

Knowledge, Attitude and Practice Regarding Dengue in 1st Year MBBS Students of Shree M. P. Shah Govt. Medical College, Jamnagar, Gujarat

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Abstract:


Introduction: Dengue is a mosquito-borne viral disease that has rapidly spread in all regions of WHO in recent years. During 2019, the National Vector Borne Disease Control Programme (NVBDCP) reported more than 100,000 in country and more than 14,000 laboratory confirmed cases of dengue in Gujarat. In hostels of Shree M. P. Shah Medical College, Jamnagar cases of dengue are reported in every season but during the rainy season number of cases gets increased. **Objective:** To assess the knowledge, attitude and practice regarding Dengue and its prevention and control measures among 1st year M.B.B.S students. **Method:** A cross sectional study was conducted among 192 first year MBBS students of Shree M P Shah Government Medical College, Jamnagar in September 2019. A pre-designed, pre-tested, semi structured, self-administered questionnaire was used to collect information. Microsoft excel was used to analyze the data. **Results:** Among study participants 76% knew that dengue is spread by Aedes mosquito, 81.25% said that adult female mosquito bite responsible for dengue, 27.07% knew that clean storage water was the breeding place of dengue mosquito. Social media and newspaper were main source of information. 71.3% study participants were using mosquito coils/mats/repellent/liquid against mosquito. Only 25% were regularly checking for breeding site at hostel/house. **Conclusion:** Majority of 1st year medical graduates had a basic knowledge regarding dengue. But there is still gap in prevention knowledge and practices of personal protective measures and eliminating source of mosquitoes.

Key Words: Dengue, First Year MBBS Students, Knowledge, Attitude & Practice

Introduction:

Dengue is a mosquito-borne viral disease that has rapidly spread in all regions of WHO in recent years. Dengue virus is transmitted by female mosquitoes mainly of the species *Aedes aegypti* and, to a lesser extent, *Ae. albopictus*. These mosquitoes are also vectors of chikungunya, yellow fever and Zika viruses. Dengue is widespread throughout the tropics, with local variations in risk influenced by

rainfall, temperature, relative humidity and unplanned rapid urbanization. The incidence of dengue has grown dramatically around the world in recent decades.^[1] A vast majority of cases are asymptomatic or mild and self-managed, and hence the actual numbers of dengue cases are under-reported. Many cases are also misdiagnosed as other febrile illnesses.^[2] One modelling estimate indicates 390 million dengue virus infections per year (95%

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confidence interval - 284–528 million), of which 96 million (67–136 million) manifest clinically (with any severity of disease).^[3] Another study on the prevalence of dengue estimates that 3.9 billion people are at risk of infection with dengue viruses. Despite a risk of infection existing in 129 countries^[4], 70% of the actual burden is in Asia.^[3] In India, dengue is endemic in almost all states and is the leading cause of hospitalization. Dengue fever had a predominant urban distribution a few decades earlier, but is now also reported from peri-urban as well as rural areas.^[5,6]

During 2019, the NVBDCP reported more than 100,000 in country and more than 14,000 laboratory confirmed cases of dengue in Gujarat.^[7] In hostels of Shree M. P. Shah Medical College, Jamnagar cases of dengue are also reported in every season but during the rainy season number of cases gets increased. In 2019, during and post rainy season large number of cases have been reported in students residing in hostels. During same season numerous breeding places of *Aedes aegypti* mosquito were found in and around hostels during entomological surveillance. As medics, we should know about the preventive measures and also supposed to give advice to the people about it. So as to know the knowledge, attitude and practice about dengue and its prevention and control measures in undergraduate students, we carried out Knowledge, Attitude, Practice (KAP) study among first year M.B.B.S students of Shree M P Shah Govt Medical College, Jamnagar.

Objective:

To assess the knowledge, attitude and practice of Dengue and its prevention and control measures among 1st year M.B.B.S students.

Method:

A cross sectional study was conducted in 1st year MBBS students of Shree M P Shah Government Medical College, Jamnagar about their Knowledge, Attitude and Practice (KAP) regarding dengue in

month of September 2019 during the practical classes. Ethical approval was taken from the Institutional Ethical Committee before conducting the study. Out of 250 students 192 students were present on the day of study. A verbal consent from the participants was taken. Pre-designed, pre-tested, semi structured, self-administered questionnaire was used to collect information. Integrated Disease Surveillance Programme (IDSP) module 5 was used regarding correct knowledge about clinical manifestation of dengue fever among the study participant. (Case definitions of dengue fever- An acute febrile illness of 2-7 days duration with 2 or more of the following: Headache, Retro-orbital pain, Myalgia, Arthralgia, Rash, Hemorrhagic manifestations Leucopenia). Those study participants who gave response as fever along with two other clinical manifestation were considered as having a correct knowledge regarding dengue fever. Microsoft excel was used to analyze the data.

Results:

In our study out of 192 study participants, 125(65.10%) were male and 67(34.89%) were female. In Figure 1, out of 192 study participants, 76% were knowing that dengue was spread by aedes mosquito and 81.25% said that adult female mosquito bite was responsible for dengue. Majority (91.14%) of study participants responded that most common season for spreading of dengue was rainy season. To prevent vector borne diseases, weekly dry day celebration was known by 84.37% study participants. Table 1 shows knowledge about breeding places and clinical manifestation of dengue, 52(27.07%) were knowing that clean storage water is the breeding place of dengue mosquito and 41(21.35%) were having the correct knowledge about clinical manifestation dengue.

Majority of study participants said social media(60.41%) and newspaper(60.41%) were the main source of information which is followed by public health workers/doctors(58.85%), television(51.04%), family members/ friends

(45.83%), radio/FM (17.18%) and other sources(seniors, banners, pamphlets etc.) by 7.3%.

Table 2 shows attitude of study participant regarding dengue for which 185(96.35%) said that dengue is problem in Jamnagar; 89(46.35%) said that dengue is fatal disease, 181(94.27%) said that dengue is preventable.

Figure 2 shows Participant's belief regarding cause of recent increase in dengue cases. Among the study participants, majority (74.47%) of students said that it was due to the lack of knowledge and awareness in people, which was followed by heavy rain fall (42.71%), lack of action by Municipal Corporation (20.31%) and 4.16% responded that we can't say anything. Table 3 shows Personal Protective Measures (PPM) used against mosquito at present. Majority (71.3%) of study participants were using mosquito coils/mats/ repellent/ liquid against mosquito as a PPM which was followed by Screening of windows (56.77%), Wearing full sleeve cloth (44.79%), using mosquito net (39.58%) and using Electric racquet (17.7%).

Table 4 shows that out of 80 study participants who knows correctly about biting time of dengue mosquito, though only 6(7.5%) of them were using PPM during the day time, which was statistically highly significant (Chi square=18.52, p value=0.0001). Table 5 shows that out of 192 study participants, only 48(25%) were regularly checking for breeding site at hostel/house.

Discussion:

In present study out of 192 participants, 76% were knowing that dengue is spread by aedes mosquito which is higher than result obtained by Prashaant K. Bhatnagar et al^[8] in north India and Taran et al^[9] in Malwa region of India where only 21% and 14.8% of children had correct knowledge respectively. Adult female mosquito bite responsible for dengue were responded by 81.25% which is similar (80%) to the result of study done by Taran et al^[9] and in contrast (43%) to the results of Prashaant K. Bhatnagar et al.^[8]

In this study 91.14% were saying that most common season for spreading of dengue is rainy season which was higher (67%) than result obtained by Prashaant K. Bhatnagar et al.^[8] Among the study participants, 52(27.07%) were knowing that Clean storage water is breeding place of dengue mosquito which was higher (8.3%) than the study results of Ashok Kumar et al^[10] in Chennai city and lower (39%) than the study done by Ishwara Prasad KS^[11] insullia taluk of Dakshina Kannada district. Only 41(21.35%) students having correct knowledge about clinical manifestation of dengue based on IDSP guideline.^[12] Higher proportion of knowledge regarding Dengue, its vector, breeding place in our study may be because study participants were studied biology in their higher secondary and admitted to medical college.

In current study social media(60.41%) and newspaper (60.41%) were main source of information which were 32% and 90% respectively in study of Prashaant K. Bhatnagar et al^[8] in North India. 51.04% study participants were replied television as a source of information which was nearer to the study results of Chinnakali et al^[13] in North India (54.9%) and Acharya et al^[14] in South Delhi (59.27%). Among the study participants 96.35% were responded that dengue is problem in Jamnagar, while study conducted by Vikas Kumar et al^[15] in Municipal Corporation of Delhi (MCD) amongst the school teachers, where 85.8% responded that dengue is a problem in Delhi. Dengue is fatal disease said by 89(46.35%) in our study, which was contrast (26%) to the study result of Prashaant K. Bhatnagar et al.^[8] Among the study participants, 181(94.27%) responded that Dengue is preventable disease, which was nearer to study results of Prashaant K. Bhatnagar et al^[8] (99%) in North India, Vikas Kumar et al^[15] (87.7%) in Municipal Corporation of Delhi (MCD) and Ashutosh Sharma et al^[16] (90%) in Mahaveernagar, a Urban Health Training Centre in Kota city, but in contrast to result of Ashok Kumar et al^[10] (25.2%) in Chennai city. For the recent increase in cases of dengue, 74.47% were

replied that it was due to the lack of knowledge and awareness in people, while 42.71% believed that it was due to the heavy rain fall, which were 32% and 9% respectively in study of Prashaant K. Bhatnagar et al.^[8] In our study 20.31% of study participants said that lack of action of govt. is responsible for increase in case of dengue, which is similar to the results of Prashaant K. Bhatnagar et al^[8] in North India(20%) and Alobuia et al^[17] in Jamaica (20.4%). For the control of mosquito, 71.3% of study participants were using mosquito coils/mats/ repellent/ liquid which was higher(39%) than the results found by Prashaant K. Bhatnagar et al ^[8] and lower(88.9%) than the study done by Ashutosh Sharma et al.^[16] 56.67% of study participants were having screening of windows which is higher than the study results of Ashutosh Sharma et al(12.52%),^[16] JS Poyyamozhi (10.9%)^[18] and Vala Mayuret al(8.56%).^[19]

In this study out of 192 study participants, 40.40% of study subjects said that dengue mosquito bite during day time which was similar to the study result of Ashok Kumar et al^[10], nearer to the result of

Prashaant K. Bhatnagar et al(49%)^[8] and higher than the result of Ashutosh Sharma et al(15.52%)^[16] and Sahana Mohapatra et al(13%).^[20] Out of 80 participants who knows correctly about biting time of dengue mosquito, only 6(7.5%) were using PPM during day time which shows lack of practice regarding prevention of dengue. For the breeding site at hostel/house, only 48(25%) were regularly checking, which was lower than the result of Prashaant K. Bhatnagar et al (43%).^[8]

Conclusion:

The results of this survey indicate that majority of 1st year medical graduates had a basic knowledge regarding vector of Dengue, its transmission and signs/symptoms. But there is still gap in knowledge of preventive measures and practices of personal protective measures and eliminating source of mosquitoes. That could be addressed through further education efforts.

Limitation:

The study was done only in one medical college and only in first year M.B.B.S students.

Figure 1: Knowledge about characteristics of mosquito transmitting dengue fever

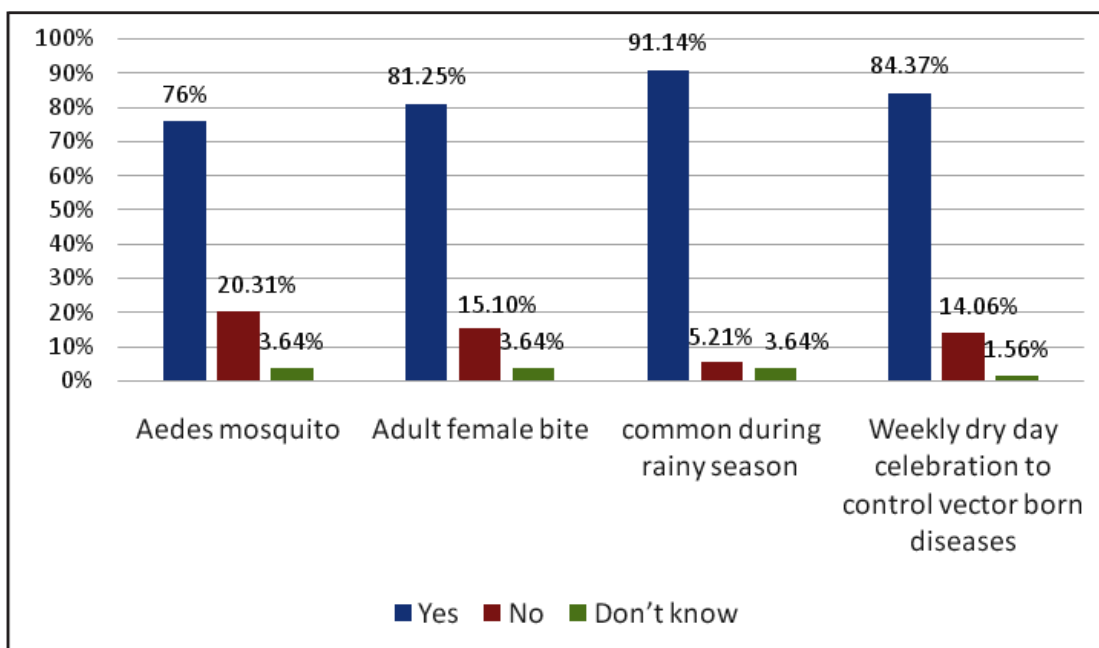


Figure 2 : Participants' belief regarding cause of recent increase in dengue cases

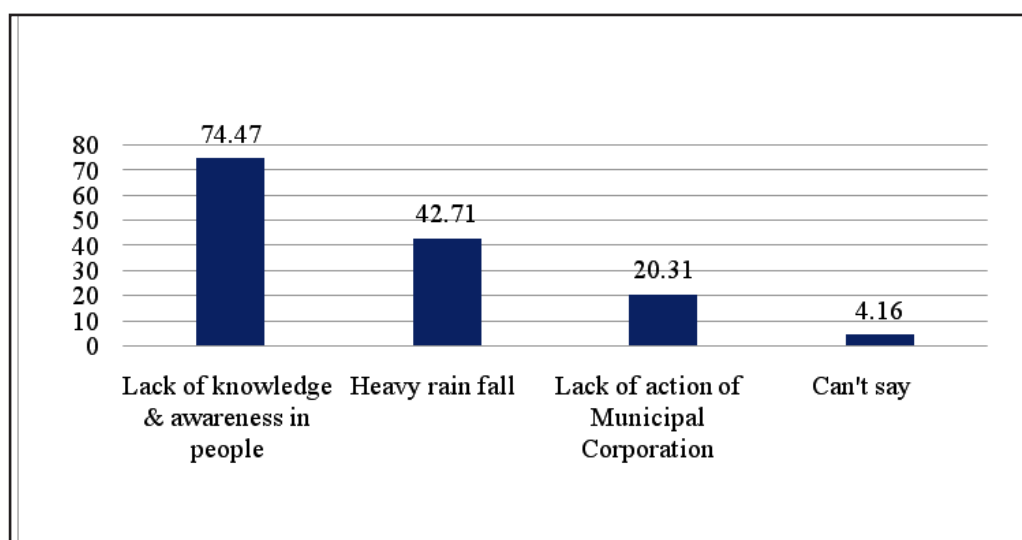


Table 1 : Knowledge about breeding places and clinical manifestation of dengue

Clean storage water is breeding place of dengue mosquito.	Male n (%)	Female n (%)	Total n (%)
Yes	33 (63.46)	19 (36.54)	52 (27.08)
No	89 (65.44)	47 (34.56)	136 (70.83)
Don't know	3(75)	1 (25)	4 (2.08)
Correct knowledge about clinical manifestation of dengue. (Based on IDSP module 5)			
Yes	29 (70.73)	12 (29.27)	41 (21.35)
No	96 (63.58)	55 (36.42)	151 (78.65)

Table 2 : Attitude of study participant regarding dengue

Characteristics	Male	Female	Total (%)
Dengue is problem in Jamnagar	119(64.32)	66(35.68)	185(96.35)
Dengue is fatal disease	59(66.29)	30(33.71)	89(46.35)
Dengue is preventable	118(65.19)	63(34.81)	181(94.27)

Table 3 : Practice about currently using Personal Protective Measures against mosquito

PPM used against mosquito at present	Male	Female	Total (%)
Mosquito coils/mats/repellent/ liquid	85(62.04)	52(37.96)	137(71.35)
Screening of windows	74(67.89)	35(32.11)	109(56.77)
Wearing full sleeve cloth	62(72.09)	24(27.91)	86(44.79)
Use of mosquito net	58(76.32)	18(23.68)	76(39.58)
Electric racquet	27(79.41)	7(20.59)	34(17.7)

Table 4 : Association between knowledge and practice regarding dengue

Time of bite (day time)	Use of mosquito repellent during day time		Chi square=18.52 p-value=0.0001
	Yes	No	
Yes	6 (7.5%)	74 (92.5%)	
No	38 (33.92%)	74 (66.07%)	

Table 5: Practice of study participant regarding regular checking for breeding site at hostel/house

Regular checking for breeding site at hostel/house	Male	Female	Total
Yes	30 (62.5)	18 (37.5)	48 (25)
No	91 (65.94)	47 (34.06)	138 (71.87)
Don't know	4 (66.67)	2 (33.33)	6 (3.12)

Declaration:

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Conflict of Interest: Nil

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