

Inapparent dengue virus infection among students in Mandalay, Myanmar

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Abstract

Background

A school- and laboratory-based cross-sectional descriptive study was conducted to find out the burden of inapparent dengue virus (DENV) infection in Mandalay where DENV is endemic and there is circulation of all four DENV serotypes.

Methods

A total of 420 students who had no history of fever and visited the hospital within 6 months were recruited from three monastic schools. Serum samples were collected and the DENV genome was checked by conventional one-step RT-PCR and anti-DENV IgM and IgG antibodies were determined. Inapparent dengue (DEN) infection is defined as individuals who were either RT-PCR-positive or anti-DENV IgM-positive with no clinical manifestations or mild symptoms, and which are not linked to a visit to a healthcare provider.

Results

Among 420 students, 38 students (9.0%, 95% CI, 6.4 to 12.2) were confirmed as recent inapparent DEN infection. The DENV serotype-1 was detected in six students. Thirty-one out of 38 (81.6%) laboratory-confirmed inapparent DEN-infected students had primary infections and seven (18.4%) had secondary infections.

Conclusion

This study explored the prevalence of inapparent DEN infection rate in urban monastic schools in Mandalay and showed that the rate of primary infection among inapparent DENV-infected children was high.