ANALYSIS OF PREVALANCE OF DENGUE FEVER IN VAVUNIYA MOH DIVISION

A PROJECT REPORT PRESENTED BY

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to the Board of study in Statistics and Computer Science of the
POSTGRADUATE INSTITUTE OF SCIENCE

in partial fulfillment of the requirement
for the award of the degree of

MASTER OF SCIENCE IN APPLIED STATISTICS

of the

UNIVERSITY OF PERADENIYA
SRILANKA
2011

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Dengue fever has emerged as a serious international public health threat with almost half of the world's population is at risk of infection, and more than 50 million cases of dengue fever are estimated to occur each year. Dengue virus infection is a human viral diseases transmitted by arthropod vectors, including dengue fever (DF), dengue hemorrhagic fever (DHF), and dengue shock syndrome (DSS). This disease is more prevalent in tropical and sub-tropical areas, rather than temperate zones. The four dengue serotypes DEN-1-4 survive and are transmitted in two cycles between the *Aedes aegypti* mosquitoes and human. This mosquito is a day feeding, domestic mosquito, which prefers to feed on human blood. The mosquito can be easily identified by the white bands or scale patterns on its legs and thorax. This disease neither has a specific cure nor a vaccine available. So Patient needs bed rest, drink plenty of fluids and using paracetamol 6 hourly, to bring down temperature. If possible, make the patient rest under a bed net even during day time to prevent mosquito bites.

Annually there are an estimated 50–100 million cases of DF, and 2.5 to 5 million cases of DHF in the world. In the recent past we have witnessed a dramatic increase in the incidence of DF, and its severe manifestations such as DHF and DSS globally as well as in Sri Lanka. The study area is in the Northern Province with an area of about 1,967 km^2. The predominant occupations of these people are agriculture related. The Vavuniya district has a population of about 176,440 in 2009, and the average temperature ranges between 30 and 35°C. The district is divided into 4 MOH Divisions, namely Vavuniya, Vavuniya South, Vengalacheddikulam and Vavuniya

North. For this study only the Vavuniya MOH division was considered which contains 9 PHI areas.

Data was available with traceable address for 585 dengue suspected cases. The variables are categorical variables. First the relationship between the frequencies of the variables (risk factor) and complication (disease) was analyzed by constructing a Contingency table and applying the Chi-squared test or Fisher's exact test. Odd Ratios were used to measure the strength of association. Then log linear models were fitted to evaluate multi way contingency tables that involve three or more variables.

Further more, two villages Kumankulam and Vavuniya town are identified as high risk areas. Logistic regression analysis and correlation were used in this study for investing and testing the statistical significance in the relationship between socio-cultural parameters and dengue incidences.

There is a strong relationship in dengue incidence cases with Gender and age. When considering the variable, Village, it was seen that the risk factors involved in areas stated above play an important role for transmitting this disease. Also it was noted that most of the patients are affected within the 21-30 year period. In present study the categorical variables such as housing pattern, frequency of cleaning and maintenance of drainage, use of flower pot/home garden, protection dengue awareness, near the railway track are related to the dengue incidence cases in Vavuniya MOH Division high risk area.

Since, the data set includes information about all the suspected and confirmed DH/ DHF/DSS cases reported during the year 2007 to 2009, the results obtained will be useful in prevent and control the dengue fever.