

MALARIA: AWARENESS & PRACTICES AMONG RURAL COMMUNITY, EAST GODAVARI DISTRICT, ANDHRAPRADESH.**K.Sowmyasudha¹, Sofia Noor², Alpha.V.P.Tej³, K.Satyanarayana⁴, S.Appala Naidu⁵**

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Abstract

Introduction: India is predominantly characterized by unstable malaria transmission. In Andhrapradesh among five Endemic Districts, East Godavari is one. We made an attempt to report knowledge & practices on malaria regarding its causation, transmission, symptoms, diagnosis, treatment and prevention. **Materials & Methods:** This study was done in a rural village of Gollala.Mamidada for a period of six months. Using a simple random method a total of 200 houses was selected. Head of the household were interviewed, by using a Semi-structured questionnaire which consist questions regarding malaria causation, transmission, symptoms, diagnosis, treatment and prevention. Data were entered into excel sheets and analysed by using spss software. **Results:** Among the study participants majority were in the age group of 36 to 40 yrs. 73% have sanitary facilities in their house.68.5% have stagnated water around their house. All the study participants heard about the disease. 31.5% of the study participants obtained information regarding the disease malaria via TV & radio channels.82.5% of the participants has mosquito breeding places around their house. Ill maintained drainages were the major type of mosquito breeding places in 42.5%. 66.5% knows malaria is transmitted by Mosquitoes bite. 33.5% do not know the symptoms of Malaria. 39.5% know Malaria can be diagnosed by blood tests. 33.4% know common medicines used in Malaria.49% were using coils to protect from Mosquito bites. 40% do not know the commonly used insecticides. 97% didn't accept IRS to their houses. **Conclusion:** Good knowledge found in causation& transmission of malaria. Majority of them do not know the disease symptoms, diagnosis, commonly used medicines, insecticides for prevention and control of malaria. Poor utilization of IRS, bed nets& other protective preventive measures was noticed in this study.

Key-words: Malaria, Mosquitoes, DDT-dichloro diphenyl trichloro ethane,IRS- indoor residual sprpay, LLIN'S- long lasting insecticide treated bed nets.

Changes in placement and structure of human habitations as well as changes in behavior may reduce human-vector contact (WHO 1982). "The very problem of survival in India seems to be that of malaria."– Brigadier Sinton 1930.

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. Since then, despite enormous effort in finance, manpower and others resources to combat the disease, it is still a serious problem¹.

The global toll of malaria in 2010 there were an estimated 216 million cases of malaria worldwide. In this 81% were in African region, followed by 13% in SEAR and 5% East Mediterranean. Deaths due to malaria were 6,55,000².

India is predominantly characterized by unstable malaria transmission. Transmission is seasonal with increased intensity to rains. Government of India is working on the

control of mosquito transmitted diseases. The National Malaria Control Programme was launched in 1952 and it has been renamed as National Vector Borne Disease Control Programme in 2003.there is 6 primary vectors of malaria in India- Anopheles.culicifacies, An.stephensi, An.fluviatilis, An.minimus, An.dirus, An.epirotics.

In India about 27% population lives in malaria high transmission(>1 case/1000 population) areas and about 58% in low transmission (0-1 case/1000 population) areas. About 92% of malaria cases and 97% of deaths due to malaria is reported from North-Eastern states- Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Andhrapradesh, Maharashtra, Gujarat, Rajasthan, West Bengal and Karnataka³.

In Andhrapradesh 5 Endemic District namely Srikakulam, Vizianagaram, Visakhapatnam, East Godavari and Khammam. In this East Godavari District contributes to 5193 cases during 2010. Our Millennium development goal 6, target 7 denotes that malaria has to be halt by 2015. But still the situation is fluctuating⁴.

The report of scientific study on perception of the community about cause, transmission, timely detection, treatment and control of the disease in this district is not readily available. In view of this the present community based study on rural population was carried out to document their knowledge and practices regarding malaria and its control.

Objectives: To assess the knowledge on malaria causation & transmission & To assess the practices on prevention and control of malaria.

Material & Methods

A cross-sectional study was done in rural field practicing area of Rangaraya Medical College, Kakinada among rural population residing in Gollala Mamidada village, in the age group of 18-60 yrs, for a period of six months starting from May to October 2012. A total of 200 houses were selected by using a simple random method⁵, in each house the head of the family member were interviewed. If the head of the house is not available at the time of my visit, the next elder person was interviewed. Ethical clearance was obtained from concerned authority i.e. ethical committee from Rangaraya Medical College, Kakinada to conduct this study. We excluded uncooperative and non-responding participants from the study in the beginning itself and continued till we reach our desired sample. After obtaining verbal consent from the participants they were interviewed by using a pre-tested, semi-structured questionnaire which consist questions regarding malaria causation, transmission, symptoms, diagnosis, treatment, prevention and control measures. All the data were entered in excel sheets & analyzed by using SPSS software version 17. Results of the study were displayed in terms of means, percentage, and pie diagram & bar diagrams. The association between the two variables was checked by applying statistical test i.e chi-square test.

Results

Socio-demographic profile-

Table-1 shows the socio-demographic profile of study participants i.e among the study participants majority were in the age group of 36 to 40 yrs. Mean age of the participants 37.3 yrs. Participants gender was distributed as 33% were males & 67% were females. 76% belongs to the religion of Hindus. 55.5% were illiterates & 47% belongs to daily laborers. 41.5% were residing in semi-pucca type of house, 73% have sanitary facilities in their house & 68.5% have stagnated water around their house.

Table-1: Socio-Demographic Profile of study participants

Particulars	Percentage
AGE GROUP	
18-25 yrs	7.20%
26-30 yrs	10%
31-35 yrs	37%
36-40 yrs	10%
41-45 yrs	8%
46-50 yrs	7.50%
51-55 yrs	10.30%
56-60 & >60 yrs	10%
GENDER	
Male	33%
Female	67%
RELIGION	
Hindus	76%
Muslims	9%
Christians	15%
EDUCATION	
Illiterates	55.50%
Primary school	12.50%
High school	13.80%
Intermediate	9.40%
Graduation	8.20%
Post graduation	0.60%
OCCUPATION	
Daily labourers	47%
Unskilled	14%
Semiskilled	15%
Skilled	19%
Clerical	5%
HOUSING	
Pucca	37%
Semi-pucca	41.50%
katcha	21.50%
Stagnation of water bodies	
Present	68.50%
Absent	31.50%
Sanitary facilities	
Present	73%
Absent	27%

Knowledge on malaria causation and transmission & symptoms-

All the study participants were heard about the disease Malaria. **Figure-1** shows source of information about the disease, in that the major source of information about malaria is through TV & radio in 31.5%, followed by community health workers in 19.5%, friends in 14%, health facilities in 12%, family members in 10% and

Table -2: Educational status vs knowledge on transmission of the disease

Education	Cold weather	Mosquito bites	Dirty water	Poor personal hygiene	Don't know	Total
illiterate	3	1	0	0	0	4(2%)
Primary school	56	41	24	6	6	133(66.5%)
High school	15	4	1	0	0	20(10%)
Intermediate	21	2	1	0	0	24(12%)
Graduation	15	2	2	0	0	19(9.5%)
Total	110 (55%)	50 (25%)	28 (14%)	6 (3%)	6 (3%)	200 (100%)

Figure-1: Source of information about the disease malaria-

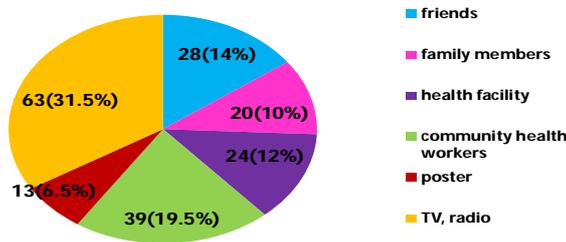


Figure-2: knowledge on Transmission of malaria

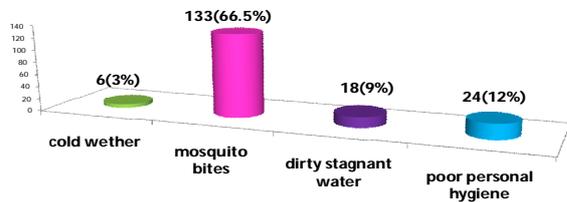
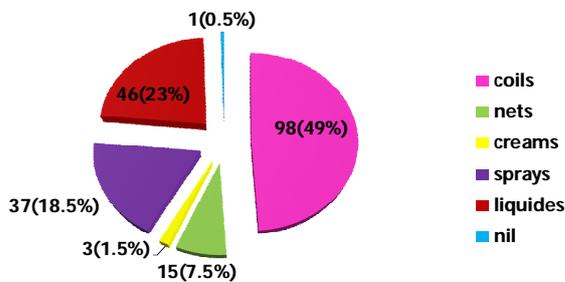


Figure-3 :Practices on protective preventive measure



posters in 6.5%. Majority 82.5% of the participants have mosquito breeding places around their house. Ill maintained drainages were the major type of mosquito breeding places in 42.5%, followed by open ditches in 30%, soakage pits in 14%, cess pools in 5%, septic tanks in 5%, and remaining 3.5% said they do not know about

Figure-4: association between educational status and knowledge on use of bed nets

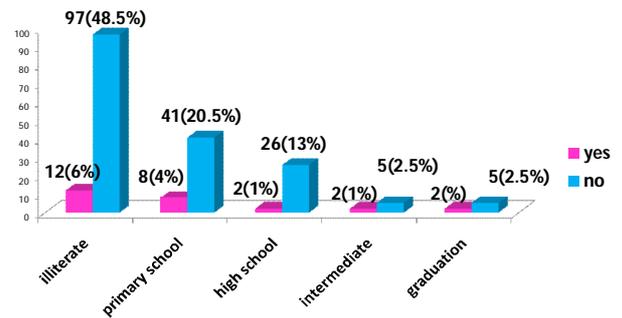
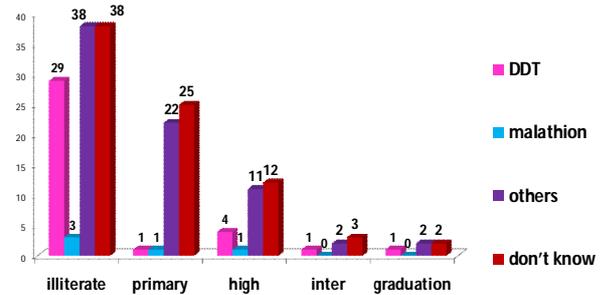


Figure-5: association between educational status and knowledge on insecticidal spray



mosquito breeding places. The association between educational status and knowledge on mosquito breeding places is significant $p < 0.01$. 66.5% know malaria is transmitted by Mosquitoes bite, were others said 3% due to cold weather, 9% due to dirty stagnant water and 12% due to poor personal hygiene (Figure-2). The association between educational status and knowledge on transmission of the disease is significant $p < 0.01$, (Table-2). 33.5% do not know the symptoms of Malaria, other responses we received as high temperature and chills in

49%, body ache and head ache in 15%, vomiting and loss of energy in 2.5 %.

Knowledge on diagnosis & treatment -

Only 39.5% know Malaria can be diagnosed by blood tests. 74.6% were attacked by malaria and treated in hospital. Only 49.5% know Malaria kills the affected person if it is untreated. 24% do not know free treatment availability in Government hospital. 55% had taken treatment within 24 hrs of the attack of malaria. Only 33.4% know common medicines used in Malaria i.e. Chloroquine, Quinine, Artemisinin group of drugs. The association between educational status and usage of medicine is significant $p < 0.01$. Regarding the role of Government In control of malaria 52% said diagnosis and treatment followed by 34% spraying, 7.5% anti larval measures, 3.5% supply of bed nets, and remaining 3% do not know the answer. 90% do not have regular health workers visit to their house for providing information on malaria and diagnosis of other fever cases.

Practices on prevention and control-

Nearly half of the participants i.e. 49% were using coils to protect from Mosquito bites, 23% were using liquid all outs followed by 18.5% sprays, 7.5% mosquito nets, 1.5% repellent creams, and remaining 0.5% were not using any preventive measure to protect them (**Figure-3**). Only 11.5% had Bed nets in their house. The association between educational status and knowledge on use of bed nets is significant $p < 0.01$, (**Figure-4**). 40% do not know the commonly used insecticides (DDT, Malathion, Permethrine). 97% didn't accept IRS to their house. The association between educational status and knowledge on insecticidal spray is significant $p < 0.01$, (**Figure-5**).

Discussion

In our study all the participants had heard about the disease & the source of information about malaria are through TV & radio in 31.5%. Andargie abate et al reported in their study all the respondents heard about malaria, which is similar to our study⁶. In our study 82.5% of the participants have mosquito breeding places around their house and ill maintained drainages are the major type of mosquito breeding places in 42.5%. Kaliya perumal karunamoorthi et al reported in their study 78.1% knew that stagnant water bodies are serving as mosquito breeding sites⁷, which is a more risky than our study. In our study 66.5% knows malaria is transmitted by Mosquitoes bite & 33.5% do not know the symptoms of Malaria. Bernard. A et al reported in their study 98% of the households knew malaria and it is transmitted by mosquitoes. 69% identified malaria symptoms including chills 67%, fever 58%, and headache 67%⁸, which shows their participants have better knowledge in malaria symptoms and about the disease malaria as comparatively our study. Ndour.CT et al also reported that fever was the most common symptom suggesting malaria in 61% of the

participants⁹, it shows the equal of slightly less knowledge than our study.

In our study 39.5% know Malaria can be diagnosed by blood tests. Laura tagliaferri et al reported in their study 44.7% knew that malaria can be definitely diagnosed by means of blood test which shows better response than our study¹⁰. In our study 74.6% were attacked by malaria and treated in hospital. Hans Habtai et al reported in their study 93.6% had fever in their life time & 92.8% had sought medical advice in different health services, as per getting of fever attack it shows bad response, but for getting of medical advice it shows the better response¹¹ than our study. In our study 55% had taken treatment within 24 hrs of the attack of malaria. Hlongwana.KW et al reported in their study 90% would take treatment within 24 hr on onset of malaria symptoms with health facilities which show a better finding than our study¹². In our study only 33.4% know common medicines used in Malaria, Ndour.CT et al reported that 46.1% of febrile cases, people did not seek treatment from a physician & Home treatment of febrile episodes was based on paracetamol or aspirin (84%), chloroquine (13%) and cotrimoxazole (2.9%) which has a bad response than our study. Eve Worralli suprotik basu and karahanson rural residents were more likely to use medicinal plants rather than chloroquine, 40% in rural and 10% in urban were more likely to burn leaves rather than use of coils or sprays¹³, their study participants going more of plant based treatment which is not a comparative finding to our study, our participants are going more of allopathy.

In our study 49% were using coils to protect from Mosquito bites, 23% were using liquid all outs followed by 18.5% sprays, 7.5% mosquito nets, 1.5% repellent creams, and remaining 0.5% were not using any preventive measure to protect them. Oreagba.AI et al reported in their study Malaria vector control were insecticide sprays, coils 46%, clearing of bushes 26.8% use of repellent creams 3.5%¹⁴ which is equal to our study. Adedoten et al reported that Preventive measures used against malaria included herbs 44.3%, drugs 26.6%, insecticides 79.7%, repellants 4.7%, mosquito coils 14.1%, bed nets 18.2% & No preventive measures were used in 3.1%¹⁵, which is less similar to our study.

In our study 11.5% had Bed nets in their houses. Johan paulander-henrik Olsson et al reported in their study 46.2% were using impregnated bed nets & 44% were using ITNs during rainy season and 18.2% all round the year¹⁶, which shows better practices than our study. Oreagba.AI et al reported in their study that 59.8% were aware of the use of insecticide treated bed nets. In our study 97% didn't accept IRS to their houses. Andargie abate et al reported in their study 70.4% houses are sprayed with DDT which is a better finding than our study. In our study 90% of the participants do not have regular health workers visit to their house, it is mandatory to have a regular/fortnightly visits of health workers for

prior diagnosis, treatment control and prevention of malaria cases.

Conclusions: Good knowledge found in causation & transmission of malaria. Majority of them do not know the disease symptoms, diagnosis, commonly used medicines, insecticides for prevention and control of malaria. None of them have regular health workers visits to their houses. Poor utilization of IRS, bed nets & other protective preventive measures was noticed in this study. More than half of the participants have mosquito breeding places around their house, in that ill maintained drainages are the major source.

Recommendations-

There is a need to improve the availability of information on malaria through proper communication channels via health services. Community participation to encourage preventive practices in the control of malaria. Stressing the importance of early diagnosis and treatment through health workers. Behavioral change communication for acceptance of IRS & LLINs. Regular health workers field visits to diagnose fever cases. Implementation of environmental mosquito control measures.

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