

Cedric Tchinda Fossi

Institute of Medical Research and Medicinal Plants Studies, Cameroon

Cedric is currently a Research Officer at the Institute of Medical Research and Medicinal Plants Studies in Yaounde, Cameroon. Currently, his research is focused on the investigation of Carbapenemase-Producing *Acinetobacter* species in Cameroon. He obtained his PhD in Pharmacology from the University of Yaounde 1 in 2020 and worked on the antibacterial potential of Cameroonian medicinal plants against multi-drug resistant bacteria. He holds a master's in public health in epidemiology from the Catholic University of Central Africa and a Master of Science in Industrial Biochemistry from the University of Yaounde 1.

Cedric has over five years of experience in medical research. He has worked on projects studying tuberculosis, HIV, and malaria co-infections in Cameroon funded by CANTAM as well as epidemiology of multi-resistant bacterium. He was a Junior Research Fellow at the University of Dschang, having researched the antibacterial potential of medicinal plants. He also teaches part-time in bacteriology and pharmacology. Cedric has published several papers in peer-reviewed journals and presented at several conferences. In addition to his research, he is also vice president of Cameroon's Junior Scientist Association and has received training in clinical research ethics and antimicrobial resistance.

Project

Prevalence and Risk Factors Associated with Infections linked to Carbapenemase-Producing *Acinetobacter* species circulating in the city of Yaoundé – Cameroon

Background: Carbapenems are considered drugs of last resort to treat multidrug-resistant infections. However, the emergence and spread of carbapenem resistance, particularly among Gram-negative pathogens such as *Acinetobacter* species, has increased significantly in recent years. *Acinetobacter* is composed of several species (*Acinetobacter pittii*, *Acinetobacter nosocomialis*, *Acinetobacter calcoaceticus*, *Acinetobacter seifertii*, *Acinetobacter dijkschoorniae*) which as serious public health concern particularly in hospital setting in Cameroon, most studies carried out in recent years have focused more on the *Acinetobacter baumannii* strain. Data presenting the prevalence of *Acinetobacter* remain limited and data on resistance profile are needed to curb the constant increase of resistance to available antibiotic.

Hypothesis: We hypothesize that the prevalence of Carbapenemase-Producing *Acinetobacter* species in the city of Yaoundé, Cameroon, is significantly influenced by a combination of risk factors, including antibiotic misuse, healthcare-associated infections, and inadequate infection control measures.

Approach: To test our hypothesis, pathological samples (pus, wounds, urines, bloods, effusions fluids and cervico-vaginal swabs) from patients will be collected in four reference hospitals in the city of Yaoundé. These samples will be used to (1) identify carbapenemase-producing *Acinetobacter* species (2) Then, the resistance profile of carbapenemase-producing *Acinetobacter* species, as well as their co-resistance to other families of antibiotics will be established and (3) risk factors associated with resistance to carbapenems will be determined.

Expected results: This study will contribute to better understanding and managing Carbapenemase-Producing Acinetobacter species in Yaoundé.

Impact: These results will inform public health policies and guidelines, helping health authorities to develop targeted strategies to control the spread of Carbapenemase-Producing Acinetobacter species. The results will be a baseline for Antimicrobial Resistance (AMR) surveillance program implementation in Cameroon.