Original Research Article

A study on knowledge attitudes and practices on mal aria among tribal communities of East Godavari district, Andhra Pradesh

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ABSTRACT

Background: Malaria is one of the world's important parasitic diseases ever known to mankind. The global toll of malaria in 2010 there were an estimated 216 million cases of malaria worldwide. India is predominantly characterized by unstable malaria transmission. In Andhra Pradesh among five endemic districts East Godavari is one. We made an attempt to report knowledge and practices on malaria regarding its causation, transmission, symptoms, diagnosis, treatment and prevention.

Methods: Using a systematic random method a total of 1136 participants were interviewed in four tribal P.H.C areas of East Godavari district. P.H.C's was identified by using a multistage random method. A semi-structured questionnaire which consists questions on malaria causation, transmission, symptoms, diagnosis, treatment and prevention were used as a tool to interview them. Data were entered into excel sheets and analysed by giving scorings and its categorization as good, average and poor.

Results: Knowledge among study participants on Cause, diagnosis and treatment of malaria 41.67%, man mosquito contact among study participants- 22.53%. Attitude among study participants regarding cause, diagnosis and treatment of malaria 56.22%, mosquito breeding places 45.77%, prevention of man mosquito contact 46.71%. Practices among study participants on preventive practices on cause, diagnosis and treatment 49.56%, prevention of mosquito breeding places and man mosquito contact- 42.54%.

Conclusions: In our study we found more knowledge regarding cause, diagnosis and treatment of malaria. Attitudes for prevention of mosquito breeding places are quite high. Less than half of the preventive practices were reported.

Keywords: Malaria, Mosquitoes, Knowledge, Attitudes, Practices, DDT, IRS, LLINs, ITNs

INTRODUCTION

Malaria is one of the world's important parasitic diseases ever known to mankind. Scientific studies on malaria made their first significant advance in 1880, The term malaria originates from Medieval Italian: "mala aria"— "bad air" and the disease was formerly called "ague" or "marsh fever" due to its association with swamps and marshland.[1] Sir Ronald Ross working in the Presidency General Hospital in Calcutta who finally proved in 1898 that malaria is transmitted by mosquitoes. After thousands of years, it still remains the world's most parasitic infection, affecting at least 100 different

countries and about 2 billion people i.e. about 40% of world's population.[2]

The global toll of malaria in 2010 was an estimated 216 million cases of malaria worldwide. Of this 81% was in African region, 13% in SEAR and 5% in Eastern Mediterranean. Deaths due to malaria were 6.5 lacs. Higher malaria prevalence has been reported among ethnic and tribal groups living in remote forest and border areas as well as among mobile and migrant population.[3] India is predominantly characterized by unstable malaria transmission. In India about 27% population lives in high malaria transmission areas (>1 case/1000 population), 58% in low transmission areas (0-1 case/ 1000 population). Much of their areas are remote and inaccessible forest fringed with operational difficulties and predominantly inhabited by tribal population.[4] According to 2001 census the tribal population in India accounts for 8% of the total population but contributes to 30% of total malaria cases.[5]

The state Andhra Pradesh has 23 districts with a population of 76.21 million. For additional inputs to intensify malaria control activities, five endemic districts namely Srikakulam, Vizianagaram, Visakhapatnam, East Godavari and Khammam have been included under World Bank assisted National Vector Borne disease support project. Total cases reported during 2010 in the state 5193.[6] There is a need to know the existing knowledge and attitudes of population regarding malaria as a disease, its treatment and control. Hence the present study was undertaken as an attempt to understand the community perspectives knowledge attitudes and practices in the tribal areas of East Godavari district.

Objectives

- To assess the level of knowledge among tribal people regarding malaria disease.
- To assess the attitudes of the tribal people towards malaria disease.
- To assess the practices adopted by the tribal people in relation to malaria disease.

METHODS

A cross sectional study was undertaken from tribal areas of East Godavari district for a period of two year i.e. November 2011 to November 2013. Rampachodavaram is the headquarter of tribal area where ITDA is located. All these areas are difficult to reach. Most of the villages are surrounded by fields and dense forest. More often we need to walk long distance to reach the villages.

Sample size is calculated by using the following formula $n= 4pq/d^2$ as this is a qualitative study. P=28% (Sharma et al and pilot study), Q=100-P=(100-28)=72.[7] D=allowable error of prevalence = 10% of 28= 2.8. The sample size is 1028. The sample size is adjusted by adding 10% of non-response rate and it is evenly distributed in the selected study areas. Hence the total

size of the sample is 1136. Sampling method multistage random sampling method has been used to identify the study subjects. In stage-1 all the 18 PHC's in tribal area were arranged alphabetically. 4 PHC's were selected by simple random method each representing the 4 directions. The selected PHC's are as follows. Zaddangi- East, Devipatnam- West, Duppulapalem- North and Narasapuram- South. In the second Stage all the sub-centers in each of the PHC's were arranged alphabetically. 4 sub-centers from each PHC were then selected randomly. In Stage-3 all the villages were listed in each of the sub-centers and one village was selected randomly. Sample size is equally divided among the selected PHC's (284) and similarly the sample is also equally divided among the selected villages in each sub-center (71). Thus a total of 1136 subjects were selected from all the 16 villages. Stage-4 Study subjects were selected by systematic random sampling method.

Inclusion criteria

Information is collected from Head of the house hold, if not, from any member in the house present at the time of the visit. Age between 18-60 yrs at the time of survey. Living in the selected village for at least 6 months. Voluntarily agreeing to participate in the study. Being a member of household.

Exclusion criteria

Who are not tribal's. Who do not agree to participate. People who have deaf and dumb and mental health problem. Who are residing less than 6 months. Data was collected using a pre-tested, questionnaire consisting of both open ended and closed ended questions on causation, identification, mode of transmission, breeding habits, prevention and control.

Data analysis

All the data were entered into Excel sheet and analyzed by using SPSS software version 17. Descriptive statistics such as percentage, mean, standard deviation and range was used for analyzing general characteristics of the respondents. Test of significance will be used as and when required to assess the strength of association between independent and dependent variables.

RESULTS

Scoring of knowledge of study respondents on cause, diagnosis and treatment of malaria

There are 14 questions regarding knowledge which have been administered to all the study participants. They were categorized into correct answers and wrong answers. 80% of the study respondents were able to answer questions related to knowledge on cause, diagnosis and treatment as compared to 20% who could not (Table 1). The total scores for all correct answers and all wrong answers are been computed along with cumulative frequency in all

the 14 questions. The cumulative scores have been divided into 4 classes and were categorized as poor, average, good and excellent. Each of this categories were identified by class intervals and the nearest cumulative score to the class interval were taken for the categorization. That is 12809/4=3202 which is nearest to the question number 4. The scores have been tabulated as follows (Table 3). Those who have not answered any question correctly 234 (20.59%). Among those who have given correct answers 232 (20.15%) members have been able to answer at least 4 questions correctly. 241 (17.6%) of them have been able to answer 7 questions correctly that is 50% of the cumulative score. 200 (21.21%) of them have been able to answer 11 questions correctly that is 75% of the cumulative score and 229 (20.42%) persons have been able to answer 14 questions correctly. Overall knowledge among study participants- 41.67% (Figure 1), (good/excellent knowledge as compared to 37.76% of the study population who seem to have poor/average knowledge). And another 20.59% who have no knowledge.

Table 1: Scoring of knowledge of study respondents on cause, diagnosis and treatment of malaria.

S. No	Knowledge questions	Correct answer (n) (%)	Wrong answer (n) (%)	Cumulative frequency for correct answer
1.	Have you heard of malaria	1136	0	1136
2.	How is malaria caused (mosquito)	753	383	1889
3.	Who will get malaria	224	912	2113
4.	Can children <5 yrs get malaria	1136	0	3249
5.	Can school children get malaria	1136	0	4385
6.	Can pregnant mother get malaria	1136	0	5521
7.	Is malaria contagious	1101	35	6622
8.	How do you know that the person is affected with malaria? symptoms----fever and chills	1128	8	7750
9.	Why stenciling done on your wall	559	577	8309
10.	How will you confirm that the person is having malaria?(blood test)	1120	16	9429
11.	Who will confirm the presence of malaria	789	347	10218
12.	Is there treatment for malaria	1133	3	11351
13.	Who will give you the treatment	470	666	11821
14.	How many days you took treatment	988	148	12809
	Total (16011)	12809 (80)	3202 (19.99)	

Table 2: Scoring of knowledge of study respondents regarding prevention of man mosquito contact.

S. No	Knowledge	Correct answer (%)	Wrong answer (%)	Cumulative frequency for correct answer
1.	What are the sources of mosquito breeding	242	894	242
2.	Do you know that mosquito breeds in small water pits	1071	65	1313
3.	Will rain water collection breed mosquitoes	1109	27	2422
4.	Do you store water with lid	1129	7	3551
5.	How frequently do you change the water? Every day/once in 2 days/more than a week	1131	5	4682
6.	Where do you sleep during day	479	657	5161
7.	Where do you sleep during night	714	422	5875
8.	Are all mosquitoes same? Yes/no	299	837	6174
9.	What time does the mosquitoes bite	672	464	6846
10.	How will you prevent man-mosquito contact	722	414	7568
11.	How will you prevent mosquitoes from entering the house	0	1136	7568
12.	What measures you take to prevent mosquito bite at work	0	1136	7568
13.	Are you aware of personal protective measures	436	700	8004
	Total (14768)	8004 (54.19)	6764 (45.8)	

Table 3: Cumulative scores with their categorization on knowledge.

Knowledge scores categorization	1. Cause diagnosis and treatment	1. n=902 (%) (79.4%)	2. Man mosquito contact prevention (%)	2. n=616 (%) (54.22%)
75-100% (excellent)	9430-12809	229 (20.42)	6175-8004	141 (12.41)
50-74% (good)	6623-9429	200 (21.21)	4683-6174	115 (10.12)
25-49% (average)	3250-6622	241 (17.6)	2423-4682	174 (15.31)
<=25% (poor)	3249	232 (20.15)	2422	186 (16.37)

Table 4: Scoring of the attitudes of the respondents regarding cause, diagnosis and treatment of malaria.

S. No	Attitude questions	Correct attitude (%)	Wrong attitude (%)	Cumulative frequency for correct attitude
1.	Is this is serious disease	1095	41	1095
2.	Can we do anything about preventing cause	1073	63	2168
3.	Can we stop the transmission from one person to another	1049	87	3217
4.	Will you inform the health worker	1122	14	4339
5.	Will you give a blood smear	1122	14	5461
6	Will you take the drugs	1122	14	6583
7.	Will you use mosquito net, jet/ repellent	1113	23	7696
8.	MPW-M confirms the presence of malaria	1080	56	8776
9.	Malaria can be cured would you like to take treatment from TH/MPW/MO/RMP	9	1127	8785
10.	Will take treatment till the symptoms subside from TH	0	1136	8785
11.	Will take the complete course of treatment	1130	3	9915
12.	Will approach TH for relief	3	1133	9918
	Total (13629)	9918 (72.77)	3711 (27.22)	

Table 5: Scoring of attitudes of the study respondents regarding mosquito breeding places.

S. No	Attitude	Correct attitude (%)	Wrong attitude (%)	Cumulative frequency for correct attitude
1.	Would you like to prevent the sources of mosquito breeding	1124	12	1124
2.	If the health worker identifies breeding places will you follow minor engineering measures	1127	9	2251
3.	Small pits should be closed from time to time	1091	45	3342
4.	Rain water collection should be drained	1127	9	4469
5.	Will cover the stored water with lid	1120	16	5589
6.	Will change water every day	1121	15	6710
7.	Will sleep inside the house to prevent mosquito bites	903	233	7613
8.	Applying mosquito repellant oils and cream will prevent mosquito bite	514	622	8127
9.	Will take blanket along with me for covering myself during sleep	1109	27	9236
10.	If stenciling not made on the house I approach the health worker	1074	62	10310
	Total (11360)	10310 (90.75)	1050 (9.24)	

Scoring of knowledge of study respondents regarding prevention of man mosquito contact

There are 13 questions regarding knowledge on man mosquito contact which have been administered to all the study participants. They were categorized into correct answers and wrong answers. 54.19% of the study respondents were able to answer questions related to prevention of man mosquito contact as compared to 45.8% who could not answer (Table 2). The total scores for all correct answers and all wrong answer are been computed along with cumulative frequency with all the 13 questions. The cumulative scores have been divided into 4 classes and were categorized as poor average good

and excellent. Each of these categories were identified by class intervals and the nearest cumulative score to the class interval were taken for the categorization. That is 8004/4=2422 which is nearest to the question number 3. The scores have been tabulated as follows (Table 3). Those who have not answered any question correctly 520 (45.77%). Among those who have given correct answers 186 (16.37%) members have been able to answer at least 3 questions correctly. 174 (15.31%) of them have been able to answer 5 questions correctly that is 50% of the cumulative score. 115(10.12%) of them have been able to answer 8 questions correctly that is 75% of the cumulative score. And 141 (12.41%) persons have been able to answer 13 questions correctly. Overall knowledge on man mosquito contact among study participants- 22.53% (Figure 1), (good/excellent knowledge as compared to 31.69% of the study population who seem to have poor/average knowledge). And another 45.77% have no knowledge about prevention of man mosquito contact.

Table 6: Scoring of the attitudes of the respondents regarding prevention of man mosquito contact.

S. No	Attitude	Correct attitude (%)	Wrong attitude (%)	Cumulative frequency for correct attitude
1.	Man mosquito contact can be prevented	1054	82	1054
2.	Will arrange to screen doors and windows	611	525	1665
3.	Use of coils and mats will prevent man mosquito contact	433	703	2098
4.	Will use mosquito net every day	871	265	2969
5.	Have you sold mosquito net	1133	3	4102
6.	Use of coils and mats will prevent man mosquito contact	433	703	4535
7.	I will permit indoor residual spray	896	240	5431
8.	Indoor residual spraying prevent man mosquito contact	1136	0	6567
9.	I don't like indoor residual spraying	1133	3	7700
	Total (10224)	7700 (75.31)	2524 (24.68)	

Table 7: Cumulative scores with their categorization on attitudes.

Attitudes scores Categorization	1. Cause diagnosis and treatment	1. n=827 (72.79%) (%)	2. Mosquito breeding places	2. n=1031 (90.75%) (%)	3. Prevention of man mosquito contact	3. n=856 (75.35%) (%)
75-100% (excellent)	7697-9915	185 (22.37)	7614-10310	270 (26.18)	5432-7700	252 (29.43)
50-74% (good)	4340-7696	280 (33.85)	5590-7613	202 (19.59)	4103-5431	148 (17.28)
25-49% (average)	2169-4339	181 (21.88)	2252-5589	334 (32.29)	2099-4102	223 (26.05)
≤25% (poor)	2168	181 (21.88)	2251	225 (21.82)	2098	233 (27.21)

Table 8: Scoring of the practices of the respondents regarding prevention on cause, diagnosis, treatment of malaria.

S. No	Practice	Correct answer (%)	Wrong answer (%)	Cumulative frequency for correct answer
1.	We see every patient who got fever has taken treatment A/S/N	1057	79	1057
2.	Measures taken to prevent the spread A/S/N.	668	468	1725
3.	Informed health worker.	328	808	2053
4.	Given blood smear.	328	805	2381
5.	Taken the drugs.	328	808	2709
6.	Used mosquito net, jet, repellant.	331	805	3040
7.	Have contacted MPW (M) for taking smear.	1026	110	4066
	Total (6949)	4066 (58.51)	3883 (55.87)	

Scoring of the attitude of the respondents regarding cause, diagnosis and treatment of malaria

There are 12 questions regarding attitude on cause, diagnosis and treatment which have been administered to all the study participants. They were categorized into correct answers and wrong answers.72.77% of the study respondents were able to answer questions related to attitude on cause, diagnosis and treatment of malaria as compared to 27.22% who could not answer (Table 4). The total scores for all correct answers and all wrong answers are been computed along with cumulative

frequency with all the 12 questions. The cumulative scores have been divided into 4 classes and were categorized as poor, average, good and excellent. Each of this categories were identified by class intervals and the nearest cumulative score to the class interval were taken for the categorization. That is 9918/4=2168 which is nearest to the question number 2. The scores have been tabulated as follows (Table 7). Those who have not answered any question correctly 309 (27.20%). Among those who have given correct answers 181 (21.88%) members have been able to answer at least 2 questions correctly. 181 (21.88%) of them have been able to answer 4 questions correctly that is 50% of the cumulative score. 280 (33.85%) of them have been able to answer 7 questions correctly that is 75% of the cumulative score. And 185 (22.37%) persons have been able to answer 12 questions correctly. Overall attitude among study participants regarding cause, diagnosis and treatment of malaria - 56.22% (Figure 1), (good/excellent attitude as compared to 43.76% of the study population who seem to have poor/average attitude). And another 27.2% who have no attitude.
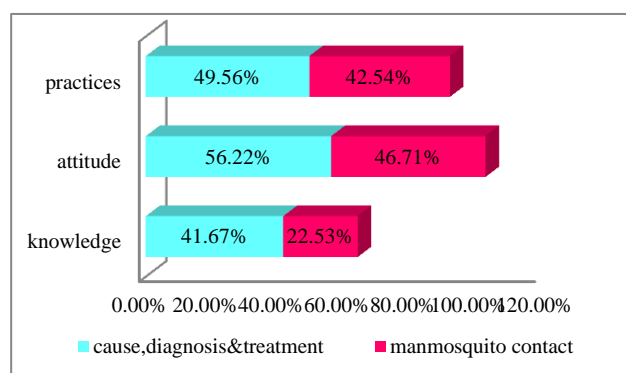

Figure 1: Total summary of the study.

Scoring of attitude of the study respondents regarding mosquito breeding places

There are 10 questions regarding attitude on prevention of mosquito breeding places, which have been administered to all the study participants. They were categorized into correct answers and wrong answers. 90.75% of the study respondents have attitude on prevention of mosquito breeding of malaria as compared to 9.24% who do not have attitude (Table 5). The total scores for all correct answers and all wrong answers are been computed along with cumulative frequency with all the 10 questions. The cumulative scores have been divided into 4 classes and were categorized as poor average good and excellent. Each of these categories were identified by class intervals and the nearest cumulative score to the class interval were taken for the categorization. That is 10310/4=2251 which is nearest to the question number 2. The scores have been tabulated as follows (Table 7). Those who have not answered any question correctly 105 (9.25%). Among those who have given correct answers 225 (21.82%) members have been

able to answer at least 2 questions correctly. 334 (32.29%) of them have been able to answer 5 questions correctly that is 50% of the cumulative score. 202 (19.59%) of them have been able to answer 7 questions correctly that is 75% of the cumulative score. and 270 (26.18%) persons have been able to answer 10 questions correctly. Overall attitude among study participants on prevention of mosquito breeding places- 45.77% (Figure 1), (good/excellent attitude as compared to 54.11% of the study population who seem to have poor/average attitude). And another 9.25% who have no attitude for prevention of mosquito breeding places.

Scoring of the attitudes of the respondents regarding prevention of man mosquito contact

There are 9 questions regarding attitude on prevention of man mosquito contact. Which have been administered to all the study participants? They were categorized into correct answers and wrong answers. 75.31% of the study respondents have attitude on prevention of man mosquito contact of malaria as compared to 24.68% who do not have attitude (Table 6). The total scores for all correct answers and all wrong answers are been computed along with cumulative frequency with all the 9 questions. The cumulative scores have been divided into 4 classes and were categorized as poor, average, good and excellent. Each of this categories were identified by class intervals and the nearest cumulative score to the class interval were taken for the categorization. That is 7700/4=2098 which is nearest to the question number 3. The scores have been tabulated as follows (Table 7). Those who have not answered any question correctly 280 (24.64%). Among those who have given correct answers 233 (27.21%) members have been able to answer at least 3 questions correctly. 223 (26.05%) of them have been able to answer 5 questions correctly that is 50% of the cumulative score. 148 (17.28%) of them have been able to answer 7 questions correctly that is 75% of the cumulative score and 252 (29.43%) persons have been able to answer 9 questions correctly. Overall attitude among study participants-46.71% (Figure 1), (good/excellent attitude as compared to 53.26% of the study population who seem to have poor/average attitude). And another 24.64% of have no attitude for prevention of man mosquito contact.

Scoring of the practices of the respondents regarding prevention on cause, diagnosis and treatment of malaria

There are 7 questions regarding practices on cause, diagnosis and treatment of malaria. Which have been administered to the entire study participant's. They were categorized into correct answers and wrong answers. 58.51% of the study respondents have been practicing correctly on cause, diagnosis and treatment of malaria as compared to 55.87% who do not practice correctly (Table 8). The total scores for all correct answers and all wrong answers are been computed along with cumulative frequency with all the 7 questions. The cumulative scores

have been divided into 4 classes and were categorized as poor average good and excellent. Each of these categories were identified by class intervals and the nearest cumulative score to the class interval were taken for the categorization. That is 4066/4=1057 which is nearest to the question number 1. The scores have been tabulated as follows (Table 10). Those who have not answered any question correctly 555 (48.86%). Among those who have given correct answers 151 (25.98%) members have been able to answer at least 1 question correctly. 142 (24.44%) of them have been able to answer 3 questions correctly

that is 50% of the cumulative score. 141 (24.26%) of them have been able to answer 6 questions correctly that is 75% of the cumulative score and 147 (25.3%) persons have been able to answer 7 questions correctly. Overall practices among study participants on cause, diagnosis and treatment- 49.56% (Figure 1), (good/excellent practices as compared to 50.42% of the study population who seem to have poor/average practices). And another 48.85% are not practicing anything related to cause diagnosis and treatment.

Table 9: Scoring of practices of respondents on mosquito breeding and man mosquito contact.

S. No	Practices	Correct practice (%)	Wrong practice (%)	Cumulative frequency for correct practice
1.	Leveling, filling, cleaning the drain	122	1014	122
2.	Whether they have taken steps to prevent source of mosquito breeding.	174	962	296
3.	Bush cutting if done A/S/N	254	882	550
4.	Discarding of broken pots. A/S/N	181	864	731
5.	Pots are maintained dry. A/S/N	198	938	929
6.	Coconut shells kept dry. A/S/N	245	891	1174
7.	Lid is placed on water container. A/S/N	446	690	1620
8.	Contacting health worker. A/S/N	146	990	1766
9.	Complain to the health supervisor /village elder if stencil is not done. A/S/N	36	1100	1802
10	Lid placed on containers A/S/N	572	564	2374
11.	Will use mosquito net	0	1136	2374
12.	Will allow IRS to be done	446	690	2820
	Total (13541)	2820 (20.82)	10721 (79.17)	

Table 10: Cumulative scores with their categorization on practices.

Practices scores categorization	1. Cumulative score on cause diagnosis and treatment	1. n=581 (51.14%) (%)	2. Cumulative score prevention of man mosquito contact	2. n=235 (20.68%) (%)
75-100% (excellent)	3041-4066	147 (25.30)	2375-2820	37 (15.74)
50-74% (good)	2054-3040	141 (24.26)	1621-2374	63 (26.80)
25-49% (average)	1058-2053	142 (24.44)	732-1620	74 (31.48)
≤25% (poor)	1057	151 (25.98)	731	61 (25.95)

Scoring of practices of respondents on mosquito breeding and man mosquito contact

There are 12 questions regarding practices on prevention of man mosquito contact and mosquito breeding of the malaria which have been administered to the entire study participant's. They were categorized into correct answers and wrong answers. 20.82% of the study respondents have been practicing correctly on prevention of man mosquito contact and mosquito breeding places of the malaria as compared to 79.17% who do not practice correctly (Table 9)**.** The total scores for all correct answers and all wrong answers are been computed along with cumulative frequency with all the 12 questions. The cumulative scores have been divided into 4 classes and

were categorized as poor, average, good and excellent. Each of these categories were identified by class intervals and the nearest cumulative score to the class interval were taken for the categorization. That is 2820/4=731 which is nearest to the question number 4. The scores have been tabulated as follows (Table 10). Those who have not answered any question correctly 901 (79.32%). Among those who have given correct answers 61 (25.95%) members have been able to answer at least 4 questions correctly. 74 (31.48%) of them have been able to answer 7 questions correctly that is 50% of the cumulative score. 63 (26.8%) of them have been able to answer 10 questions correctly that is 75% of the cumulative score and 37 (15.74%) persons have been able to answer 12 questions correctly. Overall practices

among study participants towards prevention of mosquito breeding places and man mosquito contact- 42.54% (Figure 1), (good/excellent practices as compared to 57.43% of the study population who seem to have poor/average practices). And another 79.32% who do not practice actions related to mosquito breeding and man mosquito contact.

DISCUSSION

In our study as in total we found knowledge on cause, diagnosis and treatment 41.67% and man mosquito contact 22.53%. Abate et al found in their study 85.2% knew cause of malaria as a mosquito bite, 83.8% mosquito's bite at night time, and 91.6% knew mosquitoes breed in stagnant water which shows better results than our study.[8] Thanabousyudy et al reported in their study 59.1% of respondents had good knowledge which shows better results than our study. In our study we found attitudes on cause, diagnosis and treatment 56.22%, man mosquito contact and mosquito breeding places 45.77%. Thanabousyudy et al reported in their study 33.2% had good attitude which shows less results than our study.[9] In our study we found practices on cause, diagnosis and treatment 49.56% and mosquito breeding places Andman mosquito breeding places 42.54%. Adedotun et al found in their study preventive measures used against malaria included herbs 44.3%, drugs 26.6%, insecticides 79.7%, repellents 4.7%, mosquito coils 14.1%, bed nets 18.2%. No preventive measures were used in 3.1% which shows similar results to our study.[10] Thanabousyudy et al reported in their study only 5.7% had good practice towards malaria which shows fewer results than our study.

CONCLUSION

Knowledge on cause, diagnosis and treatment of malaria 41.67% and prevention of man mosquito contact 22.53%. Attitude on cause, diagnosis and treatment of malaria 56.22%, prevention of mosquito breeding places 45.77% and prevention of man mosquito contact 46.71%. Practices on prevention of cause, diagnosis and treatment of malaria 49.56% and prevention of mosquito breeding places and man mosquito contact 42.54%.

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