DETERMINANTS OF TRANSMISSION RISK AND THE ROLE OF VECTOR PUPAL PRESENCE IN THE DEVELOPMENT OF INTEGRATED APPROACHES TO DENGUE CONTROL IN MUNTINLUPA CITY, THE PHILIPPINES

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Abstract. A study was conducted in Muntinlupa City, a fast expanding city in southern Metro Manila to understand the implications of different ecological, biological, and social determinants affecting vector pupal indices and dengue transmission risk in the area. Selected barangays (administrative 'villages') were categorized as either high or low dengue incidence areas based on the reported dengue incidence of the area at the time of study. These communities were further classified into either high or low human population density areas (HPD and LPD clusters) to determine the influence of socio-economic factors on vector density and disease risk. Study findings found HPD and LPD clusters with low dengue incidence were generally more knowledgeable about dengue and have more access to sources of information about the disease and prevention. However, communities' knowledge on dengue does not necessarily translate to reduction of vector density in their areas as indicated by statistical test performed in the study. Statistical analyses also revealed that some of government interventions and community/household-based prevention practices were shown effective for dengue control to reduce infection risk, but require more frequent monitoring to maintain sustainable control of the vector population. Moreover, the percentage of green areas in the surveyed clusters has an effect on the vector density of the study. An overall analysis using chi-square showed that there is a correlation between pupal density and human population density and number of dengue cases.

Keywords: dengue control, transmission risk, vector pupal indices, HPD cluster, LPD cluster, integrated approach

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