International Journal of Research in Medical Sciences
Gupta A et al. Int J Res Med Sci. 2019 Jan;7(1):231-235
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20185386

Original Research Article

Knowledge, attitude and practices regarding malaria among residents of rural Mangalore, India

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Received: 09 November 2018
Accepted: 01 December 2018

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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 Mangalore.
Methods: Community based cross sectional study was conducted among residents in Mangalore. 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.
Results: Almost 98.4% respondents heard of malaria disease and 96% respondents had knowledge that malaria is caused by mosquito bite. Even, majority (72%) of respondents knew that malaria can be fatal. Regarding the symptoms of malaria, 52.4% respondents mentioned fever with chills and 11.6% respondents don't know about malarial symptoms.
Conclusions: Majority of the respondents were familiar with the malaria symptoms, mode of transmission and vector control measures. They had good knowledge of malaria disease and good practices of malaria control measures.

Keywords: Fever, IRS, KAP, Malaria

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 the knowledge, attitude and practices regarding malarial transmission and health seeking behaviour.

METHODS

A community based cross sectional study was carried out in Pavanje village, which comes under Mangalore Taluka of Dakshina Kannada district. The study was conducted for a period of 45days from 15th May to 30th June 2018. The study population was all the houses in Pavanje village. House to house visit was done and adult family member (head of the house hold or senior family member) present at the time of visit was interviewed in local language (Kannada) for collection of information regarding malaria. Only one family member per household was included in this study and the purpose of the study was enlightened to the respondent. The locked house or non-responsive respondents and children were excluded from the study. Informed written consent was taken from all respondents and confidentiality was ensured throughout the study.

The data was collected by using pre-tested semi-structured questionnaire which had two parts. The first part of the questionnaire included socio-demographic characteristics like age, gender, education, socio-economic status. The second part of the questionnaire included knowledge, attitude and practices of residents about malaria in respect to symptoms, malaria transmission, resting places and biting time of mosquito, treatment of malaria, preventive measures of malaria and health seeking behaviour of malaria prevention.

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.

Statistical analysis

The data was entered and tabulated in Microsoft Excel sheet and was analyzed using statistical software (SPSS trial version).

RESULTS

A total of 250 respondents were enrolled in the study, out of which 148 (59.2%) and 102 (40.8%) were male and female respectively. The maximum respondents were in the age group of 21-30 years (29.2%) and educated till graduation (32.8%) (Table 1).

Almost 98.4% respondents heard of malaria disease and 14.8% respondents had malaria in the past. Around 96% respondents had knowledge that malaria is caused by mosquito bite and 94% respondents knew that malaria can be prevented. Even, majority (72%) of respondents knew that malaria can be fatal. Regarding the symptoms of malaria, 131 (52.4%) respondents mentioned fever with chills and 29 (11.6%) respondents don't know about malarial symptoms. Majority (79.2%) of respondents knew that the resting place for mosquito is stagnant water. The source of information regarding malaria was TV (45.6) followed by hospital (22.4%) (Table 2).

Table 1: Socio demographic characteristics of study population.

Characteristic	Frequency (%)
Age (years)	
<20	27 (10.8%)
21-30	73 (29.2%)
31-40	47 (18.2%)
41-50	53 (21.2%)
>50	50 (10.0%)
Gender	
Male	148 (59.2%)
Female	102 (40.8%)
Religion	
Hindu	206 (82.4%)
Christian	27 (10.8%)
Muslim	17 (6.8%)
Education	
Primary	11 (4.4%)
Upper Primary	42 (16.8%)
Secondary	70 (28.0%)
Senior Secondary	38 (15.2%)
Diploma	6 (2.4%)
Graduate	82 (32.8%)
Post Graduate	1 (0.4%)
Diet	
Vegetarian	44 (17.6%)
Mixed	206 (82.4%)
Socio economic status	
Class 1	12 (4.8%)
Class 2	117 (46.8%)
Class 3	72 (28.8%)
Class 4	5 (2.0%)
Class 5	44 (17.6%)

Majority of respondents (80.4%) considered that malaria is a serious health problem and almost 90.4% respondents had positive attitude towards vector control measures. The attitude towards diagnosis and treatment of malaria was adequate among maximum respondents (Table 3).

Maximum (69.6%) of the respondents were not using bed nets and 86.4% respondent had a habit of cleaning their surrounding regularly. Majority of the respondents (65.2%) were using mosquito replants like all out or coils followed by window mesh or nets (29.2%) (Table 4).

DISCUSSION

The aim of the study was to assess the knowledge, attitude and practices of malaria transmission and prevention. KAP assessment is the initial as well as crucial steps of planning and implementation of health programme. It also helps to develop cost effective behavioural changes strategy in the community regarding malaria control. In this study, the knowledge about malaria was quite good. Majority of the study respondents heard of malaria and knew that malaria can be prevented, and it can become fatal, if untreated. The similar finding was found in the study done by Gupta RK et al.[12]

Table 2: Knowledge regarding malaria among study population.

Question	Response	Frequency (%)
Have you heard of malaria?	Yes	246 (98.4%)
	No	4 (1.6%)
Have you suffered from malaria?	Yes	37 (14.8%)
	No	213 (85.2%)
Is malaria caused by mosquito bite?	Yes	240 (96%)
	No	10 (4%)
Malaria can be prevented?	Yes	235 (94%)
	No	15 (6%)
Can malaria cause death?	Yes	180 (72%)
	No	70 (28%)
Have you seen any health workers spraying around your house?	Yes	159 (63.6%)
	No	91 (36.4%)
Malaria symptoms	Fever with chills	131 (52.4%)
	Body pains	5 (2%)
	Fever with sweats	3 (1.2%)
	Fever with chills and loss of appetite	15 (6%)
	Fever with chills, loss of appetite and body pain	12 (4.8%)
	Fever with chills and body pain	27 (10.8%)
	Fever with chills, sweats and body pain	13 (5.2%)
	Don't know	29 (11.6%)
Do you know when mosquito bites?	Day	52 (20.8)
	Night	126 (50.4%)
	Day and night	6 (2.4%)
	Anytime	42 (16.8%)
	Don't know	24 (9.6%)
Resting places of mosquitoes?	Stagnant water	198 (79.2%)
	Bushes/grass	23 (9.2%)
	Stagnant water and bushes/grass	13 (5.2%)
	Don't know	16 (6.4%)
Transmission season of malaria?	Rainy	202 (80.8%)
	Winter	2 (0.8%)
	Summer	12 (4.8%)
	Anytime	32 (12.8%)
Prevention of malaria	Environmental management	169 (67.6%)
	Environmental management and insecticide treated bed nets	26 (10.4%)
	Insecticide treated bed nets	21 (8.4%)
	Don't know	25 (10%)
Source of information about malaria	TV	114 (45.6%)
	Friends/ neighbors	26 (10.4%)
	Newspaper	17 (6.8%)
	Hospital	56 (22.4%)
	Health workers	30 (12%)

Table 3: Attitude regarding malaria treatment among study population.

Questions	Response	Frequency (%)
Is malaria one of the serious health problems?	Yes	201 (80.4%)
	No	49 (19.6%)
Is your attitude towards vector control positive?	Yes	226 (90.4%)
	No	24 (9.6%)
Do you allow health workers to take blood samples?	Yes	172 (68.8%)
	No	78 (31.2%)
Your first action if your family member has fever?	Consult a doctor	198 (79.2%)
	Traditional healer	8 (3.2%)
	Home treatment	39 (15.6%)
	Do nothing	8 (3.2%)
Deciding factor in seeking treatment when child/family member has fever?	Condition of the child/family member	211 (84.4%)
	Time availability	19 (7.6%)
	Cost involved	14 (5.6%)
Treatment for malaria?	Chloroquine	26 (10.4%)
	Paracetamol	32 (12.8%)
	Chloroquine and paracetamol	8 (3.2%)
	Don't know	184 (73.6%)

Table 4: Practices regarding malaria prevention and treatment among study population.

Questions	Response	Frequency (%)
Do you use bed nets?	Yes	76 (30.4%)
	No	174 (69.6%)
Do you keep the malaria infected person separate?	Yes	82 (32.8%)
	No	168 (67.2%)
Any dietary restrictions to a person who has malaria?	Yes	118 (47.2%)
	No	132 (52.4%)
Do you regularly clean your surroundings?	Yes	216 (86.4%)
	No	34 (13.6%)
Which of these mosquito control methods do you follow?	Biological	31 (12.4%)
	Window Mesh/ bed nets	73 (29.2%)
	DDT spray	16 (6.4%)
	Coils/All out	163 (65.2%)
	Other methods*	43 (17.2%)

* dry leaves smoke/prevent collection of water/odomos cream/wearing full sleeve shirt

Almost 96% respondents had knowledge that mosquito bite is the cause for malaria and this finding was similar to the study done by Madne G et al, in rural Pune.[13] Almost half of the study respondents (52.4%) had good knowledge about malaria symptoms and this finding was comparable with Gupta RK et al, and Joshi AB et al, studies.[12,14]

Majority of respondents considered malaria as a serious health problem and their attitudes towards vector control measures were positive in almost all respondents. Similar results were observed by Gupta RK et al.[12] Regarding biting habit of mosquito, maximum respondents (50.4%) responded night time followed by day time (20.8%). Similar result was observed by De M.[15] Television was the main source of knowledge about malaria in this study and similar finding was observed by De M et al, and Sharma A et al.[15,16] Maximum respondents s had an attitude of consulting doctor for fever in any of the family members. The result was similar and comparable to Gupta RK et al, study and Singh R et al, study.[12,17] Personal protection has very important role in prevention of malaria, but in this study only 30.4% respondents were using bed nets for the prevention of malaria and 86.4% respondents had a practices of cleaning surrounding for the prevention of mosquito bite. Similar finding was observed by Kumar KR et al, in rural Karnataka.[18] The reason for not using bed nets may be cost of nets and use of mosquito repellents. Mosquito repellent coil or liquid vaporizer (65.2%) was most commonly used to prevent mosquito bite in this study and this was consistent with the finding of De M et al, and Sharma A et al.[15,16] Overall, majority of the respondents had good knowledge

of malaria disease as well good practices of personal protective measures.

CONCLUSION

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. IEC activities should be done to increase awareness and to promote malaria prevention in terms of bed nets use.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Gupta A, Bhat A. Knowledge, attitude and practices regarding malaria among residents of rural Mangalore, India. Int J Res Med Sci 2019;7:231-5.