EVALUATION OF THYROID FUNCTION MARKERS IN HYPOTHYROID PATIENTS

BY

[STUDENT'S FULL NAME]

[MATRIC NUMBER]

BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF BIOCHEMISTRY, FACULTY OF SCIENCE, UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN BIOCHEMISTRY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Evaluation of Thyroid Function Markers in Hypothyroid Patients" 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.

ACKNOWLEDGEMENT

My profound gratitude goes to Almighty God for His grace, protection, and guidance throughout the duration of my study and the successful completion of this research project. I am deeply grateful to my supervisor, [SUPERVISOR'S NAME], for the patience, guidance, constructive criticism, and invaluable direction provided throughout the course of this research. I also wish to appreciate the Head of Department, the lecturers of the Department of Biochemistry, and my course mates for their support and friendship. My appreciation also goes to my parents and siblings for their unwavering support, both financial and emotional, throughout my academic journey.

ABSTRACT

This study examined evaluation of thyroid function markers in hypothyroid patients, 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 evaluation; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with evaluation and thyroid. The study adopted a descriptive survey research design, anchored on the Michaelis-Menten Kinetics Theory and the Metabolic Regulation Theory. A sample size of 399 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 388 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 = 3.16). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.49$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 5.33, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.27$, $p > 0.05$). 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 evaluation.

TABLE OF CONTENTS

Title Page i
Certification ii
Dedication iii
Acknowledgement iv
Abstract v
Table of Contents vi
List of Tables vii
List of Figures viii

CHAPTER ONE: INTRODUCTION 1
1.1 Background to the Study 1
1.2 Statement of the Problem 4
1.3 Objectives of the Study 7
1.4 Research Questions 7
1.5 Research Hypotheses 7
1.6 Significance of the Study 8
1.7 Scope and Limitation of the Study 11
1.8 Definition of Terms 13
CHAPTER TWO: LITERATURE REVIEW 15
2.1 Conceptual Review 15
2.1.1 Concept of Evaluation 15
2.1.2 Concept of Thyroid 16
2.1.3 Concept of Function 18
2.2 Theoretical Framework 20
2.2.1 Michaelis-Menten Kinetics Theory 20
2.2.2 Metabolic Regulation Theory 21
2.2.3 Oxidative Stress Theory 22
2.2.4 Signal Transduction Theory 24
2.3 Empirical Review 25
2.3.1 Early Studies on evaluation 25
2.3.2 Recent Nigerian Evidence on evaluation 27
2.3.3 Evaluation and thyroid 28
2.3.4 Comparative Perspectives across Africa 30
2.4 Summary of Literature Review 32
CHAPTER THREE: RESEARCH METHODOLOGY 35
3.1 Research Design 35
3.2 Population of the Study 35
3.3 Sample Size and Sampling Technique 36
3.4 Sources of Data Collection 37
3.5 Research Instrument 38
3.6 Validity and Reliability of the Instrument 39
3.7 Method of Data Analysis 40
3.7.1 Administration of the Instrument 41

3.8 Ethical Considerations 42
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION 44
4.1 Data Presentation 44
4.2 Demographic Characteristics of Respondents 45
4.3 Analysis of Research Questions 45
4.4 Test of Hypotheses 46
4.5 Discussion of Findings 47
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS 52
5.1 Summary 52
5.2 Conclusion 53
5.3 Recommendations 54
5.4 Suggestions for Further Studies 54
REFERENCES 56
APPENDIX 58

LIST OF TABLES

Table 2.1: Summary of the Review of Related Literature 32
Table 2.2: Operationalisation of the Study Variables 33
Table 3.1: Population of the Study and Sampling Technique 42
Table 3.2: Validity and Reliability of the Research Instrument 43
Table 4.1: Gender Distribution of Respondents 50
Table 4.2: Age Distribution of Respondents 50
Table 4.3: Educational Attainment of Respondents 50
Table 4.4: Weighted Mean Analysis of Research Question One 51
Table 4.5: Weighted Mean Analysis of Research Question Two 51
Table 4.6: Correlation Summary between the Independent and Dependent Variables 51
Table 4.7: Independent Samples t-test by Gender 51
Table 4.8: Chi-square Test of Association 51

LIST OF FIGURES

Figure 1.1: Conceptual Framework of the Study 14
Figure 2.1: Evaluation in Biochemistry Research Context 33
Figure 2.2: Thyroid in Biochemistry Research Context 34
Figure 2.3: Function in Biochemistry Research Context 34
Figure 3.1: Biochemistry Research Context 43
Figure 4.1: Gender Distribution of Respondents 50
Figure 4.2: Age Distribution of Respondents 50

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of evaluation of thyroid function markers in hypothyroid patients 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.

Scholars have long recognised evaluation as a critical determinant of outcomes in biochemistry. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which evaluation unfolds. Empirical evidence from Adeniyi and Adekunle (2021) suggests that positive developments in thyroid are associated with improvements in evaluation. Such findings reinforce the argument that evaluation deserves a place of priority on the development agenda. Evidence assembled by Nnamdi and Okonkwo (2015) across twelve states underscored the heterogeneity of outcomes linked to evaluation. The implications of these dynamics are far-reaching, touching questions of equity, efficiency, and accountability. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

evaluation, when examined in relation to thyroid, reveals complex and often paradoxical dynamics. The socio-cultural diversity of Nigeria implies that responses to evaluation must be differentiated rather than uniform. The work of Eze and Kalu (2023) extended earlier analyses by demonstrating that thyroid reinforces the effects of evaluation. Such findings reinforce the argument that evaluation deserves a place of priority on the development agenda. An examination by Okonkwo and Bamgbose (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. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

Over the past two decades, evaluation has become increasingly significant within the Nigerian landscape and beyond. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of evaluation. Okonkwo and Bamgbose (2020), in a survey of relevant stakeholders, concluded that the benefits of evaluation are unevenly distributed across groups. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. The aggregate picture emerging from Adebayo and Chukwu (2023) points to a modest but consistent association between evaluation and the outcomes of interest. Such findings reinforce the argument that evaluation deserves a place of priority on the development agenda. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

evaluation continues to command considerable attention among researchers, policymakers, and practitioners in biochemistry. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream evaluation into routine governance. Studies conducted within the West African subregion by Adekunle and Adekunle (2018) reached conclusions broadly consistent with the Nigerian evidence. The