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Original Research Article

Assessment of knowledge, attitude and practice regarding dengue among undergraduates of Government Medical College, Western Maharashtra: a cross-sectional study

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ABSTRACT

Background: Dengue fever is one of the most important viral infections transmitted by Aedes mosquitoes and a major cause of morbidity and mortality globally. For its prevention and control need to assess knowledge, attitude and practice (KAP) level of individuals.
Methods: This cross-sectional observational study was carried out in Dr. V. M. Government Medical College, Solapur after taking institutional ethical committee (IEC) approval during 01 October to 30 October in all 200 undergraduate students of a batch of MBBS was selected out of 3 batches by lottery method, who were given consent were included in the study, out of which 154 had responded to pre-tested, structured, questionnaire.
Results: 78.57% participants had good knowledge regarding dengue fever causative agent, transmission, signs and symptoms, preventive and control measures. 92.2% participants had good attitude towards dengue fever seriousness, preventive and control measures, need of community participation, importance of immediate visit to health care facilities. All participants had good practices regarding dengue fever preventive and control measures and 98% participants had high KAP score >38 (out of 50) regarding dengue fever signs and symptoms, means of transmission and its preventive and control measures.
Conclusions: Majority of participants had good knowledge regarding dengue fever causative agent, transmission, signs and symptoms, preventive and control measures. Majority of participants had good attitude towards dengue seriousness, preventive and control measures, need of community participation, and all participants had good practice regarding dengue fever preventive and control measures and majority of participants had high KAP score regarding the same.

Keywords: Dengue fever, KAP, Undergraduates

INTRODUCTION

Dengue virus is transmitted via the bite of an infected female *Aedes* mosquito.[1] It can be caused by infection of any four dengue virus serotypes (DENV-1 to DENV-4).[2] The primary vectors that transmit the disease are *Aedes aegypti* mosquitoes. The global incidence of dengue has grown dramatically with about half of the world's population now at risk. Although an estimated 100-400 million infections occur each year, over 80% are generally mild and asymptomatic.[3]

In India, dengue fever is endemic in almost all the states and is the leading cause of hospitalization[4]. Total Dengue cases and deaths due to dengue in India 2022 (provided till 31 October 2022) were 110473 and 86 respectively.[5] Total dengue cases and deaths due to dengue in Maharashtra till 31 October 2022 were 6330 and 5 respectively.[5] With this

background this study was conducted to assess knowledge, attitude and practices (KAP) regarding dengue among undergraduates. The findings of the study will help to correct the knowledge, attitude, and practices regarding dengue among undergraduates.

Objectives were to assess the knowledge, attitude and practices of dengue among undergraduates.

METHODS

This cross-sectional observational study was carried out in Dr. V. M. Government Medical College, Solapur, Western Maharashtra, after taking institutional ethical committee (IEC) approval from the IEC Dr. Vaishampayan Memorial Government Medical College, Solapur. Maharashtra on dated 28 December 2022, during 01 October to 20 October in all 200 undergraduate students of a batch of MBBS out of 3 batches selected by lottery method, who were given consent included in the study, out of which 154 had responded to pre-tested, structured, questionnaire. Likert scale was used for data collection, statistical methods used were mean and standard deviations, percentage.

RESULTS

Out of 154 participants. 121 (78.57%) had good and remaining 33 (21.43%) had poor knowledge regarding dengue fever causative agent, modes of transmission, signs and symptoms, preventive and control measures. 48.1%, 57.8%, 61% participants had knowledge regarding dengue symptoms and signs like diarrhoea, stomach pain, gum bleeding respectively (Table 1).

Majority of study participants 142(92.2%) had good attitude towards dengue fever seriousness, preventive and control measures, need of community participation, importance of visiting health care facilities immediately (Figure 1).

All study participants had good practice regarding dengue fever preventive and control measures. Majority of participants (98%) had high KAP score of >38 and remaining (2%) had moderate KAP score of 25-38 with of Mean of KAP score is 44 (Standard deviation 44±4) and 5 participants had 50 KAP score regarding dengue fever signs and symptoms, means of transmission and its preventive and control measures (Table 2).

Table 1: Distribution of study participants according to responses to questions related to knowledge about dengue (n=154).

S. no.	Knowledge	N (%)
1	Do the *Aedes* mosquitoes transmit dengue virus? Yes	152 (99)
2	Can all mosquitoes transmit dengue virus? No	151 (98)
3	Do ticks transmit dengue virus? No	144 (94)
4	Do flies transmit dengue virus? No	140 (90)
5	Dengue is caused by a virus? Yes	141 (92)
6	can you identify *Aedes* mosquitoes? Yes	130 (84)
7	Is dengue virus transmitted to humans by the bite of female *Aedes* mosquitoes that have been infected? Yes	143 (93)
8	Does casual person to person contact transmit Dengue? No	141 (92)
9	Is the rainy season the only season when Dengue is present? No	135 (88)
10	When are the *Aedes* mosquitoes most likely to feed/bite? Day time	129 (84)
11	Is dengue virus transmitted through food and water? No	124 (81)
12	Can a person suffer from Dengue more than once? Yes	152 (99)
13	Is headache a symptom of Dengue? Yes	149 (97)
14	Is joint pain a symptom of Dengue? Yes	146 (95)
15	Is muscle pain a symptom of Dengue? Yes	143 (93)
16	Is pain behind the eyes a symptom of Dengue? Yes	139 (90)
17	Is rash a symptom of Dengue? Yes	117 (76)
18	Are nausea/vomiting symptoms of Dengue? Yes	110 (71)
19	Is gum bleeding common in Dengue? Yes	94 (61)
20	Is stomach pain common in Dengue? Yes	89 (58)
21	Is diarrhea common in Dengue? Yes	74 (48)
22	Do mosquito repellents prevent mosquito bites? Yes	151 (98)
23	Do insecticide sprays (such as Baygon) reduce mosquitoes and prevent Dengue? Yes	149 (97)
24	Do mosquitoes breed in standing water? Yes	148 (96)
25	Do window screens and bed net reduce mosquitoes? Yes	139 (90)

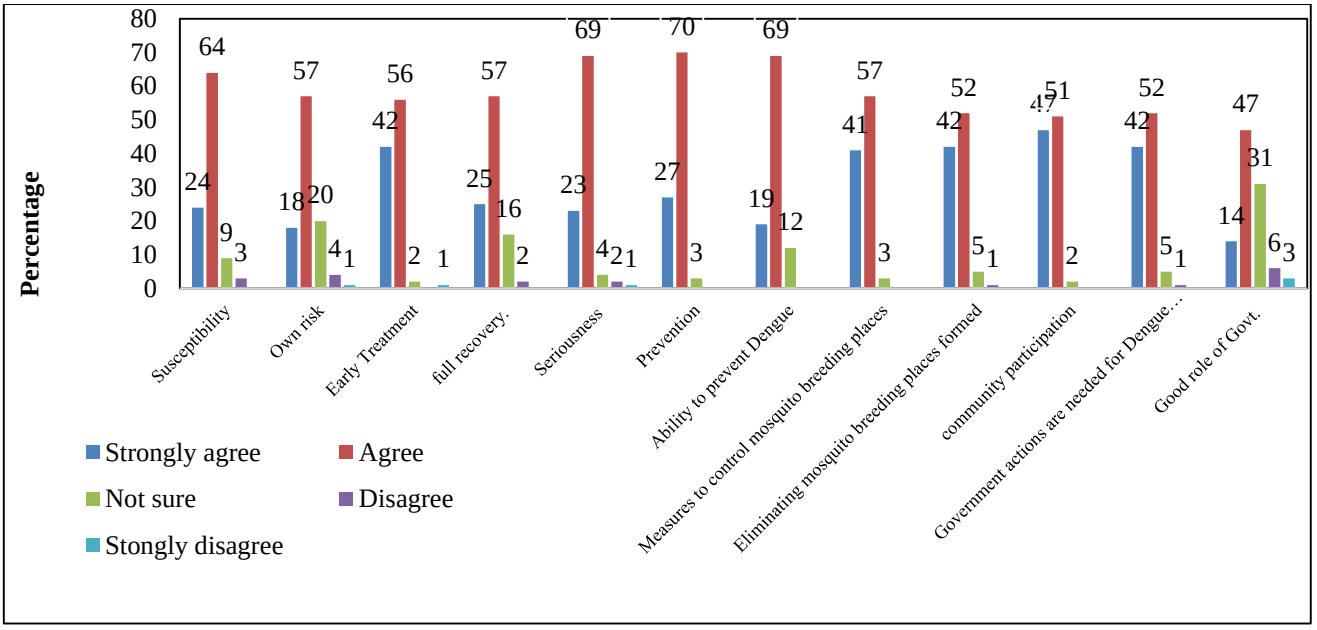

Figure 1: Distribution of study participants according to responses to questions related to attitude towards dengue (n=154).

Table 2: Distribution of study participants according to responses to questions related to practices about dengue (n=154).

S. no.	Practices	N (%)
1	Use screened windows to reduce mosquitoes. Yes	151 (98)
2	Use a bed net when sleeping during the day. Yes	150 (97)
3	Use of fan to prevent mosquito biting. Yes	132 (86)
4	Check the waste/garbage that can block the flow of water around the home. Yes	154 (100)
5	Cleaning of garbage. Yes	153 (99)
6	Prevent water stagnation. Yes	152 (99)
7	Disposing of water holding containers such as tires, parts of automobiles, plastic bottles, and cracked pots. Yes	150 (97)
8	Use mosquito eating fish to reduce mosquitoes. Yes	149 (97)
9	Cut down bushes in the yard to reduce mosquitoes. Yes	146 (95)
10	Cover water containers in the home. Yes	153 (99)
11	Change the water plant containers in the house every week. Yes	152 (99)
12	Change the water in flower containers. Yes	151 (98)
13	Participate in any of the anti-dengue campaigns in the community. Yes	152 (99)

DISCUSSION

This study sought to establish knowledge, attitude, and practices towards dengue fever among undergraduate students of a batch.

In this study, out of 154 participants. 121 (78.57%) had good and remaining 33 (21.43%) had poor knowledge regarding dengue fever, in a study conducted by the Harapan et al 45% of the respondents had good knowledge regarding dengue.[6] In the study conducted by the Tanvir et al found that more than half of the study population were knowledgeable about dengue (mean percentage scores was 52%).[7] In a study conducted by Sivaneswari et al 50.7% of the respondents had good knowledge regarding dengue.[8] In this study majority of study participants 142 (92.2%) had good attitude towards dengue fever seriousness, preventive and control measures, need of community participation, importance of visiting health care facilities immediately, in a study conducted by the Harapan et al, 32.1% of the respondents had good attitude regarding dengue fever.[6] In the study conducted by the Tanvir et al found that more than half of the study population were possess an appropriate and acceptable attitude towards the disease (mean percentage scores was 69.2%).[7] In a study conducted by Sivaneswari et al 53.2% of people had poor attitude towards dengue fever control measures.[8] In this study all study participants had good practice regarding dengue fever preventive and control measures, in a study conducted by the Harapan et al, 22.9% of the respondents had good practices regarding dengue.[6] In the study

conducted by the Tanvir et al found that about two thirds of the respondents (mean percentage scores was 71.4%) engaged in practices towards dengue prevention.[7] In a study conducted by Sivaneswari et al, 50.2% of the respondents reported poor practice for dengue control.[8] In this study majority of participants (98%) had high KAP score of >38 and remaining (2%) had moderate KAP score of 25-38 with of mean of KAP score is 44 (standard deviation 44±4) and 5 participants had 50 KAP score regarding dengue fever signs and symptoms, means of transmission and its preventive and control measures, in a study conducted by the Jayawickreme et al, the mean KAP score on all questions was 55%, while a majority of 65.2% patients scored moderate KAP scores (50–75%) on all questions, and only 7.6% had high KAP scores (>75%). The highest categorical mean score of 62% was on awareness of dengue prevention, followed by 54% on awareness of dengue burden, and only 51% on dengue management. Only 5.3% patients scored high scores on awareness of dengue management, followed by 28.5%, and 40.9% patients scoring high scores on awareness of dengue burden, and awareness of prevention of dengue respectively.[9] Different results of our study than others could be due to different settings at which studies had carried out and background of undergraduates.

Limitations

As this study was not carried out in the community sector, so study results cannot be generalizable to the general population.

CONCLUSION

Majority of participants had good knowledge regarding dengue fever causative agent, transmission, signs and symptoms, preventive and control measures. Majority of participants had good attitude towards dengue fever seriousness, preventive and control measures, need of community participation, importance of immediate visit to health care facilities and all participants had good practice regarding dengue fever causative agent, clinical features, means of transmission, preventive and control measures and majority of participants had high KAP score regarding the same.

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