

COMMUNICABLE DISEASES

1.6 Use of insecticide treated nets (ITNs) in alternative forms for the protection against malaria transmission in the desert region.

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OBJECTIVE

Evaluation of the effectiveness of the insecticide treated nets (ITNs) with community participation and acceptance of use of ITNs in alternate forms in the desert part of India.

PROGRESS

Insecticide treated bed nets (ITBNs) have been strongly advocated for use to prevent malaria and are considered to be a significant improvement in the strategy to fight malaria. Several community-randomized control trials have shown that insecticide treated bed nets substantially reduce pediatric malaria morbidity. ITBNs reduce malaria transmission through the combination of a physical barrier (which prevents mosquito on feeding on occupants) and insecticide (which kills/repel mosquito vectors). Malaria is transmitted in the desert part of India largely by the *Anopheles stephensi* mosquitoes.

The study site constituted of six villages of the Pokaran CHC of the Jaisalmer district. The CHC has been selected because of the higher API (35). The base line survey was conducted in the six villages for the collection of the entomological and malaria epidemiology data. The base line surveys were made in the post monsoon period (September 2013) and in winter season (January 2014). The base line data of the post monsoon period are shown in table-1. Three *Anopheles* spp., *Anopheles stephensi*, *Anopheles culicifacies* and *Anopheles subpictus* were reported from the villages. Highest slide positive rate (SPR) was reported in the village Nathusar. In the winter base line survey no *Anopheles* spp. was collected from any of the six villages. However, malaria cases were only reported from the That village and SPR was 20% and *Plasmodium falciparum* percentage was 100. The curtains and other forms of the insecticide treated nets will be provided to the house holds before the monsoon season in the form of intervention and follow up will be done thereafter.

Table 1. Name of the mosquitoes species collected from the villages with density of Anopheles spp. Malaria cases in the form of SPR, Pf%, Pv% reported from the villages.

Names of the villages	Name of the mosquitoes species collected	Density of Anopheles (PHD)	SPR	Pf %	Pv %	Mixed cases
Nathusar	1. <i>Anopheles subpictus</i> 2. <i>Anopheles stephensi</i> 3. <i>Culex quinquefasciatus</i>	6	53.3%	25%	87.5	12.5%
That	1. <i>Anopheles subpictus</i> 2. <i>Anopheles culicifacies</i> 3. <i>Culex quinquefasciatus</i>	5	40%	75%	75%	50%
Kelawa	1. <i>Anopheles subpictus</i> 2. <i>Anopheles stephensi</i> 3. <i>Culex quinquefasciatus</i>	6	28.6%	50%	100%	50%
Ujjala	1. <i>Anopheles subpictus</i> 2. <i>Anopheles stephensi</i> 3. <i>Culex quinquefasciatus</i>	5	0%	0	0	0

PHD: Per hour density, Pf: *Plasmodium falciparum*, Pv: *Plasmodium vivax*, SPR: Slide positive rate.