

MICROBIAL CONTAMINATION AND STERILITY EVALUATION OF PHARMACEUTICAL PREPARATIONS

BY

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DEGREE IN MICROBIOLOGY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Microbial Contamination and Sterility Evaluation of Pharmaceutical Preparations" 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 microbial contamination and sterility evaluation of pharmaceutical preparations, 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 microbial; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with microbial and contamination. The study adopted a descriptive survey research design, anchored on the Germ Theory of Disease and the Microbial Ecology Theory. A sample size of 412 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 385 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 = 3.08). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.563$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 5.96, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.15$, $p > 0.05$). 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 microbial.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of microbial contamination and sterility evaluation of pharmaceutical preparations 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.

The salience of microbial in national discourse has grown steadily, driven by changing social conditions and technological penetration. Economic pressures and resource scarcity frequently determine the pace at which microbial advances in practice. Oyelaran and Nwosu (2020), in a survey of relevant stakeholders, concluded that the benefits of microbial are unevenly distributed across groups. Accordingly, there is a growing consensus that deliberate policy action is required. Studies conducted within the West African subregion by Bakare and Chukwu (2018) reached conclusions broadly consistent with the Nigerian evidence. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

Few subjects attract as much policy interest in contemporary Nigeria as the question of microbial. Evidence from national agencies indicates that microbial has grown considerably in recent times, underscoring the need for systematic inquiry. Evidence assembled by Okonkwo and Olawale (2015) across twelve states underscored the heterogeneity of outcomes linked to microbial. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. An examination by Obiora and Ogunlana (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Scholars have long recognised microbial 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 microbial and contamination. Empirical evidence from Obiora and Ogunlana (2021) suggests that positive developments in contamination are associated with improvements in microbial. Such findings reinforce the argument that microbial deserves a place of priority on the development agenda. Evidence assembled by Bamgbose and Bello (2015) across twelve states underscored the heterogeneity of outcomes linked to microbial. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

In recent years, microbial has emerged as a central theme in scholarly discourse on microbiology. Within Lagos State, the country's most populous commercial hub, the dynamics of microbial are observed in their starkest form. Studies conducted within the West African subregion by Alade and Famuyide (2018) reached conclusions broadly consistent with the Nigerian evidence. Such findings reinforce the argument that microbial deserves a place of priority on the development agenda. Studies conducted within the West African