4.3 Dengue vector surveillance in Kelaniya MOH area

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ABSTRACT

Potential dengue vector mosquito surveillance was conducted at 24 sites in Kelaniya Medical Office of Health area that contains 37 Divisional secretariat areas and 6 PHI divisions, from April 2008 to March 2009 in monthly interval. Sites were selected based on census using GPS. The abundance of *Aedes albopictus* and *Ae. aegypti* was determined using ovitrap method and by field caught mosquitoes. Ovitraps were installed at the rate of three out door and three indoor at each site. The minimum distance between two sites was not less than two km. Traps were collected after two overnights. Total number of mosquito eggs in each wooden paddle collected from indoor and outdoor of each site was counted separately. The wooden paddles with eggs were left in containers half filled with hay infusion and covered using a mosquito net until adults were emerged in the laboratory. Adult mosquito species were identified morphologically.

Study revealed that adult mosquito population based on the emergence rate in the study site is dominated by *Ae.albopictus* (77%). Peak of the abundance of *Ae.albopictus* in outdoor was found in period of April to July 2008. The abundance of *Ae.aegypti* in outdoor did not show significant difference over the study period. There was a positive correlation of monthly mean temperature with the abundance of *Ae.aegypti* in outdoor ($P=0.03$, $r=0.603$).

Within the first six months of study period the highest outdoor mean number of eggs per ovitrap was recorded in Hunupitiya PHI division (74). However during the latter six months it was reported in Kelaniya PHI division (28). When outdoor mean number of eggs per ovitrap is considered, numbers were significantly correlated with rainfall ($P=0.008$, $r=0.724$) and humidity ($P=0.02$, $r=0.65$).

Peak Ovitrap Index values were shown in period followed by heavy rains (435.9mm), from April to July in both indoor 47.6-68.2% and outdoor 80.9- 90.9%. Lower Ovitrap index values were resulted in January where low level of rain fall is experienced (140.9mm).