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Original Article

Knowledge, Attitude and Practices of Dengue Prevention among Non-medical Employees of Aziz Fatimah Medical and Dental College

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ABSTRACT

Background: Dengue virus is transmitted via Aedes mosquito to humans, and results in various clinical signs and symptoms ranging from an asymptomatic infection to mild flu-like symptoms and fatal haemorrhagic fever. **Objective:** This study aimed to assess the knowledge, attitude, and practices of non-medical employees of the Aziz Fatimah Medical and Dental College, FSD. **Results:** Our results indicate that non-medical employees of Aziz Fatimah Medical and Dental College, FSD Aziz Fatimah Medical and Dental College, FSD showed a satisfactory level of knowledge, and high percentage of positive attitude and practices towards dengue prevention. A significant relation was established between knowledge related to dengue prevention and level of education. **Conclusion:** Future endeavours for health education related to dengue prevention should focus on people with lower level of education.

Keywords: Dengue, KAP study, Correlation

Introduction

Dengue virus, a Flavivirus from the family of Flaviviridae, is transmitted via Aedes mosquito to humans. It is a non-segmented single stranded RNA virus which further has four serotypes, DEN-1 till DEN-.[1] Dengue fever is prevalent in the Americas, Africa, Southeast Asia and the Caribbean Islands, with an increase in number of cases globally during the last ten years.[2] The vector, Aedes mosquito, has two species responsible for the spread, mainly Aedes Aegypti,

followed by Aedes Albopictus. An infection from one serotype does create a lifelong immunity against that specific serotype but doesn't guarantee cross immunity[1], which means that a person can experience Dengue Fever multiple times during its life. Principally, the disease is classified as Dengue Fever or a more lethal form known as Dengue Haemorrhagic Fever (DHF), and the patient can experience various clinical signs and symptoms ranging from an asymptomatic infection to mild flu-like symptoms and fatal haemorrhagic fever.[3] DHF typically occurs when a patient is reinfected by a different serotype, and is thought to be caused by a reaction between dengue antigens and human antibodies.[4] Further complication of DHF includes Dengue Shock Syndrome which is characterized by hypothermia and circulatory shock[5], with associated 40-50 % mortality if unattended or mistreated. The mortality reduces to below 5% if the patient is well managed.[6] Annually, two thousand to three thousand deaths (mainly of children) occur worldwide with a total of one hundred million cases of dengue.[7] DHF is mainly prevalent in the age group below 15 years in tropics, where dengue is endemic.[8] A similar incidence is there in Latin America and Caribbean Islands too but here all age groups are affected.[9] The management of dengue is primarily dependent on supportive care. More effort is done to prevent and control this disease as no vaccine has yet been developed to improve immunity against it.

Dengue spread westward in Asia from Southeast Asian countries.[10] India, Pakistan, Sri Lanka and multiple other countries in Asia have started reporting its cases. It was in 1994 when Pakistan witnessed its first case of DHF,[11] followed by 2 consecutive years of dengue cases in southern region.[12] There was a surge in DHF cases in 2005-2006 mainly in central, northern, and eastern parts of Karachi. Around 3600 patients were diagnosed and admitted countrywide with 40 fatalities, 37 of those from Sindh only.[13] Research proved that the serotypes DEN 2 and 3 were the cause for the outbreak of 2006.[14] In some studies, mainly males have been shown to suffer from DHF whereas a higher deathrate was found among females.[13] Dengue cases were more prevalent among middle and old ages rather than children, according to some studies[13, 15].

Keeping in view the current epidemic of dengue fever in Faisalabad, this study aimed to assess the knowledge, attitude and practices of non-medical employees of the Aziz Fatimah Medical and Dental College, FSD so that an effective awareness campaign could be started at the institutional level.

Methodology

A cross sectional study was conducted on the non-medical employees of Aziz Fatimah Medical and Dental College, FSD. A sample size of 300 was calculated. Ethical Approval Letter was taken from the Institutional Review Board prior to the conduction of the study. Convenience sampling was done. A pre-tested, pre-designed questionnaire containing questions on demography, knowledge, attitude, and practices related to dengue prevention was used as the research tool for this study. Informed consent was taken from all the participants prior to the administration of the questionnaire. Data were recorded in frequency and percentages. Descriptive statistics were applied using the Statistical Package for Social Sciences (SPSS) version 25.

Results

Table 1 summarizes the demographic information of the participants. Table 2 summarizes the data related to the knowledge of the non-medical employees of Aziz Fatimah Medical and Dental College, FSD about Dengue Prevention. Table 3 depicts the attitude of the non-medical employees

of Aziz Fatimah Medical and Dental College, FSD towards Dengue Prevention. Table 4 describes the practices of non-medical employees of Aziz Fatimah Medical and Dental College, FSD towards Dengue prevention. Furthermore, a statistically significant correlation (p=0.03) exists between level of education and knowledge related to dengue prevention.

Table 1. Demography of the participants

Parameter	**Frequency (Percentage)**
Educational Status	
Illiterate	24 (8)
Primary	16 (5.3)
Matric	50 (16.5)
Intermediate	57 (19)
Graduation and Above	153 (51.3)
Gender	
Male	183 (61)
Female	117 (39)
Mean Age	
Male	53.3±12.8
Female	36±13.7

Table 2. Knowledge of the non-medical employees of Aziz Fatimah Medical and Dental College, FSD about Dengue Prevention

Parameter	**Frequency (Percentage)**
1. Have you heard about Dengue Fever?	
Yes	255
No	45
2. What was your source of knowledge about Dengue Fever?	
TV/Radio	75 (25)
Newspaper	65 (21.6)
Banners	150 (50)
Others	10 (3.33)
3. What is the route of transmission of Dengue Fever?	
Through Vector bite	250 (83.3)

Through Droplets	15 (5)
Through fecal matter	10 (3.33)
Don't know	25 (9.3)
4. What are the symptoms of Dengue Fever?	
One symptom (Fever)	63 (21.6)
Two symptoms (Fever, Bleeding)	75 (25)
Three Symptoms (Fever, Bleeding, Headache)	152 (50.6)
None of the above symptoms	10 (3.33)
5. Can you identify mosquito of dengue fever?	
Yes	250 (83.3)
No	50 (16.6)
6. What is the most common breeding site of Dengue vector?	
Coolers	65 (21.6)
Tires	120 (40)
Flowerpots	75 (25)
Plastic Pots	40 (13.3)
7. What is the most common biting time of Dengue vector?	
Daytime	185 (61.6)
Nighttime	30 (10)
Anytime	85 (28.3)

Table 3. Attitude of the non-medical employees of Aziz Fatimah Medical and Dental College, FSD about Dengue Prevention

Parameter	**Frequency (Percentage)**
1. Is Dengue a serious illness?	
Yes	249 (83)
No	50 (16.6)
Don't Know	1 (0.3)
2. Can Dengue be prevented?	
Yes	215 (71.6)
No	65 (21.6)
Don't Know	20(6.6)

3. Do you know community role in preventing Dengue?	
Yes	245 (81.6)
No	35 (11.6)
Don't Know	20 (6.5)
4. Is there a need of hospitalization and treatment for a patient with Dengue fever?	
Yes	230 (76.6)
No	55 (16.6)
Don't Know	15 (5)
5. Does Prevention on Community Level basis help reduce the spread of the disease?	
Yes	237 (79)
No	47 (15.6)
Don't Know	16 (5.3)

Table 4. Practices of the non-medical employees of Aziz Fatimah Medical and Dental College, FSD about Dengue Prevention

Parameter	**Frequency (Percentage)**
1. Are you using dengue prevention methods at home?	
Yes	225 (75)
No	75 (25)
2. Do you routinely check and clear the breeding sites of dengue vector?	
Sometimes	50 (16.6)
Always	219 (73)
Never	31 (10.3)
3. Do you use topical mosquito repellants e.g., mospel?	
Sometimes	
Always	211 (70.3)
Never	89 (29.6)
4. Do you use mosquito nets during sleeping?	
Sometimes	46 (15.3)
Always	210 (70.3)
Never	44 (14.3)

5. Do you carry out fumigation at your home?	
Sometimes	97 (32.3)
Always	170 (56.6)
Never	33 (11)

Discussion

Most of the participants in this survey (85%) had heard of dengue illness before. Although a high number of participants recognized that a mosquito is a vector, but information related to its breeding, feeding and species was not well known, which might be one of the reasons why people do not take effective care against the vector. Participants had a good idea about the symptoms and signs a person can experience once getting sick, for example bleeding. They were well informed of the disease's early signs, which is necessary for a quick and in time management of the disease. Because most of the respondents linked fever with dengue, knowledge of more prevalent symptomatology or disease course should be addressed.

Majority of the respondents (83%) in this study showed a high level of concern regarding dengue prevention. They were concerned about the grimness of the disease, need of hospitalization for the treatment and agreed to the community participation in the prevention of the disease. These findings are in contrast with the earlier studies[15-18] conducted on the knowledge, attitude, and behaviour of people of Pakistan about dengue prevention which described a lesser knowledge and poorer attitude of the people about toward dengue prevention. This improvement might be due to ongoing dengue awareness campaigns.

Our results indicate that majority of the participants (75%) were using the dengue prevention methods at their home. This includes routine checking and clearing of the dengue vector breeding sites, usage of mosquito nets and mosquito repellants and regular fumigation of the houses. Our findings indicate a satisfactory level of knowledge, attitude and practices of the non-medical employees of Aziz Fatimah Medical and Dental College, FSD. Participants indicating a lesser level of knowledge, attitude and practices towards dengue prevention were those with lesser level of education (p=0.03). Future health awareness campaigns should be focused on this group.

It is suggested that future campaigns include better health education in collaboration with health workers and community schools. Media may also be utilized to raise awareness among the general public.[19] Nevertheless, it is important to remember that bringing the information into action is not easy. Certain habits, such as storage of water for personal use, are usual community norms and may be difficult to change via health campaigns. For a friendlier and more successful reception, health education programs should offer information in a more suitable socio-cultural environment.[20] Capacity building measures are the need for effective community involvement.[21]

Conclusion

Non-medical employees of Aziz Fatimah Medical and Dental College, FSD showed a satisfactory level of knowledge, and high percentage of positive attitude and practices towards dengue prevention. There was a significant correlation between level of education and knowledge related to dengue prevention. Future endeavors for health education related to dengue prevention should focus on people with lower level of education.

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Conflict of Interest

The authors declare no conflict of interest.

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Contributions of the Authors

HZ did literature research, data collection and manuscript writing

AAK conceptualized the project, did drafting and revision

AS did data collection and article writing

KA did drafting and revision and manuscript writing