Abstract

Solid waste and sludge caused decrease in run-off of open drains due to which it became good source of anopheles mosquitoes to breed. To identify the relation between open drains, malaria and climatic factors (temperature, rainfall and humidity), GIS and statistical techniques were used. Two test and null hypothesis had been set to prove or disprove the relationship of malaria victims with open drains and climatic factors.

Survey had been conducted using random sampling techniques and 187 samples data points were collected. Global Positioning system (GPS) was used to record point's locations. Secondary data of malaria patients from seven major hospitals and climatic data was collected of year 2013, 2014 and 2015. To observe the relationship between open drains and malaria victims, hotspots had been prepared for three years secondary patient's data. Chi-square test was performed on near, moderate and far distance classed by taking survey data as sample data set. Pearson Correlation Co-efficient was used to identify the relation between climatic factors and malaria patients of three years. Patients near to drains came out as hotspot in hotspots maps that had shown strong positive relation between patients and distance to drains. Results of chi-square also shown this relation as it gave high value for near class. In case of Pearson Correlation Co-efficient, all results were below zero which means that there was no relationship indicated.

Test hypothesis that stated that there was a relationship between malaria victims and open drains was accepted and in case of relationship of open drains with climatic factors, null hypothesis was accepted that there was no relationship between the two.