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**THE EPIDEMIOLOGY OF CARBAPENEM AND COLISTIN RESISTANCE AMONG GRAM NEGATIVE BACTERIA OF CLINICAL ORIGIN.**

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**ABSTRACT**

Antibiotic resistance has become one of the increasing concerns in Gram-negative bacteria. Carbapenems and Colistin are drug of choice against infection caused by extended spectrum beta lactamase (ESBL) producing Gram-negative bacteria. However, Gram-negative bacteria have developed mechanism to circumvent the efficacy of these antibiotics thus, causing resistance to the drugs. This study is a retrospective study of the epidemiology of Carbapenems and colistin resistant Gram-negative clinical isolates. A total of 82 non-duplicated Gram-negative bacteria isolates were collected within the period of March and July 2021, from Medical Microbiology unit of Federal Medical Centre, Abeokuta. Identification of isolates were done using conventional microbiological methods. Antimicrobial susceptibility testing of colistin, imipenem, and ertapenem was done using disk diffusion method according to CLSI guideline. Gram-Negative Bacteria (GNB) were studied. The identity of the isolates and percentage occurrence of each isolate were *Escherichia coli* 31(37.8%), *Klebsiella oxytoca* 8(9.8%), *Klebsiella pnuemoniae* 30(36.6%), *Enterobacter aerogene*s 3(3.6), and *Pseudomonas aeruginosa* 10(12.2%). The prevalence of Imipenem-resistance among Gram-negative bacteria isolates is 20.7% (n=17/82). Of that, *Klebsiella pneumonia* 23.3% (7), *Escherichia col*i 22.6% (7/31), *Pseudomonas aeruginosa* 20% (2/10), *Klebsiella oxytoca* 12.5% (1/8), and *Enterobacter aerogenes* 0% (0/3). Ertapenem-resistance isolates were 56.1% (n=46/82), *Klebsiella pneumonia* 56.7% (17/30), *Escherichia col*i 58.1 (18/31), *Pseudomonas aeruginosa* 30% (3/10*), Klebsiella oxytoca* 75% (6/8), *Enterobacter aerogene*s 66.7% (2)and colistin-resistance isolates was 37.8% (n =31/82). Of these, *Klebsiella pneumonia* was 43.3% (13/30), *Escherichia col*i 36.7% (11/31), *Pseudomonas aeruginosa* 30.0% (3/10), *Klebsiella oxytoca* 75% (6/8), and *Enterobacter aerogenes* 0% (0/3). Despite the limited prescription and usage of carbapenems and colistin, high carbapenem and colistin resistant strains of various species exist in patients in Abeokuta. If the rapid dissemination of resistant strains remains unchecked, it will be a major clinical and public health problem in Nigeria.