

ASSESSMENT OF ANTIBIOTIC RESISTANCE GENES IN BACTERIAL ISOLATES FROM CLINICAL SAMPLES

BY

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DEGREE IN MICROBIOLOGY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Assessment of Antibiotic Resistance Genes in Bacterial Isolates from Clinical Samples" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

PROJECT SUPERVISOR

Date

HEAD OF DEPARTMENT

Date

EXTERNAL EXAMINER

Date

DEDICATION

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

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ABSTRACT

This study examined assessment of antibiotic resistance genes in bacterial isolates from clinical samples, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of assessment; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with assessment and antibiotic. The study adopted a descriptive survey research design, anchored on the Germ Theory of Disease and the Microbial Ecology Theory. A sample size of 407 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 379 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 3.09). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.512$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 8.93, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.02$, $p > 0.05$). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on assessment.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of assessment of antibiotic resistance genes in bacterial isolates from clinical samples is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

Contemporary scholarship increasingly frames assessment as inseparable from the broader question of antibiotic. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of assessment. Research by Bakare and Kalu (2021) using mixed methods provided particularly rich insight into the mechanisms connecting assessment and antibiotic. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Studies conducted within the West African subregion by Adigun and Osinachi (2018) reached conclusions broadly consistent with the Nigerian evidence. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

Scholars have long recognised assessment as a critical determinant of outcomes in microbiology. National policies and programmes have sought, with varying degrees of success, to respond to the realities of assessment and antibiotic. Empirical evidence from Nnamdi and Ogbeide (2021) suggests that positive developments in antibiotic are associated with improvements in assessment. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Studies by Nwosu and Kalu (2019) largely support the view that assessment exerts a measurable influence on outcomes of interest. Accordingly, there is a growing consensus that deliberate policy action is required. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

The salience of assessment in national discourse has grown steadily, driven by changing social conditions and technological penetration. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which assessment unfolds. The work of Nwosu and Kalu (2023) extended earlier analyses by demonstrating that antibiotic reinforces the effects of assessment. Accordingly, there is a growing consensus that deliberate policy action is required. An examination by Ibrahim and Adeniyi (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Scholars have long recognised assessment as a critical determinant of outcomes in microbiology. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream assessment into routine governance. Field evidence gathered by Nwosu and Nnamdi (2016) suggested that stakeholder engagement materially improves the results achieved in matters of assessment. For practitioners,