

## SHORT COMMUNICATION

## A Study on the Awareness Observed Among Individuals Living in Endemic Area on the Spread, Symptoms, Treatment and Prevention of Malaria

Peter George\*, D Souza Leon A.V., Narasimha Hegde and  
Smitha Saldhana

Department of Medicine, Fr Muller Medical College, Mangalore-575002  
Karnataka India

**Abstract:** *Objective:* The objective of the study is to determine, the awareness, among individuals living in endemic area on the spread, symptoms, treatment and prevention of malaria. *Materials and Methods:* This is a cross sectional study, done among individuals, above 18 years, to determine their awareness on malaria. The subjects were interviewed at health exhibition counter and at the out-patient facility (as accompanying persons), of a tertiary medical facility, and the responses were documented and analysed. Actual patients were not interviewed to avoid any bias on the symptoms and treatment aspects of malaria. *Results:* A total of 278 adults were interviewed in this study, among which 232 (83.5%) subjects identified malaria as an infection, 4.7% of subjects did not know what causes malaria and 33 (11.9 %) knew that it was non-bacterial infection. A total of 146 (52.5%) identified malaria as a mosquito borne disease. 95.7% (266) of subjects were aware of the major symptoms of malaria. 133 (47.8%) were of the opinion that malaria can be prevented by mosquito control and 211 (75.9%) believed that malaria is completely cured by timely and proper treatment. Among the study subjects 52.5% (146) were practising vector control measures at home. *Conclusion:* Majority of subjects interviewed were aware of malaria as a disease with mosquito borne spread. This shows that the efforts made by various organisations to educate the public on malaria have been effective. The community participation is not good enough to control malaria and its transmission as evidenced by the subject responses.

**Keywords:** malaria, endemic area, public awareness.

### Introduction

Malaria is a vector borne protozoal infection caused by Plasmodium and transmitted by female anopheles mosquito. Malaria is endemic in nearly 107 nations and causes 400-900 million cases of fever every year worldwide [1-2]. Malaria is an important cause for morbidity and mortality among children and adults in the tropical countries. Mortality due to malaria is currently estimated at 1-3 million people per year, and the numbers had risen in recent years. This is probably due to increasing resistance of plasmodium to anti-malarial drugs and insecticide resistance of the vector [2]. Poor drainage and sanitation, socio-economic factors, lack of adequate health care facilities make the underprivileged of the society more prone for malaria and its complications. Prevention of malaria, like for other vector borne infectious diseases must be considered from the perspective of community and public health [3]. *Objectives:* To determine the awareness among adults living in an endemic area on malaria, and its spread, symptoms, treatment, prevention and control measures.

The objective of the study is to determine, the awareness, among individuals living in endemic area on the spread, symptoms, treatment and prevention of malaria.

### **Materials and Methods**

This is a cross sectional study done in an urban endemic area for malaria in South India. The study was conducted by interviewing adults, who visited to a health exhibition counter and the out-patient facility (as accompanying persons) of a tertiary medical facility, in S India. Based on a simple questionnaire, responses were directly entered to a Microsoft Excel master data chart and were analyzed.

*Inclusion Criteria:* Individuals, males and females > age of 18 years. No socio economic categorisation was done.

*Exclusion Criteria:* Not fulfilling the inclusion criteria.

### **Results and Analysis**

Among the 278 respondents interviewed 140(50.3%) were women and 138(49.7%) were males. Majority (55.5%) of the respondents were in the 25 -35 year age group, as they were visitors at the exhibition or accompanying person of a patient. Among the subjects 48% lived in own house, indicating that they were in the higher socio economic strata. Among the respondents, 19 subjects had malarial fever and 5 subjects were hospitalised for treatment, in the last 10 years. 30 subjects among the respondents had one of their relatives or friends infected with malaria in the previous 5 years. The subjects knew about malaria through the pamphlets and media advertisements put up by various governmental and non-governmental agencies and also by self reading. 232 (83.5%) subjects identified malaria as an infection, 4.7% of subjects did not know what causes malaria and 33 (11.9 %) knew that it was non-bacterial infection. A total of 146 (52.5%) associated it as a mosquito borne disease. 266 (95.7%) subjects were aware of the common symptoms of malaria. 211 (75.9%) subjects believed that malaria is completely curable with medications and 133 (47.8%) that malaria is preventable by mosquito control. Only 52.5% (146) were practising vector safety measures at home. 15.1% (42) of respondents did self study on the prevention and control of malaria. 93% subjects had gross annual income of more than 200,000 INR, and 7 % below 200,000 INR. Assessment of level of education among the respondents revealed that 71% were graduates. Among the remaining, 18% completed secondary and 7% completed primary school education, while 4% had no formal education.

### **Discussion**

Majority of respondents were aware of malaria as a disease, its spread, symptoms, treatment, control and prevention. The respondents learnt about malaria from various forms of media advertisements on awareness put up by the governmental as well as non-governmental agencies. 15.1% of respondents had done self study on prevention and control.

On the symptoms of the disease, majority (95.7%) cited fever with chills; malaise and body ache as main symptoms [2]. Most were unaware (45%) of its complications and fatalities caused by malaria. On the other hand, 75.9% were aware that malaria is a curable and preventable disease. 133 (47.8%) respondents felt that malaria is preventable by mosquito control and only 52.5% (146) were practising vector control measures at their homes and surroundings. Most subjects (65.8%) felt that added humans irrespective of the age are equally susceptible to malarial infections. The hospital seeking tendencies, when suffering from fever, were high among the respondents (54%) participated in this study. Majority preferred to consult their family physician at first instance rather than consuming over the counter medications. Also, majority with history of fever in past were subjected to blood smear tests whenever they consulted the doctor. Vector control measures were not adopted properly in the community due to water logging and poor drainage system in the surroundings. Among the respondents 52.5% (146) were using some form of mosquito bite prevention measures. The methods adopted in preventing mosquito bites were bed-nets, mosquito repellents (coils, mats, pastes) and clearance of mosquito breeding sites. Some respondents found lack of time and resources to follow these preventive measures [3-4]. Majority of the respondents (73.7%) felt that there is lack of commitment from individuals, and the community as a whole, in initiating and practising vector prevention methods. The study shows that the middle class families are well aware of malaria as a mosquito borne disease and the aspects of its prevention. In this study 93% of the respondents were from middle socioeconomic strata and 71% of them were graduates. These factors explain why their awareness was high on the spread, symptoms, and treatment and control methods of malaria. The subjects felt that improper drainage and water logging in their neighbourhood makes good breeding areas for mosquitoes, and attributed that to the malaria transmission. The malaria control and mosquito prevention strategies need to be improvised to a great extent at the community level to control the spread of malaria [2]. Malaria control and elimination are under the constant threat of the parasite and vector mosquito developing resistance to medicines and insecticides, which are the cornerstones of controlling malaria [3-5]. Malaria control requires an integrated approach, comprising its prevention and control by community education programs, which increases the awareness, vector control and radical treatment [3-5]. The drawback of the study is that majority of subjects were educated and also were from higher socio economic strata of the society. To reduce confusion among the respondents, the questionnaire did not cover the relapse, recrudescence, drug adversities and drug resistance seen in malaria.

### **Conclusion**

Majority of respondents were aware of malaria as a disease and its symptoms, treatment and prevention. This shows that the efforts made by various organisations to educate the public on malaria have been effective. The respondents felt that the individual and the community participation at present are not good enough to control malaria and its transmission. The answer is a collective community based effort to

educate the individuals on malaria prevention and mosquito control and implementing the same. The community needs to be more proactive in controlling the malaria menace. In this way, a very cost effective, sustainable community intervention with greater involvement of the community members will compliment to all the malaria eradication measures.

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\*All Correspondence: Dr Peter George MD., Assistant Professor, Department of Medicine, Fr Muller Medical College, Mangalore-575002 Karnataka State, India E mail: drpetergeorge2002@yahoo.com