ORIGINAL ARTICLE

Comparison of Preventive Practices for Dengue Fever between Medical and Non-Medical Students

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ABSTRACT

Aim: To compare preventive practices for dengue fever between medical and non-medical science students
Methods: This cross sectional survey was conducted in Allama Iqbal Memorial Teaching Hospital, Sialkot (affiliated with Khawaja Muhammad Safdar Medical College, Sialkot) and Mayo Hospital, Lahore (affiliated with King Edward Medical University, Lahore) from July to December 2017. The study participants were 100 final year MBBS students & 100 students from science graduation other than health sciences.
Results: The study participants consisted of 100 final year MBBS students & 100 students of similar age from graduation in sciences other than health sciences (B.Sc.) from a private college. Males were 36%. Among total, 77% population belonged to urban areas. B.Sc. students were superior with statistically significant difference in preventive practices than medical students in domains of use of insecticide sprays and bed nets, covering water containers, and community participation in dengue control campaigns.
Conclusion: Overall rate of preventive practices is good, but medical students have been performing "significantly poor" in most of the practices as compared to their counterpart non-health sciences graduate students.
Keywords: Preventive practices, Dengue fever, Medical students

INTRODUCTION

Dengue fever is a viral disease transmitted to humans by the bite of infected females of Aedes aegypti and Aedes albopictus mosquitoes.[1] Dengue fever is now endemic in more than 128 countries. Although some progresses had been achieved towards the development and clinical evaluation of vaccines against dengue infection, but controlling the populations of dengue virus vector mosquitoes, and limiting their dispersal is crucial for prevention[2].

Adopting preventive strategies is main stay to avoid dengue infection. The studies conducted previously have showed the variable views of stake holders on dengue prevention. Such studies have been carried out in Asia, mostly in Pakistan, showing the knowledge gap[3,4,5]. In neighboring country of Saudi Arabia, Ragab et al[6] conducted a study to investigate the practices relating to dengue fever among females in high schools and found deficient. Therefore, assessment of practice is an important tool in preventing the disease and it is also a vital component of the integrated vector control programs. Considering the significant gaps in the literature on levels of preventive practices of students, the present study aimed to compare preventive practices for dengue fever between medical and non-medical science students.

MATERIAL & METHODS

This cross sectional survey was conducted in Allama Iqbal Memorial Teaching Hospital, Sialkot (affiliated with Khawaja Muhammad Safdar Medical College, Sialkot) and Mayo Hospital, Lahore (affiliated with King Edward Medical University, Lahore) from July to December 2017. The study participants were 100 final year MBBS students & 100 students from B.Sc. in a private college. The study was approved by institutional review board. The 7-item pre-tested questionnaire was used to assess and compare the preventive practices. A briefing was given to the each participant and he/she was requested to fill the proforma anonymously. Data was entered in SPSS version 23. To observe the difference between the two study groups, we applied Chi-square test with p-value of <0.05 as significant.

RESULTS

The study participants consisted of 100 final year MBBS students & 100 students from B.Sc. from a private college. Males were 36%. Among total, 77% population belonged to urban areas. (Table I).

Table I: Demographic characteristics

Variable		**n (%)**
Students	Medical	100 (50%)
	Non-medical	100 (50%)
Gender	Male	72 (36%)
	Female	128 (64%)
Residence	Rural	46 (23%)
	Urban	154 (77%)

There was statistically significant difference in preventive practices between medical and non-medical science students in domains of use of insecticide sprays and bed nets, covering water containers, and community participation in dengue control campaigns. Medical students' practices were "significantly poor" in these domains, as compared to their contemporary non-medical science students. (Table II).

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Table II: Comparison of preventive practices between medical and non-medical students

Preventive Practices	Medical Students	Non-medical Students	Total	p-value
Use of insecticide sprays in surroundings				
Yes	57	93	150	0.000
No	43	07	50	
Use of bed nets while sleeping in open				
Yes	40	85	125	0.000
No	60	15	75	
Prefer full clothing at evening				
Yes	88	94	182	0.108
No	12	06	18	
Use of mosquito repellants				
Yes	78	80	158	0.431
No	22	20	42	
Covering water containers				
Yes	85	96	181	0.007
No	15	4	19	
Disposing garbage in allocated garbage bins				
Yes	95	94	189	0.500
No	5	6	11	
Community participation in dengue control campaigns				
Yes	44	77	121	0.000
No	56	23	79	

DISCUSSION

The present study is important to evaluate the preventive practices regarding dengue infection among medical and non-medical students. Concerning the self-reported prevention practices against dengue, the most common practice to prevent mosquito breeding was found to be the disposing garage in allocated garbage bins (94.5%). This is in contrast with the finding from Saleem et al[3] from Pakistan where use of mosquito repellants or creams was considered most useful preventive practice. Similarly, Binsaeed et al[1] from Saudia and Dhimal et al[7] from Nepal reported that majority of the participants cited practice of disposing of water from breeding containers to be useful in reducing the number of mosquitoes. Preference for full clothing at evening (91%) and covering water containers (90.5%) were also some of the preventive practices reported by the respondents in the present study.

In our study, there was statistically significant difference in preventive practices between medical and non-medical science students in domains of use of insecticide sprays and bed nets, covering water containers, and community participation in dengue control campaigns. Medical students' practices were "significantly poor" in these domains, as compared to non-medical students. These findings are comparable with Saleem et al[3] who studied in similar ecological environment. However, there was difference in practice in the study done in Malaysia.[8] In studies from Thailand[9,10], the reported practice of measures of prevention was also found to be good in target population. This similarity may be due to the fact that this region shares common ecology and the people here have become aware of the preventive strategies by mass campaigns from the Government at local level. However, poor performance of medical students is of great concern because they are future ambassadors of preventive practices in society. We need to pay special attention to their teaching of preventive practices of dengue infection. The poor participation of medical students in public and community campaigns is also an alarming thing because public looks towards doctors for advice and if they are not participating in campaigns, the message about health related activities is thought to be poorly conveyed to society. We suggest that the department of community medicine in each medical college should come forward to involve students to participate in public campaigns on preventive practices in dengue infection.

There are few limitations of present study. Due to selection bias and limited sample size, the findings from present study may not be generalized to the whole medical and non-medical students. We suggest further multicenter surveys in different medical institutions to identify gap in preventive practices in medical students so that deficiencies in teaching of dengue infection prevention may be identified, rectified, and taught with further emphasis. This will ultimately translate into improved awareness and better preventive practices of dengue infection in society. We also suggest that similar surveys should also be done in other (non-health professional) teaching institutions of the country and in general public so that future public campaigns may be more targeted and specific to the deficiencies identified.

CONCLUSION

Overall rate of preventive practices o dengue infection is good in graduate students, but medical students have been performing "significantly poor" in most of the practices as compared to the non-medical students.

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