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An Observational Study on Awareness and Practice about Preventive Methods of Mosquito Bite in Piparia Village, Vadodara, Gujarat

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***Abstract*---Aim**: An Observational study on awareness and practice about preventive methods of mosquito bite in Piparia village, Vadodara, Gujarat. **Material and methods**: A community based cross-sectional study was carried out in the Department of Community Medicine, Piparia village of Vadodara district, Gujarat, India. The study conducted after getting Permission from Institutional Ethics Committee and Human Research Review Panel and completed in three months. **Results**: 100 households were surveyed. Among the interviewed persons 58 (58%) were males and 42 (42%) were females. The average age of respondents was 52 years. Most of the households were in lower middle class (31%). The awareness regarding dengue illness was estimated based on correct responses of respondents to the closed ended and multiple types questions (MCQ) asked by interviewers. 36% participants were work in private job. 89 % were married. 56% cases, any of one family member suffered from fever last 30 days. 44% taking the treatment from different hospital. 79% individual were suffering from malaria diseases. 30% using net or 79% using to oil for killing the larva of the mosquito. **Conclusions**: The knowledge and awareness to stop the mosquito breeding, biting should be enhanced and should be turned into action.

***Keywords*---**dengue, knowledge, awareness, personal protection, observational study.

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Introduction

Mosquito borne diseases are major public health problem in India. Gujarat is endemic for malaria and other mosquito borne diseases. Anopheles, Aedes and Culex are commonly seen species in Gujarat. *Anopheles* specie bite transmits the malarial (*Plasmodium*), *Aedes aegypti* and some other specie bites transmit yellow fever and dengue, while both *Anopheles* and *Culex* have been incriminated for the transmission of lymphatic filariasis (Park, 2015). Chikungunya and Japanese encephalitis is also epidemic in most of the states in India. Therefore it is a very essential to educate the citizens of rural, peri-urban and urban on danger of mosquito bites. The transmission of diseases spread by these vectors can be effectively control by these two tools education and motivation (Heyneman, 2004). National Malaria control programme has been launched in 1952 and it has been renamed as National Vector Born Disease Control Programme in 2003. Studies have revealed that human knowledge, attitude and practice of various methods of personal and household protection against mosquito bites vary in different endemic regions of tropical countries (WHO, 2013). At the end of the study the interviewer gave knowledge to the participants/citizens about danger of mosquito bites, prevention part and the elimination of active breeding site practice.

Material and Methods

A community based cross-sectional study was carried out in the Department of Community Medicine, Piparia village of Vadodara district, Gujarat, India. The study conducted after getting Permission from Institutional Ethics Committee and Human Research Review Panel and completed in three months.

Inclusion criteria

- Families in sample study population.
- Adults who are willing to participate in study.

Exclusion criteria

- Adult who were not willing to participate in this study?

Source of data

The investigator visited and gathered the data from the adults living in Piparia village by house-to-house survey. Permission was taken from Institutional Ethics Committee and Human Research Review Panel before data collection commences. Informed written consent was used to obtained data from the study participants.

Method

For the present study, investigator took prevalence of Awareness and practice about preventive method against mosquito bite as 71 percent according to Dr. Niraj Pandit who revealed that knowledge about malaria caused by mosquito bite is 71% in Urban area Vadodara District, Gujarat state of India 2009. The final sample size was 100 as purposive sampling. The required sample was collected

by the stratified random sampling. The researcher was collected information through house to house visit in piparia village from random selection. The first house was selected form the adjacent to village panchayat. The investigator then move house to house and gather data. Researcher were obtained consent from the concerned adult for collecting data regarding the Knowledge, attitude and practice regarding mosquito bite, disease transmission, and elimination of causative factors among villagers with the help of questionnaire-based Performa. The Performa included information regarding demographic characteristics such as their name, age, sex, address, occupation and questioner on knowledge, attitude and practice. At the end of data collection the researcher provided information regarding protection from mosquito bite and elimination of causing factors.

Statistical method

Data were coded, entered in Microsoft Excel Spread sheet and analyzed by using EPI Info.

- For Descriptive statistic: For continuous variables range, mean and standard deviation were calculated and for categorical variables proportion and percentage was obtained.
- For Bi-variate analysis: To know the association between dependent and independent variable chi-square test were applied accordingly.

Results

100 households were surveyed. Among the interviewed persons 58 (58%) were males and 42 (42%) were females. The average age of respondents was 52 years. Most of the households were in lower middle class (31%). The awareness regarding dengue illness was estimated based on correct responses of respondents to the closed ended and multiple types questions (MCQ) asked by interviewers. 36% participants were work in private job .89 % were married. 56% cases, any of one family member suffered from fever last 30 days. 44% taking the treatment from different hospital. 79% individual were suffering from malaria diseases.30% using net or 79% using to oil for killing the larva of the mosquito. 80% were using indoor residual spray. (Table 1)

Table 1
Profile of the participants

Gender	Number or Percentage
Male	58
Female	42
Age	
Below 30	12
30-50	48
Above 50	40
Education:	
Illiterate	37
Primary school	18

Middle school	14
High school	16
HSC/UG/PG	15
Occupation :	
Government employee	0
Private employee	36
Self-employed	12
Student	2
Housewife	41
Unemployed(unable to work)	1
Unemployed (able to work)	7
No response	1
Marital status	
Married	89
Divorced	0
Separated	9
Widowed	0
Never married	2
No response	0
Income per month per month	
Below 5k	31
5-10k	23
10k-15k	16
15-20k	27
20-25k	1
Above 20k	2
Do you or any of your family member suffered from fever last 30 days. (Yes / No, if no then shift to question no. 11.	
Yes	56
No	44
Treatment taken (Yes/ No)	
Yes	44
No	12
No response	44
From where had you taken treatment	
Government health system	4
Private Practitioner	33
Self -medication	3
Home Remedy	12
No need	48
others	0
Have you done any confirmatory test / lab diagnosis? (Yes/ No)	
Yes	11
No	70
No response	19
Which disease diagnosed	
Malaria	79
Dengue	4

Chikungunya	1
Japanese Encephalitis	0
Viral fever/	0
Any chronic disease/	12
other	4
Do mosquitoes comes out in the day?	
Yes	98
No	2
Are mosquito bites dangerous ?(Yes/ No)	
Yes	64
No	36
Do you think full covered cloths are more protective than half or partial covered cloths in term of mosquito bite? (Yes/No)	
Yes	78
No	22
What do you prefer for protection against mosquitoes?	
Repellent	0
Bed –net	30
screen on door and window	14
liquid	20
other	8
don't use any measure	28
Do you use	
abate solution	21
Oil to kill the larvae	79
Do you know about potential breeding sites?	
Yes	78
No	12
Which are the Potential mosquito breeding sites around your home/work place, according to you?	
Drain	16
Polluted water	0
clean water	0
garbage	0
plants	0
others	84
Do you eliminate the breeding site?	
Yes	22
No	78
Do you know about Indoor residual spray (IRS)?	
Yes	80
No	20
20. When Last IRS spray done at your place?	
Yes	79
No	19
Do you or your family use any immunity booster medicines for disease prevention?	

Yes	22
No	78

Discussion

Mosquito borne diseases are major public health problem worldwide, there were about 198 million case of only malaria in the year 2013 among them 584000 death occurred. Most deaths approximately one child dies every minute due to malaria in Africa (WHO, 2014). Approximately half of the world's total population is at risk of malaria. In 2013, total 97 countries and territories had ongoing malaria transmission.6In India malaria contributes major public health threat, particularly due to Plasmodium falciparum. It is about 21.98 percent population are lives in high transmission area about 1 case per 1000 population and about 67 percent in low transmission area (0-1 case per 1000 population) (World Health Organization, 2015). About 92 percent of positive case and 97 percent of death due to malaria is reported from north-eastern states Chhattisgarh, Maharastra, Jharkhand, Madhya Pradesh, Orrisa, Andhra Pradesh, Karnataka and other states are also vulnerable (Pandit et al., 2010). Dengue is endemic in 31 states during 2013, about 74,168 cases reported and 168 deaths occurred. The case fatality rate was 0.22 percent. The highest number of cases are reported from Punjab, Tamil Nadu, Gujarat, Kerala and Andhra Pradesh (Roshni, 2017). Anopheles, Aedes and Culex are commonly seen in Gujarat and endemic for malaria and in case of dengue the transmission is perennial (World Health Organization, 2014). Chikungunya and Japanese encephalitis is less common in Gujarat. Many region of India are epidemic for particularly dengue fever, Chikungunya, Japanese encephalitis and malaria almost on an annual basis causing considerable morbidity and mortality. HumanKnowledge , attitude and practice of various methods of personal and household protectionagainst mosquito bites vary in different endemic regions of tropical countries (Snehalatha et al., 2003; WHO, 2014). Dr. Niraj Pandit revealed that knowledge about malaria caused by mosquito bite is 71% in Urban area Vadodara District, Gujarat state of India.10Government of India is working for control of mosquito transmitted diseases. The National Malaria control programme has been launched in 1952 and it has been renamed as National Vector Borne Disease Control Programme in 2003 (Snehalatha et al., 2003).

Conclusion

The knowledge and awareness to stop the mosquito breeding, biting should be enhanced and should be turned into action.

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