



Research Article

# The Knowledge, Attitude and Practices on Mosquito Borne Diseases among People in a Rural Area in Thrissur

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## I N F O

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## A B S T R A C T

**Background:** Mosquito borne diseases cause major public health problem in Kerala which causes major outbreak during post monsoon period.

**Objective:** To assess the knowledge attitude and practice on mosquito borne diseases among people in a rural health and training centre in Thrissur.

**Methods:** This cross-sectional study was carried out from the month of January to May 2019 in the field practice area of rural health training centre, Amala Institute of Medical Sciences, Thrissur. 300 houses were selected for the study by systematic random sampling and semi structured questionnaire was filled by an adult member of the family. Data was analysed in Microsoft Excel 2010 and SPSS version 21.

**Result:** All the 274 respondents in the study were aware that mosquito borne diseases are a serious problem. 90.9% knew dengue as a mosquito borne disease but only 2.6% are aware that mosquito bite in day time, only 3.2% knew that filaria is transmitted by mosquito. Majority believe that mosquito breeds in drains. Most of the respondents use mosquito nets for personal protection against mosquito. Health education serve as the main source of information for majority of participants.

**Conclusion:** The study shows good knowledge, positive attitude and practices on mosquito borne diseases

**Keywords:** Mosquito Borne Diseases, Rural, Dengue, Filaria, Prevention, Personal Protection

## Introduction

Mosquito borne diseases are common in tropical and sub-tropical regions. The occurrence of such diseases depends on the interaction of various biological, ecological, social and economic factors.<sup>1</sup> The common mosquito borne

diseases in India being malaria, dengue, Chikungunya, filariasis, and Japanese Encephalitis.<sup>2</sup> Every year more than one billion people are infected and more than one million people die from vector-borne diseases. These diseases affect urban, peri-urban and rural communities but thrive predominantly among communities with poor



living conditions.<sup>3</sup> They have emerged as a serious public health problem in India resulting in avoidable ill health and death.<sup>1</sup> The situation has become much complicated by the rapid urbanization, industrialization and development of supporting infrastructures like roads without keeping in mind the natural flow of surface water.<sup>2</sup>

National Vector Borne Disease Control Programme (NVBDCP) is one of the most comprehensive and multifaceted public health activities for prevention and control of mosquito-borne diseases in India.

In spite of mass communication and educational approaches community participation is far below expectation. Community participation in turn depends on people's awareness, attitude & also the practices they follow to prevent mosquito breeding or mosquito bites at home. The joint involvement of the people, the local government and other sectors is essential for the success of vector control programme in a community. So there is a need to understand the knowledge, attitude and practices regarding mosquito borne diseases so that it helps in developing more effective prevention and control strategies in the community.<sup>4</sup>

## Aim

To assess the knowledge, attitude and practices on mosquito borne diseases in a rural area in Thrissur, Kerala.

## Methodology

This cross sectional study was undertaken in field practice area of Rural Health Training Centre, Amala Institute of Medical Sciences, Thrissur, Kerala during January - May 2019. Adult persons above eighteen years of age who were permanent residents of those selected wards of the area were included as study participants. In the selected wards 300 households were chosen by systematic random sampling. Informed consent (verbal) was taken from all the respondents and a pre-designed semi-structured questionnaire was used to gather information regarding sociodemographic characteristics, as well as the knowledge, attitude and practices on mosquito borne diseases. Data was analysed in Microsoft Excel 2010 & SPSS ver. 21.

## Result

Out of 274 respondents, 37.20% were females & 62.80% were males as shown in Figure 1. The mean age of study participants were 53.96 ( $\pm 13.05$ ) years. Most of the respondents had education up to secondary (36.5%) followed by higher secondary (29.9%) and primary (21.2%). None of the participants were illiterate as given in Table 1. Regarding knowledge about mosquito borne diseases, all the respondents know about mosquito borne diseases. As shown in Figure 2, most common known mosquito borne disease was dengue (90.9%). Only 26.6%

and 24% of study participants knew about dengue and Chikungunya as mosquito borne diseases respectively. A very few participants (3.2%) had knowledge about filarial disease. There is statistically significant difference between educational level and knowledge about mosquito borne diseases as given in Table 2.

As shown in Figure 3, regarding the biting habits of mosquito, 49.6% responded that mosquito bites during night time, 47.45% responded both day and night time, only 2.6% responded that mosquito bites during day time, while asking about breeding places of mosquito, 66.64% knew drain as breeding places. 56.6% responded that mosquito breeds in artificial container while 36.68% responded stagnant water as the breeding site as shown in Figure 4.

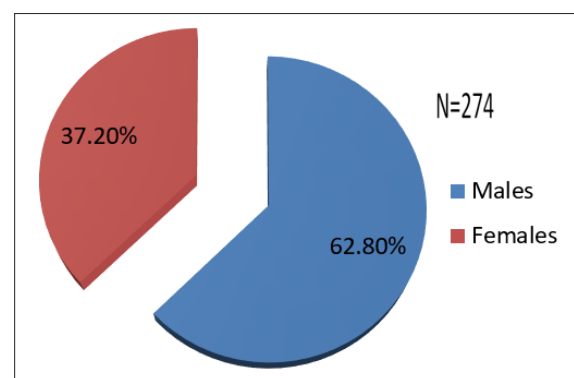


Figure 1. Age distribution of study participants

Table 1. Education of study participants

Education	Frequency	Percentage
Primary	58	21.2
Secondary	100	36.5
Higher secondary	82	29.9
Graduate	29	10.6
Post graduate	5	1.8
Total	274	100

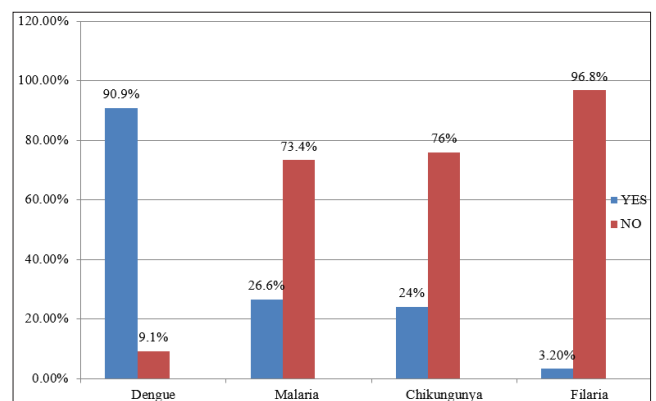
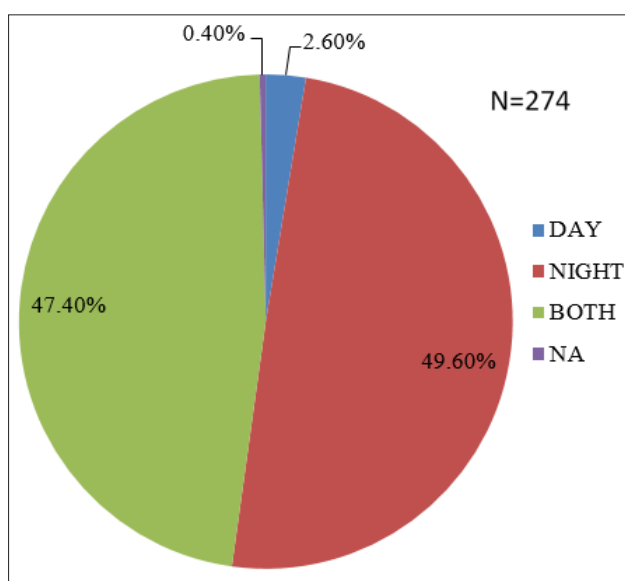


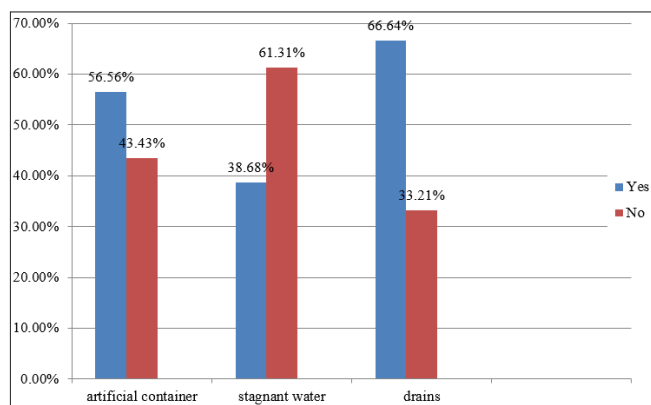
Figure 2. Knowledge regarding mosquito borne diseases

**Table 2. Association of education with mosquito borne diseases**

Education	Dengue	Malaria (p 0.004)	Chikungunya (p 0.001)	Filaria
Primary	54	10	14	1
Secondary	93	19	17	5
Higher secondary	75	28	17	2
Graduate	23	14	15	1
Post graduate	4	2	3	0



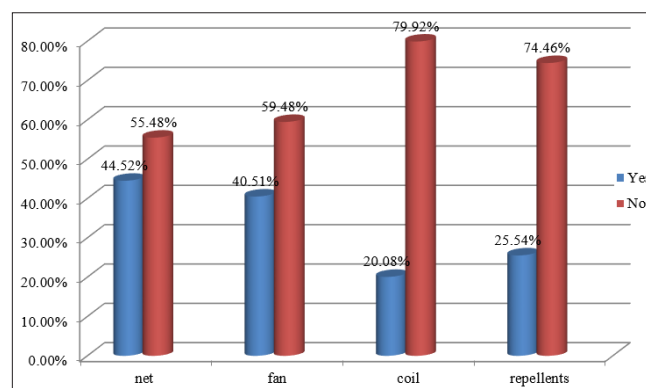
**Figure 3. Knowledge about time of mosquito bite**



**Figure 4. Knowledge regarding breeding sites of mosquito**

All the respondents think that mosquito borne diseases can be prevented and for which they would seek medical help. Regarding preventive practices of respondents it was found that 44.52% used mosquito net & 40.51% were using fan as given in Figure 5.

As given in Table 3, health education was most common source of information on mosquito borne diseases followed by newspapers/ television/ advertisements.



**Figure 5. Practices towards mosquito borne diseases**

**Table 3. Source of information**

Source of information	Frequency	Percentage
Health education	136	49.6
Television	114	41.6
Newspaper	123	44.9
Advertisement	102	37.2
Not Answered	3	1.1

### Discussion

In the present study, all the participants had knowledge about mosquito borne diseases. Dengue (90.9%) was the most common diseases perceived by the participants as mosquito borne diseases followed by malaria (26.6%) whereas it was malaria (94.5%) followed by dengue (85.9%) in a study done by Maumita De et al. and Sharma A, et al.<sup>1,3</sup>

Regarding biting habit of mosquito (47.04%) responded mosquito bites both in day and night, followed by night (49.6%) and during day time (2.6%). The knowledge about day biting habit of mosquito is very less compared to a study done by Maumita De et al.<sup>3</sup>

Regarding knowledge on breeding places of mosquito, a large proportion of people mentioned drain (66.1%) followed by artificial container (56.6%) which is different in studies done in Gujarat and Puducherry where drains and polluted and stagnant water were the common breeding places.<sup>5-7</sup>

All the respondents accepted that mosquito borne diseases are preventable. Majority of participants (97.1%) would consult doctor on having mosquito borne disease which is very much higher than that found in a similar study done by Mehta D et al. (88%) in Bhavnagar, Gujarat.<sup>7</sup>

Mosquito net was most commonly used to control

mosquitoes (44.5%), followed by repellents 25.5% which was very less compared to a study done by Sharma A, et al.<sup>1</sup>

Study revealed that health education (49.6%) was most common source of knowledge about mosquito borne disease which is different from the findings of Kumar BA, et al., Malhotra V, et al., Maumita De, et al. and Virk A et al.<sup>3,8-10</sup>

### Conclusion

Majority people know dengue as a mosquito borne disease, one fourth know about malaria and Chikungunya and a very few know about filarial disease. But they have no idea about other mosquito borne diseases like Zika, Japanese encephalitis etc. All respondents have positive attitude on mosquito borne diseases. A greater proportion of study population use mosquito net as protective measure.

### Recommendation

There is a need to conduct awareness programmes regarding the knowledge about mosquito borne diseases.

**Conflict of Interest:** None

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