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## Evaluation of the cost effectiveness of cefuroxime versus penicillin G for the treatment of bacterial pneumonia in children

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This retrospective study was performed at the Pediatric Institute of Kuala Lumpur General Hospital. A total of 147 subjects with radiologically confirmed pneumonia were recruited in the study. Data collected included patient demographics, length of stay (LOS), clinical outcomes and all the components of direct medical cost. Bottom up costing method was used for cost evaluation from hospital perspectives. The clinical outcome that considered as a measure of effectiveness was the probability of treatment success which is the percentage of patients discharged with complete cure (symptoms free). Cost effectiveness and incremental cost effectiveness ratios were calculated. The two antibiotics considered for the analysis were the cefuroxime and the C-penicillin. For the cefuroxime group, the median of the total management cost is MYR -Malaysian Ringgit 838.90 (IQR. 787.90, 1834.57), for the C-penicillin group the median is MYR 1153.85 (IQR 791.61, 1523.90). Cefuroxime use resulted in better patient outcome (84% versus 73% treatment success rate) and at lower cost. The cost effectiveness ratio for cefuroxime and C-penicillin are 998.70, and 1580.60 respectively. The ICER (incremental cost effective ratio) is equal to - 2,863, minus value of ICER indicate saving effects. The use of Cefuroxime for the treatment of children hospitalized with bacterial pneumonia is clinically more effective and provides an economic advantage compared to Crystalline Penicillin G.

### Recent Publications:

1. Bradley J S et al. (2011) The management of community-acquired pneumonia in infants and children older than 3 months of age: clinical practice guidelines by the Pediatric Infectious Diseases Society and the Infectious Diseases Society of America. *Clin Infect Dis*. 53(7):e25-e76.
2. Brogan T V et al. (2012) Variability in processes of care and outcomes among children hospitalized with community-acquired pneumonia. *Pediatr Infect Dis J*. 31(10):1036-1041.
3. Smith M J, Kong M, Cambon A and Woods C R (2012) Effectiveness of antimicrobial guidelines for community-acquired pneumonia in children. *Pediatrics*. 129(5): e1326-33.
4. Falade A G and Ayede A I (2011) Epidemiology, aetiology and management of childhood acute community-acquired pneumonia in developing countries: a review. *African Journal of Medicine and Medical Sciences*. 40(4):293-308.
5. Krishnan P et al. (2011) Evaluation of coamoxiclav and other antibiotics against S pneumoniae and H influenzae from paediatric cases of acute respiratory infections. *Journal of the Indian Medical Association*. 109(4):241-2.

### Biography

Manhal A Abdulkader studied Pharmacy at the University of Mosul Iraq and graduated in 2001. He was awarded the title of "Clinical Pharmacist" from MOH/Iraq during the year 2002. He completed his Master's Degree in Clinical Pharmacy in 2012 from University of Science Malaysia, Malaysia. Apart from teaching clinical pharmacy and therapeutics (Pharmacotherapy) to pharmacy students, he is teaching in the following fields: Patient Assessment and Communication, Pharmacy Practice, Clinical Pharmacy Case studies and Pharmacoeconomics. He is the Director of E - learning module at his university. He is a Member of the European Association of Clinical Pharmacology and Therapeutics (EACPT), also a Member of the Pharmacists Syndicate.

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