

Risk factors for symptomatic and asymptomatic chikungunya infection

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Abstract

In 2008, a chikungunya epidemic occurred in Southern Thailand. In many epidemics, there is a sizable number of asymptomatic cases. It is uncertain whether symptomatic and asymptomatic cases share the same risk factors. Residents aged 18 years or more from three villages were sampled, their venous blood tested for anti-chikungunya virus IgG (haemagglutination-inhibition (HI) technique), and a face-to-face interview conducted during a home visit. Of 507 subjects selected, 314 (62%) were seropositive (HI titre $\geq 1:10$), of whom 148 (47%) were asymptomatic. Among subjects who reported fever and joint pain during the epidemic, 98% still had a positive titre. Having a garbage pile nearby and spending at least eight hours per day outdoors were associated with an increased risk of both symptomatic and asymptomatic chikungunya infection. Protective factors for symptomatic infection were age more than 58 and having a high level of formal education. In conclusion, transmission was determined by environmental conditions whereas symptoms were associated with personal biological factors and social setting.

Keywords: chikungunya, risk factor, symptomatic, asymptomatic