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A Study on Knowledge and Practices Regarding Malaria among Adult Urban Population of Siliguri

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Abstract: *Vector borne diseases (VBD) form a major part of the communicable diseases. Of these, diseases spread by mosquitoes particularly malaria are more rampant due to relatively greater presence of mosquitoes in the community. A cross sectional study was conducted in three randomly selected wards of Siliguri Municipality Corporation (SMC) area, Darjeeling, West Bengal from January to March 2014 among 156 eligible study subjects, to assess their knowledge & practices regarding malaria. 87.8% of the participants heard about malaria & 70.8% of them knew mosquito bite as causative agent & 71.5% of them mentioned drain as breeding places of mosquito. About 46.8% of the population was mosquito repellent users. So emphasis must be given on involvement of the health sector & also community participation to effectively meet the challenges of prevention and control of malaria.*

Keywords: *Knowledge, Malaria, Practice.*

I. Introduction

Mosquito borne diseases (MBD) of public health importance are complex and their occurrence depends on the interaction of various biological, ecological, social and economic factors. Though several measures for the prevention and control of MBD are followed, yet the problem density is too high with 300-500 million cases and 1.1-2.7millilon deaths due to malaria alone globally per year [1] . In India although the malaria incidence has now been reduced to 1.82 million cases from about 75 million cases in 1950s, it continues to be the cause for concern [2] . Over the past few decades the proportion of Plasmodium falciparum cases has increased to 47.5% and it has become resistant to conventional antimalarial drugs [3]. Moreover, there is vector resistance to conventionally used insecticides.

The mosquito borne diseases result in avoidable ill health and death which also has been emphasized in National Health Policy [4] and millennium development goals (MDG) [5]. National Vector Borne Disease Control Programme (NVBDCP) [2] under National Rural Health Mission (NRHM) [6] is one of the most comprehensive and multifaceted public health activities in India including prevention and control of mosquito borne diseases.

Inspite of mass communication and educational approaches community participation is far below expectation. Specially in urban areas where access to houses is a difficult proposition due to security, it is essential that communities themselves undertake interventions against vector mosquitoes. Community participation in turn depends on people's awareness & also the practices they follow to prevent mosquito breeding or mosquito bites at home.

Several studies in different countries including India indicate variations in knowledge and practices related to malaria [7-10] . A study conducted by Joshi et al [11] in Nepal found that, 86% respondents have heard about malaria but only 50% responded fever with chills as the sign and symptom of malaria & 73% responded that mosquito bite causes malaria transmission.

However socially acceptable measures by the local Government, in collaboration with other relevant sectors and social mobilization for full involvement of the community is crucial. Thus a need was felt to assess the existing knowledge and preventive practices of the adult residents of Siliguri Municipal Corporation (SMC) area, West Bengal regarding malaria which may be helpful in designing evidence-based effective prevention and control strategies.

II. Methodology

An observational cross sectional study was conducted in three randomly selected wards of Siliguri Municipal Corporation (SMC) area, West Bengal during January to March 2014. Prior to the study, ethical approval was taken from the Institutional Ethics Committee of North Bengal Medical College & SMC. Adult persons above eighteen years of age who were permanent residents of those selected wards of SMC area were included as study participants. Persons who were unwilling to give informed consent or seriously ill or who cannot be contacted at time of interview were excluded from this study. In these selected wards 156 households were chosen by systematic random sampling. Now one eligible study subject from each household was selected for interviewing purpose by simple random sampling.

III. Results

Out of 156 respondents, 58.3% were females & 41.7% were males. Majority of the respondents belonged to 21-40years of age group (42.3%), Hindu (83.3%) & literate (84%). Socioeconomic status II (according to modified B. G. Prasad scale) represented majority of the study population (42.3%). Respondents were mainly living in pucca house (75.6%). Safe water supply (tubewell, piped, packaged water) was accessible to 97.4% of the respondents. Most of them (74.4%) reported practice of waste disposal in sanitary manner (municipal service, burning). Almost total area (97.4%) had open drainage system [TABLE 1].

Majority of the participants (87.8%) heard about malaria, mainly through television (76%). Among them 70.8% knew mosquito bite as causative agent & 97% had good knowledge regarding clinical features of malaria like fever, shivering, headache, vomiting etc. While asking about breeding places of mosquito, 71.5% knew drain as breeding places [TABLE 2].

Regarding preventive practices of respondents it was found that, 24% used mosquito net & 46.8% were mosquito repellent users. Only 15.4% of the population screened their house. 52% of respondents regularly changed stored water, but only 15.4% used chemicals like kerosene, bleaching powder in drainage system [TABLE 3].

IV. Discussion

In this study majority of the respondents (87.8%) heard about malaria, mainly through television (76%). Similar findings have been reported by Boratne et al [12] in selected peri-urban areas in Puducherry & Ghosh et al [13] in Bankura, West Bengal.

The study participants had overall good knowledge on causation & clinical features of malaria. Similar findings were noted by Joshi et al [11] in Nepal. Regarding knowledge on breeding places of mosquito, a large proportion of people mentioned drain followed by stagnant water. Ravikumar et al [14] also found the same.

About 47% of the respondents were using repellents as personal protective measures against mosquitoes followed by net & screening. This finding agreed with Kumar et al [15] , but does not corroborate with Yadav et al [10] where only 10% were repellent users. 52% of participants regularly changed stored water, but only 15.4% used chemical like kerosene, bleaching powder in drainage system. In a study in Karnataka [14] respondents stressed on keeping surrounding clean for control of mosquito.

Thus the current study emphasizes that a sound knowledge-base about malaria and methods of mosquito control must be built among the community through appropriate communication channels & with active involvement of communities.

V. Conclusion

The limitations of the study were all the aspects of knowledge regarding malaria like investigation, treatment if they know, more details of preventive practices, their cultural & behavioural factors & reasons behind non using any measures could not be covered. So far it has been seen in this study that, knowledge was varied in different aspects of malaria. Although study participants were using personal protective measures but they were reluctant regarding source reduction measures. Therefore it is imperative that health care personnel should be more sensitized and trained to play active role in implementation of effective information education & communication (IEC) strategies to cover all aspects of malaria with special emphasis on environmental control of mosquitoes.

TABLE 1 : Sociodemographic & environmental characteristics of the study population. (n = 156)

Variables	Characters	No (%)
Age Group (years)	18 – 20	16 (10.3)
	21 – 40	66 (42.3)
	41 – 60	61 (39.1)
	>60	13 (8.3)
Gender	Male	65 (41.7)
	Female	91 (58.3)
Religion	Hindu	130 (83.3)
	Muslim	22 (14.1)
	Christian	4 (2.6)
Education	Illiterate	25 (16.0)
	Non formal literate	4 (2.6)
	School level	67 (42.9)
	College level & above	60 (38.5)
Socioeconomic status (modified B. G. Prasad scale)	I	16 (10.3)
	II	66 (42.3)
	III	48 (30.8)
	IV	18 (11.5)
	V	8 (5.1)
House type	Pucca	118 (75.6)
	Kutcha	5 (3.2)
	Mixed	33 (21.2)
Water supply	Safe	152 (97.4)
	Unsafe	4 (2.6)
Waste disposal	Sanitary	116 (74.4)
	Insanitary	40 (25.6)
Drainage system	Open	152 (97.4)
	No	4 (2.6)

TABLE 2 : Knowledge of respondents regarding malaria.

Variables	Characters	No (%)
Heard about malaria **(n=156)**	Yes	137 (87.8)
	No	19 (12.2)
Source of information **(n=137)***	TV	104 (76.0)
	Radio	16 (11.7)
	Newspaper	18 (13.1)
	Health care providers	24 (17.5)
	Others (friend, neighbour)	13 (9.5)
Causation of malaria **(n=137)**	Mosquito bite	97 (70.8)
	Others (cold exposure, garbage etc)	16 (11.7)
	Dont know	24 (17.5)
Clinical features of malaria **(n=137)**	Fever	73 (53.3)
	Shivering	12 (8.8)
	Fever + Shivering	24 (17.5)
	Fever + Vomiting	12 (8.8)
	Fever + Headache	12 (8.8)
	Don't know	4 (2.8)
Breeding places of mosquito **(n=137)** *	Stagnant water	54 (39.4)
	Drain	98 (71.5)
	Clean water	21 (15.3)
	Pond	4 (2.9)
	Others(garbage, rotten things)	14 (10.2)
	Dont know	4 (2.9)

***** Muliple responses

TABLE 3 : Preventive practices against mosquito (n = 156) *

Practices	No (%)
Mosquito net	38 (24%)
Repellent (coil, mat, liquid vapour)	73 (46.8%)
Screening of house	24 (15.4%)
Changes stored water	81 (52%)
Chemical (kerosene, bleaching powder)	24 (15.4%)

***** Muliple responses

References

[1]. WHO expert committee on malaria, 20th report. Geneva, Switzerland: WHO; 2010. Available from: http://rbm.who.int/docs/ecr20 [Last accessed on 2015 July16].

[2]. National Vector Borne Disease Control Programme. New Delhi: Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India; 2011-12. Available from: http://india.gov.in/sectors/health family/vector borne [Last accessed on 2015 July16].

[3]. Kishor J. National Health Programmes of India. 6th edn. New Delhi: Century Publication; 2006. p. 295.

[4]. Park K. Park's textbook of preventive and social medicine. 22nd edn. Jabalpur: Bhanot Publication; 2013. p. 815–6.

[5]. United Nations Development Programme. Millennium development goals [internet]. Available from: http://www.undp.org/mdg/goal6.shtmlMDGs [Last accessed on 2015 July16].

[6]. National Rural Health Mission. Mission document; 2005–12. Available from: http://mohfw.nic.in/NRHM/Documents/Mission_Document.pdf.[Last accessed on 2015 July16].

[7]. Kinung'hi SM, Mashauri F, Mwanga JR, Nnko SE, Kaatano GM, Malima R et al. Knowledge, attitudes and practices about malaria among communities: Comparing epidemic and non-epidemic prone communities of Muleba district, North-western Tanzania. BMC Public Health 2010; 10: 395.

[8]. Kaona F, Siajunza MT, Manyando C, Khondowe S, Ngoma GK. Utilisation of malarial drugs at a household level: results from a KAP study in Choma, southern province and Mporokoso, northern province of Zambia. The Central African journal of medicine 2000; 46(10): 268-70. Available from: http://www.ncbi.nlm.nih.gov/pubmed/ [Last accessed on 2015 July16].

[9]. [9] Sharma AK, Bhasin S, Chaturvedi S. Predictors of knowledge about malaria in India. J Vector Borne Dis 2007; 44:189–97. Available from: www.mrcindia.org/journal/issues/443205.pdf [Last accessed on 2015 July16].

[10]. Yadav SP, Kalundha RK, Sharma RC. Sociocultural factors and malaria in the desert part of Rajasthan, India. J Vector Borne Dis 2007; 44: 205–12. Available from: www.mrcindia.org/journal/issues/443205.pdf [Last accessed on 2015 July16].

[11]. Joshi AB, Banjara MR. Malaria related knowledge, practices and behaviour of people in Nepal. J Vector Borne Dis 2008; 45: 44–50.

[12]. Boratne A.V, Jayanthi V, Datta S.S, Singh Z, Senthilvel V, Joice Y.S Predictors of knowledge of selected mosquito-borne diseases among adults of selected peri-urban areas of Puducherry. J Vector Borne Dis 2010; 47: 249–56.

[13]. Ghosh A, Mukherjee S, Dutta T, Roy S, Mondal FB. Community Perceptions Regarding Mosquito Borne Diseases in Some Selected Localitities of Bankura, a Peri-Urban Area of West Bengal, India. Journal of Mosquito Research 2013; 3(7): 18-29. Available from: http://bio.sophiapublisher.com/policy [Last accessed on 2015 July16].

[14]. Ravikumar K, Gururaj G. Community Perception Regarding Mosquito-borne Diseases in Karnataka State, India. Dengue Bulletin 2006; volume 30: 270-7. Available from: http://www.ncbi.nlm.nih.gov/pubmed/ [Last accessed on 2015 July16].

[15]. Kumar BA, Madhavi KVP. Knowledge and practice regarding vector borne diseases among urban slum dwellers of Guntur district, Andhra Pradesh. Journal of Evolution of Medical and Dental Sciences 2013; 2(26): 4756-62.