

PHYSICOCHEMICAL CHARACTERISTICS AND SEASONAL VARIATIONS OF THE HABITATS, IN RELATION TO THE DENSITY OF DENGUE VECTOR *Aedes Aegypti* IN KUMBAKONAM, TAMIL NADU, INDIA

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ABSTRACT

Aedes aegypti (Diptera: Culicidae) is the main vector of the dengue virus globally. Dengue vector control is mainly, based on reducing the vector population through interventions, which target potential breeding sites. However, in Kumbakonam is known about this vector's habitat productivity and insecticide susceptibility status, to support evidence-based implementation of control measures. In each study, the breeding habitats such as Coconut shells, Waste bucket, Tires and Over head tank were examined, for the presence of *Aedes aegypti* mosquito larvae. The survey were carried out twice in each month, from November 2014 to October 2015. The correlation between the physicochemical characteristics and the larval density of container- breeding mosquitoes indicated that, the pH (0.09), Calcium (0.83), BOD (0.68) and COD (0.77), they showed positive correlation with the larval density, the correlation coefficients being respectively. Total dissolved solids (-0.11), Electrical conductivity (-0.68), Chloride (-0.65), Fluoride (-0.68), Salinity (-0.72) and Sulphate (-0.52) were negatively correlated with larval abundance in the containers, with correlation coefficients of respectively. Rainfall is an important environmental factor associated with *Aedes* breeding at the study sites.

KEYWORDS: *Aedes Aegypti*, the Vector Population through Interventions, the Physicochemical Characteristics