

Annual Academic Sessions – 2019

Faculty of Health – Care Sciences

Eastern University, Sri Lanka

27th August 2019

BOOK OF ABSTRACTS



Faculty of Health – Care Sciences

Eastern University, Sri Lanka

AAS/FHCS/2019- 003

**TYPE AND ANTIBIOTIC SENSITIVITY PATTERN OF BACTERIA
CAUSING EXACERBATION OF CHRONIC OBSTRUCTIVE
PULMONARY DISEASE – HOSPITAL BASED STUDY**

Tharshaprathan S¹, Madhusanka NTK¹, Wijerathna AGGS¹, Priyanwada JMH¹,
Abeyasinghe AP¹, Josepha J²

¹ Faculty of Health-Care Sciences, Eastern University, Sri Lanka

² Department of Supplementary Health Sciences, Faculty of Health-Care Sciences, Eastern University, Sri Lanka

Background: Chronic obstructive pulmonary disease (COPD) is the most common chronic respiratory condition in adults. Respiratory infection is believed to play a major role in the pathogenesis of both stable COPD and in acute exacerbation of COPD. Bacterial pathogens such as *Streptococcus pneumoniae*, *Mycoplasma pneumoniae*, *Haemophilus influenzae*, *Moraxella catarrhalis* and *Pseudomonas aeruginosa* are known to cause outbreaks of respiratory illness in COPD patients.

Objectives: To identify the bacteria causing exacerbation of COPD and their antibiotic sensitivity pattern among patients admitted to medical wards of Teaching Hospital, Batticaloa.

Methods: A descriptive cross sectional study was carried out in patients admitted to medical wards in Teaching Hospital Batticaloa with signs and symptoms favouring COPD exacerbation from October 2016 to February 2017. Patients' clinical history and sputum culture report were collected monthly from the microbiology lab.

Results: Of the 65 sputum specimens, 27 (40.9%) were positive for bacteria. Of the 27 bacteria isolated, 12 (44.4%) *Klebsiella* species, 4 (14.8%) Beta haemolytic *Streptococcus*, 3 (11.1%) *Moraxella* species, 2 (7.4%) *Pseudomonas* species, 2 (7.4%) Coliforms, 2 (7.4%) Coagulase negative *Staphylococcus*, 1 (3.7%) *Acinetobacter* species, 1 (3.7%) Non group a/c/g *Streptococci*. *Klebsiella* species were resistant to ampicillin/amoxicillin, gentamicin and sensitive to netilmicin, cefuroxime, ceftriaxone, co-amoxiclav in most patients. Beta haemolytic *streptococcus* was resistant to erythromycin in most patients and sensitive to ampicillin/amoxicillin, penicillin. *Moraxella* species were resistant to cefuroxime, erythromycin and sensitive to ampicillin/amoxicillin, cefotaxime, co-amoxiclav.

Conclusion: *Klebsiella* species followed by Beta haemolytic *streptococcus* appears to cause exacerbation of COPD in most patients in this setting.

Keywords: Chronic obstructive pulmonary disease, Antibiotic sensitivity pattern, Bacteria