



## KNOWLEDGE, ATTITUDE AND PRACTICES ON MOSQUITO BORNE DISEASES IN ETAWAH CITY

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### ABSTRACT

**Introduction:** Mosquito-borne diseases constitute an important cause of morbidity and mortality, especially in India. Assessment of knowledge and practices of community about prevention of mosquito borne diseases is important for designing community-based interventions. **Objectives:** To assess the knowledge, attitude and practices on Mosquito Borne Diseases in Etawah city. **Methods:** It is a community based cross sectional study on adults in Etawah city. A total of 100 households were selected by systematic random sampling. Data was collected using pre-tested, pre-designed, semi-structured questionnaire regarding socio-demographic profile, knowledge about mosquito borne diseases, breeding sites of mosquitoes and usage or non-usage of preventive measures and supplemented by spot survey by the investigator in the community. **Results:** A total of 100 households were interviewed during the study. Among respondents 40% were females. Hindu households constituted 83% of the total. Majority 63% of the respondents belong to other backward class category. 31% of respondents were housewives. When asked about breeding places of mosquitoes, majority (75%) felt stagnant water is the most common, followed by garbage (68%), coolers (33%), ponds & pools (18%) and artificial collection of water (9%). Nearly 2% did not have any idea on breeding places. They listed mosquito coils/liquid vaporisers usage (59%), mosquito mats (18%), using bed nets (63%), use of repellents (15%), fans (35%), covering with blanket/bedsheets (8%), screening windows and doors (15%), applying smoke (4%) while 1% do not take any measures. **Conclusion:** There is a need to conduct awareness programs regarding the diseases spread by mosquitoes and other vectors in the community.

**KEYWORDS :** Knowledge, Attitude, Practices, Mosquito Borne Diseases, Preventive Measures

### Introduction-

Mosquito-borne diseases constitute an important cause of morbidity and mortality, especially in India. Assessment of knowledge and practices of community about prevention of mosquito borne diseases is important for designing community-based interventions.

Mosquito borne diseases of public health importance are complex, and their occurrence depends on the interaction of various biological, ecological, social and economic factors. Malaria constitutes an important disease with annual occurrence of 300-500 million cases and 1.1-2.7 million deaths globally. An estimated 96 million apparent dengue infections were reported globally in 2010. Asia bears 70% (47-94 million infections) of this burden whereas India alone contributed 34% (24-44 million infections) of the global total<sup>1</sup>

Other mosquito borne diseases like chikungunya, lymphatic filariasis, and Japanese encephalitis are also important causes of morbidity and mortality. Looking at the seriousness of the situation, World Health Organization declared "vector borne diseases" as the theme for the year 2014 on World Health Day to highlight the importance of measures for prevention and community-based action. Primary prevention of transmission of mosquito borne diseases is crucial to decrease the burden of diseases, especially in control of dengue, as it is the only available strategy.

Insecticides continue to be the mainstay for the control of these infections. However for reasons of inadequate health infrastructure, particularly in remote and inaccessible areas where access to houses is a difficult proposition due to security, it is essential that communities themselves undertake interventions against vector mosquitoes.

However, Knowledge and practices of community about prevention of

mosquito borne diseases are an important aspect to assess the need of community-based interventions. In the same context, elimination of the breeding sites from the human habitat is the most effective way to manage mosquito borne diseases, hence social and behavioural interventions at household level are thought to be the most viable measures for these diseases. The use of personal protective measures (PPMs) such as mats, bednets, screening, repellents, liquid vaporizers, mosquito coils, etc., has been advocated as an effective tool in control of mosquito borne diseases. Keeping in view the same, this study was planned with the objective to assess knowledge and preventive practices of the community regarding prevention and control of mosquito borne diseases in Etawah city.

### Methodology-

**Study Design-** Community based cross sectional observational study on adults.

**Study Population-** 100 households from urban areas of Etawah.

**Study Time-** December 2017-January 2018.

**Sampling Technique-** Purposive Sampling

There are 36 wards in Etawah city, of those two ward were randomly selected. A total of 100 families were selected from both wards i.e. 50 from each ward. On reaching the selected ward, a fixed point was located which was a temple or school from there we move in left hand direction to the house that was nearest. On reaching first household, we selected the first household. If there were more than one household we selected the household using lottery system. We subsequently move to the next house to select the next household. Same procedure was applied till desired sample size was reached. If any household refuses,

we move to next household.

In each household information was collected using pre-designed structured questionnaire under following broad heading- socio-demographic profile, knowledge regarding mosquito borne disease, their attitude towards mosquito borne disease and their prevention and current practices of the mosquito borne disease . All the data were entered SPSS21 and descriptive statistics were applied.

**Results-**

A total of 100households were interviewed during the study. Among respondents 40% were females. Hindu households constituted 83% of the total. Majority of the respondents belong to other backward class category. 31% of respondents were housewives(Table 1).

When asked about breeding places of mosquitoes, majority (75%) felt stagnant water is the most common, followed by garbage (68%), coolers(33%), ponds &pools (18%) and artificial collection of water(9%). Nearly 2% did not have any idea on breeding places. The respondents knew that there are different ways of controlling mosquito borne diseases and gave multiple answers(Table 2). 84% respondents consider that by preventive measures we can avoid mosquito borne disease and 78% take any preventive measure to avoid mosquito borne disease(Table-3). They listed mosquito coils/liquid vaporisers usage (59%), mosquito mats(18%), using bed nets (63%), use of repellents (15%), fans (35%), covering with blanket/bedsheets (8%), screening windows and doors (15%), applying smoke (4%)while 1% do not take any measures(Table-4).

**TABLE-1: Sociodemographic details of the study population-**

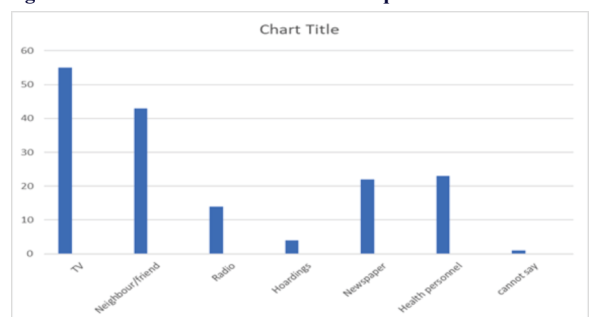
Sociodemographic variables	Frequency (n=100)	Percentage
<b>Gender-</b>		
1. Male	60	60%
2. Female	40	40%
<b>Religion-</b>		
1. Hindu	83	83%
2. Muslim	16	16%
3. Sikh	1	1%
4. Christian	0	0%
5. Others	0	0%
<b>Category-</b>		
1. General	32	32%
2. OBC	63	63%
3. SC	5	5%
4. ST	0	0%
5. Others	0	0%
<b>Occupation-</b>		
1. Unemployed	43	43%
2. Unskilled worker	11	11%
3. Semi skilled worker	11	11%
4. Skilled worker	5	5%
5. Clerk/shopkeeper/farmer	25	25%
6. Semi professional	3	3%
7. Professional	2	2%
<b>Socioeconomic Status (according to Modified B G Prasad classification)-</b>		
1. Upper class	6	6%
2. Upper middle class	16	16%
3. Middle class	34	34%
4. Lower middle class	40	40%
5. Lower class	4	4%

**TABLE-2: Knowledge regarding mosquito borne diseases-**

	Frequency	Percentage
<b>Mosquito borne disease you know-</b>		
1. Malaria	90	90%
2. Dengue	65	65%
3. Chickengunya	17	17%
4. Filaria	1	1%
5. Japanese Encephalitis	6	6%
6. Not know	1	1%
<b>Symptoms of malaria-</b>		

1. Fever with chills/rigors	67	67%
2. Vomiting	9	9%
3. Profuse sweating	12	12%
4. Fever	28	28%
5. Tiredness	12	12%
6. Not know	21	21%
<b>Symptoms of dengue-</b>		
1. Fever	50	50%
2. Headache	22	22%
3. Rashes	15	15%
4. Joint pains	31	31%
5. Vomiting	4	4%
6. Not know	36	36%
<b>Symptoms of chickengunya-</b>		
1. Fever	24	24%
2. Joint pains	23	23%
3. Headache	9	9%
4. Not know	60	60%
<b>Knowledge regarding potential breeding places-</b>		
1. Coolers	33	33%
2. Standing water	75	75%
3. Artificial collection of water	9	9%
4. Garbage	68	68%
5. Ponds	17	17%
6. Pools	1	1%
7. Not know	2	2%
<b>Preventive measure which you consider more effective to avoid reproduction of larvae and pupae-</b>		
1. Eliminate stagnant water	85	85%
2. Fumigate	16	16%
3. Apply larvicide	15	15%
4. Covered water containers	27	27%
5. Use of fishes on water containers	1	1%
6. Not know	5	5%
<b>Measures to prevent mosquito bites-</b>		
1. Use of bed nets	80	80%
2. Use of repellants	47	47%
3. Use of insecticides	31	31%
4. Covered water containers	8	8%
5. Screening in windows and doors	7	7%
<b>Source of information-</b>		
1. TV	56	56%
2. Neighbour/friend	43	43%
3. Radio	13	13%
4. Hoardings	4	4%
5. Posters/pamphlets	1	1%
6. Newspaper	22	22%
7. Health personnel	23	23%
8. Books	2	2%

**Figure-1 Source of information about mosquito borne diseases**



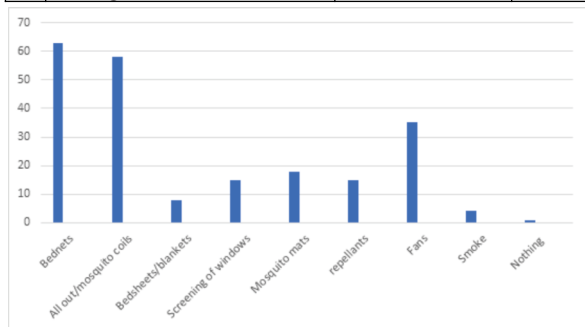
**TABLE-3: Attitude towards Mosquito borne diseases-**

	Frequency	Percentage
<b>Do you consider preventive measures could avoid mosquito borne diseases-</b>		
1. Agree	84	84%
2. Not agree	6	6%
3. Cannot say	10	10%

Do you take any preventive measure to avoid mosquito borne diseases-			
1.	Yes	78	78%
2.	No	9	9%
3.	Cannot say	13	13%

**TABLE-4: Preventive practice towards mosquito borne diseases-**

Potential breeding sites found in the house-			
		Frequency (n=100)	%
1.	Yes	55	55%
2.	No	45	45%
Any breeding of mosquito found in or around the house-			
1.	Yes	61	61%
2.	No	39	39%
Adult mosquito seen in the houses-			
1.	Yes	86	86%
2.	No	14	14%
Personal preventive measures being taken by respondents-			
1.	Mosquito coils/liquid vaporisers	59	59%
2.	Mosquito mats	18	18%
3.	Use of repellents	15	15%
4.	Using fans	35	35%
5.	Covering with blanket/bedsheets	8	8%
6.	Bednets	63	63%
7.	Screening windows and doors	15	15%
8.	Applying smoke	4	4%
9.	Nothing	1	1%



**Figure-2 Personal protective measures taken by respondents**

**Discussion-**

In the present study, majority (75%) felt stagnant water is the most common, followed by garbage (68%), coolers (33%), ponds & pools (18%) and artificial collection of water (9%). Nearly 2% did not have any idea on breeding places. The respondents knew that there are different ways of controlling mosquito borne diseases and gave multiple answers. They listed mosquito coils/liquid vaporisers usage (59%), mosquito mats(18%), using bed nets (63%), use of repellents (15%), fans (35%), covering with blanket/bedsheets (8%), screening windows and doors (15%), applying smoke (4%)while 1% do not take any measures.

Sharma A in Kota, found that out of 966 respondents 88.4% were aware about mosquito borne diseases. Fever as chief complaint was known to 97.16%. Majority of them believe that mosquito breeds in dirty water. Television and newspaper are main source of information on mosquito borne disease. Mosquito mat/coil/liquid vaporizer is used by most of them during night time only. Most of respondents neither check cooler for mosquito larvae nor changed water in coolers within a week.<sup>2</sup>

In 2015 conducted a Study on Knowledge and Preventive Practices about Mosquito Borne Diseases in Delhi. Only small number of participants (from rural 28.1% and urban 18.6% areas) was aware of "fever with chills and rigor" as a symptom of malaria. Television was most common source of information in both rural and urban areas. Desert coolers were reported to be cleaned regularly in a week in 86.4% houses in a rural area, and 88.4% houses in the urban area. Potential breeding sites were significantly more in urban (n = 34, 24.3%) than rural (n = 13, 6.2%) houses (P = 0.01). Similarly actual breeding of mosquitoes was found significantly more in urban houses (n= 29, 20.7%) than rural houses (n = 14, 6.7%), which was statistically significant (P = 0.01). Knowledge about mosquito borne diseases was

significantly associated with education status of the participants<sup>1</sup> A total of 451 families were surveyed. Majority (84%) knew stagnant water is major breeding site for mosquitoes. Nearly half of the population (47.2%) preferred to use mosquito coils and mats to control mosquitoes followed by liquid vaporizer (40.4%). Approximately 60% of the houses did not have stagnant water in the surroundings and 40% of the houses had routine mosquito control activity undertaken by the government or municipality<sup>3</sup>

**Conclusion-**

The study brought out certain important perceptions of the sampled community, the understanding of which is deemed vital for planning a health education programme. A sound knowledge-base about vector-borne diseases and methods of vector control must be built among the community.

Of the diseases transmitted by mosquitoes, it was mainly malaria and dengue that was mentioned. Greater proportion of the study population was found to use protective measures like liquid vaporisers/coils, bed nets, fans and repellents against mosquitoes.

**Recommendations-**

There is a need to conduct awareness programs regarding the diseases spread by mosquitoes and other vectors in the community. Further, frequent awareness programmes can motivate community to practice mosquito control measures.

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