

# THE LEVEL OF KNOWLEDGE, ATTITUDE AND PRACTICE IN RELATION TO MALARIA IN OO-DO VILLAGE, MYANMAR

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**Abstract.** A knowledge, attitude and practice (KAP) study concerning the nature and prevention of malaria was carried out in a rural area of Myanmar. According to the findings, many (over 40%) people do not have a clear cut knowledge on the transmission of malaria. Only one fourth of them had chemoprophylaxis before going to the forest, but they do not have the proper knowledge of the chemoprophylaxis regarding the type and dosage. Although there is acceptable knowledge (about 80% of the subject knew that mosquito bite causes malaria) and positive attitude towards malaria (100% of respondents agreed that malaria was a serious health problem in this area and 97% of respondents agreed that they would like to participate in malaria control activities), it is necessary to increase the community awareness of the transmission of the disease, its consequences and ways and means to control the disease to a minimum, especially in endemic areas.

## INTRODUCTION

Malaria is the first priority disease in National Health Plan (1996-2001) in Myanmar. Out of 45 million population in 1994-1995 census, 36% are residing in high risk areas, 56% in low risk areas and only 8% in no risk areas. Malaria accounted for 7% of total outpatients and 20% of all inpatients admitted to hospitals. Clinically suspected malaria cases treated as outpatients were 800,000 annually and clinical malaria cases admitted as inpatients in hospitals were over 130,000 annually, case fatality rate among inpatients being 3% (Nation Health Plan, Myanmar, 1996-2001). The disease is highly prevalent in the foothill and forest regions. The general public has been informed through mass media regarding malaria control in the forms of pamphlets, newspapers, television and radio program since early 1970s. Despite widespread information, education and communication (IEC) programs, several KAP surveys indicated that misbelief and malpractice concerning malaria are still existing through out the country. Thus it is mandatory to find out the effective strategies for IEC program especially in areas where malaria is the major fatal disease. This study has been conducted to assess the extent of knowledge, attitudes and practice in

relation to malaria control in the selected hyperendemic area.

## MATERIALS AND METHODS

### The study area

The study was conducted in Oo-do village which is situated 50 miles (30 km) from northeast of Yangon between 17° 3' latitude and 26° 2' longitude, 30m above sea level, and 9 km from the foothills of Bago Yoma (mountainous region). The word Oo-do was coined from a local term Oo-da-ho meaning "traveling to and fro between the village and the forest". The village is bounded on the north by cashnut plantation and barren lands, northeast by Yangon-Mandalay road with a cashnut plantation on the other side of the road. On the western border is a cashnut and teak plantation and on the southern side is the Phongyi-chaung creek which flows through the western side of the village. This village was found to be malaria hyperendemic because longitudinal studies carried out since 1993 revealed crude parasite positive rates of >20% in all age groups, a spleen rate in children 2-9 years of 60% and high and perennial transmission according to the entomological surveys carried out in 1994-1995 (unpublished data).

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### Study design, study population and research instrument

A descriptive cross-sectional KAP survey pertaining to malaria was carried out in July 1995 using structured questionnaire administered by the research officers and trained research assistants to heads of households, their spouses and also to the members of the family who were 18 years of age and above. There are 82 households with a total population of 303 inhabitants. The population of 18 years and above age group is 116. A total of 103 study subjects were interviewed. The rest were not present in the village at the time of the survey. Focus group discussions were performed on two groups of both sexes to develop a data collection tool. The tool consisted of: structured questionnaires to assess knowledge on malaria etiology, transmission and severity; statements to assess attitude towards malaria and vector control; and questionnaires to identify parameters related to risk factors for acquiring malaria and control measures. Data from the structured interviews were analyzed using SPSS/PC version 5 software. Knowledge variables were summed up into a composite score and ranked as low and high scores (that is lower or higher than the median score) with a range of 17 to 23. Attitudinal questions are structured in a 3 point Likert scale responses comprising agree, disagree and do not know. The resulting score ranges from 2 to 4; the measure of internal consistency showed an acceptable level of reliability (Cronbach's  $\alpha=0.60$ ).

### RESULTS

According to Table 1 out of 103 study subjects 50% were males and the rest were females. 41% were in 18 to 29 years age group, 43% of respondents were heads of the households, their spouses 41% and the rest were aged parents and dependent children. 76% resided in the study area for over 10 years. Regarding the educational level, 61% could read and write and have attended primary school. More than half of the study subjects earned their living by doing odd jobs.

Table 2 presents the percent distribution of knowledge in relation to malaria. 80% of the study subjects stated that mosquito bites could lead to malaria. 37% still believed that drinking stream water could cause malaria. 72% knew the correct

Table 1

Percentage distribution of sociodemographic and economic characteristics of villagers (n = 103).

Characteristic	Frequency	%
<b>Sex</b>		
Male	51	49.5
Female	52	50.5
<b>Age</b>		
18 - 29	42	40.8
30 - 39	19	18.4
40 - 49	14	13.6
50 - 59	16	15.5
60 +	12	11.7
<b>Household status</b>		
Head	44	42.7
Spouse	42	40.8
Others *	17	16.5
<b>Years of residence</b>		
1 - 9	25	24.2
10 - 19	64	62.1
	14	13.6
<b>Occupation</b>		
Odd jobs	60	58.3
Dependent	29	28.2
Others **	14	13.6
<b>Education</b>		
Illiterate	21	20.4
Can read and write	63	61.2
Primary		
Middle and high	18	17.5

\* Dependent parents and children

\*\* Jobless dependent

symptoms of malaria (fever with chills and rigor). Almost all of the study subjects had heard of cerebral malaria 95% and more than half of them know its fatal consequence.

Generally, the majority of the study subjects have positive attitude towards malaria control (Table 3). Almost everyone (100%) believed that repeated attacks of malaria could affect their family income. Regarding the participation with the government in control measures of malaria, they were positive that the malaria cases would be reduced.

Regarding information on malaria related practices (Table 4), 24% used various indigenous drugs

Table 2

Percentage distribution of knowledge of malaria among the villagers (n = 103).

Characteristic	Frequency	%
<b>Transmission</b>		
Mosquito bite	82	79.6
Drinking stream water	33	36.7
Eating banana	6	6.6
<b>Symptoms</b>		
Fever	15	14.6
Chills, rigor	19	18.4
Fever, chills, rigor and sweating	74	71.8
Loose motion	4	3.9
Others **	4	3.9
<b>Risk groups</b>		
Forest goers	68	66.0
Children < 12 years	25	24.3
Pregnant women	12	11.7
<b>Severity</b>		
Heard of cerebral malaria	98	95.1
Death	59	57.3

\* Multiple response.

\*\* Constipation, aches all over, do not know.

Table 3

Percentage distribution of malaria related attitude (n = 103).

Attitude	No.	Do not know	%
Important problem	100	2	97.1
Participation of community	100	3	97.1
Effect on family income	103	-	100.0
Reduction of cases	103	-	100.0

which they believed to have antimalarial action before going into the forest for wood cutting. Nearly 70% said they used bednets. However, when

checked by observation, a worn-out bednet was present in each of the 7 households and was used for the young children and infants of the family.

Table 4

Percentage distribution of preventive measures undertaken by respondents in relation to malaria (n = 103).

Variable	Frequency	%
Prophylaxis	25	24
Using bednet	72	70
Using insecticide	5	5
Using repellent	2	2
Killing mosquito	7	7
Cleaning breeding places	9	9
Other (burning branches)	6	5.5

## DISCUSSION

According to the findings, the majority of the people in this village do not have a clear-cut knowledge on transmission of malaria. Some (43%) still have incorrect knowledge that malaria is transmitted by the bite of infected mosquito. They also have incorrect knowledge such as drinking stream water and eating bananas can lead to malaria. These findings are consistent with local surveys and in a KAP study in Thailand (Myint-Myint-Soe *et al*, 1986; Hongvivatana, 1996). It might be one of the possible explanations for failure to take adequate precautionary measures towards malaria. Those with misbelief should be considered as the important target group being in need to promote their knowledge on transmission of malaria so as to remove the potential barriers in control of malaria in the community.

As regards attitudes, the questions provided are directed towards general perceptions rather than the specific ones. Thus the possible pathway through the underlying knowledge and attitude to specific practice in relation to malaria control cannot be explained fully from this study unlike other studies (Htin-Aung *et al*, 1993; Lariosa, 1986; Myint-Myint-Soe *et al*, 1987).

There is a satisfactory proportion of respondents (nearly 70%) who said they used bednets. How-

ever, on checking, there was a worn-out bednet for whole family members in 7 households only. One fourth of them had chemoprophylaxis before going to the forest. But they do not have knowledge of the prophylactic medicines and their dosages.

The study findings clearly indicate that the victims and potential victims of malaria infection in rural area, although still confused with wrong knowledge, are not without knowledge or positive attitude towards malaria prevention and control. Instead of merely disseminating information on malaria prevention and control, or merely blaming the victims, health services personnel in collaboration with local leaders and other sectors should gear towards creating a societal environment where community members can practice what they know and what they believe. This is an area for further operational research.

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#### REFERENCES

- Htin-Aung, Myint-Myint-Soe, San-Shwe, *et al.* Community KAP and treatment seeking pattern for malaria illness in Mudon Township. Paper read in Medical Research Congress, 1993: 26.
- Hongvivatana T. Human behavior and malaria. *Southeast Asian J Trop Med Public Health* 1996; 17: 353-9.
- Lariosa TR. Culture, environment and people's perceptions: considerations in malaria control in the Philippines. *Southeast Asian J Trop Med Public Health*. 1996; 17: 360-70.
- Myint-Myint-Soe, Thein-Hlaing, San-Shwe, May-Aye-Than, Naing-Lin. A KAP study on malaria in forest-fringe and plain areas in Pegu Division. Paper read in Medical Research Congress, 1987: 9.
- National Health Plan. Forum on health sector development. The Government of the Union of Myanmar. Planning Document Series 3. 1996-2001: 14.