International Journal for Social Studies
Available at https://edupediapublications.org/journals
ISSN: 2455-3220
Volume 02 Issue 05
May 2016

Assessment of Knowledge and Practices Regarding Dengue Prevention among Rural People in District Faisalabad

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Abstract

Dengue is an infectious disease of the tropics transmitted by striped Aedes aegypti mosquitoes and is characterized by sudden fever and causing rash and aching head and joints. Dengue Fever is increasingly becoming an Epidemic in Pakistan. Due to high cost of treatment, the disease spread more rapidly in 2011 than in previous years. Main objective of the study is to assess the knowledge and practices regarding dengue prevention among rural peoples of District Faisalabad. Multistage sampling technique was applied for data collection. First of all one tehsil (Tehsil Faisalabad) was selected, two union councils (UC-172 and UC-158) were selected randomly then four villages (Dial Gar & Talwandi from UC-172 and Chak # 64 and Chak # 65/JB from each UC-158) were selected randomly and at the last stage 120 respondents were selected randomly from the selected villages. Data were collected with the help of a well designed interview schedule. Data were analyzed by using SPSS software. It was concluded that the main sources of information about DF were TV, health teams and Punjab help line. Rural people had knowledge about the symptoms of dengue fever i.e. high grade fever, headaches, low platelets and nausea & vomiting and they also known that the DF is transmissible through mosquito bite. It was concluded that the rural people had knowledge about the common breading sites of dengue mosquitoes i.e. standing clean water, used tires, air cooler, toilets and kitchen. It was found people had knowledge that the DF is preventable by using mats, coils and repellents, bed nets, fan, wearing full sleeve clothes, window and door screen, cleaning house, Use of smoke to drive away mosquito and Remove of tires for proper storage. It is recommended that mosquito coil and electric mosquito mat/liquid should

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be placed near possible entrance, such as window, for mosquito.

Keywords: Health Awareness, Dengue Fever, Rural Health Development, Rural Sociology

Introduction

Dengue fever (DF) is a vector born disease, caused by single standard RNA virus, imparted generally by bites of Culcine mosquitoes of genus Aedes, principally, Aedes aegyti and Aedes alboictus (Hafeez et al., 2012).

Dengue infection is caused by four dengue virus serotypes DENV-1, DENV-2, DENV-3 & DENV-4. A wide clinical spectrum has been classified by the World Health Organization and it is possible for an individual to be infected with DF several times during his life time (Gunasekara et al., 2012).

Dengue fever is the most common disease among all the arthropod borne viral diseases. Dengue fever during recent decade has become a major international public health concern. Dengue causes a severe flu like illness and sometimes potentially lethal complications called as Dengue Hemorrhagic fever (DHF) and dengue shock syndrome, Dengue is found in tropical and subtropical regions around the world, predominantly in urban and semi urban area (Naik *et al.,* 2011).

The global prevalence of dengue fever (DF) has grown dramatically in recent decades; DF is now endemic to more than100 countries. During the past decade, DHF epidemics have occurred in China, Sri Lanka, India, the Maldives, Bangladesh, and Pakistan. The incident of dengue has grown severely around the world in recent decades. Some 2.5 billion people – two fifth of the world's population are now at risk from dengue. WHO currently estimates there may be 50-100 million dengue infection worldwide every year including 500,000 DHF cases and 22,000 deaths, mostly among children (Centers for Disease Control and Prevention, 2012).

Today the Epidemic of Dengue Viral Infections has spread severely throughout the country. This recent outbreak of dengue fever in Pakistan confirmed the presence of all four types of dengue viral infections in Pakistan. Two of these were reported in previous outbreaks in Karachi city, while a third has been reported in the Lahore outbreak of 2008. Now all four types of dengue serotypes have been confirmed in Punjab. According to Dr. Javed Akram, the

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Head of Jinnah Hospital Lahore and Chairman of dengue expert committee uptill September 2011, officially more than 3,500 people have been infected and over a dozen have died from the recent dengue virus in Pakistan outbreaks (Akram, 2011).

Dengue Fever is increasingly becoming an Epidemic in Pakistan. Due to 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 that Punjab Government since it is widespread in that particular province of the country. 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 (The Nation, 2012).

Dengue Fever Symptoms:

After being bitten by a mosquito carrying the virus, the incubation period ranges from three to 15 (usually five to eight) days before the signs and symptoms of dengue appear in stages. Dengue Fever starts with:

- chills,
- headache,
- pain upon moving the eyes,
- and low backache.
- Painful aching in the legs and joints occurs during the first hours of illness.
- The temperature rises quickly as high as 104 F (40 C), with relatively low heart rate (bradycardia) and low blood pressure(hypotension).
- The eyes become reddened.
- A flushing or pale pink rash comes over the face and then disappears.
- The glands (lymph nodes) in the neck and groin are often swollen.
- A characteristic rash appears along with the fever and spreads from the extremities to cover the entire body except the face.
- The palms and soles may be bright red and swollen.
- Fever and other signs of dengue last for two to four days, followed by a rapid drop in body temperature (defervescence) with profuse sweating. A second rapid rise in temperature follows.

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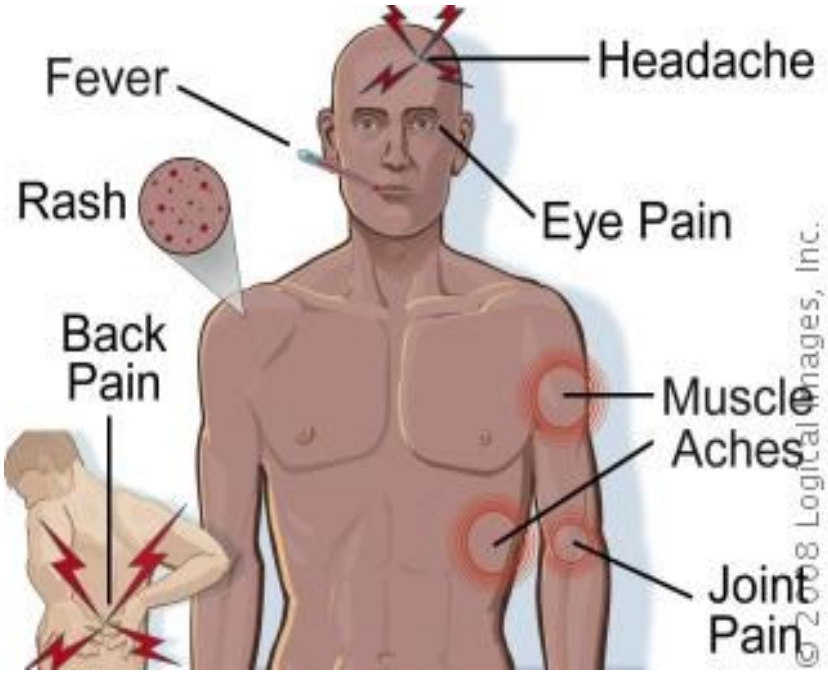

Because dengue fever is caused by a virus, there is no specific medicine or antibiotic to treat it. Also, there is currently no vaccine available for dengue fever. The prevention of dengue fever requires control or eradication of the mosquitoes that are carrying the virus that causes dengue (Sheikh, 2011).

Main causes of Dengue fever are:

- Un-Planned Urbanization
- Poor Water management
- Poor Sanitary Condition
- Trade and travel (especially through tyres)
- Poor vector control.
- Flood & Heavy rains
- Unattended water collection at household level

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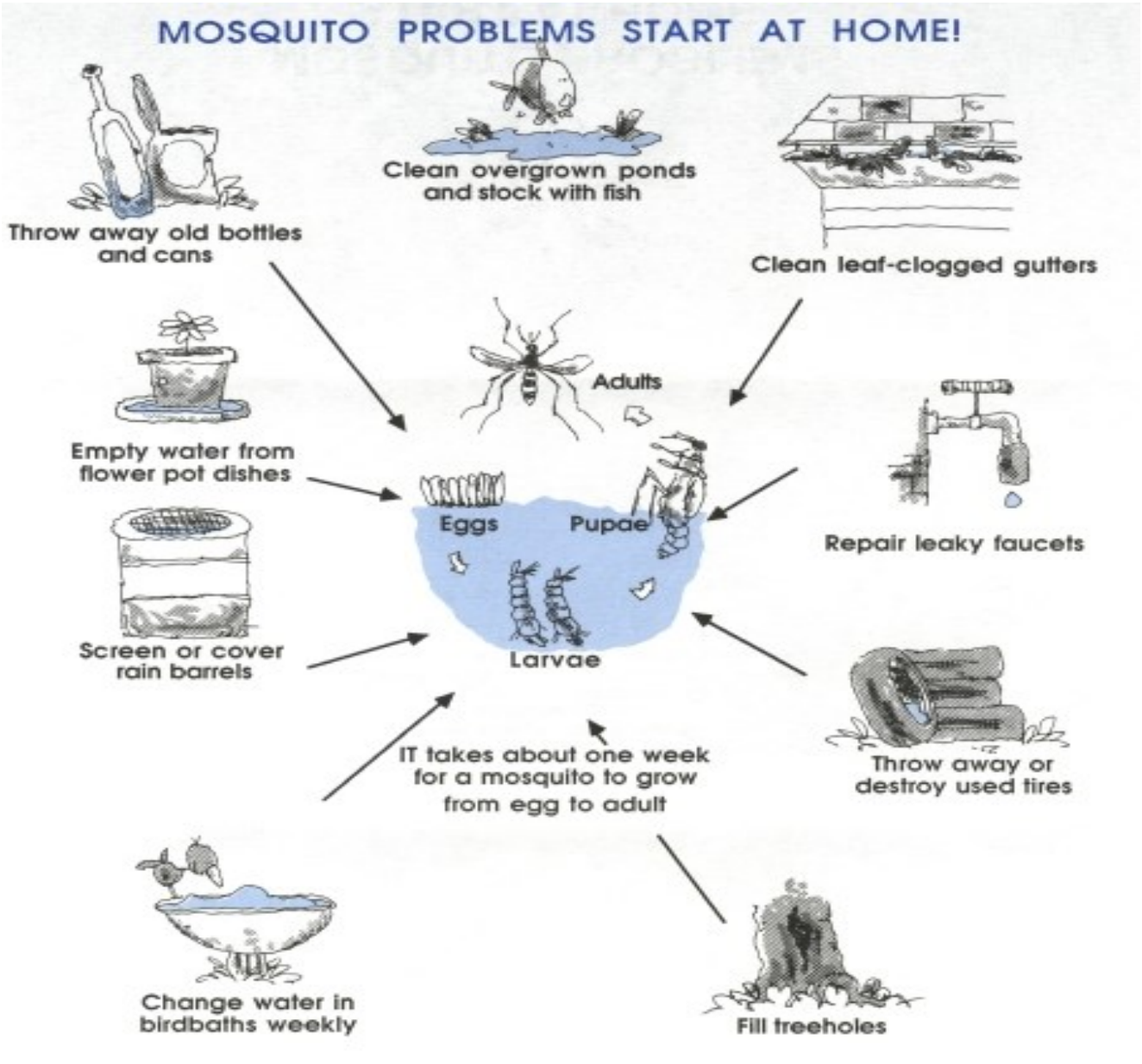

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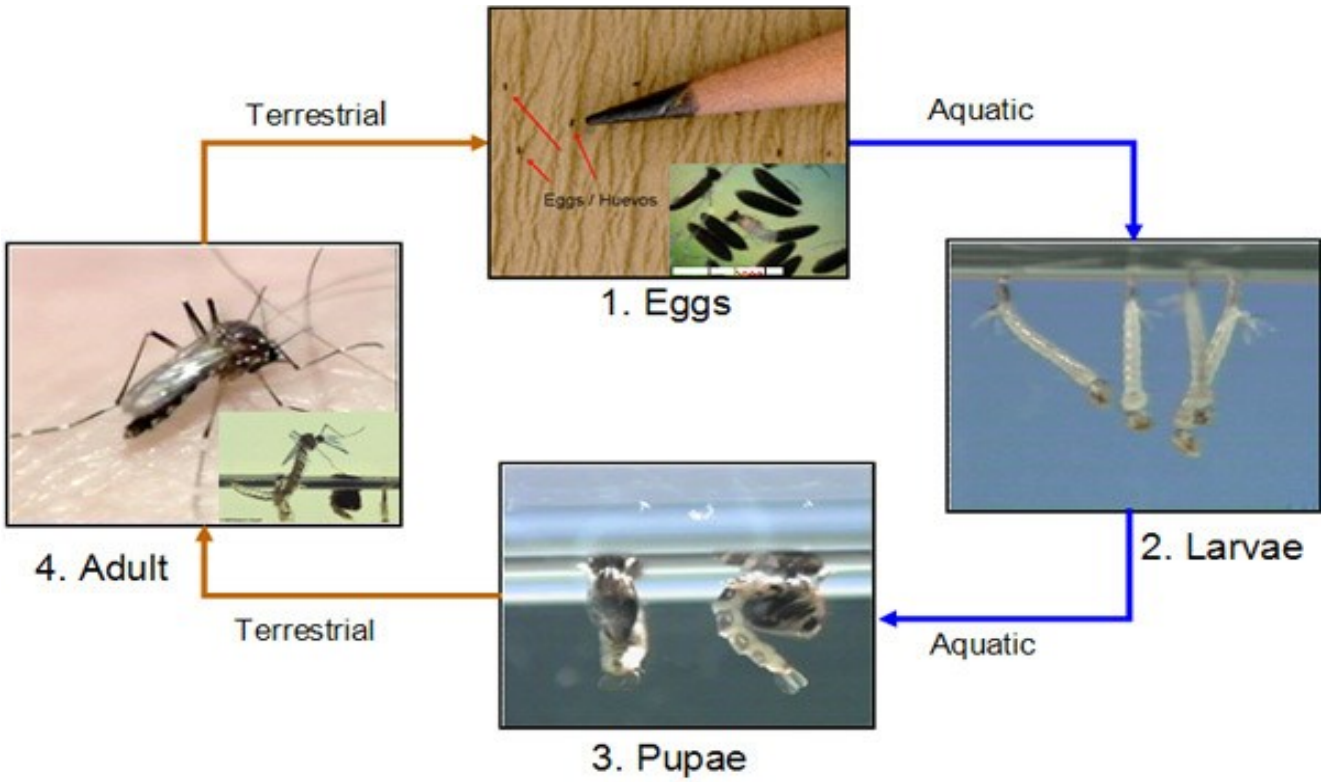
Dengue Life Cycle



WHO (World Health Organization) estimates that around 2.5 up to 3 billion people are at risk of dengue virus infection and each year there are 50-100 million people worldwide are infected with dengue virus. A total of 500 thousand required intensive care at health care facilities. Every year 21,000 children reportedly die due to dengue hemorrhagic fever (DHF) or every 20 minutes there is a child who dies (Murgan, 2007).

Objective

The main objective of the research is to assess the knowledge regarding dengue prevention among rural people and find out the practices regarding dengue prevention among rural people.

MATERIALS AND METHODS

Study Area

The study site selected for this research is Depalpur tehsil of district Faisalabad

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randomly. Two union councils(UC-172 and UC-158) were selected randomly. Then four villages two from each UC were selected randomly.

Sample Size

Sample can be defined as accurate envoy of the population, which has all the characteristics of preferred population. 120 respondents (30 from four villages) were selected randomly from the study area.

Data collection:

Construction of data collection tool

Social science deals with human nature, Feelings, emotions and minds of human being. To study all these factors it was compulsory that data collection tool was very accurate and reliable. Interview schedule was prepared with open and close ended questions to collect the data from respondents. It was structured to get all the required information from the respondents.

Interviewing the respondents:

Interview was conducted from respondents to collect facts. The investigator himself interviewed each respondent to make sure unbiased response and then rechecked each questionnaire for accuracy and uniformity because it was very difficult to approach the same respondent at any subsequent stage.

Analyzing of data:

Collected data was analyzed using the Statistical Package for Social Sciences. Descriptive statistics, including frequencies, percentages, means and standard deviations, were used to summarize different variables. Data was interpreted with the help of a computer software i.e. statistical package for social sciences.

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RESULTS AND DISCUSSION

Table.1

Distribution of the respondents according to the type of information sources is available at their home

Sources	Yes		No		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
TV/Cable connection	120	100.0	0	0.0	120	100.0
Radio	15	12.5	105	87.5	120	100.0
Internet	52	43.3	68	56.7	120	100.0
Mobile phone	117	97.5	3	2.5	120	100.0
Newspaper	35	29.2	85	70.8	120	100.0
Magazine	12	10.0	108	90.0	120	100.0

Table 1 reveals that all of the respondents had TV/cable connection, while 12.5 percent of them had Radio is a information source, 43.3 percent of them had internet, a huge majority i.e. 97.5 percent of them had mobile phone, 29.2 percent of them had newspaper and 10.0 percent of them had magazine is a information source in their home.

Figure.1

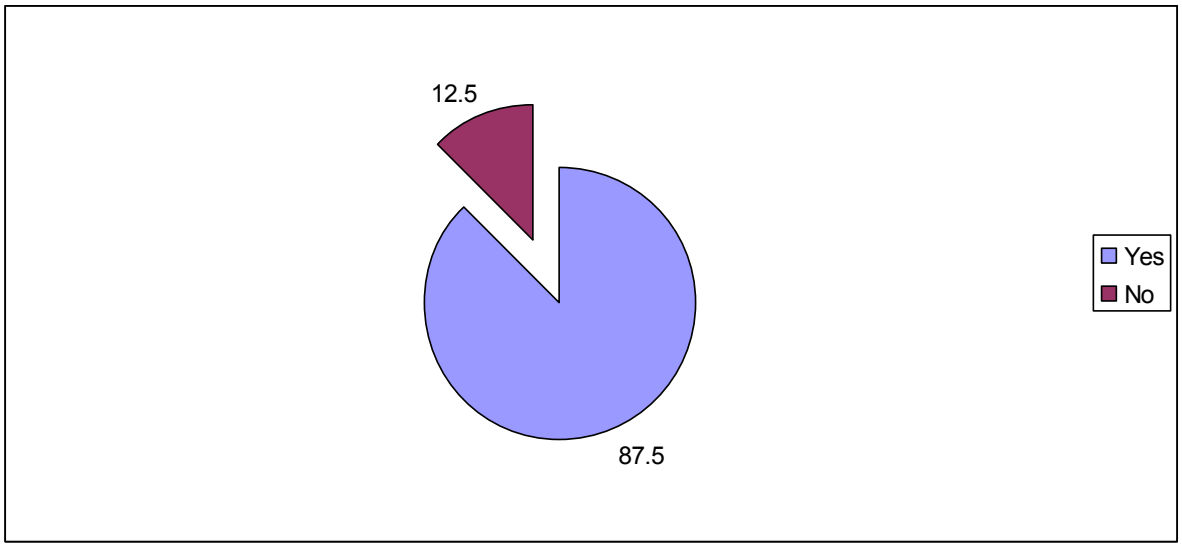

Fig. 1: Graphical presentation of the respondents according to their knowledge about dengue fever

Fig.1 reveals that a vast majority i.e. 87.5 percent of the respondents had knowledge about dengue fever (DF), whereas only 12.5 percent of them had no knowledge about DF.

Table.2

Distribution of the respondents according to the extent of knowledge about dengue fever

Extent of knowledge about dengue fever	Frequency	Percentage
To a great extent	48	40.0
To some extent	57	47.5
Not at all	15	12.5
Total	120	100.0

Table 2 shows that 40.0 percent of them had knowledge 'to a great extent' about dengue fever (DF) and 47.5 percent of them had knowledge 'to some extent' about DF, whereas 12.5 percent of them had no knowledge about DF.

Table.3

Distribution of the respondents according to their main source of information about dengue fever

Sources of information	Yes		No		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
TV	105	87.5	15	12.5	120	100.0
Internet	35	29.2	85	70.8	120	100.0
Radio	17	14.2	103	85.8	120	100.0
Newspaper	48	40.0	72	60.0	120	100.0
Doctor	79	65.8	41	34.2	120	100.0
Seminar/ conferences	16	13.3	104	86.7	120	100.0
Dengue Agahi Walks	17	14.2	103	85.8	120	100.0
Health team	86	71.7	34	28.3	120	100.0
Punjab helpline	54	45.0	66	55.0	120	100.0

Table 3 reveals that 87.5 percent of the respondents were gaining information from TV about DF, while 29.2 percent of them were taking information from internet about DF and 14.2 percent of them were taking information from Radio. Respondents were taking information about DF from newspaper (40.0%), doctor (65.8%), seminar/conferences (13.3%), Dengue Agahi Walks (14.2%), Health team (71.7%) and Punjab helpline (45.0%). So most of the respondents reported that TV, Doctor, Health teams, Punjab helpline and newspapers are the main sources of information about DF.

Table.4

Distribution of the respondents according to their knowledge about the symptoms of dengue fever

Symptoms	Yes		No		Don't know		Total	
	F.	%	F.	%	F.	%	F.	%
High grade fever	118	98.3	2	1.7	0	0.0	120	100.0
Body aches	47	39.2	46	38.3	27	22.5	120	100.0
Itching and rashes on body	56	46.7	42	35.0	22	18.3	120	100.0
Retro orbital pain	16	13.3	23	19.2	81	67.5	120	100.0
Nausea and vomiting	74	61.7	19	15.8	27	22.5	120	100.0
Bleeding from gums and nose	50	41.7	41	34.2	29	24.2	120	100.0
Headaches	105	87.5	13	10.8	2	1.7	120	100.0
Low platelets	110	91.7	2	1.7	8	6.7	120	100.0
Muscular pain	16	13.3	58	48.3	46	38.3	120	100.0
Any other	2	1.7	52	43.3	66	55.0	120	100.0

Table 4 presents the respondents' knowledge about the symptoms of dengue fever. A huge majority i.e. 98.3 percent of the respondents reported that the high grade fever is a symptom of DF, while 39.2 percent of them told that the body aches is a symptoms of DF, 46.7 percent of them said that the itching and rashes on body are the

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symptoms of DF. Only 13.3 percent of the respondents had knowledge that retro orbital pain is a symptom of DF, 61.7 percent of them told that nausea and vomiting, 41.7 percent of them said that bleeding from gums and nose are the symptoms of dengue fever. A large majority i.e. 87.5 percent of them told that the headaches is a symptoms of DF, 91.7 percent of them said that low platelets, 13.3 percent of them said that the muscular pain are the symptoms of DF and 1.7 percent of them had knowledge any other symptoms of DF.

CONCLUSIONS

It was concluded that the main sources of information about DF were TV, health teams and Punjab help line. Rural people had knowledge about the symptoms of dengue fever i.e. high grade fever, headaches, low platelets and nausea & vomiting and they also known that the DF is transmissible through mosquito bite. It was concluded that the rural people had knowledge about the common breading sites of dengue mosquitoes i.e. standing clean water, used tires, air cooler, toilets and kitchen. It was found people had knowledge that the DF is preventable by using mats, coils and repellents, bed nets, fan, wearing full sleeve clothes, window and door screen, cleaning house, Use of smoke to drive away mosquito and Remove of tires for proper storage. So vector control should be implemented using environmental management and chemical methods. Proper solid waste disposal, elimination of stagnant water in domestic environment and improved water storage practices should be observed. Aerosol and liquid spray should be applied directly to the adult mosquito for effective killing, e.g. household pesticides. Mosquito coil and electric mosquito mat/liquid should be placed near possible entrance, such as window, for mosquito. Long-sleeved clothes and long trousers should be used when going outdoors. Bodies should be protected from mosquito bite by applying insect repellent (containing DEET) on the clothes and exposed part of the body especially when you travel to Dengue Fever endemic areas.

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