

Silent transmission as a risk factor affecting transmission of Dengue fever

Hapangama, H.A.D.C.¹, Hapugoda, **M.D.**¹, Silva Gunawardene, Y. I. N.¹, Premarathne, R.², Dayanath, M.Y.D.¹. And Abeyewickreme, W.^{1*}

*Molecular Medicine Unit, Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka.
Department of Medicine, Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka.*

The global incidence of dengue fever has increased by more than four-folds over the last 30 years, making it the most threatening mosquito-borne viral disease at present. Objective of the study is to determine the role of silent transmission on incidence of dengue. A total of 40 households, living within a 300 m radius of seven selected confirmed dengue cases at different dengue high risk localities in Gampaha District were recruited for this study. A minimum of three inhabitants were tested for anti-dengue antibodies using a commercial kit to determine the prevalence of silent transmission on dengue infection in each household. Entomologic surveillance was carried out in all seven localities. Out of 40 households, 26 (65%) houses were positive for dengue viral infection. Total of 148 inhabitants (68 Males); mean age: 35.9 years were enrolled. Of the 148, 41 (27.7%) had evidence of exposure to dengue virus [positive for IgM: 28/41 (68.4%), IgM & IgG: 7/41 (17%) and IgG: 6/41 (14.6%)}. Out of 28 primary infections, 20 (71.4%) were asymptomatic. Of the 7 secondary infections, 1 (14.28%) was asymptomatic. Of the 6 previous exposures to dengue 4 (66.67%) were asymptomatic. Of the localities investigated, 1 had >50%, 4 had >25% and 2 had <25% clustering of cases. *An albopictus* found in all seven localities and *Ae. aegypti* found only in two localities. This study suggests presence of silent transmission of dengue virus with a trend towards clustering around cases and also this shows that the presence of vectors increases the incidence of dengue.