

A-09 Studies on the impact of two different vector control measures on the control of malaria in some hamlets of Lunugamvehera irrigation scheme

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Due to the setbacks encountered with the residual house spraying, for malaria control, there was a need to search for alternative control methods. Impregnated mosquito nets have recently received more attention.

The study was carried out in 3 hamlets (2, 3 & 5) of Lunugamvehera Irrigation Scheme since 1992-1994. Residual house spraying with malathion was carried out in hamlet 2. Households of hamlet 3 were given permethrin impregnated mosquito nets. Hamlet 5 was provided with both control methods. House spraying was done at 3 monthly intervals. Reimpregnation of mosquito net was done once in 6 months. Fever cases were blood filmed and microscopically examined at Lunugamvehera Hospital. Field activities were strengthened by the supervised volunteer participation. Vector prevalence was monitored using a bovid-baited trap. Rainfall data and water release data were also obtained.

There was no significant difference in Animal Parasite Incidence (API) between the 3 hamlets in 1992 and 1993. However in 1994 a significant difference was observed with the highest value being recorded from hamlet 2, while hamlet 5 recorded a relatively higher value than that of hamlet 3. A significant difference was also observed in API in relation to the population in each house type. There was a significant difference in the rainfall and in the number of rainy days between the 3 years. There was no significant difference in vector prevalence between the 3 hamlets. A relatively high degree of vector breeding was associated with higher rainfall, rainy days, rainfall and water release.

Hamlet 3 with permethrin impregnated mosquito nets, showed relatively greater impact on malaria vectors according to API compared to malathion sprayed hamlet 2. Different house types with impregnated mosquito nets in relation to similar malathion sprayed houses too showed a greater impact on malaria vectors. A relatively higher API than expected recorded from hamlet 5 was due to imported malaria cases.