

A study to assess the knowledge, attitude and practices regarding malaria and its prevention among the people residing in selected rural areas in west Garo Hills District, Meghalaya

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Abstract

Malaria is a preventable and treatable disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. In 2018, there were an estimated 228 million cases of malaria worldwide and 4,05,000 malaria-related deaths. India represents 3% of the global malaria burden. In India, 0.84 million malaria cases were reported in 2017, of which North Eastern (NE), Eastern and Central Indian regions contributed 80% of the total cases. NE India accounts for 4% of the population but contributed 6.6% of malaria cases and 25% of malaria mortality in India in 2018.

The main objectives of the study is to assess the knowledge, attitude and practices regarding Malaria among the people residing in selected rural areas in West Garo Hills District, Meghalaya and to find the association between knowledge, attitude and practices with selected demographic variables.

A cross sectional study was conducted among the people residing in selected rural areas in West Garo Hills, Meghalaya using a convenient sampling technique from 6th January 2020- 31st January 2020. About 290

participants were enrolled by house to house visit and 1 participant from each household preferably head of the household or any family member above 18 years of age who fulfilled the inclusion criteria was selected and a semi-structured tool by interview method was used for the collection of data. The data collected from the participants was entered in excel sheet, that data was analyzed using Statistical Package for the Sciences (SPSS).

The present study showed that out of 290 participants who participated in the study, 213 (73.44%) have adequate knowledge and 77 (26.55%) of them have inadequate knowledge regarding malaria and its prevention. Regarding the Attitude of the people, 156 (53.79%) had favorable attitude and 134 (46.20%) had unfavorable attitude towards malaria and its prevention. Surprisingly it is identified that 224(77%) agree that people get infected with malaria due to unsafe drinking water and 208(72%) agrees that its only children and pregnant women are at risk of getting malaria. 103 (36%) of the participants also agrees that if someone has got malaria people should avoid having close contact with

him/her. This reveals that there is certain misconception of the disease with its transmission.

Practice score of the participants regarding malaria and its prevention reveals that 197 (67.93%) had satisfactory practice and 93(32.07%) had unsatisfactory practice towards malaria prevention. Educational qualification was found to have significant association with individual's attitude towards malaria and its prevention.

The study recommends that health education program should be scaled up directed towards the community and emphasis must be given on a timely basis to improve the knowledge, attitude, and practice regarding malaria and its prevention. Emphasis must be given on the community participation to effectively meet the challenges of prevention and control of malaria. A similar comparative study can also be carried out in the future to assess knowledge, attitude and practices in other rural areas and community.

Keywords: Knowledge, Attitude, Practices, Malaria, Meghalaya.

Introduction

Malaria is one of the major communicable diseases affecting mankind; it is caused by parasite of plasmodium that is transmitted to human by the bite of infective female Anopheles mosquito. There are four plasmodium species, P vivax (Pv), P falciparum (Pf), P malarie (Pm) and P ovale (Po).

According to the World malaria report 2018, it reported that an estimated 219 million cases of malaria occurred throughout the world in 2017. Out of these 219 million cases, about 200 million or 92% of these cases occurred in the WHO African region, followed by 5% of the cases in the South East Asia region and 2% in the Mediterranean region.

Malaria continues to be a major public health problem in India with socio – economic implications as the disease is more prevalent in rural, tribal and forested underserved areas. The majority of malaria cases are reported from eastern and central part of the country and from states which have forest, hilly and tribal areas. These states include Odisha, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, and some north-eastern states like Tripura, Meghalaya and Mizoram. In India malaria cases have consistently declined from 2.08 million in 2001 to about 8.4 lakhs in 2017.

Meghalaya contribute more than 20% of cases of those reported from the north-east states annually. Among all districts of Meghalaya that are malaria endemic, more than 75% of all the cases have been observed in the Garo Hills area (East, west and south Garo Hills district). Besides mosquito genic conditions in tribal areas, poor knowledge and attitude towards the disease is also one of the reasons for maintaining high endemicity in some areas. During the last decade newer tools for effective prevention and control of Malaria are available, and this paved the way for elimination. The current package of core interventions – namely, vector control, diagnosis and treatment – has proved to be highly cost effective and needs to be further expanded in order to bring down the incidence to zero. To be able to eradicate malaria from India, we need to clear the misconception regarding malaria. Thus, an advanced knowledge of the community beliefs and practices with respect to Malaria should be obtained and follow up should be maintained so that the participation of the people in surveillance and control activities continues.

Objectives

- To assess the knowledge, attitude and practices regarding Malaria and its prevention among the people

residing in selected rural areas in West Garo Hills District, Meghalaya.

- To find the association between knowledge, attitude and practices with selected demographic variables.

Material & method

A cross sectional study was conducted among the people residing in selected rural areas under the Asanang Primary Health Centre in West Garo Hills District, Meghalaya using a convenient sampling technique from 6th January 2020- 31st January 2020. A total of 290 participants were enrolled by house to house visit and 1 participant from each household preferably head of the household or any family member above 18 years of age who fulfilled the inclusion criteria was selected for the study. The tool used for the study consists of four sections: Section A: Socio-demographic variables of the participants, Section B: Semi – structured Interview Schedule on Knowledge regarding Malaria and its prevention, Section C: A Likert Scale on Attitude regarding Malaria and its prevention, Section D: Interview Schedule on expressed practices regarding malaria and its prevention. The data collected from the participants was entered in excel sheet, that data was analyzed using Statistical Package for the Sciences (SPSS) ver. 15.0 (SPSS Inc, Chicago, IL)

Result

Knowledge, attitude, and practice regarding malaria and its prevention and also to find the association with selected socio-demographic variables, the data were tabulated, analyzed and interpreted using descriptive and inferential statistics. The study findings are presented under the following sections:

Section I: socio-demographic variables of the participants.

Table 1 (a): Frequency and Percentage distribution of the participants according to the socio–demographic variables.

Socio-Demographic Variables	Frequency (f)	Percentage (%)
Age in years		
18-25	69	23.79%
>25-35	100	34.48%
>35-75	121	41.72%
Gender		
Male	146	50.34%
Female	144	49.65%
Educational qualification		
Illiterate	22	7.59%
1-8 th standard	81	27.93%
9-12 th standard	150	51.72%
College & above	37	12.76%
Marital Status		
Married	245	84.48%
Unmarried	44	15.17%
Widow	1	0.34%

The data presented in Table 1 (a) reveals that out of the 290 participants that participated in the study majority i.e., 121 (41.72%) were at age between >35-75 years, >25 – 35 years of age was 100 (34.48%) and the age group of 18 – 25 years of age was 69 (23.79%). Regarding the Gender majority of them i.e., 146 (50.34%) were male and 144 (49.65%) were female. In regard to the educational qualification the majority i.e., 9 – 12th Std was 150 (51.72%), 1 – 8th Std was at 81 (27.93%), College & above was 37 (12.76%) and Illiterate was at 22 (7.59%). Regarding the Marital status the majority of them i.e., 245 (84.48%) were married and

44 (15.17%) are unmarried and 1 (0.34%) is widowed respectively.

Table 1 (b): Frequency and Percentage distribution of the participants according to the occupation, family monthly income, the type and the total members in the family and the type of house and distance from the nearest health center. (n=290)

Socio-demographic variables	Frequency (f)	Percentage (%)
Occupation of respondent		
Govt. employee	5	1.72%
Private employee	12	4.14%
Merchant	26	8.97%
Laborer	18	6.21%
Farmer	117	40.34%
Housewife	69	23.79%
Student	41	14.14%
Others	2	0.69%
Family monthly income (in rupees)		
>2500-5000	46	15.86%
5001-10,000	196	67.59%
>10,000	48	16.55%
Total members in the family		
≤4	85	29.31%
5-6	155	53.44%
>6	50	17.24%
Type of family		
Nuclear	259	89.31%
Extended	29	10%
Joint	2	0.68%
Type of house		
Pucca	13	4.48%
Kaccha	50	17.24%

Mixed	227	78.27%
Distance of house from the nearest Health Centre		
≤ 2 km	62	21.38%
More than 2 km	228	78.62%

The data presented in Table I (b) reveals that out of 290 participants majority i.e., 117 (40.34%) were farmers, and 69 (23.79%) were housewives, 41 (14.14%) were students, 26 (8.79%) were merchants, 18 (6.21%) were laborers, 5 (1.72%) were government employee and 2 (0.69%) were either unemployed or retired. The Majority i.e., 196 (67.59%) had monthly family income of more than 5000 to 10,000 rupees, 48 (16.55%) had income of more than 10,000 rupees and 46 (15.86%) had an income of more than 2500 to 5000 rupees. Regarding the total members in the family the majority i.e., 153 (53.44%) had 5 – 6 family members, 85 (29.31%) had four or less than four members in the family. 50 (17.24%) of the participants had family members more than 6 in the family. The type of family of the participants majority i.e., 259 (89.31%) were nuclear type of family. 29 (10%) of the participants, an extended family and 2 (0.68%) of participants are a joint family. Regarding the type of house of the participant’s majority i.e., 227 (78.27%) have mixed type of both kaccha and pucca house. 50 (17.34%) have a kaccha house and 13 (4.48%) of the participants have a pucca house. Majority of the participants i.e., 228 (78.62%) have a distance of more than 2 km from their home to the nearest health centre and 62 (21.38%) of them have a distance of less than or equal to 2 km from their home to the nearest health Centre.

Section II: knowledge of participants regarding malaria and its prevention

Table 2: Mean and standard deviation of knowledge scores of participants on a semi-structured knowledge questionnaire regarding malaria and its prevention.

Knowledge score about malaria and its prevention	Range of obtained score	Mean	Standard deviation
Adequate knowledge	8-10	8	1.07
Inadequate knowledge	1-7		

Maximum possible score =10

Table 2 shows the range of score obtained by participants out of the maximum possible score of 10. Adequate knowledge indicates knowledge score within the range 8-10 and inadequate knowledge indicates knowledge score within the range of 1-7. The Mean \pm SD is 8 ± 1.07 .

Figure 1: Knowledge score of participants regarding malaria and its prevention. (n = 290).

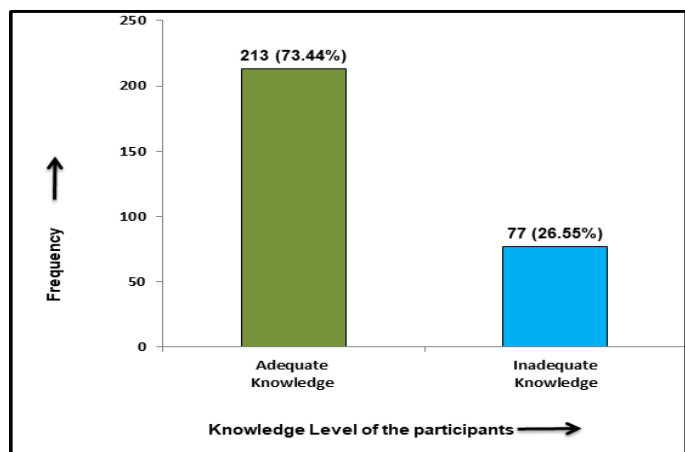


Fig 1: Depicts that out of 290 participants the majority i.e., 213 (73.44%) have adequate knowledge and 77

(26.55%) of them have inadequate knowledge regarding malaria and its prevention.

Section III: attitude of the participants regarding malaria and its prevention

Table 3: The Mean and standard deviation of attitude scores obtained by participants regarding malaria and its prevention.

Attitude score about malaria and its prevention	Range of obtained score	Mean	Median	Standard deviation
Favorable attitude	≥ 45	44.7	45	2.57
Unfavorable attitude	< 45			

Maximum possible score = 60

Table 3 shows the range of score obtained by participants out of the maximum possible score of 60. Attitude level was determined by comparing one's attitude score against the median attitude score. Attitude score of 45 and above is determined to be favorable attitude whereas that below 45 is labeled as unfavorable attitude. The Mean \pm SD is 44.7 ± 2.57 .

Table 4: (a) Frequency and Percentage Distribution of the Attitude score. (n=290)

Sn.	Item	Frequency (f) and Percentage (%) of the responses of the participants				
		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	I am sure anyone can get Malaria	0	1(0.35%)	3(1%)	286(99%)	0
2	I think malaria is a serious and life-threatening disease	0	0	0	279(96%)	11(4%)
3	I think the best way to prevent myself getting malaria is to avoid getting mosquito bites	0	1(0.35%)	0	275(95%)	14(5%)
4	I believe sleeping under a mosquito net during the night is one way to prevent myself from getting malaria	0	0	0	253(87%)	37(13%)
5	I think it is risky when malaria medicine is not taken properly and completely	0	0	1(0.35%)	277(96%)	12(4%)
6	I think I need to visit health centre/clinic when I have high fever with chills	0	0	0	277(96%)	13(4%)
7	I believe people get infected with Malaria due to unsafe drinking water	0	63(22%)	0	224(77%)	2(1%)
8	I believe malaria can be transmitted from person to person just like common cold	0	219(76%)	9(3%)	61(21%)	0
9	I am sure I can treat myself if I get malaria	11(4%)	269(93%)	1(0.35%)	9(3%)	0
10	I believe that traditional medicines play big roles in curing malaria	12(4%)	259(89%)	8(3%)	11(4%)	0
11	In my opinion, it's only children and pregnant women at risk of malaria	1(0.35%)	208(72%)	17(6%)	65(22%)	0
12	If someone has got malaria, people should avoid having close contact with him/her	8(3%)	160(55%)	16(6%)	103(36%)	0

Table no. 4 (a) Shows the frequency and the percentage distribution of the Attitude score and notable findings is that 224(77%) agree that people get infected with malaria due to unsafe drinking water and 103 (36%) of the participants also agrees that if someone has got malaria people should avoid having close contact with him/her.

Figure 2: Attitude score of the participants regarding malaria prevention. (n=290)

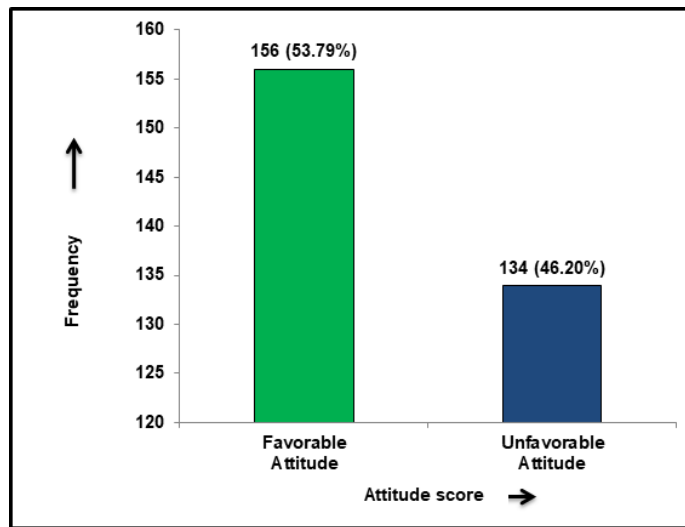


Fig 2: The above bar diagram depicts that majority i.e., 156 (53.79%) had favorable attitude and 134 (46.20%) had unfavorable attitude towards malaria and its prevention.

Section v: association between knowledge, attitude, and practice with selected demographic variables.

Table 4: (b) Association between participants knowledge on malaria and its prevention and selected demographic variables. (n=290)

Socio-demographic variables of participants	Knowledge about malaria and its prevention		df	Calculated value	Table value	P – value
	Adequate Knowledge	Inadequate Knowledge				
Age						
18 – 25	50	19	2	0.517	5.99	0.77
>25 – 35	76	24				
>35 – 75	87	34				
Gender			1	1.606	3.84	0.21

Section IV: practice score of the participants regarding malaria and its prevention

Figure 3: Practice score of the participants regarding malaria and its prevention. (n = 290)

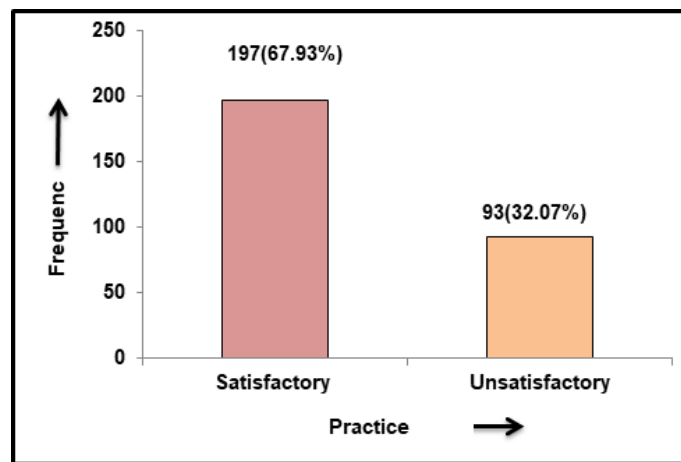


Fig III: The above bar diagram depicts that majority i.e., 197 (67.93%) had satisfactory practice and 93 (32.07%) had unsatisfactory practice regarding malaria and its prevention.

Male	112	34				
Female	101	43				
Education						
Illiterate	12	9				
1 – 8	55	26	3	7.481	7.82	0.06
9 – 12	115	37				
College & above	31	5				

Table 4 (b) shows that there is no association found between knowledge level and selected demographic variables at 0.05 level of significance.

Table 5: Association between Participants Attitude on Malaria and its prevention and selected Demographic Variables. (n=290)

Socio-demographic variables of participants	Attitude towards malaria and its prevention		df	Calculated value	Table value	P – value
	Favourable Attitude	Unfavourable Attitude				
Age						
18 – 25	45	24	2	4.798	5.99	0.91
>25 – 35	51	49				
>35 – 75	60	61				
Gender						
Male	83	63	1	1.105	3.84	0.30
Female	73	71				
Education						
Illiterate	7	14	3	*11.725	*7.82	*0.01
1 – 8	38	43				
9 – 12	84	68				
College & above	27	9				

*Significant at 0.05 level of significance.

Table 5 shows that there is an association between attitude score and the educational qualification of the participants at 0.05 level of significance.

Discussion

The aim of the study was to assess the knowledge, attitude and practices regarding malaria and its prevention among the people residing in selected rural areas of West Garo Hills District, Meghalaya.

According to the present study, it was found that majority of the participants 213 (73.44%) have adequate knowledge whereas 77 (26.55%) of them have inadequate knowledge regarding malaria and its prevention. The findings are inconsistent with Kebede et al. (2015) study in Areka Town, Ethiopia where 204 (50.4%) had good knowledge and 201 (49.6%) had poor knowledge on malaria as in the present study majority do have adequate knowledge.

The present study reveals that 156 (53.79%) had favorable attitude and 134 (46.20%) had unfavorable attitude towards malaria and its prevention which is consistent with similar study by Kebede et al. (2015) study in Areka Town, Ethiopia where 223 (55.1%) had positive attitude while 182 (44.9%) had negative attitude towards malaria. In the present study 224(77%) agree that people get infected with malaria due to unsafe drinking water which is inconsistent with a study by Zewdie Ade raw et. al. (2011) where 127 (14.7%) also agrees that malaria is caused due to drinking dirty water and also with Himashree Bhattacharyya (2014) study in West Khasi Hills, Meghalaya where only 12 (5.6%) people believed that it is because of dirty water. According to the present study 103 (36%) participants also agrees that if someone has got malaria people should avoid having close contact with him/her which also is inconsistent with Kebede et al. (2015) study in Areka Town, Ethiopia where 214 (52.8%) strongly disagreed on this statement and only 37 (9.1%) agreed to the statement. But this is consistent with the study of Himashree Bhattacharyya (2014) in West Khasi Hills, Meghalaya where 109 (54.4%) people had beliefs that malaria is transmitted by close contact from person to person.

According to the present study majority of the participants 197 (67.93%) had satisfactory practice and 93 (32.07%) had unsatisfactory practice regarding malaria and its prevention which is consistent with Kebede et al. (2015) study in Areka Town, Ethiopia where 274 (67.7%) of the study participants had good practice while 131 (32.3%) had poor practice in terms of malaria treatment, prevention and control. The present study reveals that there is a significant association found between attitude score and the educational qualification

of the participants which is consistent with the study of Nzooma M. Shimaponda-Mataa (2014) in Zambia where the source of malaria information was related to education levels of the respondents. There was no significant association found between attitude score and practices with the selected demographic variables.

Conclusion

From the findings of the present study, the statistically significant association between the educational qualification and the attitude shows that there is a need to do a scale up of improving the Mass media, IEC activities and developing strategies to increase people's awareness and create a positive social change in the attitude of the people and increase their abilities to prevent and treat the disease. Notable findings regarding the attitude of the participants show that there is a misconception and many couldn't associate the disease with its transmission. The findings of the study have a limited generalization; they contribute, however, to increased knowledge on nurses understanding of the KAP study, the people's level of understanding which in turn may help the health care providers and policy makers to establish better malaria education strategies. Also, this study showed the importance for the need of active involvement of health care workers to impart proper knowledge so as to sensitize and inculcate the correct knowledge, attitude and practices to the people in the community and increase their abilities to prevent and treat the disease.

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