

ROLE OF BIOPSYCHOSOCIAL FACTORS ON THE RISK OF PNEUMONIA IN CHILDREN UNDER-FIVE YEARS OLD AT DR. MOEWARDI HOSPITAL, SURAKARTA

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ABSTRACT

Background: It is estimated that the worldwide annual incidence of child pneumonia is approximately 156 million cases. Sixty-one million new cases occur in Southeast Asia with a death rate of 3.1 million deaths per year. Prevalence of infant pneumonia in Indonesia is high at 1.8% in 2013 with a mortality of 0.16% in 2015. This study aimed to determine the role of bio-psychosocial factors on the risk of pneumonia in children under-five years old.

Subjects and Method: This was an analytic observational study using a cross-sectional design. The study was conducted at Dr. Moewardi Hospital, Surakarta, from April to May 2017. A sample of 120 children under five years old, consisting of 30 children with pneumonia and 90 children without pneumonia, were selected for this study by fixed disease sampling. The dependent variable was incidence of pneumonia. The independent variables were nutritional status, exclusive breastfeeding, low birthweight, maternal stress, maternal education, maternal employment, family income, and home environment. Nutritional status was measured by anthropometry, while other variables were collected by questionnaire. Path analysis was employed to analyze data.

Results: Pneumonia in children under-five was directly affected by nutritional status ($b = -1.23$; 95% CI = -2.45 to -0.02 ; $p = 0.047$), exclusive breastfeeding ($b = -1.09$; 95% CI = -2.26 to 0.07 ; $p = 0.065$), maternal stress ($b = 1.70$; 95% CI = 0.36 to 3.04 ; $p = 0.013$), maternal education ($b = -1.96$; 95% CI = -3.31 to -0.61 ; $p = 0.004$), and home environment ($b = -1.83$; 95% CI = -3.02 to -0.64 ; $p = 0.002$). Nutritional status was affected by maternal education ($b = 3.48$; 95% CI = 1.79 to 5.17 ; $p < 0.001$), maternal stress ($b = -2.55$; 95% CI = -4.06 to -1.04 ; $p = 0.001$), family income ($b = 3.26$; 95% CI = 1.67 to 4.84 ; $p < 0.001$), and low birthweight ($b = -1.84$; 95% CI = -3.12 to -0.57 ; $p = 0.005$). Exclusive breastfeeding was affected by maternal education ($b = 0.97$; 95% CI = 0.09 to 1.86 ; $p = 0.031$), maternal stress ($b = -0.74$; 95% CI = -1.69 to 0.19 ; $p = 0.112$), family income ($b = 1.39$; 95% CI = 0.54 to 2.23 ; $p = 0.001$), and maternal employment ($b = -1.29$; 95% CI = -2.14 to -0.45 ; $p = 0.003$). Maternal stress was affected by home environment ($b = -1.12$; 95% CI = -1.96 to -0.29 ; $p = 0.009$). Home environment was affected by maternal education ($b = 0.76$; 95% CI = -0.03 to 1.54 ; $p = 0.059$). Low birthweight was affected by maternal education ($b = -1.21$; 95% CI = -2.08 to -0.35 ; $p = 0.006$) and family income ($b = -1.50$; 95% CI = -2.35 to -0.66 ; $p < 0.001$).

Conclusion: Pneumonia in children under-five is directly affected by nutritional status, children, exclusive breastfeeding, maternal education, maternal stress, and home environment.

Keywords: pneumonia, biopsychosocial factors

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