dengue	Fever	163	37.4
	Headache	54	12.4
	Rash	30	6.8
	Body ache	53	12.1
	Nausea/ vomiting	35	7.3
	Bleeding	29	6.6
	Don't know	72	16.5
Medication for dengue	Antibiotic	46	10.5
	Anti-malarial	37	8.5
	Antipyretics/ analgesics	149	34.2
	Don't know	203	46.6

Table No.1b: Knowledge of participant about different aspects of dengue fever

Variables	Options	Frequency	%age
Breeding sites of mosquitoes	Clean water	189	43.4
	Dirty water	92	21.1
	Garbage/ trash	75	17.2
	Vegetation/ Plants	38	8.7
	Don't know	41	9.4
Frequent biting time	Sunset	103	23.6
	Sunrise	117	26.8
	Day	74	17
	Night	88	20.2
	Don't know	53	12.1
Knowledge of prevention measures	Sprays	148	34
	Matt/ coil/ repellant	63	14.4
	Screening	38	8.7
	Cloth cover	55	12.6
	Others	59	13.5
	Don't know	72	16.5
Eradication of breeding sites of mosquitoes	Preventing water stagnation	146	33.56
	Covering water container	79	18.1
	Cutting trees/ vegetation	69	15.8
	Don't know	137	31.4

Among the participants 29(6%) have suffered from Dengue fever. From Knowledge perspectives, 239(4.9%) believed that Dengue infection is transmitted by mosquito bite while 69 (15.8%) reported that it is transmitted by fly bite. On the other hand 234 (53.7%) were thinking that Dengue is a contagious diseases. Regarding the sign and symptom most of them 163(37.4%) were aware about fever as main feature, however still 72(16.5) were not aware about the symptoms of disease. Regarding treatment option 149 (34.2%) believed that only antipyretic is the treatment whereas, 203(46.6%) had no idea about the medication, 46(10.5%) said antibacterial are the drug of choice while 37(8.5%) reported that the problem is dealt with by anti-malarial drugs. Only 189 (43.4%) reported that clean water is main breeding site. Nearly 50% of them knew that probability of biting by mosquitoes is high during the time of sunset and morning. Knowledge about prevention measures revealed that 72 (16.5%) were lacking information of preventive measures, while 137 (31.4%) had no ideas about eradication strategies.

The attitude of the participants indicated that more than half, 253(58.1%) considered dengue could be dangerous if not treated early. Similarly, 239(54.9%) also believed that it should be prevented before onset. However 196(45.1%) of them were not in favor of prevention. The preventive measures proposed by participants included; Sprays 126 (28.9%), Matt/ coil/ repellant 46 (10.5%), Screening 32 (7.3%) and Covering with cloths 31 (7.1%), while 126 (28.9%) were of the view that there is no need of any precautionary measures and 68 (15.6%) did not comment in this regards.

Table No.2. Attitude variables regarding dengue

Variables	N	%
You think dengue is dangerous?		
Yes	253	58.1
No	182	41.8
Do you think prevention should be taken?		
Yes	239	54.9
No	196	45
Which measures do you think should be taken?		
Sprays	126	28.9
Matt/ coil/ repellant	46	10.5
Screening	32	7.3
Covering with cloths	31	7.1
Others	6	1.3
Don't think should be taken	126	28.9
I don't know	68	15.6

DISCUSSION

In Pakistan the dengue fever outbreak was reported in 1994 from Karachi followed by Lahore in 2007. The disease drastically affected huge population in district Swat and Peshawar in 2013 and is still steadily present in concentrated prevalent form. [14] For prevention of dengue breeding and proliferation community participation is considered to be vital as they can play crucial role in controlling the breeding side of mosquito that carries the infection agent through making clean hygienic practice (clean environment) and changing harmful (unhealthy) behaviors that could led to propagation of mosquito breeding sites. To have an effective way of community participation and efficient preventive measures for this disease knowledge, attitude and practices remained the core components.[15] This study was aim to determine KAP among general population presented in two tertiary care hospitals Peshawar.

In the present study sample was representative, having 97% response rate of adult population ranging from 18-40 years of age across both gender, 289 (66.4%) male and 146 (33.6%) female were part of the study. The study comprised of 336 (77.2 %) married participants indicating that study population consisted a mature and responsible group of people. Most of them had heard about dengue fever and main source of information was television, friend/family, and poster/pamphlets. However remarkable proportions (18%) were not informed. There was wide variation in the knowledge of the participants, although they have heard about the

word dengue fever. Only 239(54.9%) knows that it is transmitted through mosquito, and yet there was several misunderstanding in terms of nature of disease, symptoms, medication and preventive measures. The same findings were also reported in study conducted in Karachi**.**[16] The knowledge of general population in India and Brazil is high as compared to what reported in Pakistan.[17 18]

In attitude category we found out that 253 (58.1%) said they think dengue is dangerous and 239 (54.9%) reported that precaution should be taken. Most of the participants 126 (28.6%) recommend use of spray as preventive measure; however similar proportions were of the view that there is no need of any precautionary measures. The use of Matt/ coil/ repellant was recommended by only 46(10.5%). Study from Uttar Pradesh revealed that 172 (86%) of the respondents were using mosquito mats as precautionary measure 64(32%) were using mosquito nets and 42(21%) were using spray and only 10(5%) were using the repellent creams. This indicates that the people of Utter Pradesh used best remedies of preventive measures, however the practices of prays was also low.[19] It is important to note that the relationship between knowledge and practices is not always linear. Some time competent persons did not put their competency into practices as reported by study from Barzil where they found significant gap between knowledge and practices about dengue prevention.[20]

CONCLUSION

There were wide variations/misconceptions in terms of knowledge about the basic variables of dengue prevention, nearly half of participants shown poor attitude toward preventive measures. As a whole more focus were given to spray, while other traditional precautionary measures like use of bet net and widow net were ignored, a significant proportion of participant were not in favor of precautionary measures.

Author's Contribution:

Concept & Design of Study:	Saminullah Khan
Drafting:	Attaullah Jan
Data Analysis:	Sher Bahadur
Revisiting Critically:	Gohar Rehman,
Final Approval of version:	Saminullah Khan, Sher Bahadur

Conflict of Interest: The study has no conflict of interest to declare by any author.

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