ABSTRACT

Objective: To study the association of clinical parameters-cough and fast breathing with radiologically confirmed pneumonia in children of age group 2 months to 15 years.

Methods: Our study was a descriptive study. A total of 100 children in the age group 2 months to 15 years presenting to our institution with cough and fast breathing were included in the study. All the children were examined, relevant history obtained, routine blood investigations done and chest X-ray was taken. Chest radiographs were read by two different paediatricians who were blinded about patient details. X-rays were interpreted according to WHO chest radiograph interpretation document and were classified as either radiologically confirmed pneumonia or no pneumonia. The association of various clinical parameters with radiologically confirmed pneumonia in the study population was analysed statistically.

Results: Out of 100 children, 44 (44%) had radiologically confirmed pneumonia and 66 had no pneumonia. Presence of history of fever (P value= 0.023), refusal of feeds/fluids (P value=<0.001), temperature $\geq 38^0$ C (P value=<0.001), oxygen saturation < 95% (P value=<0.001), nasal flaring (P value=0.004), grunting (P value=<0.001), chest retractions (P value=<0.001), crepitations (P value=<0.001), anemia (P value=<0.001) and malnutrition (P value=<0.001) were significantly associated with radiologically confirmed pneumonia. The presence of history of wheeze and rhonchi on examination were associated with no pneumonia.

Conclusion: Presence of cough and fast breathing is equated as clinical evidence of pneumonia among under-five children as per WHO guidelines. But clinicians often use these parameters above the age of 5 years as well. This study emphasizes that cough and fast breathing can be used as clinical parameters to identify pneumonia even in children more than 5 years of age. Presence of temperature $\geq 38^0$ C, presence of malnutrition and crepitations were independent predictors of radiologically confirmed pneumonia. History of wheeze and presence of rhonchi were significantly associated with no pneumonia. Antibiotic abuse and chest X-ray to confirm pneumonia can be avoided in children with hyper reactive airway disease.

Key words: Radiologically confirmed Pneumonia, Pneumonia, Chest Radiograph, Clinical Parameters