PRESENTATION TITLE : INVITRO IDENTIFICATION AND CHARACTERIZATION OF DENTAL PLAQUES IN FEDERAL DENTAL COLLEGE ENUGU STATE

CORRESPONDING AUTHOR NAME : Dr.Ugochukwu J.I

AFFILIATION: ESUT PH.NO :08061561835, 09095817345

EMAIL ID’S: ugoij@yahoo.com, [ezzysplash7345@gmail.com](mailto:ezzysplash7345@gmail.com)

WHATSAPP NO :08061561835

ANY ALTERNATIVE NO: 08120929121

OTHER AUTHOR IF ANY:Ezra Chinonso Anoruea , Elijah Eze Ajeagbu

PRESENTATION TYPE : ORAL PRESENTATION

Jane Ijeoma Ugochukwu1, Ezra Chinoso Anoruea\* 1, and Eliaja Eze Ajeagbu2

Department of Pharmaceutical Microbiology and Biotechnology, Faculty of Pharmaceutical Sciences, Enugu State University of Science and Technology, Agbani, Enugu State, Nigeria1.

Department of Pharmaceutical Industrial Chemistry and Medicinal chemistry, David Umahi Federal University of Health Sciences, Nigeria2.

**ABSTRACT**

Dental caries(tooth decay) is the most common, prevalent and widespread non communicable disease in the world, it is also an expensive disease to treat, consuming 5-10% of healthcare budgets in industrialized countries. This study aimed at identifying and characterizing dental plaques in Federal dental college Enugu state. To achieve this, samples was collected from the oral cavity of adult patients through a swab. The Morphological and cultural characteristics was observed using microscopy and biochemical tests like catalase, oxidase etc. Genomic DNA was extracted using Quick-DNATM Miniprep Plus method (Zymo Research protocol) , PCR amplification of the extracted DNA template in a thermacycler was carried out,Agarose gel electrophoresis to analyze the DNA, DNA sequencing using ExoSAP protocol and bio informatics blasting techniques using NCBI database to match the sequence with an already existing sequence , through this techniques the study aimed at identifying and characterizing dental plaques.The analysis of the collected samples revealed the Morphological and cultural features of the identified organisms. At the molecular level, the result indicated the DNA template, amplicons, bands , purity and quantity of DNA , and sequences which indicated *Lysinibacillus macroides* and *Lysinibacillus boronitolerans* . The identification is crucial as it provides valuable insights into microbial landscapes associated with dental plaques among the adult population in Federal Dental College Enugu State and addressing a pressing issue of therapy failure linked by dental plaque related conditions by tailoring precise and targeted therapeutic interventions. Understanding the microbial profile enables the potential development of

specific treatment strategies, aiming to mitigate the challenges posed by therapy resistance and ultimately improve the overall outcomes of dental plaque - related therapies in the adult demographic.