International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 01 Issue 10 December 2021

Page No: 354-358

DOI: https://doi.org/10.47191/ijmscrs/v1-i10-08, Impact Factor: 5.276

A Study on the Knowledge, Attitude and Practices towards Malaria in Urban Slum Area of Kolkata

Kishore P Madhwani[1], Dr. Amal Kumar Sinha Roy[2], Jitendra Kumar Singh[3]

[1]Occupational Health & Wellness Consultant, Mumbai, Maharashtra, India

[2]Associate Professor, Dept. of Community Medicine, Malda Medical College and Hospital, West Bengal

[3]Research Associate, Sociologist, Kolkata, West Bengal, India

ABSTRACT

Background: Malaria is one of the most prevalent parasitic diseases worldwide and India has fourth highest number of malaria cases and deaths in the world. Prevention of the disease through better knowledge and awareness is the appropriate way to keep the disease away and remain healthy. Thus, the present study was aimed to assess the knowledge, attitude and practices regarding malaria among residents of urban slum area of Kolkata.

Method: A Community based cross sectional study was conducted among 300 residents in Tangra area, urban slum area of Kolkata. The data was collected by using pre-tested semi-structured questionnaire which include socio-demographic data, basic knowledge about malaria, transmission and preventive measures and health seeking behaviour regarding malaria through interview method.

Result: Results revealed that they had good knowledge regarding malaria symptoms and treatment (92.67%), methods of prevention (86%) and diagnosis (70.67%). Most respondents did not avail government health services or DDT spray. Even with a satisfactory knowledge some misconceptions persisted.

Conclusion: Majority of the respondents were familiar with the malaria symptoms, mode of transmission and vector control measures. Awareness on malaria diagnosis, preventive methods, presumptive treatment and DDT acceptance is required for improving malaria control practices. The quality of services from government health facilities must be patient friendly for better utilization of the services.

KEYWORDS: Knowledge, Attitude, Practices, Rural, Malaria

ARTICLE DETAILS

Published On:
22 December 2021

Available on:
https://ijmscr.org

INTRODUCTION

Malaria is one of the most prevalent and widespread parasitic diseases in the world with an estimated of 216 million cases in 2016.[1,2] In Southeast Asia region, India contributes around 70% of total malarial cases and about 82% of the population are at risk of malaria infection.[3,4] According to WHO Malaria Report, India has fourth highest number of malaria cases and deaths in the world.[2] Malaria is highly endemic in Southern region of India, mostly in coastal area of Karnataka throughout the year.[5] Mangalore, a city in southwest coastal region of Karnataka, considered to be one of the highly endemic place for malaria with 2.92 Annual Parasitic Index.[6] Early case finding and treatment, vector control measures are some of the important strategies of Malaria control under National Vector Borne Disease Control Programme (NVBDCP).[7] But some of the beliefs, customs and practices of malaria, are often related to culture, which can influence the effectiveness of malaria control strategies.[8] Prevention of the disease through better knowledge and awareness is the appropriate way to keep the disease away and remain healthy. Studies pertaining to knowledge, attitude and practices showed that direct

interaction with community plays an important role in circumventing malaria problem.[9,10] Community beliefs, perception, and attitude towards malaria symptom identification, treatment, prevention and control can influence efforts to address malaria and are often overlooked in control efforts.[10,11]

Thus, the present study was done to assess to find out the knowledge; attitude and practices in regard to malaria in an urban area of Kolkata and to suggest measures for control and prevention of malaria.

MATERIALS & METHODS

A community based cross-sectional study was undertaken from January 2021 to June 2021 in Tangra area of Kolkata. Monsoon season resulting in creation of mosquito breeding places which make the area vulnerable to malaria. The total population of the ward no 58 is 88465 as per 2011 census. Total male population is 46207 and female population is 42258. The sample size of 300 was purposive in nature considering the time constraints to complete the study. Interview technique was used for collection of data which was then recorded in a pre-designed and pre-tested schedule regarding socio-demographic profile, knowledge on different aspects of malaria causation, its prevention and attitude towards services provided by national malaria control programme. After obtaining the information from the respondents, the health education regarding malaria prevention and transmission was given to every family member in the house irrespective of their knowledge regarding malaria. The data was entered and tabulated in Microsoft Excel sheet and was analyzed using statistical software (SPSS version 20.0).

RESULTS

The socio-demographic profiles of the 300 households showed that majority 83 (27.67%) belonged to 21-30 year age group. Majority 190 (63.33%) were male and 110 (36.67%) were female. Majority 83 (27.67%) were graduate. Majority 127 (42.33%) were from lower middle class followed by 82 (27.33%) from upper middle class class according Modified Prasad socio-economic scale10 (based upon per capita monthly family income in Indian currency regularly updated as per consumer price index of India). Majority 220 (73.33%) belonged to nuclear families and 80 (26.67%) from joint families. Majority were Hindus 212 (70.67%) followed by Muslims 60 (20%) and Christians 28 (9.33%). (Table 1)

Results showed that 95.33% of the respondents heard about the disease and 92.67% had knowledge of symptom as fever. The knowledge about the causative agent was present only in 10.67% of the respondents. Transmission of malaria by mosquito bite was known to 89.33% of the respondents. The breeding habit of mosquitoes was known to only 70% of the respondents. Availability of treatment, preventive measures and diagnosis by blood test was known to 92.67%, 86% and 7067% of the respondents respectively. (Table 2). The study also revealed that some misconceptions persisted regarding the etiology of malaria. They considered germs in air or water (9.8%), inadequate nutrition (0.8%), change of weather (3.5%) and poor personal hygiene (8.6%) caused malaria.

Table 3 shows that 90.67% of the respondents expressed that accepting self-protection measures like mosquito nets, mats, coils and vaporizers would prevent malaria and 59.33% said that prevention of mosquito breeding places would control malaria. Another 57.33% of the respondents thought that killing of the adult mosquito would control malaria. Although 92.67% knew that availability of treatment of malaria only 21.67% felt that treatment of malaria cases will help in the prevention of malaria. None of them were familiar with the presumptive and radical treatment. Respondents could mention the names of antimalarial drugs like Chloroquine (38.6%), Primaquine (8.4%) and Quinine (6.5%). They also had knowledge about some of the complication of malaria like anaemia (40.6%), weakness (35.4%), cerebral malaria (convulsion, unconsciousness) (6.6%), jaundice (22%) and death (60.4%).

In regards to the practice of self-protection measures it was observed that 86% used bed nets daily. None of the respondents were aware about the new strategy of insecticide treated bed nets (ITBNs. Apart from these, use of commercial repellants like mats, coils and vapourisers was found in 30% of households. Commercial insecticides like Baygon, Finit, and Kerosene was practiced by only 26.3% of the households. These were used more among the higher income groups. It was observed that 70.6% of the respondents practiced clearing of stagnant water, 12% applied chemicals like bleaching powder. DDT spray team visited to only 38.6% studied households in past one year. Out of these only 28.3% accepted DDT spray. In majority of the households DDT was sprayed on outside walls 46.2% while only 22.5% households it was sprayed inside their living rooms.

The attitude of the people in certain aspect appeared to be good: 86.4% considered it as a serious disease and 98.4% considered that malaria in children and pregnancy requires urgent treatment, 92% considered it to be preventable by appropriate measures and 97.3% thought that it could be cured by adequate treatment. But it has been found that the respondents appeared to have poor attitude towards participation in malaria control activities (82.6%) such as making provision of drugs locally, bed nets and its insecticidal treatment, mosquito control measures and creating health awareness in their community which are a part of community participation in national malaria control programmer. Most of them (64%) also preferred treatment from other sources than treatment at government facilities. Reasons were Lack of drug supply (has to buy medicines), Doctor available for limited hours, Long waiting hours, No blood testing facility and Indifferent attitude of health

personnel 38.68%, 69.81%, 29.25%, 33.96 and 12.26% respectively. (Table 4)

Table 1. Socio demographic characteristics of studypopulation

Attributes		Frequency (n=300)	Percentage
Age (in completed years)	<20	37	12.33
	21-30	83	27.67
	31-40	57	19.00
	41-50	63	21.00
	>50	60	20.00
Gender	Male	190	63.33
	Female	110	36.67
Education	Primary	21	7.00
	Upper Primary	52	17.33
	Secondary	80	26.67
	Senior Secondary	48	16.00
	Diploma	12	4.00
	Graduate	83	27.67
	Post Graduate	4	1.33
Social class (modified Prasad scale)	V (poor)	22	7.33
	IV (lower middle)	127	42.33
	III (upper middle)	82	27.33
	II (upper)	15	5.00
	I (upper high)	54	18.00
Type of family	Nuclear	220	73.33
	Joint	80	26.67
Religion	Hindu	212	70.67
	Muslim	60	20.00
	Christian	28	9.33

Table 2. Knowledge about different aspects of malaria

Knowledge about malaria	No.	%
Heard about malaria	286	95.33
Symptoms of the disease (fever)	278	92.67
Causative agent (M.P)	32	10.67
Mosquito bite as mode of transmission of the disease	268	89.33
Mosquito breeding	210	70.00
Availability of treatment	278	92.67
Preventive measures	258	86.00
Diagnosis by Blood test	212	70.67

Table 3. Knowledge of different methods of malaria prevention. (Multiple Response)

Knowledge of different methods of malaria prevention	No.	%
Taking self-protection measures	272	90.67
Prevention of mosquito breeding	178	59.33
Treatment of malaria cases	65	21.67
Killing of the adult mosquitoes	172	57.33

Table 4. Reasons for not availing services from government health facilities. (Multiple Response)

Reasons (n=108)	No.	%
Lack of drug supply (has to buy medicines)	82	38.68
Doctor available for limited hours	148	69.81
Long waiting hours	62	29.25
No blood testing facility	72	33.96
Indifferent attitude of health personnel	26	12.26

DISCUSSION

A cross sectional study was conducted among residents of Tangram area of Kolkata to find out the knowledge, attitude and practice in regard to Malaria. Findings revealed that respondents had adequate knowledge about the symptoms of malaria (92.67%) as well as its mode of transmission (89.33%) which is a key factor for early diagnosis and treatment. This might be due to the high literacy status in the study population. The literacy status and knowledge of malaria symptom was statistically significantly. Similar results were also mentioned in other studies. [12,13,14]

The knowledge of malaria symptoms was present in 96.2 % of the female respondents. Knowledge about malaria symptoms among the females is important as they were the primary care givers in the family in most instances.[15]

However the knowledge about the diagnosis of malaria, knowledge regarding vector breeding habits and its role in malaria transmission needed further improvement through IEC activities. There were some misconceptions prevailing in the community regarding the cause, mode of transmission of malaria and breeding habit of mosquitoes which should be discussed during awareness campaigns. Other studies also highlighted similar results. [13,16]

Alternative methods for mosquito control ITNs could be useful but prior health education activities and sensitization of the community should be essential as none of the respondents were aware of the ITNs.[17] It was also observed that all pucca houses, where most of the better socio-economic status groups were living, refused DDT spray. It was found that practice of other self-protection measures was more among the higher income group.[18]

It was found that there is high usage rate of bed nets (90.67%) similar observation was made in another study.[19]

Spraying of the outside walls as seen in most of the houses in this study can be prevented through emphasis on awareness program on spray operation and it would help in acceptance of spraying of indoor walls. It appeared to be a good practice that outdoor sleeping habits was found in only 6.4%). Usually the male members only sleep during summer whereas children and women are sleeping inside and are exposed to mosquito biting and malaria.

Schools play a major role in imparting health education and awareness of malaria and its prevention. Increased awareness among the teachers is also required to give students the correct information about the disease. It was found that participatory and skill based approach was suggested by many studies for effective health education in schools to promote recognition of symptoms for prompt treatment, bed nets and other forms of prevention and community awareness.[20] Health personnel and community members also played an important role when they come in contact with a malaria case in their community.[21,22]

Knowledge on availability of service from FTDs & DDC was poor. There is an increased need to improve the awareness about the services available through FTDs and DDCs. An improvement of the government health facilities towards providing proper diagnostic and treatment facilities will increase the utilization of services. [23]

CONCLUSIONS AND RECOMMENDATIONS

The study revealed that the respondents were familiar with the malaria symptoms, mode of transmission and vector control measures. They considered malaria as serious health problem and their attitude towards treatment was prompt. Malaria awareness campaigns must be used to remove any misconceptions prevailing in community. For increasing the acceptance of DDT prior information about spraying is required. The change in the current DDT used under NAMP is another aspect which needs to be considered.

ACKNOWLEDGEMENTS

Authors would like to acknowledge the patients who participated in this research study.

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional ethics committee

REFERENCES

I. Operational Manual for Implementation of Malaria Programme 2009. Available at: http://nvbdcp.gov.in/Doc/malaria-operational-manual-2009.pdf. Accessed 3 December 2021.

II. WHO. World malaria report 2017. Geneva: World Health Organization. Available at: http://www.who.int/malaria/publications/world-malaria- report-2017/en/. Accessed on 3 December 2021.

III. Kumar A, Valecha N, Jain T, Dash AP. Burden of malaria in India: retrospective and prospective view. Am J Trop Med Hyg. 2007;77:69-78.

IV. National vector borne disease control programme (NVBDCP). Malaria situation in India. Available at: http://www.nvbdcp.gov.in/Doc/malaria-situation.pdf. Accessed 4 December 2021.

V. Shivakumar Rajesh B, Kumar A, Achari M, Deepa S, Vyas N. Malarial trend in Dakshina Kannada, Karnataka: an epidemiological assessment from 2004 to 2013. Indian J Health Sci Biomed Res (KLEU). 2004;2015(8):91-4.

VI. Malaria in Karnataka. Available at: https://www.malariasite.com/malaria-in-karnataka/. Accessed 5 December 2021.

VII. Ministry of Health and Family Welfare, Government of India. Directorate General of Health Services, National Vector Borne Disease Control Programme. 2005. Available at: http://www.nvbdcp.gov.in. Accessed 5 December 2021.

VIII. Adera TD. Beliefs and traditional treatment of malaria in Kishe settlement area, southwest Ethiopia. Ethiopian Med J. 2003 Jan;41(1):25-34.

IX. Ahorlu CK, Dunyo SK, Afari EA, Koram KA, Nkrumah FK. Malaria-related beliefs and behaviour in Southern Ghana: Implications for treatment, prevention and control. Trop Med Int Health. 1997 May;2(5):488-99.

X. 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 Vector Borne Dis. 2005 Mar;42(1):30-5.

XI. Deressa W, Ali A, Enquoselassie F. Knowledge, attitude and practice about malaria, the mosquito and antimalarial drugs in a rural community. Ethiopian J Health Develop. 2003;17(2):99-104.

XII. Singh TG, Narendra Singh RK, Singh EY. A study of Knowledge about malaria and treatment seeking behavior in two tribal communities of Manipur. *Indian J. Pub. Health*. April-June 2003.47(2)

XIII. Matta S, Khokhar A and Sachdev T R. Assessment of knowledge about malaria among patients reported of fever: a hospital based study: Safdarjung Hospital, New Delhi. *Journal of Vector Bourne Diseases* 41, March- June 2004; pp 27-31.

XIV. Aggarwal MK, Datta U, Tekhre YL. Knowledge, attitudes and practices of community in anti-malaria activities in a Delhi slum. *Health and Population*. 2004 Apr-June; 27(2): 95-116.

XV. Kidane G and Morrow RH. Teaching mothers to give home treatment of malaria in Tigray, Ethiopia:L a randomized controlled trial. *Lancet*; 356: 550-55.

XVI. Sharma SK et al (1993). Knowledge, attitude and beliefs about malaria in a tribal area of Baster district (Madhya Pradesh). *Indian J. Pub. Health*. Oct-Dec; 37(4):129-32.

XVII. Lengeler C. Insecticide-treated bed nets and curtains for preventing malaria. *Cochrane Database Syst Rev*.;2: CD000363.

XVIII. Bill B, O'Brien G, Purslow P et al. Research Report. 39. Factors influencing Compliance to malaria Chemotherapy in Bataan province, Philippines. Australian Centre for International & Tropical Health & Nutrition. Queensland, Australia.

XIX. Protocols and methods for malaria situation analysis. HIV/AIDS, Tuberculosis, Malaria. Roll Back Malaria. July 2003. Trial Edition. Pg. 1-88

XX. Ogutu RO, Oloo AJ, Ekissa WS et al. The effect of participatory school health programme on control of malaria. *East Afr. Med J*, 1992; 69: 298-302.

XXI. Kroeger A, Mancheno M, Alarcon J and Pesse K. Insecticide-impregnated bed nets for malaria control: varying experiences from Equador, Columbia and Peru concerning acceptability and effectiveness. *Am J Trop Med Hyg*, 1995; 53(4): 131-33.

XXII. Krogstad DJ and Ruebush TK. Community participation in the control of tropical diseases. *Acta Trop*, 1996; 61(2):77-78.

XXIII. Rajagopalan P K and Das P K. "Problems of malaria control in Tribal areas". ICMR *Bulletin*. May, 1990.20(5):42-44.