Clinical sources and increasing incidence of *Klebsiella* species to antimicrobials at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia

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**Background:** Among several contributing factors for an alarming increase of bacterial nosocomial infections caused by *Klebsiella* species is overuse of antimicrobials, especially Cephalosporines. *Klebsiella* often produce B-lactamase and are resistant to Ampicillin, Cephalosporines and Aminoglycosides are used to treat infections caused by *Klebsiella* species, where as some strains may show multiple resistance.

**Objective of the Study:** To determine the magnitude of sources of clinical specimens, infection causing *Klebsiella* species and their antimicrobial resistance pattern.

**Methods:** The study has assessed the number of bacterial isolates reported for the past five years in Tikur Anbessa Specialized Hospital clinical bacteriology laboratory. Reported records have been observed retrospectively from registration books in this specific hospital bacteriology laboratory. All infections resulted from *Klebsiella* species in the hospital bacteriology registration books have been collected and analyzed.

**Results:** One thousand nine hundred and eighty *Klebsiella* strains were isolated between September, 2009 and July, 2014 from pediatric and adult patients of Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia. 1422 isolates encountered from inpatient and 558 isolates from out-patient clinical specimens, of which 35% from urine, 29% from pus, 15% from blood, 7% from ear discharge, 4% from sputum, 4% from vaginal discharge and the rest 6% from different clinical specimens collected from different sites analyzed. Over 73% of *Klebsiella* species were resistant to Ampicillin, Amoxicillin, Augmentin, Carbenicillin, Cephalothin, Chloramphenicol, Gentamycin, Tetracycline and Trimethoprim-sulphamethoxazole. On the other hand Ceftriaxone, erythromycin, Naldixic-acid, Norfloxacin and Streptomycin were more effective antimicrobial agents. Resistance to 3 or more antimicrobial agents was detected in more than 87% of the isolates.

**Conclusions:** The findings clearly depicted an increasing rate of infection caused by *Klebsiella* species and high rate of inappropriate usage of antimicrobials in this specific hospital, indicating policy dialogue for updated therapeutic practice at a national level.

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