

Observations on Domestic and Peridomestic factors predisposing to Mosquito borne diseases in an urban slum of Kakinada

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Abstract:

Introduction : Mosquito-borne diseases constitute an important cause of morbidity and mortality, especially in India. Observations on Domestic and Peri domestic factors predisposing to Mosquito born diseases is important for designing community-based interventions. **Objectives:** To study the Domestic and Peri-domestic factors predisposing to Mosquito breeding in an urban slum of Kakinada. 2.To asses the relationship between socio-demographic factors and mosquito breeding in an urban slum. **Materials & methods:** A cross-sectional study was conducted among 132 families selected by systematic sampling method in an urban slum of kakinada, East Godavari District. Data was collected using pretested semi-structured questionnaire after taking informed consent. Data was analyzed using SPSS version 20. **Results:** Out of the 132 families surveyed Ventilation was adequate in only 39.4%. Potential breeding sites were seen inside the house in 32.5%. Adult mosquitoes were present inside the house 84.8%. 77.3% participants were using Personal Protective Measures. Peri domestic sanitation was maintained in 42.5%. In 65.2% of families Disposal of sullage was into stagnant drains. 28.8% of the houses harbour Mosquitoe larvae containing sites. Significant results were observed for mosquito breeding in relation to literacy, type of family, occupation & social status. **Conclusions:** Socio demographic factors seem to influence mosquito breeding in urban slums.

Keywords - Domestic factors, Mosquito breeding sites, Peridomestic factors, Urban slum.

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I. Introduction

Mosquito-borne diseases constitute an important cause of morbidity and mortality, especially in India.¹ Observations on Domestic and Peri domestic factors predisposing to Mosquito borne diseases is important for designing community-based interventions. Therefore this study was carried out to assess such information.

II. Objectives

- 1.To study the Domestic and Peri-domestic factors predisposing to Mosquito breeding in an urban slum of Kakinada.
- 2.To asses the relationship between socio-demographic factors and mosquito breeding in an urban slum

III. Materials & Methods

- Study design – A cross sectional study
- Study setting- An **urban slum** of Kakinada, East Godavari District
- Study period - 01-10-2015 to 30-10-2015
- Study area(Population) – Houses of Frazerpet area (400 families)
- Sample size – prevalence of observations on MBDs (Mosquito born diseases) from previous study,

$$p = 60\%$$

$$q = 100-p$$

$$L \text{ (allowable error) } = 15\% \text{ of } p,$$

$$CI \text{ (confidence interval) } = 95\%$$

$$n = 118$$

$$n = \frac{4pq}{L^2}$$

- Sampling –systematic random sampling method considering every third house
Desired sample size is 118 but the sample size attained by systematic random sampling method is 132.
- Study tools - pre-designed, semi-structured questionnaire
- Inclusion criteria - those who were present at the time of study

- Exclusion criteria – those who were refused to participate
- Data analysis – MS excel , SPSS 20

IV. Results

TAB1:DISTRIBUTION OF RESPONDENTS AS PER SOCIO - DEMOGRAPHIC PROFILE

TYPE OF ATTRIBUTE	PERCENTAGE
TYPE OF RESPONDENT FEMALE MALE	78.8% 21.2%
COMMUNITY BC SC OC	70% 26%% 4%
TYPE OF FAMILY NUCLEAR JOINT THREE GNERATION	48.5% 16.6% 34.9%
TYPE OF HOUSE KUCHA SEMI PUCCA PUCCA MANSON	12.1% 28.8% 57.6% 1.5%

- Mean age of the participants was 39.5 ± 14.5 years (15-70 years).
- similar findings were observed in a study conducted by T Anand, R Kumar, V Saini, GS Meena, and GK Ingle² that majority were nuclear families(55%),the mean age of the participants was 39.1 (11.2) years (19-66 years)

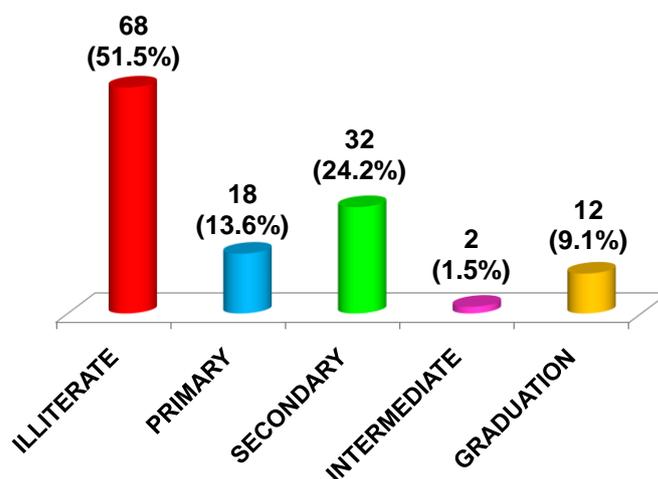


Fig1:DISTRIBUTION OF STUDY SUBJECTS BASED ON LITERACY (n=132)

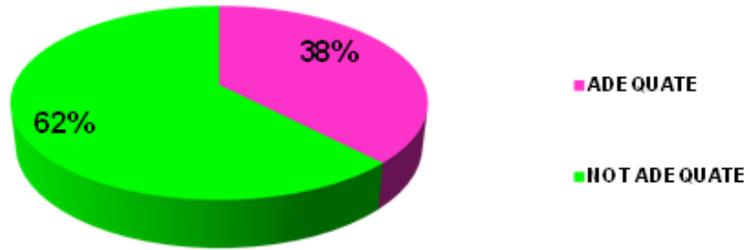


Fig2:DISTRIBUTION OF SAMPLE HOUSES BASED ON LIGHTING (n=132)

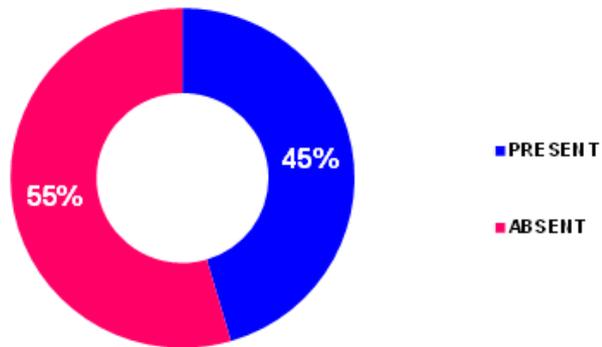


Fig3:DISTRIBUTION OF SAMPLE HOUSES BASED ON CROSS VENTILATION(n=132)

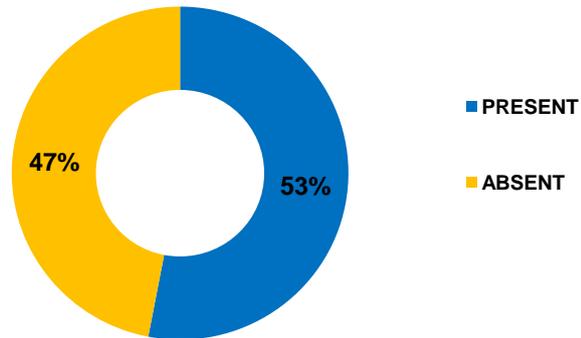


Fig4:DISTRIBUTION OF STUDY HOUSES BASING ON OVERCROWDING (n=132)

TAB2: DISTRIBUTION OF STUDY FAMILIES BASED ON TYPE OF FAMILY AND OVERCROWDING (n=132)

TYPE OF FAMILY	OVER CROWDING		TOTAL
	YES	NO	
JOINT	6 (9.7%)	16 (22.8%)	22
NUCLEAR	44 (70.9%)	20 (28.6%)	64
THREE GENERATION	12 (19.4%)	34 (48.6%)	46
TOTAL	62	70	132

P VALUE -0.000

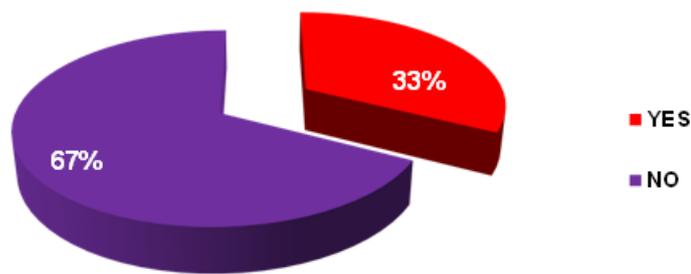


Fig6: DISTRIBUTION OF STUDY HOUSES BASED ON POTENTIAL BREEDING SITES INSIDE THE HOUSE (N=132)

Potential breeding sites



TAB3: DISTRIBUTION OF STUDY SUBJECTS LITERACY AND POTENTIAL BREEDING SITES INSIDE HOUSE

literacy	Potential breeding sites inside house					total
	COOLER	FLOWER POTS	REFRGRATR	UNUSED UTENSLS WITH WATER	NO	
Illiterates	3 (37.5%)	4 (50%)	8 (50%)	6(54.5%)	47(52.9%)	68
PS	1 (12.5%)	2 (25%)	1 (6.25%)	0	14(15.7%)	18
SS	4 (50%)	2 (25%)	6 (37.5%)	1(9.1%)	19(21.3%)	32
Inter	0	0	0	0	2(2.2%)	2
Graduates	0	0	1 (6.25%)	4(36.4%)	7(7.9%)	12
Total	8	8	16	11	89	132

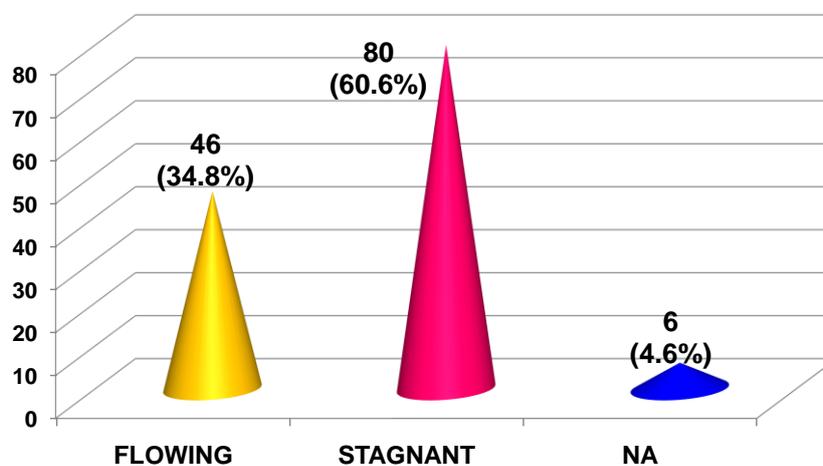


Fig5: DISTRIBUTION OF STUDY HOUSES AS PER FUNCIONING OF DRAINS (n=132)

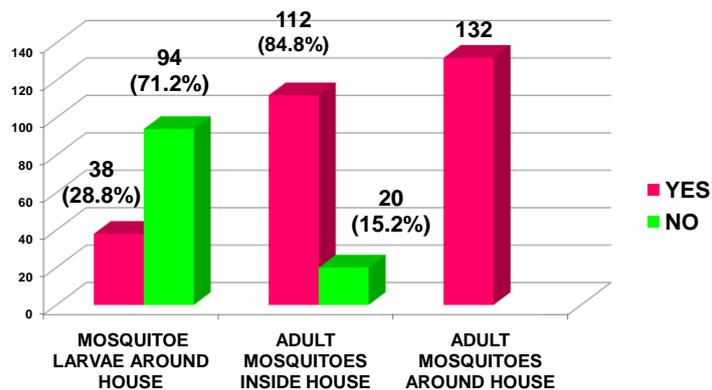


Fig5: DISTRIBUTION OF STUDY HOUSES BASED ON PRESENCE OF VECTORS (N=132)

- A study conducted by T Anand, R Kumar, V Saini et al showed that actual mosquito larvae were seen in 36% houses³

TAB3: DISTRIBUTION OF STUDY SUBJECTS AS PER SOCIAL STATUS AND MOSQUITO LARVAE AROUND HOUSE

Social status	Mosquito Larvae around House		Total
	yes	no	
BC	56 (59.5%)	36 (94.7%)	92
OC	6 (6.4%)	NIL	6
SC	32 (34.1%)	2 (5.3%)	34
Total	94	38	132

P VALUE - 0.000

Mosquito larvae in domestic water container



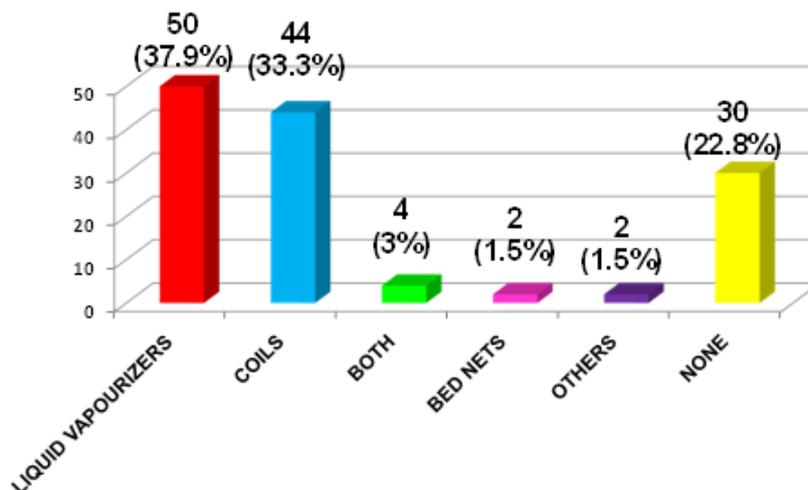


Fig6: DISTRIBUTION OF FAMILIES BASED ON TYPE OF PERSONAL PROTECTIVE MEASURE

V. Conclusion

Mosquito menace is observed in the slum. In 65.2% of families Disposal of sullage was into stagnant drains. 28.8% of the houses harbour Mosquito larvae containing sites. Potential breeding sites were seen inside the house in 32.5%. Adult mosquitoes were present inside the house 84.8%. Significant association between type of family, social status and overcrowding was observed. Significant association between social status and mosquito breeding was observed.

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References

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