

Asthma and pneumonia among under-fives at Mulago National Referral hospital Uganda: is asthma under-diagnosed?

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Introduction

Pneumonia has hitherto been considered the major cause of morbidity and mortality among under-fives with acute respiratory disease at the cost of under-diagnosing asthma.

Objective

To determine the magnitude of asthma and pneumonia among under-fives based on stringent clinical criteria and, describe the treatment for children with acute respiratory symptoms at Mulago National Referral hospital Uganda

Study definitions

Asthma (at least 4 of 5):

- 1) Cough, wheeze, difficult breathing (at least one)
- 2) Recurrent cough, wheeze, difficult breathing, positive history of allergy in patient, family history of asthma and/or allergies (at least one)
- 3) Fast breathing, chest retractions, prolonged expiration, rhonchi (at least 3)
- 4) Good response to bronchodilators
- 5) Chest x-ray- normal or hyperinflation

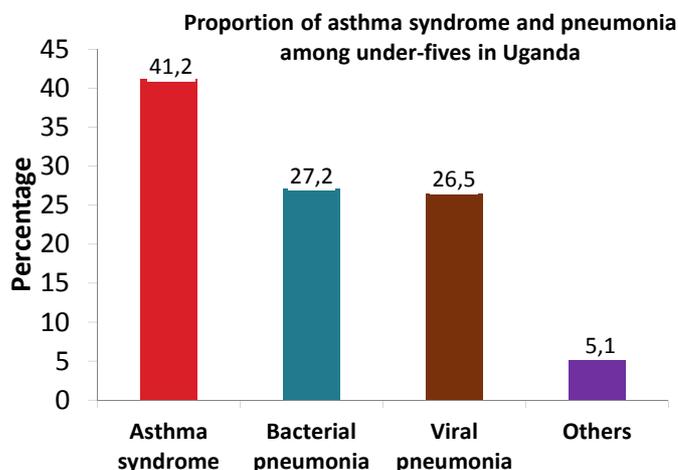
Pneumonia (at least 4 of 5):

- 1) History of fever
- 2) Temperature $\geq 38^{\circ}\text{C}$, fast breathing, chest indrawing
- 3) Raised CRP and/or WBC and/or Neutrophils
- 4) Blood culture positive for bacteria
- 5) Chest x-ray: alveolar infiltrates, consolidation, pleural effusion.

Methods

- Cross sectional study of 614 children aged 2-59 months at the emergency unit of a tertiary hospital
- We included children with cough and/or difficulty breathing, and fast breathing
- Laboratory and radiological investigations : WBC, CRP, blood culture, Nasopharyngeal swab for RSV and chest x-ray
- The chest x-rays were read by two independent radiologists
- Children with asthma or bronchiolitis were collectively referred to as "Asthma syndrome"
- A panel of three (3) paediatricians discussed each participant's case report post hoc and made a diagnosis guided by the study case definitions

Results



- 33.1% (95% CI 29%-37%) were diagnosed with asthma syndrome alone while 8.1% had both asthma syndrome and bacterial pneumonia
- Only 9.4% (95% CI 5%-16%) of the children with asthma had been previously diagnosed.
- 95.3% (95% CI: 92%-98%) of the children with asthma syndrome received antibiotics, although only 50(9.8%) needed them

Conclusion

1. Asthma syndrome is a significant problem among under-fives with acute respiratory symptoms
2. Antibiotics are used irrationally due to under-diagnosis of asthma as pneumonia.

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