

**DESCRIPTION AND ANTIBIOTIC RESISTANCE OF BACTERIA ISOLATED
FROM SPUTUM SPECIMENS
AT CAN THO UNIVERSITY OF MEDICINE AND PHARMACY HOSPITAL
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ABSTRACT

Background: Bacteria causing respiratory infections tend to rapidly increase antibiotic resistance, prolong treatment time, increase treatment costs and increase mortality. **Objectives:** 1). To determine the proportion of bacterial strains isolated from sputum specimens; 2). To describe the antibiotic resistance of bacterial strains isolated from sputum specimens. **Materials and methods:** A cross-sectional descriptive study was carried out on 96 patients with positive sputum cultures using convenient sampling method. **Results:** *Streptococcus pneumoniae* (44.8%) was found to be the predominant pathogen isolated followed by *Klebsiella pneumoniae* (20.8%), *Acinetobacter baumannii* (13.5%) and *Staphylococcus aureus* (8.3%). The highest resistance was observed with piperacillin, ampicillin, erythromycin, cefaclor, azithromycin. *Streptococcus pneumoniae* isolated were mostly resistant to azithromycin, cefaclor, and erythromycin (85.7%), while 0% resistance was observed for vancomycin, ampicillin and gentamycin. *Klebsiella pneumoniae* were highly resistant to ampicillin (95%), trimeth/sulfa (85%), and piperacillin (85%). *Acinetobacter baumannii* had a resistant rate of over 50% to most antibiotics, especially gentamycin and meropenem (84.6%). *Staphylococcus aureus* were completely resistant to ampicillin, clindamycin, penicillin, while vancomycin resistance was observed among 12.5% of the isolated bacteria. **Conclusions:** The most common pathogen was *Streptococcus pneumoniae*, *Klebsiella pneumoniae*, *Acinetobacter baumannii* and *Staphylococcus aureus*. The highest resistance was observed with piperacillin, ampicillin, erythromycin, cefaclor, and azithromycin. *Streptococcus pneumoniae* was highly resistant to macrolides. *Klebsiella pneumoniae* was highly resistant to most antibiotics of the 2nd, 3rd generation cephalosporins and beta lactams (penicillin and monobactam). *Acinetobacter baumannii* showed a noticeable resistance to fluoroquinolones, aminoglycosides, and 4th generation cephalosporins. *Staphylococcus aureus* was highly resistant to penicillin, lincosamides, fluoroquinolone, while 12.5% vancomycin resistance was observed.

Keywords: sputum specimen, bacteria, antibiotic, antibiotic resistance.