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Research Article

**AWARENESS OF DENGUE FEVER AMONG FIRST YEAR
MEDICAL STUDENTS OF CENTRAL PARK MEDICAL
COLLEGE, LAHORE**Saba Saleem¹, Muhammad Asad², Samia Iftikhar³¹ Khawaja Muhammad Safdar Medical College, Sialkot² Central Park Medical College, Lahore³ Woman Medical Officer at THQ hospital Sillanwali

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Abstract:

Objective: To assess the awareness of dengue fever among newly admitted first-year MBBS students of medical college.

Study design: Descriptive cross-sectional study

Study & duration: In the Central Park Medical College, Lahore for six-months duration from November 2019 to April 2020.

Material & method: 134 students of the first year of MBBS were enrolled for the study. The data was collected using a structured questionnaire. The data was entered and cleaned up in the SPSS 19 statistical package. The data is presented in the form of tables and graphs.

Results: It was observed that few respondents knew that there were four types of dengue fever, quite a large number knew about the causative agent. The incubation period was well known to the students. The vector of the disease is known by a good number; however, half of the students rightly called the species *aedes aegypti*. As for the time of transmission of the disease students were aware that it was mainly early dawn and students were aware of the fact that the breeding sites of female *aedes aegypti* mosquitoes are stagnant water sites. Respondents' knowledge of the clinical picture, complications and diagnosis of dengue fever also has a high percentage.

Conclusion: Medical students had the highest ability to acquire knowledge and this can be reflected in changing practices. Changes in knowledge were greater than changes in practice, reflecting the fact that these changes take more time and require sustainable education. Closing the knowledge-practice gap will remain an important challenge for dengue control, as well as the setting of dynamic *ae* reduction targets. *aegypti* population.

Keywords: Dengue, Student research, Mosquito control, Students, Open questionnaire

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INTRODUCTION:

Dengue is the most important tropical vector-borne viral disease around the world. Dengue fever (DF) and dengue hemorrhagic fever (DHF) pose a major challenge to public health at the global level. The World Health Organization (WHO) has reported that around 2.5 billion people (40% of the world's population) are at risk of developing the disease. Dengue or a very similar disease had a wide geographical reach before the 18th century, when the first known pandemic of dengue disease began. DF has recently re-emerged as a major international health problem and in Pakistan with the potential to cause major epidemics, dengue has emerged as one of the main public health problems, especially since 2005 threatening millions of people due to the specific socio-encycological and epidemiological conditions. Historically, dengue has been endemic in the southern parts of the country. In Pakistan for the first-time dengue was recognized in 1994 in Karachi and 1 patient out of 145 died. In October 1995, 57 out of 76 people were found in the Hub in southern Baluchistan. In October 2003, dengue outbreaks were detected for the first time in sub mountain areas of Haripur District, Khyber Pakhtunkhwa province and Khushab district in Punjab province, killing six people out of 717 detected cases. In October 2005, Dengue again hit Karachi after 10 years and 21 deaths with a total of 103 confirmed cases were reported. Since then, the disease has become widely accepted as one of Pakistan's main public health problems, reporting 26,270 cases and 156 deaths by 2010. In 2011 (until September 17), there are 6,866 cases and 44 deaths in the country. Associated with the increase in DF, there has been an increase in the associated mortality. 55. The World Health Assembly has made the prevention and control of DF a priority and called on Member States to develop sustainable cross-sectoral strategies. In the absence of a vaccine, sero prophylaxis or specific treatment of disease², the main strategy is a balanced integrated approach to preventing transmission by controlling the main vector, *Aedes aegypti*. This should be based more on the community's commitment to controlling mosquitoes in the home environment than on the use of chemicals. Health education programmes covering different sectors in the community are important intervention tools to promote behavioral changes that lead to community involvement in controlling DF, in particular vector. To be

successful, community-based strategies need to be flexible and adapted to the local environment due to ecological, cultural and social differences between localities. Aedes control is largely based on source reduction. Therefore, knowledge of the types of mosquito breeding sites is a prerequisite for medical staff, teachers and children and communities in general to control dengue. Different types of containers have been identified as potential mosquito breeding sites. These include plastic and metal containers, animal feeding vessels, tires, flower vases, coconut shells and water storage drums. Knowledge of the types of breeding containers themselves is not enough to achieve mosquito control. Attitudes and beliefs affect a person's knowledge of mosquito control. For example, the belief that dengue is not a fatal or serious problem disadvantages humans in carrying out appropriate mosquito control practices.

Objectives

The goal was to see the knowledge, attitude and perception (KAP) of newly admitted first-year MBBS students having dengue fever. The idea was to see and pass on the correct knowledge and practice of dengue, which in turn will reduce the population of dengue vectors. Such studies have been relatively rare in dengue research. A total of 135 questionnaires were completed. Awareness in all areas of knowledge, attitudes and perceptions was seen through the questionnaire introduced. Students demonstrated their knowledge through the collected data. There is a need to extend such programs to all schools in Lahore, even at the basic level.

METHODOLOGY:

This was a descriptive cross-sectional study conducted at Central Park Medical College, Lahore for six-months duration from November 2019 to April 2020 on 134 students enrolled in the first year of MBBS, the academic year 2018/2019. The data was collected using a structured questionnaire. The data was entered and cleaned up in the SPSS 19 statistical package. The data is presented in the form of tables and graphs.

RESULTS:

This study was conducted with 1-year MBBS students (session 2018/2019). Respondents' knowledge of dengue fever is shown in Table I.

Table 1: Knowledge of 134 medical students regarding Dengue Fever

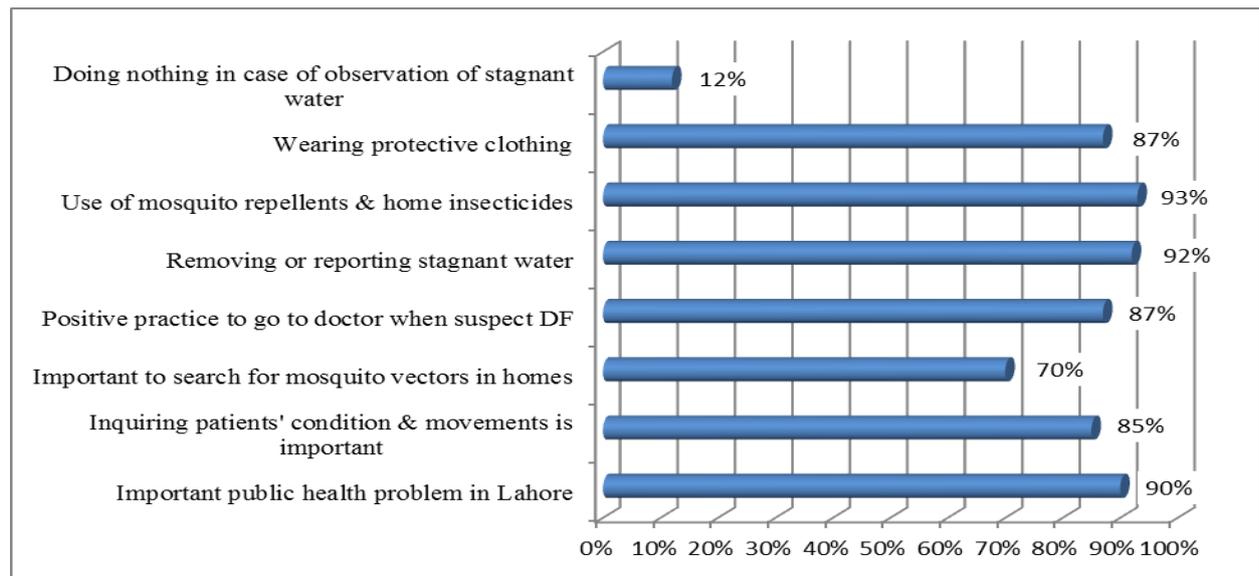
Knowledge about Dengue Infection	=n
<i>Types of Dengue Fever</i>	
Four Types	33(24.6%)
Two Types	37(27.6%)
One type	20(14.9%)
Still not confront	44(32.8)
<i>Causative agent of Dengue infection</i>	
Wolbachia	15(11.2%)
Rota virus	33(24.6%)
Flavi virus	59(44%)
Rubella virus	27(20.1%)
<i>Incubation period of Dengue Infection</i>	
15 days	41(30.6%)
4-7 days	87(64.9%)
30 days	5(3.7%)
25 days	1(0.7%)
<i>Dengue Infection is transmitted through</i>	
Female mosquitoes	117(87.3%)
Male mosquitoes	14(10.4%)
Dragon flies	3(2.2%)
<i>Name of principle mosquito for Dengue Infection</i>	
Anopheles	56(41.8%)
Culex	17(12.7%)
Aedes aegypti	52(38.8%)
Coquilletidia	9(6.7%)
<i>Time of transmission for DF</i>	
Early dawn	122(91%)
Late night	7(5.2%)
When raining	2(1.5%)
When humidity is maximum	3(2.2%)
<i>Breeding sites for DF mosquitoes</i>	
Plant pots only	5(3.7%)
Moist soil	2(1.5%)
Running water	12(9%)
Stagnant water	115(85.8%)

Respondents knew that there were four types of dengue fever, 59 (44%) agent with a name as flavi virus and 87(65%) students were aware that the incubation period of dengue fever is 4-7 days. Among respondents, 117 (87%) he knew that the vector of this disease is female mosquitoes, although only 52 (39%) students rightly called the species aedes aegypti. As regards the transmission time of the disease 122 (91%) pupils were aware that it was mainly early dawn and 115(86%) students were aware that the breeding sites of female aegypti mosquitoes are stagnating in the water. Respondents' knowledge of the clinical picture, complications and diagnosis of dengue fever is shown in Table II.

Table II: Knowledge of 134 medical students regarding clinical picture, complications and diagnosis of dengue fever

	=n
<i>Clinical Picture of Dengue fever</i>	
High fever, severe headache, pain behind eyes, muscle and joint pains and Rash	121(90.3%)
Fever with chills and headache behind the ears	10(7.5%)
Flue like symptoms with headache at dawn	2(1.5%)
Long standing cough, headache and fever	1(0.7%)
<i>Complications for Dengue fever - Mouth Ulcers</i>	
Dengue hemorrhagic fever and dengue shock syndrome	7(5.2%)
Fever with chills and headache behind the ears	102(76.1%)
<i>Diagnosis of Dengue Fever</i>	
Low RBCs	9(6.7%)
Low Eosinophils	4(3%)
Low platelet count	119(88.8%)
Low Hb	2(1.5%)
<i>Clinical Picture of Dengue fever</i>	
High fever, severe headache, pain behind eyes, muscle and joint pains and rash	121(90.3%)
Fever with chills and headache behind the ears	10(7.5%)
Flue like symptoms with headache at dawn	2(1.5%)
Long standing cough, headache and fever	1(0.7%)
<i>Complications for Dengue fever</i>	
Mouth ulcers	7(5.2%)
Dengue hemorrhagic fever and dengue shock syndrome	102(76.1%)
Generalized body itching	22(16.4%)
<i>Diagnosis of Dengue Fever</i>	
Low RBCs	9(6.7%)
Low Eosinophils	4(3%)
Low platelet count	119(88.8%)
Low Hb	2(1.5%)

When asked about the clinical picture of dengue fever, 121(90%) students correctly responded to high fever, severe headache, eye aches, muscle and joint pain and rash. With regard to the complications of this disease,



102(76%) students identified them as dengue hemorrhagic fever and shock syndrome and 119(89%) respondents became aware of the fact that low platelet count is a diagnostic feature of this disease. The perception of first-year medical students on the prevention of dengue Fever has been assessed and outlined in Fig I. Respondents rightly agreed that dengue fever is an important public health issue in Multan 120(98%), it is important to look for the presence of mosquito vectors in homes 94(70%), positive practices include going to a doctor when you suspect dengue fever 117(87%), water stagnation must be removed or reported 124(92%), mosquito repellents and domestic insecticides must be used to prevent and control dengue fever 125(93%) and protective clothing should be worn against the mosquito 117(87%). However, 114 (85%) Students mistakenly perceived that inquiring about the condition and movements of a dengue patient is important for the prevention and control of dengue fever. The perception of medical students about dengue fever control is shown in Figure 1. Most students chose appropriate control measures. Elimination of mosquito habitats 110(82%) advocacy, cooperation and capacity building 106 (79%) were among the student-preferred options for preventing the spread of the disease.

DISCUSSION:

Although dengue's level of knowledge was high in newly admitted first-year MBBS students, however, there is little evidence that this knowledge is in practice or not. Only knowledge of preventive measures had a significant and beneficial impact on conservation practice. On the other hand, better governance practice will have a significant impact on the population of *Aedes aegypti*. The results of the current first year of dengue-based medical students showed a significant positive result of knowledge and practices related to df prevention among a group of students. In the knowledge perspective, the results showed significant know-how in students. The health education program in our study can improve the percentage of participants with satisfactory test knowledge results. In a study assessed knowledge, attitudes and practices regarding DF in rural and urban resettlement areas in New Delhi, respondents reported that df awareness was observed among respondents, which can be attributed to the education and information campaign on the health of audiovisual media and health care professionals. The knowledge of DF was fair, especially among

the inhabitants of cities. Other studies have also shown that knowledge requires less time to change compared to practices. Df education program conducted in Puerto Rico in 2002 in the form of public television announcements and posters, educational programs in primary and preschool schools and an exhibition at the children's museum, including a high level of awareness and certain changes in behavior. A study of Venezuelan students aged 8 to 16 found that by using the game as an educational strategy, they gained more knowledge and skills about DF than just using a theoretical program. A study in Mexico showed that educational intervention was effective in stimulating changes in both knowledge and behavior. A study of the DF educational program in Grenada in 2005 found that although many people had knowledge and knowledge of DF and mosquitoes, their knowledge of important mosquito relationships and human behavior with disease transmission was incomplete. A study to identify changes in knowledge and practices aimed at preventing the use of educational assistance in the field of study and control in Brazil between 1999 and 2001 showed that the programme was followed

only by the study area. Our study, if taken one step ahead by passing on knowledge where required, can demonstrate improvements in all areas of knowledge, attitudes and perception of the research group towards DF, which agrees with the results of a quasi-experimental study reported from Havana, Cuba in 2005, which found significant changes in knowledge, attitudes and perception in the intervention population compared to the control group after intervention. Our results also match those of Swaddi wudhipong et al from Thailand.

CONCLUSION:

In Multan, as an overcrowded city with a dense population, it is necessary to promote DF control as a priority. Educational interventions that could be conducted though research as ours can be very effective in raising correct awareness regarding the DF problem, and encouraging a change in their practices. Medical students had the highest ability to acquire knowledge and this can be reflected in changing practices. Changes in knowledge were greater than changes in practice, reflecting the fact that these changes take more time and require sustainable education. Although this was not directly related to better practice, knowing the symptoms is important to recognize the severity of dengue at an early stage, as this can lead to proper case management, which saves lives. There is a direct link between knowledge of dengue preventive measures and conservation practice, while measures against adult mosquitoes are probably only used when people experience the problem of mosquito nuisance. Closing the knowledge-practice gap will remain an important challenge for dengue control, as well as the setting of dynamic ae reduction targets. aegypti population.

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