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## Antibacterial activity of methanolic extracts of *chrysophyllum albidum* on known multidrug resistant bacterial pathogens

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Statement of the Problem: The development of resistance to antimicrobial drugs by most bacteria, has posed an enormous therapeutic challenge worldwide requiring the need for continuous research for the discovery of safe and efficacious antimicrobial agents of herbal origin to tackle these microorganisms. Medicinal plants have been found to exhibit antimicrobial activity due to compounds such as alkaloids and organo-sulphur compounds, against many Gram-negative and Gram-positive bacteria. This study was aimed at investigating the phytochemical constituents and the antimicrobial properties of extracts of different parts of Chrysophyllum albidum fruit against known Multidrug (MDR) Gram-negative and Gram-positive pathogens. Methodology & Theoretical Orientation: From the cleaned ripe fruits of Chrysophyllum albidum procured from a local market in Lagos, Nigeria, extraction of the dried powdered fruit parts was done by a maceration technique, with absolute methanol as the solvent. Extracts of the various parts of the Chrysophyllum albidum were screened for phytochemical compounds using the Association of Official Analytical Chemists (AOAC) standard analytical methods. Six strains of Gram positive bacteria, and eleven Gram negative isolates from our laboratory stock, were used in this study for Antimicrobial Susceptibility Test (AST) and determination of Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) using standard test methods. Findings: Extracts of the Peel, Seed and Mesocarp all gave positive results for Saponin, Reducing sugar, Phenolic compounds, Tanins, Flavenoids, Terpenoids and Alkaloids. Extracts from the various parts of the fruit, gave appreciable zones of inhibition from the antimicrobial susceptibility test (AST) carried out on the tested Gram positive organisms and Gram negative test organisms at the test concentrations. Following the same pattern in the AST, the Gram positive and the Gram negative test isolates gave MIC and MBC test results ranging from 10.24 mg/ml to 40 mg/ml for the various extracts. Conclusion & Significance: Results showed the plant extract has a broad-spectrum of antibiotic activity over the test isolates, including some found to be resistant to Ciprofloxacin.

## Biography

Adebowale Olufemi Adeluola is a lecturer and researcher with special interest in Pharmaceutical Microbiology. He has his Bachelor of Pharmacy (B. Pharm) undergraduate degree from the University of Benin in 1983; Master of Science degree in Pharmaceutical microbiology from the University of Benin (1988) and a PhD also in Pharmaceutics & Pharmaceutical microbiology from the University of Lagos in 2015. Over the years spanning a total of 17 years' experience in academics, he has conducted research in the area of <u>Pharmaceutical microbiology</u> and has mentored up to 60 students. Before venturing into the line of academics, he has worked extensively in the Nigerian Pharmaceutical industry with varied experience in product development, production and quality control of various forms of Pharmaceutical products. He is currently a member of the Pharmaceutical Society of Nigeria (PSN) and the Nigeria Association of Pharmaceutis in Academia (NAPA).

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