

Managing and preventing childhood pneumonia in South Africa: Updated South African guidelines

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GUEST EDITORIAL

Managing and preventing childhood pneumonia in South Africa: Updated South African guidelines

The two articles in this edition of CME follow up on those in the previous edition, i.e. epidemiology/aetiology and diagnosis of community-acquired pneumonia (CAP) in children.^[1,2] The articles in this issue cover recommendations on management and prevention of childhood pneumonia.^[3,4]

Management of a child with cough or difficult breathing needs a context. Most coughs are due to upper respiratory tract infections (URTIs) – almost all are viral in aetiology and rarely require antibiotics. The World Health Organization (WHO) added to that strategy, recommending that children with acute cough, who are not ‘fast breathing’, have by definition a URTI and do not need antibiotics.^[5] Two major consequences as a result of inappropriate antibiotic use include emergence of antimicrobial resistance and dysbiosis of the human microbiome. Both of these contribute to morbidity and mortality.

We are in the midst of the COVID-19 pandemic and, unfortunately, COVID-19 overlaps with seasonal upper and lower respiratory tract infections. In South Africa (SA), autumn is characterised by respiratory syncytial virus (RSV) and rhinovirus paediatric bronchiolitis, followed by seasonal influenza outbreaks.^[6] These conditions may be clinically indistinguishable from COVID-19.

Respiratory viruses are the leading cause of pneumonia, including two-thirds of young children requiring hospitalisation.^[1] RSV also causes approximately one-third of all hospitalisations due to pneumonia. Other viruses associated with pneumonia include influenza virus, parainfluenza virus, human metapneumovirus, rhinovirus and adenovirus.

Judicious utilisation of antibiotics is fundamental, especially with the ever-increasing resistance of common pathogens to widely used antimicrobial agents. There is no evidence that antibiotics influence the course of milder forms of COVID-19.

In contrast, antibiotics for bacterial pneumonia or severe pneumonia are life saving. Globally, ~800 000 children die each year from pneumonia and lack of access to care or antibiotic therapy; in SA, ~4 000 children die per year from pneumonia. Given advances in prevention, including pneumococcal conjugate vaccine (PCV) and *Haemophilus influenzae* type b conjugate vaccine (HibCV), the spectrum of bacteria causing pneumonia has changed, reflected by an increased prevalence of non-typable *H. influenzae* and *Staphylococcus aureus*. Co-infection with bacteria or other respiratory viruses is common in hospitalised children. Furthermore, *Mycobacterium tuberculosis* often occurs in SA children hospitalised with CAP or those with pneumonia and household or community exposure. The current revised strategy for antibiotic treatment of CAP, outlined in this edition of CME, includes:^[3]

- Oral amoxicillin (45 mg/kg/dose bid; 90 mg/kg/day) is the treatment of choice for children with pneumonia treated in the ambulatory setting.
- Treatment duration should be 5 days for children managed as outpatients, with review in 3 days to evaluate response.
- Treatment should be switched to co-amoxiclavulanate if there is clinical deterioration, and the child should be referred for investigation.

- Co-amoxiclavulanate (intravenously or orally) is the treatment of choice for children >1 month of age with severe pneumonia, who require hospitalisation.
- Treatment duration should be 5 days for severe pneumonia.

Childhood vaccination is the most effective strategy for limiting CAP and inappropriate antibiotic use. Vaccination is one of the most successful strategies that promotes public health, and millions of people are alive today because they were vaccinated during childhood. Critical childhood vaccines to prevent CAP include bacillus Calmette-Guérin (BCG) vaccine at birth; 13-valent PCV; HibCV recommended (as part of a combination vaccine) at 6, 10 and 14 weeks of age, and a booster dose at 15 - 18 months of age; pertussis vaccine at 6, 10 and 14 weeks of age, and a booster dose at 15 - 18 months of age; and measles vaccine.^[4]

An important vaccine that is readily available in Africa and that should be administered to both children and adults, is the influenza vaccine. Unfortunately, relatively few South Africans are vaccinated for influenza. Although influenza vaccinations are recommended for everyone, the following individuals should be vaccinated annually:

- children at high risk of complications from influenza, including those with chronic pulmonary, cardiac, renal, hepatic, endocrine, neurological, metabolic or immunological diseases, which increase the risk of severe influenza
- children receiving chronic aspirin therapy
- anyone who has regular contact with young children or high-risk individuals.

Some countries recommend routine immunisation for all children between the ages of 6 and 59 months.

Africans celebrated Vaccination Week from 24 to 30 April 2020. The objective of this initiative was to create awareness of vaccines that can protect children, and especially women, from specific preventable diseases. ‘Vaccines work, do your part.’^[7]

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