

Tribal Attitudes towards MALARIA in East Godavari District, Andhrapradesh.

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Abstract-

Introduction- Malaria is one of the world's important parasitic diseases. Malaria deaths reached 4,45,000 in 2016, a similar number (4,46,000) to 2015. During 2017 India contributes to 633,481 malaria cases and 103 deaths due to malaria. In Andhrapradesh among five Endemic Districts East Godavari is one. We made an attempt to report tribal attitudes towards malaria in this district.

Materials & Methods- Using a multistage random method a total of 1136 participants were interviewed from four tribal P.H.C areas of East Godavari District. Semi-structured questionnaires which consist questions on attitudes of malaria, were used as a tool to interview them. Data were entered into excel sheets and analysed by SPSS 17.

Results- Majority agreed malaria is a serious disease. 92% agreed to prevent the transmission, 96% agreed to clear small water collections, 49% agreed to pass information to health worker, 48% agreed to collect blood smear and to take treatment, 44% to take complete treatment. 52% still they are agreeing to take treatment from traditional healers, 44% agree to take treatment from health workers, 45% agreed to use personal protective measures, 96% agreed to use mosquito net, 99% agreed to spray IRS.

Conclusion- To come to a conclusion our tribal participants have good attitudes towards malaria disease prevention, but still some of them were approaching traditional healers to get treatment of malaria.

Key words- Malaria, Mosquitoes, Knowledge, Attitudes, Practices, DDT, IRS, LLINs, ITNs.

Introduction-

Malaria is a major public health problem in India though it is both a preventable and treatable disease. As per the WHO estimates 198 million cases of malaria occurred globally in 2013 (uncertain range 124-283million) and 5, 84,000 deaths. About 54 per cent of these cases were found in African countries¹. India contributes to 92 per cent of malaria cases and 97 per cent of malaria deaths reported from North-eastern states. In India, approximately 21.98% reside in high transmission areas, *i.e.* defined as more than one case per 1000 population. Much of these areas are remote and inaccessible, forest or forest fringed predominantly inhabited by tribal population².

Tribal population in India is mostly residing in areas which are remote and difficult to reach due to typical geographical situations usually due to forest, hills, valleys and perennial streams^{3,4}. The presence of various malaria parasites and vector species, climatic diversity favouring growth and proliferation of the parasite and vector as well as a highly susceptible human population have resulted in high malaria transmission in tribal areas^{3,5}. The utilization of health services is poor among them and they have their orthodox health beliefs. The objective of this study was to find out the attitudes of the tribal population in relation to malaria disease.

Objective-

1. To assess the attitudes of the tribal people towards malaria disease.
2. To compare the attitudes of tribal people in different P.H.C area.

Methodology-

A cross sectional study was done in Tribal areas of East Godavari District for a period of one year during November 2013. Sample size was calculated as 1136 by using the following formula $n = \frac{4pq}{d^2}$ ($P=28\%$, Sharma et al⁶ & pilot study). Using a Multistage random sampling method Four P.H.Cs were selected in four directions of tribal areas and the sample was distributed equally in all the PHCs then four sub centres & four villages were selected. Simple random method was used to identify the study subjects. Data was collected by using a pre-tested, semi-structured questionnaire consisting questions on attitudes in the aspect of causation, identification, mode of transmission, breeding habits, prevention and control. All the data were entered into Ex-cell sheet and analyzed by using SPSS software version 17.

Results-

Attitudes have been categorized in 5 point scale as strongly agree-4, agree-3, neutral-2, disagree-1, strongly disagree-0. None of the respondents opted for neutral and strongly disagree categories.

12.94% of the respondents strongly agree that malaria is a serious disease. As compared to 83.45% of the respondents who just agree malaria as a serious condition. Suggesting that the seriousness of the disease as a fatal condition is lost upon almost 87% of the study subjects. Nearly 10% in Narasapuram P.H.C disagree that malaria as a serious condition. Only 2.81% in Duppulapalem P.H.C strongly agree that malaria is a serious disease. 15.22% of the study respondents strongly agree that something can be done to prevent the cause of malaria. As compared to 5.28% who disagree on something can be done to prevent malaria. 22.53% of study respondents in Narasapuram P.H.C strongly agree that something can be done to

prevent the cause of malaria as compared 5.63% in Zaddangi P.H.C. Only 12.94% of the study respondents strongly agree to the idea we can stop transmission of malaria from person to person. As compared to 79.4% who simply agree that the transmission can be stopped. 7.65% of the study respondents do not believe that the transmission can be stopped. 11.97% of the respondents in Narasapuram P.H.C believe that the transmission can't be stopped as compared to 0.7% of study respondents in Duppulapalem P.H.C. 20.07% of the study respondents in Narasapuram P.H.C strongly agree that transmission from one person to another can be stopped as compared to 4.22% in Zaddangi P.H.C. 9.5% of the study respondents in Devipatnam disagree that transmission can be stopped as compared to 0.7% in Duppulapalem. 49.11% strongly agree that information should be passed on to the health worker in case somebody is affected in the family with malaria. 71.47% of the study respondents in Narasapuram strongly agree that information on malaria cases should be informed to the health worker as compared to 28.1% in Zaddangi P.H.C. 3.87% of the study respondents in Duppulapalem disagree information should be passed on to the health worker. 48.32% strongly agree that blood smear should be given in case of suspected malaria as compared to 1.23% who disagree. 70.77% of study respondents in Narasapuram P.H.C strongly agree that blood smear should be given in case of malaria as compared 27.11% in Zaddangi. 48.32% strongly agree that treatment should be taken in case of malaria. 3.87% of the study respondents living in Duppulapalem P.H.C disagree to take treatment in case of malaria. 49.97% strongly agree to use mosquito net during malaria as compared to 2.02% who disagree to use a net. 70.07% of respondents from Narasapuram P.H.C strongly agree to use a mosquito net as compared to 27.11% from Zaddangi P.H.C.

46.12% of the study respondents strongly agree that malaria should be confirmed by MPW-M. 15.14% in Duppulapalem P.H.C disagree that MPW-M should confirm the presence of malaria. 99.2% agreed to take treatment as compared to 0.79% who has disagreed. 52.02% of the respondents strongly agree to take relief from malaria by approaching a traditional healer. 79.92% in Narasapuram P.H.C strongly agree to approach the traditional healer for relief from malaria as compared to 30.28% in Zaddangi P.H.C. 44.63% of the study respondents strongly agree to take treatment from MPW and Traditional healer, there are no responses from the study population on neutral disagree and strongly disagree categorization. 66.19% of the study respondents in Narasapuram P.H.C strongly agree to take treatment from MPW and TH as compared to 29.57% in Zaddangi P.H.C.

44.54% of study respondents strongly agree to take complete course of the treatment. Only 29.57% of the study respondents from Zaddangi P.H.C strongly agree to take treatment as compared 66.66% in Narasapuram P.H.C. 99% of the study respondents agreed to implement minor engineering measures strongly to prevent mosquito breeding. Only <1% of the study respondents have disagreed to implement minor engineering measures. These respondents are distributed in Narasapuram and Devipatnam P.H.C's. 98.93% of the study respondents agree to prevent the sources of mosquito breeding as compared to 1.05% who have disagreed. 5.45% do not agree to approach the health worker for stenciling. 14.78% of the study respondents in Duppulapalem P.H.C do not agree to approach the health worker for stenciling as compared to 0.7% in Narasapuram P.H.C. 79% of the study respondents have shown inclination to sleep inside the house to prevent mosquito bites. The remaining 20%

have shown disinclination to sleep inside the house. 86.26% of the study respondents in Zaddangi have agree to sleep inside the house as compared to 54.57% in Duppulapalem PHC. 30% of study respondents in Duppulapalem have disagree to sleep inside house as compared to 9.5% in Zaddangi PHC.

45.24% of the study respondents have agreed to use personal protective measure as compared to 17.34% who have disagree and 37.4% of them showing neutral attitude towards use of personal protective measures. Suggesting that health education regarding use of personal protective measures is required in the tribal areas. 75% if the study population in Zaddangi PHC has shown inclination to use personal protective measures as compared to 17.95% in DuppulapalemPHC.38.38% of the study respondents in Narasapuram PHC have disagree to use personal protective measures as compared to 2.81% in Duppulapalem PHC. 79.22% of the study respondents in Duppulapalem PHC have shown a neutral attitude towards the use of personal protective measures which suggest that there is a scope for intervention in the form of education for use of personal protective measure. Chi square-478.607,d.f-9,p<0.001(table-1).More than 95% of the study respondents use a blanket during sleep in the forest.5.98% of the study respondents in Zaddangi PHC disagree to take a blanket for use in the forest for night stay as compared to 1.4% of the study respondents in Devipatnam PHC. Chi-196.252,d.f-6,p<0.001. More than 98% of the study respondents in all study PHC areas agree to use a lid to cover water.5.63% of study respondents in Zaddangi PHC disagree to use lid on water. Chi square-404.236,d.f-6,p<0.001(fig-1).

83% of the study respondents from all the study P.H.C areas agree and 16% of respondents strongly agree to clean the water containers daily. 2.1% of the study respondents in Zaddangi PHC disagree to clean water containers every day as compared 1.4% study respondents in Devipatnam PHC. Chi square-82.423,d.f-6,p<0.001.53.77% of the study respondents agree to have a screen fix to door compared to 22.62% who have disagreed to do so. 23.32% of the study respondents have a neutral attitude for fixing a screen to the door. Suggesting that there is potential for educating these people to fix screen to their doors to prevent man mosquito contact. 82.33% of the study respondents in Zaddangi PHC have agreed to have a screen for doors as compared to 17.95% in Duppulapalem. 48.83% of the study population in Narasapuram PHC disagrees to fix a screen to their doors as compared to 2.8% in Duppulapalem PHC. Chi square-813.641,d.f-12,p<0.001,(table-2).Majority (96%) of the study population from all P.H.C's has agreed to close small water collections as compared to 3.96% of those who do not agree.6.32% of the study respondents in Zaddangi PHC have disagree to close the pits. Chi square-80.972,d.f-6,p<0.001,(fig-2).More than 98% of the study respondents is agree to drain rain water collections in study PHC's. Chi square-109.763,d.f-6,p<0.001.

92.77% of the study respondents in all P.H.C's agreed man mosquito contact can be prevented as compared to 7.21% who have disagreed. 26.05% of respondents from Narasapuram P.H.C strongly agree as compared to none from Zaddangi P.H.C.38.1% of the study respondents have agreed to use mosquito coils to prevent man mosquito contact as compared 38.55% who have disagreed to use coils. 95.07% of the study respondents in Zaddangi PHC have agreed to use mosquito coils as compared to Narasapuram PHC. 100% of the study respondents in Narasapuram PHC disagreed to use coils (they are not aware of

existence of coils to use mosquito control), 46.12% in Devipatnam PHC, 4.92% in Duppulapalem PHC and 3.16% in Zaddangi PHC.

More than 96% have agreed to use mosquito net to prevent man mosquito contact in all the 4 study PHC's. 6.33% of the study respondents in Narasapuram PHC disagree to use mosquito net to prevent man mosquito contact. Chi square-185.125,d.f-6,p<0.001(fig-3).77% of the study respondents have agreed to use mosquito net every day as compared to 23% who disagree. 79.22% of the study respondents of Duppulapalem P.H.C disagree to use mosquito net as they have experienced rash while using a net suggesting that education on the use of net is must in DuppulapalemP.H.C.Chi square-678.34,d.f-6,p<0.001,(fig-4).68.3% of the study respondents have disagreed to selling their mosquito nets as compared to 31.69% who agreed to sell their nets. 79.57% of the study respondents in Narasapuram PHC have agreed to sell their nets as compared to 1.76% in Zaddangi PHC. Chi square-554.039,d.f-6,p<0.001,(fig-5).

The tribal's perceive/understand that indoor residual spray means spraying the outer walls of the house and their cattle shed and not inside their houses. The government does not have a policy of external residual spray and hence for all practical purposes IRS in tribal areas means spraying of residual insecticide on the external walls of their dwellings and the cattle sheds.99% agree to use IRS helps to prevent man mosquito contact. Suggesting that IRS use in tribal areas is not a problem as very few people have shown dis-interest in getting their houses sprayed. Chi square-289.692,d.f-3,p<0.001. 21.12% have refused permission to spray outside their houses as compared to 78.8% who have agreed to get external spraying of their dwellings.Suggests that an intensive educational campaign for spraying inside the houses has to be carried out persistently for a prolonged period of time to reduce the API of malaria from double digits to single digit to attain the goal under NAMP under NVBDCP. 72.18% of the population in Duppulapalem PHC has not agreed for external residual spray as compared to 100% of study respondents in Narasapuram agreed for external residual spray. Chi square-669.951,d.f-6,p<0.001.

Discussions-

In our study we found Majority of our participants agreed malaria is a serious disease.ChansamoneThanabouasyin his study reported 99% agreed malaria is a serious sometimes life threatening disease. ChansamoneThanabouasy reported in his study 97% agrees to have a blood test done when they suspect malaria. We reported it in 48%, showingless result than Chansamone study. Chansamone reported 93% agreed to take treatment during the attack of malaria, in ourstudy44% agree to take treatment from health workers and 52% still they are agreed to take treatment from traditional healers.In our study we reported 96% agreed to use mosquito net were as ChansamoneThanabouasy reported in his study 50% agreed to sleep inside mosquito net to prevent mosquito bites, in this aspect our study shows better results than Chansamone study⁷.

Conclusions-

Majority agreed malaria is a serious disease. 92% agreed to prevent the transmission, 96% agreed to clear small water collections, 49% agreed to pass information to health worker,

48% agreed to collect blood smear and to take treatment, 44% to take complete treatment. 52% still they are agree to take treatment from traditional healers, 44% agree to take treatment from health workers, 45% agreed to use personal protective measures, 96% agreed to use mosquito net, 99% agreed to spray IRS.

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Table-1: P.H.C wise distribution of attitude of study respondents regarding personal protection.

Attitude to Apply mosquito repellent oils and creams to prevent mosquito bite	P.H.C's				Total
	Narasapuram	Zaddangi	Duppulapalem	Devipatnam	
Strongly agree	20 (7.04%)	9 (3.16%)	0	11 (3.87%)	40 (3.52%)
Agree	63 (22.18%)	213 (75%)	51 (17.95%)	147 (51.76%)	474 (41.72%)
Neutral	92 (32.39%)	38 (13.38%)	225 (79.22%)	70 (24.64%)	425 (37.41%)
Disagree	109 (38.38%)	24 (8.45%)	8 (2.81%)	56 (19.71%)	197 (17.34%)
Total	284 (25%)	284 (25%)	284 (25%)	284 (25%)	1136 (100%)

Table- 2: P.H.C wise distribution of attitude of the study respondents to arrange screen to doors and windows

Will arrange screens to door and window.	P.H.C's				Total
	Narasapuram	Zaddangi	Duppulapalem	Devipatnam	
Strongly agree	30 (10.56%)	12 (4.22%)	0	21 (7.39%)	63 (5.54%)
Agree	119 (41.9%)	231 (81.33%)	51 (17.95%)	147 (51.76%)	548 (48.23%)
Neutral	0	5 (1.76%)	225 (79.22%)	35 (12.32%)	265 (23.32%)
Disagree	133 (46.83%)	36 (12.67%)	8 (2.81%)	80 (28.16%)	257 (22.62%)
Total	284 (25%)	284 (25%)	284 (25%)	284 (25%)	1136 (100%)

Figure-1:P.H.C wise distribution of attitude of study respondents Regarding coverage of stored water with lid.

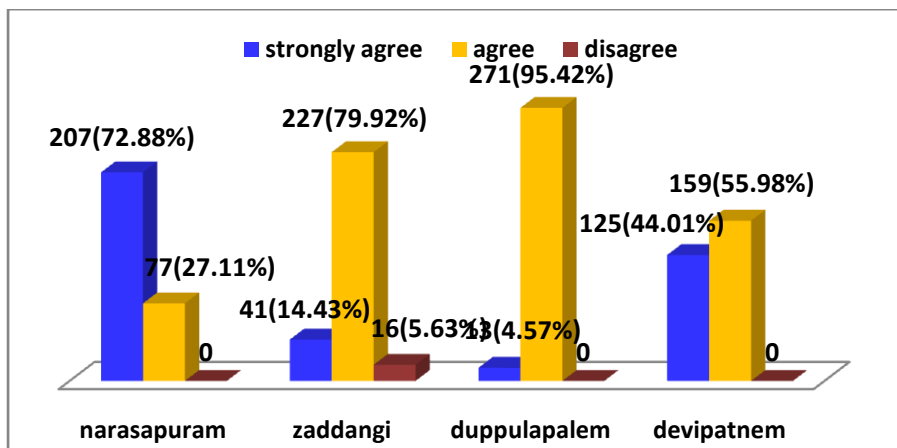


Figure-2:P.H.C wise distribution of attitude of the study respondents regarding clearing Pit water collections:

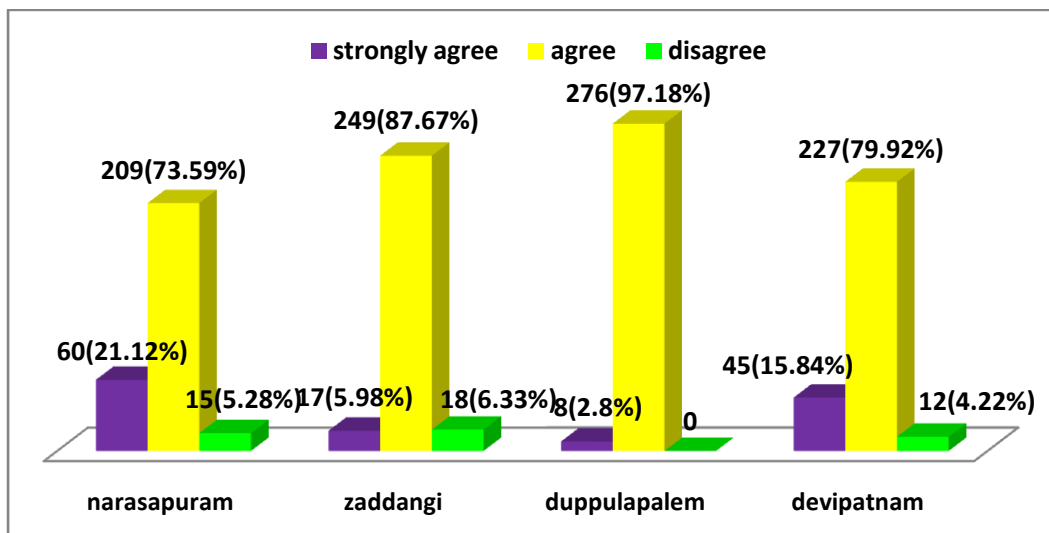


Figure-3:P.H.C wise distribution of attitude of the study respondents regarding use of mosquito net to prevent man mosquito contact:

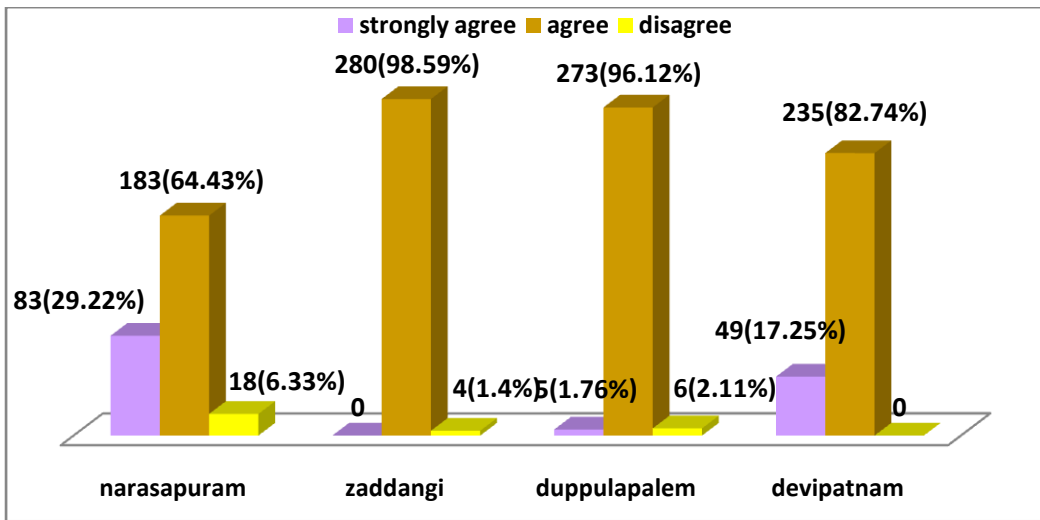


figure-4: P.H.C wise distribution of attitude of the study respondents to use mosquito net every day.

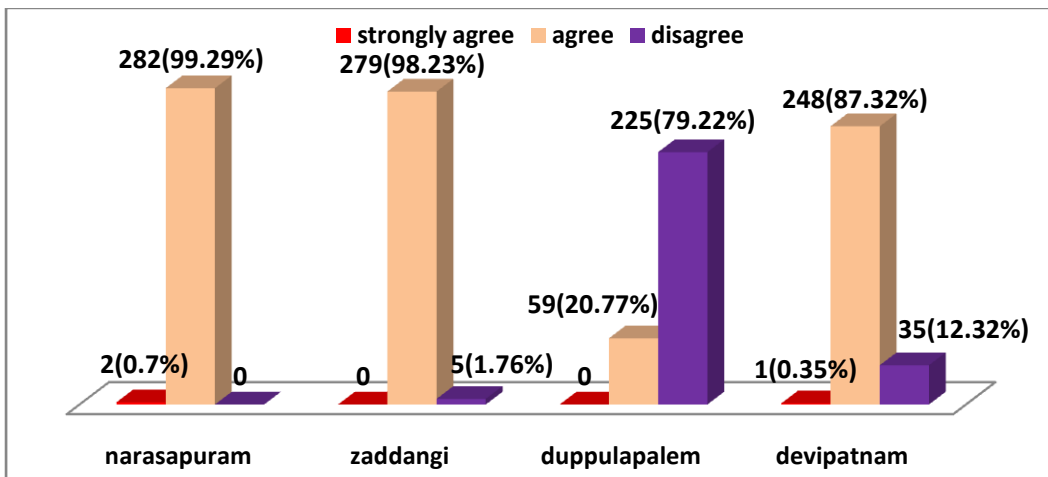


Figure-5:P.H.C wise distribution of attitude of the study respondents regarding selling of mosquito net: (negative attitude)

