

# DENGUE FEVER;

## ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICES OF COMMUNITY MEDICINE OF AZIZ BHATTI TOWN LAHORE DURING RECENT EPIDEMIC

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**ABSTRACT...** Dengue infection is one of the most common mosquito borne viral diseases of public health significance. It has been identified as a clinical entity since 1780. Dengue is caused by viruses that are small enveloped viruses and are members of the family Flaviviridae genus Flavivirus. It is a vector borne disease and is a global health threat. In Pakistan first epidemic was reported in 1994 and since then cases are reported every years. This year dengue infection raised the number of patients and increased the deaths. **Objectives:** To assess the knowledge, attitude and practices of the people regarding Dengue fever. **Study Design:** Cross Sectional Study. **Setting:** Aziz Bhatti Town, Lahore. **Duration of Study:** One Month. **Material and methods:** Convenient sampling. The investigator himself collected the information from the sample under study. First of all, an informed consent was obtained from the respondent under study and secrecy of the information was ensured. Data was entered and cleaned using Epi Data version 3. Data was analyzed using Epi info version 3.5.1. **Results:** Out of 41 respondent families only 2.4% did not hear about dengue fever while 97.6% respondents were well aware of the dengue fever. 80.5% were aware of high grade fever in dengue fever, 73.2% were aware of associated body aches. 92.7% were aware that dengue fever is preventable. 95.1% were using mats, coils & repellents while 2.4% were using smoke of wet wood. 36.6% were covering the water containers. 75.6% were keeping environment dry and clean. 68.3% were having opinion that they will consult GP in case of illness. 85.4% told that TV/Radio were the source of above mentioned knowledge while 9.8% doctor and 4.9% got information through newspapers. only 4.9% respondents were having opinion that government had sprayed for dengue fever. 7.3% families experienced the patient of dengue fever in their family. **Conclusions:** In this study the results are the almost same with little variations as found in other studies. The knowledge, attitude and practice are the almost same in every studies with little variation. Majority of the families were well aware of dengue fever.

**Key words:** Dengue fever, Flavivirus, Epidemic.

## RECOMMENDATIONS

Government should take anti- mosquitoes measure. Timely spray should be done. Anti-larval measures should be done. Public awareness programme should be done. Treatment centre should be making available 24/7. Medical and para-medical staffs should be trained in this matter.

## INTRODUCTION

Health is defined in the World Health Organization's Constitution as "a state of complete Physical, social and mental well-being, and not merely the absence of disease or infirmity"<sup>1</sup>. Thus health "is a positive concept emphasizing social and personal resources as well as physical capabilities". A healthy person therefore needs to maintain healthy habits such as taking regular exercises and adequate rest, adopting a high level of personal hygiene, eating a nutritionally balanced diet,

abstaining from the abuse of drugs and alcohol, taking care of one's mental well-being and developing social skills to interact in a positive manner within society. To be healthy is to be in a state of homeostasis (balance) with one's surroundings. Health can be influenced by many factors like: Age, Ethnic origin, Genetic makeup/ Inherited, Sex, Social Class, Occupation, education, Nutrition, Habits, Habitat and Environment.

Globally, infectious diseases remain the world's leading cause of death, killing at least 17 million people a year. The problem is particularly that of the developing world where poor sanitation, overpopulation and overcrowding are important factors. The emergence of new infectious diseases and the development of resistance against drugs and chemicals that previously killed many of these infectious agents has compounded the problem. Increase in travel and trade also increase

the opportunities for infectious diseases to spread to new areas.

Hence Infectious Diseases are transmitted from person to person (or rarely from other sources to human, e.g. the Avian Flu in Hong Kong in 1997) and may be caused by, for example: ! Viruses e.g. Rubella (German Measles).

Dengue infection is one of the most common mosquito borne viral diseases of public health significance. It has been identified as a clinical entity since 1780<sup>2</sup>. Clinical descriptions of the Australian outbreak in 1897 reported that 30 children died<sup>3</sup>. The clinical manifestations of dengue infection range from asymptomatic infection to undifferentiated fever, an influenza-like symptom known as dengue fever, to a severe form, Sometimes fatal disease characterized by hemorrhage and shock known as dengue hemorrhagic fever (DHF). The first and second epidemics of DHF occurred in Manila in 1954 and 1956, followed by the third in Bangkok in 1958. Since then, DHF has spread throughout tropical Asian countries and has expanded globally<sup>4</sup>.



Dengue virus is a positive-stranded encapsulated RNA virus that belongs to the Flavivirus genus of the Flaviviridae family. The genomic RNA is approximately 11 kb in length and is composed of three structural protein genes that encode the nucleocapsid or core (C) protein, a membrane-associated (M) protein, an enveloped (E) protein and seven non-structural (NS) proteins, NS1, NS2a, NS2b, NS3, NS4a, NS4b and NS5. The NS proteins are assumed to be involved in the replication of viral RNA. The proteins are synthesized as a large and

single-polyprotein precursor of approximately 3400 amino acids. They are transmitted among humans by *Aedes aegypti* and *Aedes albopictus*. There are four distinct serotypes, namely dengue 1 to 4. Infection with any of the four serotypes causes similar clinical symptoms that may vary in severity, depending on a number of risk factors including virus virulence, viral load and host response.

Three stages of clinical presentation of dengue fever are named febrile, toxic and convalescent<sup>5</sup>. The patients initially develop an abrupt onset of high fever (39–40°C) with malaise, headache, nausea, vomiting, myalgia and sometimes abdominal pain. During the acute febrile stage, which lasts 2–7 days, hemorrhagic manifestation is invariably present but usually mild. Petechiae hemorrhage on the skin is commonly found. Also, a positive tourniquet test is frequently observed. Bleeding at the nose, gastrointestinal tract and gums is relatively less common compared with petechiae, but may be severe. An abrupt fall to normal or subnormal levels of temperature, varying degrees of circulatory disturbance will develop, known as the toxic stage, lasts 24–48 hours. Ultimately, the majority of patients have rapid uneventful recovery without sequel in the convalescent stage. The clinical diagnosis of DHF is based on four major characteristic manifestations:

- I. Sustained high fever lasting 2–7 days;
- II. Hemorrhagic tendency such as a positive tourniquet test, petechiae or epistaxis;
- III. Thrombocytopenia (platelet count  $< 100 \times 10^9$ );
- IV. Evidence of plasma leakage manifested by hemoconcentration (an increase in hematocrit 20% above average for age, sex and population), pleural effusion and ascites. In Pakistan it's a new disease<sup>5</sup>.

Dengue fever is increasingly becoming an epidemic in Pakistan. Due to the high cost of treatment, the disease spread more rapidly in 2011 than in previous years. It has attracted the attention of the Government of Pakistan, especially the Punjab Government since it is widespread in that particular province of the country<sup>6</sup>. As of November 2011, it has killed over 300 people in the last several months and over 14,000 are infected by this mosquito

born disease. Majority of the people infected are from the Lahore area in Punjab, Pakistan.

In November 2010, more than 21,204 people were reportedly infected<sup>7</sup>. Those infected are mainly from Punjab, Pakistan. Patients are primarily admitted to government hospitals. For dengue patients, special wards have being arranged. The severity of the disease is felt in Lahore, the provincial metropolis of Punjab. Early reports showed that more than 170 people have died and several hundred are admitted as new cases are confirmed.

Secretary Punjab Mineral Development Corporation, Ataullah Siddiqui and Ghiasuddin, a Member of the Punjab Public Service Commission died as a result of the Dengue fever<sup>8,9,10</sup>.

On September 30, 2011, Punjab MPA Mumtaz Jajja also died of dengue fever in Lahore<sup>11</sup>. Eight (8) Chinese engineers have been affected by the virus<sup>12,13</sup>.

Government of Pakistan and Punjab, are working on the preventive measures to reduce the spread of the epidemic.

### OBJECTIVES OF THE STUDY

The main objectives of our study were:-

1. To assess the knowledge of the people regarding Dengue fever.
2. To assess the attitude of the people regarding recent epidemic of Dengue fever in Lahore.
3. To know about the various health practices people were practicing.

### MATERIAL AND METHODS

#### Study Design

Cross Sectional Study

#### Setting

Aziz Bhatti Town, Lahore

#### Duration of Study

One Month

#### Sampling Technique

Convenient sampling

#### Data Collection Instruments

A structured questionnaire

#### Data Collection Procedure

The investigator himself collected the information from the sample under study. First of all, an informed consent was obtained from the respondent under study and secrecy of the information was ensured.

#### Data Analysis Procedure

Data was entered and cleaned using Epi Data version 3. Data was analyzed using Epi info version 3.5.1

### RESULTS

Have you ever heard about Dengue Fever? 97.6% (40) of the respondents have heard about dengue fever. Peoples were having different opinion regarding dengue when asked to explain dengue fever. 2.4% labeled dengue fever as aasabi disease, 9.6% bleeding from nose, 12.2% told that there is deficiency of white blood cells in dengue fever, 14% associated dengue fever with mosquito and sweating, 12% said that it is a disease which is transmitted from one person to other, 2.4% said the fever with vomiting, 2.4% said fever with itching and 9.7% told that there is fever with itching while 14% were unable to explain.

When asked what are symptoms of Dengue Fever? About fever 80.5% respondents said that there will be high grade fever. About body aches 73.2% were having opinion. 34.1% About itching and body rashes and retro-orbital pain was said by all the respondents (100%). Nausea, vomiting (85.4%) and Bleeding from gums and nose 100%.

When asked is dengue Fever a preventable disease? 100% of the respondents were having opinion that it is a preventable disease.

Most of the peoples (95.1%) were using mats, coils, and repellents while (2.4%) were using smoke of wet wood while 2.4% were not using any thing for the prevention from dengue fever. 85.4% of the respondents were not wearing full sleeve clothes. While only 14.6% were

Questions	Yes	No	Total Families
have you ever heard about Dengue Fever	40 (97.6)	1 (2.4)	41 (100.0)
High grade fever	33 (80.5)	8 (19.5)	41 (100.0)
Body aches	30 (73.2)	11 (26.8)	41 (100.0)
Itching & rashes on body	14 (34.1)	27 (65.9)	41 (100.0)
Retro Orbital pain	41 (100.0)	0 (0.00)	41 (100.0)
Nausea & vomiting	35 (85.4)	6 (14.6)	41 (100.0)
Bleeding from gums & nose	41 (100.0)	0 (0.00)	41 (100.0)
Dengue fever preventable	38 (92.7)	3 (7.3)	41 (100.0)
Wearing full sleeve clothes	6 (14.6)	35 (85.4)	41 (100.0)
Using Bed nets	0 (0.00)	41 (100.0)	41 (100.0)
Covering water containers	15 (36.6)	26 (63.4)	41 (100.0)
Avoid stagnant water	7 (17.1)	34 (82.9)	41 (100.0)
Making environment dry & clean	10 (24.4)	31 (75.6)	41 (100.0)
Does any Govt. Team have sprayed in your street / area	2 (4.9)	39 (95.1)	41 (100.0)
Did you or any of your family member ever had dengue	3 (7.3)	38 (92.7)	41 (100.0)

wearing full sleeve cloths to prevent themselves from biting by the dengue mosquito. Non of the respondents were using bed nets. As for as the containers covering were concerned, 36% were covering water containers and 63.4% were not giving attention to this.

17.1% were avoiding stagnation of water and 82.9% did not. 75.6% were not aware about the role of making environment dry and clean. While 24.4% were strictly observing this practice. When asked What you will do if

Questions	Status	Frequency	Percent
What is Dengue Fever?	Aasaibi Disease	1	2.4
	Bleeding from nose	4	9.8
	Can't explain but know	6	14.6
	Deficiency of white blood cells	5	12.2
	Disease of water	2	4.9
	Don't know	6	14.6
	Fever with vomiting	1	2.4
	Itching with fever	1	2.4
	Mosquito and sweating	5	12.2
	Spots on body with fever	4	9.8
	Spread of disease	5	12.2
	Total	41	100.0
Using Mats, Coils & Repellents	No	1	2.4
	Smoke of wet wood	1	2.4
	Using Mats, Coils & Repellents	39	95.1
	Total	41	100.0
What you will do if you have patient of fever	Consulting GP	28	68.3
	Consult a Homeopath or Hakim	2	4.9
	Self medication	6	14.6
	Consult nearest health facility or dispensary	5	12.2
	Total	41	100.0
	What is the source of above mentioned knowledge	TV / Radio	35
News papers		2	4.9
Doctor		4	9.8
Total		41	100.0

you have patient of Fever Most of the people(68.3%) said that they will consult GP for treatment. 4.9% will Consult a Homeopath or Hakim 14.6% will do self medication while 12.2% will Consult Nearest Health Facility or Dispensary. When asked about the source of above mentioned knowledge? 85.4 % respondent got these information from TV and Radio, 4.9% said from news paper and 9.8% from their family doctors. About government spray activity 95.1% of the respondents Govt team did not spray in their street / area. When asked about any experience about dengue patient, only 7.3% were having dengue patient in their family during recent epidemic.

## DISCUSSION

This study was conducted to know the knowledge attitude and practices regarding dengue fever and founded that 97.6% of the respondents were aware about the dengue fever as same results were observed in another study conducted to assess knowledge, awareness and practices regarding dengue fever among the adult population of dengue hit cosmopolitan in which 89.9% of individuals interviewed were aware of dengue fever<sup>14</sup>.

Respondents were observed to have different opinion regarding dengue when asked to explain dengue fever like few labeled dengue fever as aasaibi disease, bleeding from nose, deficiency of white blood cells, associated with mosquito and sweating a disease which is transmitted from one person to other, fever with vomiting, fever with itching which was also observed in other studies<sup>17</sup>.

This study also showed that respondents has sufficient knowledge regarding sign and symptoms of disease which was also observed in another study that about thirty five percent of the sample had adequate knowledge about dengue fever and its vector<sup>15</sup>. Another study also showed that more than half of the parents had good knowledge about signs, symptoms, and modes of transmission of dengue<sup>16</sup>.

All the respondents were well aware of the fact that dengue fever is a preventable disease. Approximately 47% considered dengue to be a serious but preventable

disease to which they are vulnerable<sup>16</sup>.

This was also observed that most of the peoples(95.1%) were using mats, coils, and repellents while (2.4%) were using smoke of wet wood for preventing themselves from the bite of dengue mosquito which was different from the results observed in another study in which a majority (77%) did not use effective dengue preventive methods such as screening of homes and 51% did not use bed nets<sup>3</sup>. In this study non of the respondents were using bed nets. In another study it was observed that knowledge based upon preventive measures was found to be predominantly focused towards prevention of mosquito bites (78.3%) rather than eradication of mosquito population (17.3%). Use of anti- mosquito spray was the most prevalent (48.1%) preventive measure<sup>14</sup>.

This study also showed that , 36% were practicing covering the water containers to prevent the growth of larvae while majority 63.4% were not giving attention to this important factor responsible for dengue fever stress similarly 17.1% were avoiding stagnation of water and 82.9% did not. It was also observed that majority of the respondents 75.6% were not aware about the role of making environment dry and clean and only 24.4% were strictly observing this practice.

This was also observed that when asked what you will do if you have patient of fever , most of the people(68.3%) said that they will consult GP for treatment, only few (4.9%) will Consult a Homeopath or Hakim (14.6%) will do self medication while 12.2% will Consult Nearest Health Facility or Dispensary.

As for as the the source of above mentioned knowledge was concerned it was observed that majority of the respondents (85.4%) got these information from TV and Radio, few (4.9%) from news paper and from their family doctors. Similarly another study also confirmed that television was considered as the most important and useful source of information on the disease<sup>14,17</sup> but in another study results showed that their main source of information about dengue was their friends or relatives<sup>16</sup>.

Majority of the respondents were having opinion about

spray activity that govt spray team did not spray in their street/area.

This was also observed that only 7.3% of the respondents were having dengue patient in their family during recent epidemic.

## RECOMMENDATIONS

### For Public

1. General public should have sufficient knowledge about dengue fever
2. People adopts protective measures
3. Peoples should wear full clothes
4. People should use anti-mosquito's measures
5. Cover water containers
6. Close your windows and doors at morning and evening time because its time of mosquitoes bites.
7. In case of fever use only Paracetamol and should consulted doctor

### For Government

1. Government should take anti- mosquitoes measure
2. Timely spray should be done
3. Anti-larval measures should be done
4. Public awareness programme should be done
5. Treatment centre should be making available 24/7.
6. Medical and para-medical staffs should be trained in this matter
7. Filter clinic should be established to reduce extra burden on teaching hospitals.

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