A Study on Awareness and Practice about Preventive Methods against Mosquito Bite among Households in an Urban Slum Area of South India

Pravin N. Yerpude[1*], Keerti S. Jogdand[1], Mohini Jogdand[2]

[1]Associate Professor, Department of Community Medicine, Gujarat Adani Institute of Medical Sciences, Bhuj, Gujrat, INDIA.

[2]Assistant Professor, Department of Community Medicine, SRTR Medical College and Hospital, Ambajogai, Maharashtra, INDIA.

[*]Corresponding Address:

drpravinyerpude@gmail.com

Research Article

Abstract: **Introduction**: In India, Mosquito borne diseases constitute a major public health problem in the list of communicable diseases. The most important are malaria, dengue fever, chikungunya fever. One of the important components of Vector borne disease control programme is to impart awareness about mosquito bite prevention in the general community. The present community based study was conducted to assess the awareness and practices of mosquito bite prevention methods amongst households in an urban slum area of South India. **Materials and methods:** The present community based study was conducted in Guntur district of Andhra Pradesh. All households of Urban Health Training Center, Shrinavasrao Thota which is urban catchment area of department of Community Medicine, Katuri Medical College, Guntur were selected for the study. **Results:** 91.50 % of the study participants had knowledge about breeding places of mosquito. 22.29 % of study population still had myths that garbage was the breeding place for mosquito. Only 33.72% of the study population knew that dengue, chikungunya was transmitted by mosquito. **Conclusion:** The study found that knowledge about causes of malaria and mosquito breeding places was satisfactory in study subjects, but some myths were still prevalent. The people should be made aware that mosquito bite causes other diseases also.

Keywords: Awareness, practice, mosquito bite.

Introduction

In India, Mosquito borne diseases constitute a major public health problem in the list of communicable diseases. The most important are malaria, dengue fever, chikungunya fever. In India every year there are millions of cases of malaria. Andhra Pradesh is endemic for malaria and other mosquito borne diseases. Anopheles, Aedes and Culex mosquitoes which transmit these vector borne diseases are widely prevalent in Andhra Pradesh. Female *Anopheles* mosquito transmit malaria, *Aedes aegypti* and some other species mosquito transmit dengue fever, while *Culex mosquito* have been incriminated for the transmission of lymphatic filariasis [1]. Therefore for the effective control of the diseases transmitted by the mosquitoes, the efforts have been consistently made to educate the community of the danger of mosquito bites[2]. For the control of mosquito transmitted diseases, Government of India started The National Malaria control programme in 1952 and it has been renamed as National Vector Borne Disease Control Programme in 2003. Studies conducted in tropical countries had found that human knowledge, attitude and practice of various methods of personal and household protection against mosquito bites vary in different communities[3-7]. To prevent mosquito bites different personal protective measures are suggested. They are mosquito nets, screening, repellents, vaporizers and anti mosquito coils. Under National Vector Borne Control programme, Government has introduced Insecticide Treated Nets (ITN) for community. ITN are distributed under social marketing in our country. Use of ITN can be very effective against vector borne diseases especially malaria [8]. One of the important components of Vector borne disease control programme is to impart awareness about mosquito bite prevention in the general community. The present community based study was conducted to assess the awareness and practices of mosquito bite prevention methods amongst households in an urban slum area of South India.

Materials and Methods

The present community based study was conducted in Guntur district of Andhra Pradesh. All households of Urban Health Training Center, Shrinavasrao Thota which is urban catchment area of department of Community Medicine, Katuri Medical College, Guntur were selected for the study. Thus 341 families were selected to represent the study area. It was a cross sectional study. Door to door visit was conducted to visit the all households. One family member of the household which was present in the house at the time of visit was included in the study .The study period was April to June 2010. The pre designed and pre-tested proforma was used to collect the data. The questionnaire consisted of questions

regarding information on various aspects of mosquito bite, breeding places of mosquito, measures of prevention of mosquito bite, diseases transmitted by mosquito bite. The permission for conducting the study was taken from the college ethical committee. Informed consent was taken before interview of the study subjects. Collected data was analyzed in Microsoft excel.

Results

341 houses were visited for the study. There were 154 males and 187 females who were included in the study. (**Table 1**) shows the demographic profile of the study population. (**Table 2)** shows the various aspects about knowledge of mosquito breeding and knowledge regarding disease transmitted by mosquito bite. 91.50 % of the study participants had knowledge about breeding places of mosquito. 22.29 % of study population still had myths that garbage was the breeding place for mosquito. 70.09% of study population had knowledge that mosquito bite is the cause for malaria but only 33.72% of the study population knew that dengue, chikungunya was transmitted by mosquito. Almost 90 % of study participants were using one or other personal protective measures against mosquito bite. Multiple responses were given by the study participants. Among them ,the commonest method used by the study participants was mosquito coil(52.20) followed by use of mosquito net(33.14%).10.85% of the study participants were relying on traditional methods like burning neem leaves (**Table 3**). When the study subjects were asked from where they are getting information about mosquito bite prevention then majority say from television (71.53%).Other sources were newspaper in 28.35% and IEC materials displayed in health centres in 21.28% study subjects.

Discussion

The knowledge about mosquito breeding places in 91.50% study subjects shows the impact of effective IEC by government. But Sharma SK et al [9] in their study in Madhya Pradesh found that majority of their study subjects did not have knowledge about mosquito breeding places. The present study showed better awareness amongst the population probably due to good IEC activities in the state. But still 22.29% of study subjects consider garbage as the breeding place for mosquito. Almost 70.09% of study population had knowledge that mosquito bite causes malaria but only 33.72% of the study population knew that dengue, chikungunya was transmitted by mosquito which diseases are increasing in India. Surendren SN[3] in their study in Srilanka found that 71% of study participants were able to name at least one disease transmitted by mosquitoes. Tyagi P[10] in their study from New Delhi observed that 100% of study participants were aware that mosquito bites transmit malaria. In the present study it was found that 90% of study participants were using one or other personal protective measures against mosquito bites. Surendran SN [3] in their study in Sri Lanka found that 96% of study participants were using one or other personal protective measures against mosquito bite, and Babu BV et al[4] in his study from Orissa found that 99% of urban households; 84% of rural households were using at least one measure against mosquito bites .Snehlatha KS [7] in her study from Pondicherry observed that 99% and 73% of urban and rural respondents respectively were found to use some personal protection against mosquito bites. Panda R et al[6] in his study from Madhya Pradesh observed that about 55% of study participants were not using any protective measures. The 90 % study subjects who were using protective measures against mosquito bite were found to use various methods like mosquito coil, repellent, mosquito net and traditional Neem leaf burning .They were found to use multiple methods at the same time .In them ,most commonly used method was the mosquito coil (52.20%) followed by using bed net (33.14%.). Snehlatha KS et al [7] in her study from Pondicherry found mosquito coil as most common method for prevention against mosquito bites. Babu BV et al 4 in his study from Orissa observed that 76% of household were using untreated bed net. In the present study ,Bed Net was used by only 33.14% of study subjects but none of the study subjects were using insecticide treated bed-net(ITN). The awareness about use of ITN was found poor in the study subjects. Babu BV et al [4] in his study from Orissa found similar results. It was observed that Television was the main source of awareness for the community followed by newspaper, radio, friends and advertisements. It was disappointing to note that doctor or health staff was not mentioned as the source of knowledge which are coming in contact with people in day to day life.

Conclusion

The study found that knowledge about causes of malaria and mosquito breeding places was satisfactory in study subjects, but some myths were still prevalent. The people should be made aware that mosquito bite causes other diseases also. The cases of Chikungunya fever and dengue fever are increasing in India which requires urgent attention. Insecticide treated bed-net is a good weapon to fight against mosquito borne disease and Strong social or commercial marketing of these products can definitely increase the acceptance.

References

1. K.Park. Park's Textbook of Preventive and Social Medicine; Bhanot Publication, 20th Edition p-672.

2. Heyneman, D., 2004. Medical parasitology. In: Medical microbiology, Brooks, G.F., J.S. Butel and S.A. Morse (eds.). 23rd Edn, McGraw Hill, Boston, pp: 661-701.
3. Surendran SN, Kajatheepan A; Perception and personal protective measures toward mosquito bites by communities in Jaffna District, northern Sri Lanka; J Am Mosq Control Assoc. 2007 Jun;23(2):182-6.
4. Babu BV, Mishra S, Mishra S, Swain BK. Personal-protection measures against mosquitoes: a study of practices and costs in a district, in the Indian state of Orissa, where malaria and lymphatic filariasis are co-endemic. Ann Trop Med Parasitol. 2007 Oct;101(7):601-9.
5. Ziba C, Slutsker L, Chitsulo L, Steketee RW, Use of malaria prevention measures in Malawian households. Trop Med Parasitol. 1994 Mar;45(1):70-3.
6. Panda R, Kanhekar LJ, Jain DC, Knowledge, attitude and practice towards malaria in rural tribal communities of south Bastar district of Madhya Pradesh. J Commun Dis. 2000 Sep; 32(3): 222-7.
7. Snehalatha KS, Ramaiah KD, Vijay Kumar KN, Das PK. The mosquito problem and type and costs of personal protection measures used in rural and urban communities in Pondicherry region, South India. Acta Trop. 2003 Sep;88(1):3-9.
8. Lengeler,C. 2000. Insecticide treated bed nets and curtains for preventing malaria. Cochrane Database Syst Rev 2: CD000363.
9. Sharma SK, Jalees S, Kumar K, Rahman SJ. Knowledge, attitude and beliefs about malaria in a tribal area of Bastar district (Madhya Pradesh); Indian J Public Health. 1993 Oct Dec;37(4):129-32.
10. Tyagi P, Roy A, Malhotra MS, Knowledge, awareness and practices towards malaria in communities of rural, semi-rural and bordering areas of east Delhi (India); J Vect Borne Dis 42, March 2005, pp 30–35.

Table 1: Demographic profile of study population

Sex	Study subjects (n=341)	Literacy	No	Mean Age
Male	154	Literate	137	38.6
		Illiterate	17	
Female	187	Literate	156	35.2
		Illiterate	31	

Table 2: Knowledge and myths about mosquito and disease transmission

Knowledge	Male (n=154)	Female (n=187)	Total (n=341)
Knowledge about breeding places of mosquito	138(89.61%)	174(93.05%)	312(91.50%)
Garbage is the mosquito breeding site	44(28.57%)	32(17.11%)	76(22.29%)
Knowledge that malaria is caused by mosquito bite	102(66.23%)	137(73.26%)	239(70.09%)
Knowledge that dengue, chickungunia is transmitted by mosquito	51(33.12%)	64(34.22%)	115(33.72%)

Table 3: Protective practices against mosquito bite in study subjects using protective measures

Practices*	No(%)
Mosquito net	113(33.14%)
Mosquito coil	178(52.20%)
Repellent	54(15.84%)
Mosquito killing by racket	36(10.56%)
Traditional way like burning Neem leaves	37(10.85%)

*Multiple responses

Corresponding Author:
Dr Pravin N Yerpude
Associate Professor
Dept of Community Medicine
Gujarat Adani Institute of Medical Sciences
GK General Hospital, Bhuj-370001
Gujarat, INDIA.
Email: drpravinyerpude@gmail.com