



COMPARISON OF KNOWLEDGE & PRACTICES REGARDING DENGUE INFECTION IN MEDICAL STUDENTS A PRE AND POST INTERVENTION STUDY IN THE CITY OF LAHORE

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ABSTRACT: **Study Objectives:** To assess pre and post intervention preventive knowledge & practices about Dengue infection. 1). To compare knowledge about Dengue infection between 2nd and 5th year medical students. 2). To compare preventive practices about dengue infection, between 2nd year and 5th year medical students. **Data Source:** 2nd year and 5th year medical students. **Study Design:** Cross-sectional with descriptive analysis. **Setting:** Study was conducted in one medical school in the city of Lahore. **Period:** Data collection was completed in one month. **Material and Method:** Out of total number of undergraduate medical schools in the city of Lahore where each one is considered as a cluster one was selected by simple random sampling. Within the selected cluster (medical school) the students were (study units) were selected by simple random sampling. Data collection technique & tool: Data was collected through self-administered questionnaires. Sample size: 200 medical students from the selected medical school. Hundred students each from 2nd and 5th year ongoing classes were selected through simple random sampling. **Results:** 35.5% (71/200) of medical students interviewed in both the classes had an idea about the causative agent of Dengue infection of which 59.2% (42/71) were 5th year and 40.8% (29/71) were 2nd year medical students. Sufficient knowledge about symptoms of Dengue infection was found in 50.0% (100/200) of all participants out of which 59.0% (59/100) were in final and 41% (41/100) were in 2nd year of medical school. 51% (102/200) students were aware about different serotypes of Dengue infection out of which 63.7% (65/102) were 5th year and 36.3% (37/102) were 2nd year medical students ($p < 0.0001$; 95% CL: 1.7-5.6). About 42.5% (85/200) students interviewed were knowledgeable of different preventive measures to combat Dengue infection in community of which 49.4% (42/85) were 5th year and 50.6% (43/85) were 2nd year medical students ($p = 0.88$, 95% CL: .54-1.6). Similarly out of 5th year students who were aware of preventive measures against Dengue infection 50% (21/42) were undertaking preventive practices as compared to 51% (22/43) of 2nd year medical students ($p = 0.91$, CL: .40-2.2). **Conclusions:** There was no statistically significant difference in preventive knowledge and practices against Dengue infection between 5th and 2nd year medical students. Thus Community Medicine curriculum related to vector-borne diseases delivered in year 4 of medical school was not successful in producing post intervention knowledge and behavior change in 5th year medical students.

Key words: Dengue fever, Dengue hemorrhagic fever

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INTRODUCTION

Dengue is a common mosquito borne viral disease. Dengue Fever (DF) and its potentially fatal forms Dengue Hemorrhagic Fever (DHF) & Dengue Shock Syndrome are significant health problems worldwide¹.

It is transmitted by the bite of infected female

Aedes Egypti mosquito; the virus has four distinct serotypes. Dengue fever is an acute febrile viral disease and presents with severe headache, nausea, vomiting, pain in the eyes, muscle and joint pain and rash. DHF presents with hemorrhagic manifestations for example petechial skin hemorrhage, hepatomegaly and circulatory disturbances².

The most common breeding places for Aedes mosquito are water containers, such as boxes, pots, cans, artificial water collections³.

The incidence of Dengue infection has grown dramatically around the world in recent decades. Over 2.5 billion people which are over 40% of the world's population are now at risk of Dengue infection. WHO currently estimates 50-100 million Dengue infections worldwide every year. The disease is now endemic in more than 100 countries in Africa, America, and Eastern Mediterranean⁴.

The first case of Dengue Fever in Pakistan was reported in 1994 in Karachi. According to Punjab Health department, over 12000 people have been infected since January 2011. Dengue Fever emerged as an epidemic in Pakistan in year 2011. In this worst attack of Dengue more than 20,000 cases and 300 deaths were reported officially which according to experts reflect under reporting. Lahore was the epicenter with maximum number of cases followed by Faisalabad, Rawalpindi, and Sargodha⁵.

RESEARCH METHODOLOGY

Variables: Qualitative.

Dependent variables: Knowledge and Practices.

Independent variables: Year of medical study (5th year & 2nd year).

Study: Descriptive Cross-sectional.

Sampling: Sampling Size: 200.

Sampling Technique: Probability sampling.

Sampling Frame: All medical schools in the city of Lahore.

Sampling Unit: 2nd & 5th year medical student.

STUDY HYPOTHESIS

Alternative Hypothesis (HA): 5th year medical students are more knowledgeable and practice prevention against Dengue infection as compared to 2nd year medical students.

Null Hypothesis (Ho): 5th year medical students

are no more knowledgeable and practice prevention against Dengue infection as compared to 2nd year medical students.

Data Collection Plan

Time Frame: 1 Month

Data Collection Tool: Self-administered structured questionnaire.

Inclusion Criteria

2nd and 5th year medical students of a randomly selected medical school.

Exclusion Criteria

1st, 3rd and 4th year medical students of the above school.

Response Rate: 100 %.

Analysis

Data Handling

Data master sheets were prepared which was followed by computerized coding and entry in SPSS version 17.

Results

Frequency tables were made and percentages were calculated.

Test of statistical significance:

Chi square test was applied as a test of statistical significance for qualitative data analysis. 95% Confidence limits were applied.

RESULT

35.5% (71/200) of medical students interviewed in both the classes had an idea about the causative agent of Dengue infection of which 59.2% (42/71) were 5th year and 40.8% (29/71) were 2nd year medical students. Sufficient knowledge about symptoms of Dengue infection was found in 50.0% (100/200) of all participants out of which 59.0% (59/100) were in final and 41% (41/100) were in 2nd year of medical school. 51% (102/200) students were aware about different serotypes of Dengue infection out of which 63.7% (65/102) were 5th year and 36.3% (37/102) were 2nd year medical students ($p < 0.0001$; 95% CL: 1.7-5.6). About 42.5% (85/200) students interviewed were knowledgeable of different preventive measures to combat Dengue infection in community of which

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DISCUSSION

A pre and post interventional study was conducted with a sample size of 200 medical students of a randomly selected medical school in the city of Lahore. Data was collected through interviews with a written structured questionnaire. The study was done to assess the level of preventive knowledge and preventive practices regarding Dengue infection in 2nd and 5th year medical students.

Regarding disease epidemiology no statistically significant differences were found about causative agent of Dengue infection, symptoms, and severity of infection in terms of fatality between 2nd and 5th year medical students. Similarly there was no statistically significant difference between preventive knowledge & practices of the two classes of medical students. In contrast to our study, a cross sectional survey conducted in general population by Madiha Sayed and Umme-Rubaba in the year 2009 at the Aga Khan University Karachi concluded that higher levels of education had better level of knowledge⁶. A similar research by Faisal Shuaib and Dana Todd conducted in Westmore land, Jamaica in 2010 also concluded that higher educational attainment was positively associated with knowledge of Dengue infection and the respondents were involved in positive practices for Dengue prevention⁷.

A study in Thailand in two sub districts regarding Dengue prevention and control based upon their knowledge and practices showed that educated people were more aware and undertook preventive practices more often as compared to those who were uneducated⁸.

Our study results were partially supported by a research conducted in 2011 by Maria and De-Silvia from Estadual do Morantae University, Brazil. They indicated that there is a considerable degree of theoretical knowledge but practices adopted are still deficient and highlighted the need for changes in formulating anti-Dengue campaigns⁹.

CONCLUSIONS

There was no significant difference between the preventive knowledge and practices pertaining to Dengue infection in 5th and 2nd year medical students. The only significant difference between these two groups of students was in knowledge about different serotypes of virus involved in Dengue causation. The findings suggest that Community Medicine curriculum regarding vector-borne diseases which is taught in year four of medical schools and used as an educational intervention in this study has no application in the field. This may be due to the fact that in Disciplined Based curriculum almost all the teaching is done in classes without sufficient community based teaching opportunities.

It is therefore recommended that Community Medicine curriculum related to vector borne infections should be reviewed and made more applied so that there should be a significant difference in knowledge and preventive practices between pre & post intervention students.

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Life is the most **difficult** exam.
Many people fail because they try to copy others,
Not realising that everyone has a different question paper.

Unknown

