

FACTORS ASSOCIATED WITH SEVERE COMMUNITY-ACQUIRED PNEUMONIA IN THAI CHILDREN

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Abstract. Community-acquired pneumonia (CAP) is an important cause of morbidity and mortality in children aged <5 years. There are many factors associated with the severity of pneumonia. We aim to identify factors associated with severe pneumonia in order to apply in clinical practice to guide treatment decisions and health promotion. Study subjects were chosen consecutively from both pediatric intensive care unit and pediatric ward of Chiang Mai University Hospital. Inclusion criteria for study subjects were: 1 month-15 years old children who were diagnosed of having CAP. Exclusion criteria for study subjects were children who were diagnosed of hospital-acquired pneumonia (HAP) or ventilator associated pneumonia (VAP). Parents and children with communication barriers and parents or children who refused to give their consents were excluded. Study subjects were classified by level of pneumonia severity using the PRESS scoring system for children. This study was conducted prospectively from April 2018 to September 2019. We recorded demographic and laboratory data, other important selected information, such as exposure to second-hand cigarette smoke, and the PRESS scores. We used binary logistic regression analysis to evaluate factors potentially associated with severe pneumonia in the study subjects. During the study period, there were 5,756 pediatric admissions; of these 322 children (5.6%) was diagnosed of having CAP and were included in the study. Fifty-six point eight percent of the study subjects were males and the median age (range) was 26 (1-171) months. In our study, 64.0% of subjects had severe pneumonia, defined as a PRESS score of 4-5, and 36.0% had non-severe pneumonia, defined as a PRESS score of <4. Factors significantly associated with severe pneumonia among study subjects were: exclusive breastfeeding for <6 months (odds ratio (OR) = 2.10; 95% confidence interval (CI): 1.15-3.85; $p=0.016$); history of exposure to passive smoke (OR = 3.35; 95%CI: 1.98-5.68; $p<0.001$) and lobar infiltration on chest x-ray (OR = 2.30; 95% CI: 1.37-3.86; $p=0.002$). These factors need to be taken into consideration when developing methods to prevent severe community acquired pneumonia in this study population. Further studies are needed to determine if these interventions can reduce the incidence of community acquired pneumonia in the study population.

Keywords: associated factors, severe pneumonia, community-acquired pneumonia, children

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