

International Poster 5

Risk Factors for Severe Pneumonia Among Children Aged 2–59 Months in Western Kenya 2011

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BACKGROUND: Globally, pneumonia is the leading cause of death in children <5 years. In Kenya, it is the second leading cause of morbidity and mortality, accounting for >30,000 deaths among children < 5 years annually. We conducted this study to identify risk factors for severe pneumonia in children under the age of five years.

METHODS: We conducted a hospital based case control study. Cases were children aged 2-59 months with severe pneumonia and controls were those with non-severe pneumonia according to the Integrated Management of Childhood Illnesses (IMCI) classification. We administered structured questionnaires to mothers of cases and controls to obtain data on socio-demographic characteristics, nutritional status and potential environmental risk factors. Data was analyzed using Epi Info, significance level was 0.05.

RESULTS: We recruited 103 cases and 103 controls. The median age of cases was 14.0 (Range 3-58) months and controls 14.0 (Range 2–54) months. Those who used herbal medication at home (OR=3.41; 95% CI 1.45-8.05), were hospitalized with diarrhea in the last 6 months (OR=2.18; 95% CI 1.01-4.66), had a co-morbidity (OR=3.10; 95% CI 1.24-7.74), or had had contact with a relative with upper respiratory tract infection (OR=2.82; 95% CI 1.27-6.26) and sought medical treatment after more than three days of illness (OR=2.86; 95% CI 1.62-5.06) were more likely to have severe pneumonia. Those who received antibiotics at home (OR=0.45; 95% CI 0.24-0.90) were less likely to have severe pneumonia.

CONCLUSIONS: Comorbidities and delays in seeking appropriate treatment are the main risk factors for severe pneumonia. We recommend more health education regarding appropriate health seeking and greater interventions at the community level by engaging community health workers in pneumonia prevention, control and treatment.

KEYWORDS: pneumonia, children, antibiotics, health education