

BACTERIAL MENINGITIS INCIDENCE IN THAI CHILDREN ESTIMATED BY A RAPID ASSESSMENT TOOL (RAT)

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Abstract. Acute bacterial meningitis is an important cause of morbidity and mortality in children. To estimate the incidence of meningitis caused by all types of bacteria in Thai children under five years of age, data were collected using a rapid assessment tool (RAT) and analyzed. Clinical and laboratory data from suspected meningitis cases for a one-year period were retrospectively collected from 5 selected catchment areas located in the 4 regions of the country. Adjusted incidences of confirmed bacterial meningitis were calculated based on laboratory quality and lumbar puncture rates. Seventy-five suspected meningitis cases were identified among 305,023 children under age five in the catchment areas, with an unadjusted incidence of 24.6 per 100,000. Of these, 66.2, 55.9, and 33.8% were unconfirmed bacterial, purulent, and confirmed bacterial meningitis cases, respectively. Among the confirmed bacterial meningitis cases, 39.1, 26.1, 21.7 and 13.0% were caused by *Haemophilus influenzae* type B, gram-positive cocci, gram-negative bacilli, and *Neisseria meningitidis*, respectively. After adjusting based on the RAT application, the incidence of confirmed bacterial meningitis was about double that of the unadjusted incidence. This study gives an interval of possible incidences of bacterial meningitis in children under age five, which is between the unadjusted (low estimate) and adjusted (high estimate) incidences.

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