

# COMMUNICABLE DISEASES

## 1.12 KAP study of Dengue and Malaria to design appropriate intervention among Tribal of Rajasthan

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### OBJECTIVES

To assess existing status of Knowledge, Attitude & Practice towards Malaria & Dengue among Tribal as well as non-tribal population which may help to design a intervention programme as an attempt to reduce the Malaria & Dengue infestations among Rajasthan tribal.

### PROGRESS

Out of total 27 tribal households covered from hamlets, 23 total cases of malaria (85.2%) were reported from 22 households, whereas 77.1% of total 70 tribal households covered from main villages reported occurrence of malaria. Thus occurrence of malaria was observed 79.4% in tribal households (hamlets & main villages) as compared to 70.8% in non-tribal households (Table 1). 40.3% of Tribal Suspected Malaria Cases opted treatment from Bengali Doctors & 37.7% of them opted treatment from Government Health Facility. 22% of Tribal Suspected Malaria Cases opted treatment from Private Doctors as well (Table-2). In case of Non-Tribal Suspected Malaria cases, 61.6% sought treatment from Government Health Facility & 28.8% from Private Doctors. A few of them (9.6%) opted treatment from Bengali Doctors as well (Table-2). Proportion of Tribal Suspected Malaria Cases reaching Bengali Doctors for treatment of Malaria, out of total cases from Hamlet was 78.3%. Proportion of Tribal Suspected Malaria Cases reaching Bengali Doctors for treatment of Malaria, out of total cases from Main village was 24.0%. Out of 40.3% of Tribal Suspected Malaria Cases who reached Bengali Doctors, 58.0% were from Hamlets & 42.0% were from main village (Table 3).

Non-tribal groups chiefly used CHC (36.9%) for seeking treatment of malaria, albeit 15.1% respondents procured tablets from Chemist shop to reduce fever & malaria (Table 3) without undergoing any diagnostic blood test. Such medicines were used randomly following incomplete doses and without any prescribed guideline. The tribal respondents expressed that they took treatment from Bengali Doctors in & around the villages (78.3% in hamlets; 24.0% in main villages), whose treatment may be expensive but they perceive that mode of treatment & medicine given by them always remained effective (78.3% in hamlets; 24.0% in main villages). In all 54 suspected malaria cases were reported from 70 tribal households from the main villages (Table I) & 6 of 54 (11.1%) opted malaria treatment

from CHC (Table 3). All these 6 cases reported that treatment from CHCs was effective. Similarly, out of 27 non-tribal participants, who opted treatment from CHCs, 2 /3rd respondents reported treatment from CHC, was effective (Table 4).

Thus, present study revealed slightly different scenario that although the tribal people had knowledge that mosquito bites result malaria infection but due to poor economic condition, they could not afford to purchase personal protection measures (bed net, Black Hit or coils/ mats, mosquito repellent crème etc.) to curb mosquito bites. Majority of tribal in hamlets (92.6%) & main village (81.4%) used fumigation of cow dung & Neem leaves as personal protection measures against mosquito bites. Use of bed net was reported by 5.7% of tribal (educated & Govt. employee persons) & 16.5% of non-tribal respondents. Majority of non-tribal reported combination of electric fan, mosquito coil & fumigation of cow dung & Neem leaves as personal protection measures (Table-5).

### Expected Outcome

Treatment of the fever cases at PHC/CHC/OPD of Government hospital is very significant, particularly in the context of malaria transmission, prevention & control. Self-reported Malaria diagnostic and treatment practices amongst Settling Bengali Doctors (Private medical practitioners) in different villages of Kotra tehsil, Udaipur need to be evaluated against benchmark practices articulated in the National Standards of Malaria Treatment and factors associated with compliance with the set standards & guidelines. Capacity strengthening of the Bengali Doctors may yield fruitful outcome to improve Malaria management practices and to prevent diagnostic delay and drug resistance. However, in addition to 'Bengali Doctors', the inter-sectoral convergence of other agencies (e.g. Swachh Pariyojana Village level workers, Tribal Area Development Department, Udaipur) functioning hand in hand with the Health System in the Tribal area & need to be addressed by providing comprehensive intervention. Therefore, it is the need of the hour that to combat malaria effectively in the tribal villages & hamlets, intervention through inter-sectoral convergence may be undertaken, so that the tribal may take upon themselves the responsibility of making their residential area free from vectors or biting nuisance of mosquitoes. The pictorial posters with live demonstration in tribal dialect highlighting precautions & no delay in treatment after commencement of symptom of fever should be communicated to the tribal.

**Table 1. Occurrence of malaria among Tribal and Non-Tribal households**

Household	Households covered	Households Reported occurrence of Malaria	Total cases of Malaria	% of occurrence of malaria
Tribal Households (hamlets)	27	22	23	85.2
Tribal Households (main villages)	70	54	54	77.1
Total Tribal households (Hamlets & main villages)	97	76	77	79.4
Total Non-tribal households (main villages)	103	73	73	70.8
Total of tribal & non-tribal households	200	149	150	75.0

**Table 2. Health Seeking Behaviour of Tribal & Non-Tribal against Malaria**

Health facility	Tribal	Non-Tribal
Bengali Doctor	40.3	9.6
Govt. health facility	37.7	61.6
private	22.0	28.8

Figures are in percentage

**Table 3. Distribution of respondents using different treatment measures against malaria.**

Type of treatment	Total cases Tribal in Hamlets (n= 23)	Total cases Tribal in main village (n= 54)	Total cases Tribal in Hamlets & main village (n= 77)	Total cases Non-tribal (n=73)
Bengali Doctor	18 (78.3)	13 (24.0)	31 (40.3)	7 (9.6)
PHC	1 (4.3)	13 (24.0)	14 (18.2)	9 (12.3)
Sub Center	2 (8.7)	4 (7.4)	6 (7.8)	2 (2.7)
Chemist Shop	0 (0.0)	8 (14.8)	8 (10.4)	11 (15.1)
Pvt Doctor	1 (4.3)	6 (11.1)	7 (9.1)	3 (4.1)
CHC	0 (0.0)	6 (11.1)	6 (7.8)	27 (36.9)
Govt. Hospital	0 (0.0)	3 (5.5)	3 (3.9)	7 (9.6)
Pvt. Hospital	1 (4.3)	1 (1.8)	2 (2.6)	7 (9.6)

Figures in parenthesis are in percentage

**Table 4. Distribution of effectiveness of different treatment measures against malaria as reported by the respondents**

Type of treatment	Tribal Hamlet effective	Tribal Hamlet Not effective	Tribal Main Village effective	Tribal Main Village Not effective	Tribal & Hamlet & Main Village effective	Tribal & Hamlet & Main Village Not effective	Non-Tribal effective	Non-Tribal Not effective
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Bengali Doctor	18 (78.3)	0 (0)	13 (24.1)	0 (0)	31 (40.2)	0 (0)	4 (5.5)	3 (4.1)
PHC	1 (4.3)	0 (0)	11 (20.4)	2 (3.7)	12 (15.6)	2 (2.6)	4 (5.5)	5 (6.8)
Sub Center	0 (0)	2 (8.7)	0 (0)	4 (7.4)	0 (0)	6 (7.8)	1 (1.4)	1 (1.4)
Chemist Shop	0 (0)	0 (0)	3 (5.5)	5 (9.3)	3 (7.7)	5 (6.5)	2 (2.7)	9 (12.3)
Pvt. Doctor	1 (4.3)	0 (0)	6 (11.1)	0 (0)	7 (9.1)	0 (0)	3 (4.1)	0 (0)
CHC	0 (0)	0 (0)	6 (11.1)	0 (0)	6 (7.8)	0 (0)	18 (24.6)	9 (12.3)
Govt. Hospital	0 (0)	0 (0)	3 (5.5)	0 (0)	3 (3.9)	0 (0)	7 (9.6)	0 (0)
Pvt. Hospital	1 (4.3)	0 (0)	1 (1.9)	0 (0)	2 (2.6)	0 (0)	6 (8.2)	1 (1.4)
Total effective & not-effective	21 (91.3)	2 (8.7)	43 (79.6)	11 (20.4)	64 (83.1)	13 (16.9)	45 (61.6)	28 (38.3)

**Table 5. Distribution of respondents using different Personal protection measures against mosquito bites**

Personal Protection Measures	Tribal in Hamlets (n= 27)		Tribal in main village (n=70)		Tribal in Hamlets & Main Village (n=97)		Non- tribal (n=103)	
	N	%	N	%	N	%	N	%
<b>Mosquito Coils only</b>	0	0.0	7	10.0	7	7.2	19	18.4
<b>Bed net</b>	0	0.0	4	5.7	4	4.1	17	16.5
<b>Cow dung fumigation with Neem leaves</b>	25	92.6	57	81.4	82	84.5	30	29.1
<b>Fan +coil+Fumigation by cow dung &amp; Neem leaves</b>	0	0.0	0	0.0	0	0.0	37	36.0
<b>Pesticide Spray by personal expense</b>	0	0.0	2	2.8	2	2.1	0	0.0
<b>Covering exposed part of body</b>	2	7.4	0	0.0	2	2.1	0	0.0