

EPIDEMIOLOGY OF RADIOGRAPHICALLY-CONFIRMED AND BACTEREMIC PNEUMONIA IN RURAL THAILAND

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Abstract. Pneumonia remains a leading public health concern in Thailand. Using population-based surveillance during January 2004-December 2006, we describe incidence, mortality, and bacterial etiologies of chest radiograph-confirmed pneumonia requiring hospitalization in one rural Thai province. Of 19,316 patients who met the case definition for clinical pneumonia, 9,596 (50%) had a chest radiograph, and 4,993 (52%) of those had radiographically-confirmed pneumonia. The incidence of radiographically-confirmed pneumonia ranged from 199 to 256 per 100,000 persons per year; 151 (3.0%) patients died. The annual average pneumonia mortality rate was 6.9 per 100,000 persons (range 6.2 to 7.8 per 100,000) and was highest in persons aged <1 year (64/100,000) and ≥65 years (44/100,000). Of 4,993 patients with radiographically-confirmed pneumonia, 1,916 (38%) had blood cultures, and 187 (10%) of those had pathogens isolated. Pathogens causing bacteremic pneumonia included *B. pseudomallei* (15% to 24% of bacterial pathogens), *E. coli* (9.2% to 25%), *S. pneumoniae* (7.9% to 17%), *K. pneumoniae* (2.2% to 6.4%), and *S. aureus* (4.3 to 5.3%). Bacteremia was significantly associated with pneumonia mortality after controlling for age, sex, HIV status and measures of disease severity in a logistic regression model (OR=5.2; 95% confidence interval= 2.2 - 12). Pneumonia remains an important cause of morbidity and mortality in Thailand, as in other countries in Southeast Asia. These findings can inform pneumonia clinical management and treatment decisions and guide public health programming, including the development of effective prevention strategies.

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