特集：合同臨地訓練

A Study of awareness of malaria among Kibera population; implication for community based intervention

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Abstract

Objective; To determine awareness of spread, pre-disposing factors, control and effects of malaria in Kibera slums, to facilitate designing community based interventions.

Design; Cross-sectional study

Setting; Gatwikira Village, Kibera Division, Nairobi

Subjects; 160 households (80% response rate) by stratified systematic sampling.

Main outcome measures; Awareness of malaria as disease, symptoms, relationship to vector, predisposing factors, prevention and control measures, burden of disease and health seeking behaviour.

Results; All respondents demonstrated awareness of malaria as disease. Main symptoms associated with malaria were fever (91%), headache (67%), joint pains (51%) and malaise (48%). Majority associated malaria with mosquito vector (72%) but a larger number (76%) with erroneous causative factors. Predisposing factors were mosquito bleeding sites due to poorly disposed refuse (53%), rains (28%), stagnant water (11%) and bushes (11%). Awareness of prevention and control measures included destroying mosquito breeding sites (39%), insecticides use (38%), prophylactic drugs (32%) and mosquito nets (29%). 9% did not know of any control measures while 33% gave erroneous measures.

For health seeking behaviour, 87% went to health institutions for treatment while 62% purchase over-the-counter drugs (self-medicaion). Most felt effects as burden of disease were draining of households' resources (76%) and work absenteeism (50%).

Conclusions; The community is aware of malaria as a disease but are handicapped by lack of adequate knowledge on symptoms, cause, predisposing factors, prevention and control measures. There is urgent need for health education and cost-effective sustainable community based intervention activities for the prevention, control and curative management of malaria.

Keywords malaria, symptoms, predisposing factors, prevention

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Introduction

Malaria, long a disease problem to man, was associated with the malaria parasite in 1880 by Ross AL discovered that it was transmitted by the mosquito in 1885-1898.[1]

Since them, despite enormous effort in finance, manpower and other resources to combat the disease, it is still a serious problem[2]. The global toll of malaria is estimated at 2.4 billion in 90 countries. There are 300-500 million clinical cases annually, with tropical African countries accounting for 90% of these. 1.4-1.6 million deaths occur worldwide due to the disease with more than 90% in Africa. Infections during pregnancy and early childhood are important causes to low birth weights, morbidity and mortality amongst women and children. About 90% of the 550 million pepole in Africa are at risk. About 75% live in high endemic areas while 18% live in epidemic prone areas[3]. The disease in rampant in Kenya, with 30% of all outpatient and 18% of inpatient cases diagnosed as malaria respectively.[4]

Malaria, once a rural problem has become an urban problem, especially adversely affecting slum dwellers due to overpopulation, poor drainage and sanitation, socio-economic factors, lack of adequate health facilities, global warming among other issues. Burden of disease includes cost of vector control, diagnosis, prophylaxis and treatment and household costs.[5]

The way forward seems to be arming the communities with the necessary knowledge to use available resources to fight the disease on their own terms, these should include the design, implementation and evaluation of sustainable intervention.[6]

The study hopes to have gathered information of importance to the country, the ministry of health and all concerned stakeholders in the devise and execution of intervention activities geared towards the control of the disease, and also to improve the health seeking behaviour of the community.

Specific objectives of the study imcluded finding out the awareness of the community members of clinical measures, spread, treatment, predisposing factors, control and prevention, and effects of the disease to the community.

Materials and Methods

Study area; Gatwikira Village is located in Kibera, on the southwest region of Nairobi, six kilometers from the city center. Kibera slums are the largest in Kenya, occupying an area of four square kilometers.

The population of the village is estimated to be about 40,000 people. Majority of the housing is semi-permanent, with plastered adobe walls and iron sheets roofing. Accessibility to the interior is poor, more so during the rainy season. There is sufficient piped water from the city council mains health insitutions in the area are mainly clinics ran by individuals and NGOs.

Number of households; Approximately 8,000, majority being one roomed rental units.

Target population; The respondents were all residents of the village, over sixteen years of age.

Research method; Cross-sectional study

Sampling method; Cluster sampling for selection of the village, and stratified systematic sampling for the households was applied, each strata being taken as households within the same street.

Sample size; 200 households

Research process; An interview schedule using multiple responses and observation checklist were used to collect the data.

Research period; April-November, 1999

Response rate; 160 (80%)

Contents of Questionnaire; The interviewer shedule sought to find the following;

Age, gender, educational level, period of residense, awareness of disease, how one learnt of malaria, how one gets malaria, symptoms, health seeking behaiour when one is infected, conditions encouraging spread of malaria, prevention methods known, disease burden on family, who are most affeced in the family, complications of untreated malaria, methods of control used.

The observation checklist sought to find the following;

Type of housing, lighting, cleanliness of compound, refuse disposal methods and sites, liquid waste management, presence of breeding sites.

Statistical Methods; Simple data analysis methods were used and included calculations of percentages the data findings were presented in tables and figures.

Results

A total of 160 respondents were interviewed of which 110 (69%) were females while males were 50 (31%). A possible explanation for this ratio is that most men were out at work. The few men found were either running businesses around, jobless or unwell.

Assessment of level of education revealed that 94% of them had been to school; 55% attained only Primary education, 36% Secondary level, 3% College, while 6% had no education at all. The respondents interviewed ranged between 16 and 63 years of age. The highest percentage (45%) was within the age bracket of 20-29 years with the least percentage (1%) being 60 years and above (See Table 1).

Table 1 Socio-demographic characteristics

	Number	Percentage (%)
Education		
None	10	6
Primary	88	55
Secondary	57	36
College	5	3
Gender		
Male	50	31
Female	110	69

Table 2 Knowledge on malaria

	Number	(%)
Source of knowledge		
Sickness	125	78
Mass media	49	31
Friends	35	22
Health personnel	21	13
School	9	6
Predisposing factors		
Mosquito Presence	92	58
Poor waste disposal	85	53
Stagnant water	18	11
Thick bushes	17	11
Do not know	9	6
Burden of disease		
Drains family resources	122	76
Work absentism	80	50
Psychological effect	34	21

All the respondents (100%) were aware of malaria as a disease with 78% having suffered from the disease, 31% having learnt from the Mass Media, 13% from Health care providers and the least percentage (6%) from school. Responses as to what transmits malaria indicate that 72% associate it to mosquito bite. However, a higher percentage of 76% erroneously associated it with other factors, while 14% had no idea at all.

The predisposing factors to malaria infection most widely mentioned by the respondents were presence of mosquito 58% and poor waste disposal 53% presumably as possible breeding grounds for mosquito while 66% gave wrong responses implying that they did not know the predisposing factors to malaria (See Table 2).

With regard to clinical presentation fever was widely mentioned in both children and adults as 94% and 91% respectivey. In adult other symptoms that featured prominently were headache 67%, joint pains 51% and body weakness 48%. Other symptoms mentined included vomiting 27%, abdominal discomfort 19%, loss of appetite 12% while 6% of the respondents did not know the signs and symptoms in adults. For symptoms affecting children the predominantly featured included loss of appetite 55%, vomiting 48%, irritability 21%, body weakness 17%, while 8% did not know the signs of malaria in children. Other important symptoms mentioned in small percentage were convulsions 1%, Jaundice/Anemia 2% (See fig.1).

On who was most affected by malaria in the family cell 56% said children, 18% women, and the least being men 12% while 33% felt that all were equially affected.

This community also recognizes malaria as fatal disease when treatment is delayed. This is clearly shown by their response where 93% felt that death may result as a complication, 12% indicated mental confusion and 20% were not sure of the complications of the disease. They seemed not to be aware of actual complication of malaria before death occurs.

When sick 87% of the respondents said that they go to the hospital or clinics, while 62% purchase drugs from the shops, only 2% went to the herbalist (See Table 3).

Most respondents were aware of the burden of the disease with 76% saying that the disease drained the family resources, 50% work and school absentism, 21% talked of psychological effects among the family members, while 14% had others effects which included absence from work and school due to death of spouses, and getting other diseases due to weakness brought about by malaria (See Table 2).

On response to preventional and control awareness and methods used, 39% talked of destroying breeding sites, while only 22% practiced the method. 36% were aware of use of insecticides and the same percentage practice the method. 32% talked of use of prophylactic antimalarial drugs while 31% practiced the method. 29% were aware of use of mosquito nets while only 14% used. 33% did not

Table 3 Health seeking behaviour

	Number	(%)
Go to hospital when sick	139	87
Purchase over-the-counter drugs	99	62
See herbalist	3	2

know of any method while 34% did not use any of the precentive and control measures; 66% used some of preventive measure (See fig. 2).

Discussion

The study indicates that the higher percentage (61%) of the respondents had low education, which may explain why the awareness was generally low on some aspects of malaria, particularly pre-disposing factors and prevention methods.

The data on how the respondents learnt about malaria shows that most of the respondents learnt through personal experience of the disease while very few of them learnt from school. The percentage learning from health care providers is low, indicating that this community has not received adequate information from health care providers. The community was found not to be sure of the mode of malaria transmission.

On clinical manifestations of the disease, the findings imply that although a very high perentage cited fever as a main sign, the community did not recognize some of the important signs and symptoms of malaria in both adults and children especially in combination with the fever. This is in line with findings of Terekega A. et.al.[7]

The community recognizes that malaria is a problem in children but they did not realize the fact that malaria

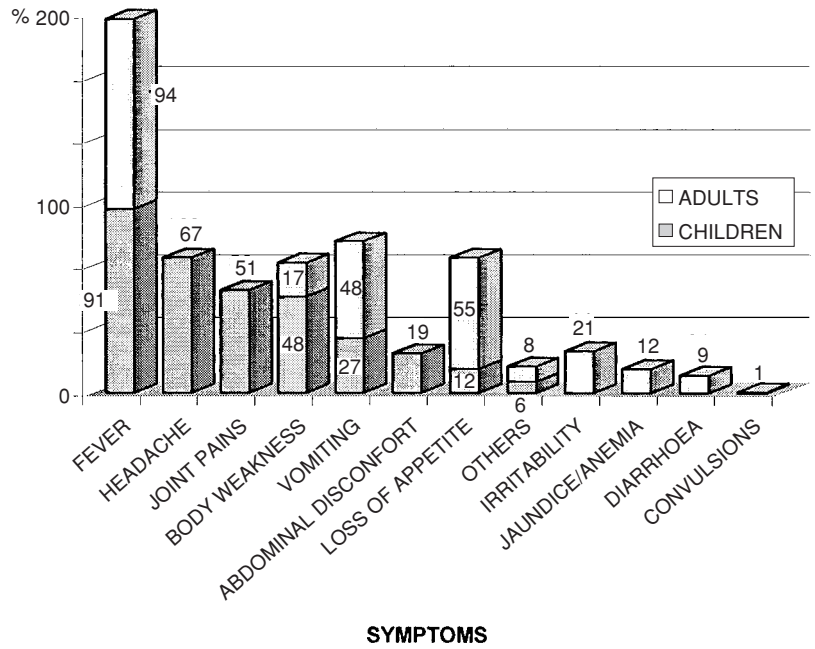

Figure 1 Awareness of symptoms of disease

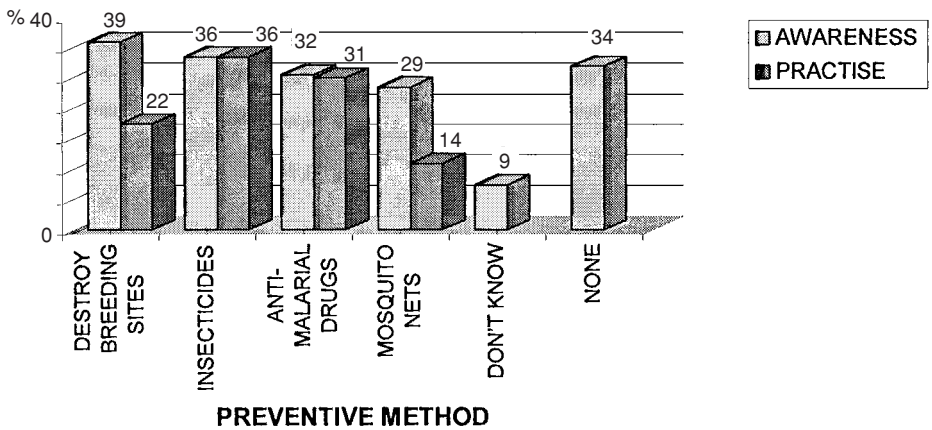

Figure 2 Comparison of Knowledge and practice on malaria prevention

affects both men and women equally.

On health seeking behaviour, when afflicted by the disease, they were aware that the hospital is the best place to get treatment. A good proportion purchased drugs from the shops for selfmedication. It was also revealed that a good number first bought drugs from the shops but only went to hospital when there was no notable improvement.

Malaria as a disease affects on socio-economic status of an individual, family and the community as a whole. The disease is recognized to have an economic burden on the individual and the family as was also reported by Hill J.[8]

Preventive measures undertaken by the community are inadequate in that less than 40% of the respondents undertake any one particular preventive measure. Fully one third of the respondents do not practice any measure. 33% gave wrong or ineffetive control measure implying poor knowledge of prevention. There is also discrepancy between usage of certain preventive measures like bed-nets and destruction of mosquito breeding sites and awareness of them, that is possible due to poverty and consequent unavilability of resources. This seems to be supported by predisposing factors observed by the researchers. The predisposing factors included poor quality of housing and presence of possible mosquito breeding sites near the houses.

It can be concluded from the study that, although the respondents are aware of malaria as a disease with debilitating consequences, both on the individual and the community, not enough is known by the community on clinical presentation, spread, treatment, predisposing factors and control of the disease. Most of the people seem to find out more about the disease the hard way, that is through personal experience and that of friencs when malaria strike. Clearly this shows that the health care providers concerned are doing not enough health education. Consequently, control measures undertaken prove ineffective and inadequate to combat the disease, which then continues to ravage the population with impunity.

Thus, the community needs to be made more aware and knowledgeable on all the various aspects associated with malaria. In this way, cost effective and sustainable community based interventions can be formulated and implemented with better success and greater involvement of the community members who will be aware of what exactly is at stake. Community based interventions have been carried out with success in Africa[9] and in Kenya[8, 10].

There is also need for urgent affordable and effective curative measures to be made available within the community. Other advantages of community participation include simplicity, ease of management and flexibility[11] of the chosen intervention activities.

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