

**BUSITEMA UNIVERSITY**

**FACULTY OF HEALTH SCIENCES**

**DEPARTMENT OF COMMUNITY AND PUBLIC HEALTH**

**RESEARCH DISSERTATION**

**ASSESSMENT OF COVID-19 VACCINE HESITANCY**

**AMONGST HEALTH CARE WORKERS IN DOKOLO**

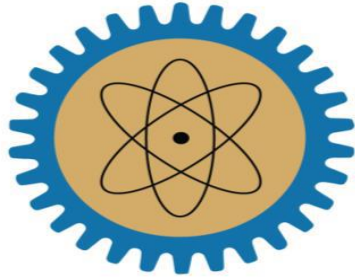
**DISTRICT: A CROSS-SECTIONAL STUDY**

**By**

**OUNI PATRICK DIOX**

**This Dissertation is submitted to the Directorate of Graduate Studies,  
Research and Innovation in partial fulfillment of the requirement for the  
award of the degree of Masters of Public Health of Busitema University**

**MAY 2022**



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## ABSTRACT

**Background:** The World Health Organization (WHO) declared COVID-19 a pandemic on 11<sup>th</sup> March 2020, and as of the 3<sup>rd</sup> May 2022, the total cumulative cases and death globally stood at 511,965,711 and 6,240,619, respectively. In Uganda, as of the 3<sup>rd</sup> May 2022, the total number of COVID-19 deaths were 3,597. In response, WHO recommended several vaccines, which significantly averted the tide in high-income countries, with a drastic decline in new COVID-19 infections. Subsequently, Uganda adopted a rigorous nationwide vaccination campaign which was characterized by a low uptake of COVID-19 vaccines in the initial phases. One of the hypothesized reasons for the low uptake of COVID-19 vaccines was vaccine hesitancy. However, there is a paucity of information on vaccine hesitancy among health workers. This study aimed to examine COVID-19 vaccine hesitancy amongst healthcare workers in the Dokolo district.

**Methods:** This was a cross-sectional study that adopted a mixed-methods sequential explanatory design, consisting of two distinct phases: a quantitative phase, followed by a qualitative phase. Structured questionnaires and a key informant interview guide were used to collect quantitative and qualitative data respectively from the targeted healthcare workers. Quantitative data analysis was performed using Stata version 15.0 software, and the qualitative analysis was performed using NVIVO software. I conducted a multivariable logistic regression model to determine factors associated with vaccine hesitancy. We defined vaccine hesitancy as an Individual's unwillingness to get vaccinated despite the availability of the vaccine.

**Results:** Almost all the 350 registered health workers (from public and private health facilities) in Dokolo district were recruited in this study [346/350 (99%)]. The mean age  $\pm$  standard deviation of the participants was 31.4 $\pm$ 6.9 years. Participants' cadres were nurses [225/346 (60.6%)] clinicians [31/346 (9%)], environmental health officers [49/346 (14.3%)], laboratory technicians [26/346 (6.7%)], and doctors [15/346 (4.4%)]. We found that [46/346 (13.3%)] were vaccine-hesitant. In the multivariable analysis, fear of side effects (AOR: 3.5; 95% CI: 1.3-9.3) and health workers' lack of trust in the information provided by health authorities (AOR: 5.2; 95% CI: 1.6-16.1) were associated with vaccine hesitancy among the health workers. Qualitative findings identified fear of side effects, distrust in vaccine stakeholders, and lack of trust in the vaccine as key barriers to COVID-19 vaccination uptake among health workers.

**Conclusion and recommendations:** Vaccine hesitancy among health workers was low, at 13.3%. This was associated with fear of side effects, and the lack of trust in the information provided by the health authorities. The study recommends health stakeholders, including the Ministry of Health, the World Health Organisation, and non-state actors, explain COVID-19 vaccine safety and embark on rigorous information dissemination on the known side effects and management strategies, to restore vaccine confidence among health workers and the public and also accurately packaging the information on COVID-19 vaccine from the national and sub-national level, and use correct and reliable channels to disseminate the information to erase distrust in the information passed out on COVID-19 vaccine.

**Keywords:** COVID-19, vaccine hesitancy, health workers, SARS-CoV-2, unwillingness

## DECLARATION

I, **OUNI PATRICK DIOX**, declare that the work in this research report is original and my effort, and has never been presented for any academic award, either wholly or partially to any institution of higher learning.

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## APPROVAL

This research report has been submitted with the approval of the following supervisors:

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**DR. RACHAEL NAMULONDO**

## **DEDICATION**

I dedicate this research report to my mother, Mrs. Grace Acobi, my late Father, Benson Acobi, my daughter Antonia Ouni, and my son Emmanuel Agwai.

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First and foremost, I am very grateful to the Almighty ever-loving God for the faithfulness, wisdom, Knowledge, and the Gift of Life. Your blessings have enabled me to pursue my life's goals, and I would not have gone an inch further without you. May your Mighty Name be exalted (Psalms 57:5).

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In the same vein, I take the opportunity to applaud the support and contributions of the Dokolo District Local Government health staff, for participation in this study. May the study results be a focal point towards improving health service delivery in the district.

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## TABLE OF CONTENTS

ABSTRACT .....	i
DECLARATION .....	ii
APPROVAL .....	iii
DEDICATION .....	iv
TABLE OF CONTENTS.....	vi
LIST OF FIGURES .....	ix
LIST OF TABLES .....	x
LIST OF ACRONYMS .....	xi
OPERATIONAL DEFINITIONS.....	xii
CHAPTER ONE: INTRODUCTION.....	1
1.0 Introduction.....	1
1.1 Background of the Study .....	1
1.2 Statement of the Problem.....	2
1.3 Objectives of the Study.....	3
1.3.1 General Objective .....	3
1.3.2 Specific Objectives .....	3
1.4 Research Questions.....	3
1.5 Hypotheses.....	4
1.6 Significance of the Study.....	4
1.7 Scope of the Study .....	4
1.8 Conceptual Framework.....	4
CHAPTER TWO: LITERATURE REVIEW.....	7
2.1 Introduction.....	7
2.2 Prevalence of vaccine hesitancy .....	7
2.3. Socio-demographic factors/contextual factors associated with vaccine hesitancy .....	9
2.4 Individual and group influences and vaccine hesitancy .....	11
2.5 Efficacy and vaccine hesitancy.....	12
2.6 Summary of Literature .....	14
CHAPTER THREE: METHODOLOGY .....	15
3.0 Introduction.....	15
3.1 Study design.....	15



3.1.1 Quantitative Aspect.....	15
3.1.1.1 Study setting.....	15
3.1.1.2 Study population .....	15
3.1.1.3 Sample Size Determination.....	15
3.1.1.4 Selection Criteria .....	16
3.1.1.5 Inclusion Criteria .....	16
3.1.1.5 Exclusion Criteria .....	16
3.1.1.6 Data collection methods.....	16
3.1.1.7 Data quality control.....	16
3.1.1.8 Study variables.....	16
3.1.1.9 Dependent variable .....	16
3.1.1.10 Independent variables .....	17
3.1.1.11 Data analysis .....	17
3.1.1.12 Quantitative data analysis .....	17
3.1.1.13 Sensitivity analyses.....	17
3.2 Qualitative Aspect.....	18
3.2.1 Study Population.....	18
3.2.2 Data collection technique.....	18
3.2.3 Data analysis .....	18
3.2.4 Data presentation .....	19
3.3 Ethical Considerations .....	19
<b>CHAPTER FOUR: RESULTS .....</b>	<b>20</b>
4.0 Introduction.....	20
4.1 Quantitative results .....	20
4.1.1 Response Rate.....	20
4.1.2 Background characteristics of participants .....	20
4.5 Factors associated with COVID-19 vaccine hesitancy.....	23
4.6 Sensitivity analyses.....	24
4.7 Qualitative results .....	26
4.7.1 Poor perceptions of the vaccine effectiveness .....	26
4.7.2 Fear of the side effects .....	26
4.7.3 The lack of trust in the vaccine .....	27
4.7.4 Feeling coerced to take the COVID-19 vaccine .....	28

4.7.5 Severe Adverse Events and information asymmetry .....	28
4.7.6 Distrust in vaccine stakeholders.....	28
CHAPTER FIVE: DISCUSSIONS .....	31
5. 0 Introduction.....	31
5.1 Prevalence of hesitancy.....	31
5.2 Factors associated with COVID-19 vaccine hesitancy .....	31
5.3 Barriers to Covid-19 vaccination .....	32
5.4 Methodological consideration.....	33
5.4.1 Strength and Limitation of the study .....	33
CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS .....	35
6.0 Introduction.....	35
6.1 Conclusions.....	35
6.2 Recommendations.....	35
REFERENCES .....	36
APPENDICES .....	i
APPENDIX I: QUESTIONNAIRE .....	i
APPENDIX II: INTERVIEW GUIDE .....	iv
APPENDIX III: RESEARCH ETHICS COMMITTEE APPROVAL LETTER.....	v
APPENDIX IV: Map of Dokolo district by sub-counties .....	vii

## LIST OF FIGURES

<b>Figure 1- 1.</b> Conceptual framework of the perceived link between background factors, intention to vaccinate and vaccine hesitancy(Adopted from the 5C model of vaccine hesitancy).....	6
<b>Figure 4- 1.</b> Prevalence of vaccine hesitancy among health workers in Dokolo district in Uganda. ....	22
<b>Figure 4- 2.</b> Scree plot of eigenvalues after PCA .....	24

## LIST OF TABLES

<b>Table 4- 1.</b> Characteristics of health workers in Dokolo district in Uganda.....	20
<b>Table 4- 2.</b> Factors associated with COVID-19 vaccine hesitancy among health workers in Dokolo district in Uganda. ....	23
<b>Table 4- 3.</b> Principal components correlation .....	24
<b>Table 4- 4.</b> Principal components (eigenvectors).....	25
<b>Table 4- 5.</b> Factors associated with COVID-19 vaccine hesitancy among health workers in Dokolo district in Uganda. using a PCA generated vaccine hesitancy score .....	25

## LIST OF ACRONYMS

AO R-	Adjusted Odds Ratio
CI-	Confidence Interval
COR-	Crude Odds Ratio
COVID-19-	Corona Virus Disease
DHIS-	District Health Information System
DHT-	District Health Team
ECDC-	European Centre for Disease Prevention and Control
HBM-	Health Belief Model
HC-	Health Centre
HWs-	Healthcare Workers
HSD-	Health Sub District
MOH-	Ministry of Health
PCA-	Principal Component Analysis
PFP-	Private for Profit
PNFP-	Private Not for Profit
SARS-	Severe Acute Respiratory Syndrome
SOPS-	Standard Operating Procedures
VPDs-	Vaccine-Preventable Diseases
WHO-	World Health Organization

## OPERATIONAL DEFINITIONS

Key concepts	Definitions
<b>Vaccine hesitancy</b>	Individual's unwillingness to get vaccinated despite the availability of the vaccine.
<b>Vaccine</b>	A preparation used to stimulate the body's immune response against diseases. Vaccines are usually administered through needle injections, but some can be administered orally, or through the nasal tract.
<b>Vaccination</b>	The introduction of a vaccine to stimulate the body's immune response against diseases.
<b>Immunization</b>	The action of making an individual immune to infection, typically by inoculation.
<b>Immunity</b>	The ability of the human body to resist a particular infection or toxin, by the action of specific antibodies or sensitized white blood cells.
<b>Efficacy</b>	Is the percentage reduction of disease cases in a vaccinated group of people compared to an unvaccinated group
<b>Side effects</b>	A secondary, typically undesirable effect of a drug or medical treatment.
<b>Trust in information</b>	The extent to which health workers believe in the messaging or information being disseminated by national or international health sectoral stakeholders, regarding the COVID-19 vaccination.
<b>Complacency</b>	Exists where perceived risks of vaccine-preventable disease are low and vaccination is not deemed a necessary preventive action.
<b>Confidence</b>	Is defined as the trust health workers have in the information, vaccine safety and effectiveness, as well as the health system delivery of the vaccines.
<b>Convenience</b>	This is when physical availability, affordability, and willingness-to-pay, geographical accessibility, ability to understand (language and health literacy, and appeal to the targeted population positively influence vaccine uptake.
<b>Calculation</b>	Refers to individuals' engagement in extensive information searching. We assume that individuals high in calculation evaluate risks of infections and vaccination, to derive a good decision.
<b>Collective responsibility</b>	The willingness to protect others by one's own vaccination through herd immunity. People with high collective responsibility are willing to vaccinate in another persons' interest.

## CHAPTER ONE: INTRODUCTION

### 1.0 Introduction

This chapter presents the background to the study, the statement of the problem, the purpose or general objective of the study, research questions, hypotheses, the scope of the study, the significance, and the conceptual framework adopted for this study.

### 1.1 Background of the Study

The 2019 coronavirus disease (COVID-19), caused by the novel coronavirus (SARS-CoV-2), began in the City of Wuhan, China, and spread quickly around the world, generating a global health crisis of massive proportions(Khalis *et al.*, 2021). The World Health Organization (WHO) on 11<sup>th</sup> March 2020 declared COVID-19 a global pandemic. By the end of May in the same year, 5 million people had been infected across 215 countries, with more than 300,000 fatalities(Lin *et al.*, 2020). As was the case in Europe, Asia, and Central America, African countries also recorded a high incidence of COVID-19, with a cumulative 8,711, 054 cases and 171,538 (2.8%) mortalities, as of the 22<sup>nd</sup> April 2022 from WHO coronavirus(COVID-19) dashboard.

Uganda recorded its first COVID-19 case on March 22<sup>nd</sup>, 2020, 11 days after the World Health Organization declared COVID-19 a global pandemic, and since then, the cases of COVID-19 continued to increase slowly. The Government of Uganda instituted stringent measures to contain the COVID-19 spread at the population level, including restricting public transport, instituting a national lockdown to bar population movements, and social distancing, among others. However, the unprecedented measures undertaken to break the chain of transmission caused public panic and unrest, subsequently generating psychological stress in the population(Africa *et al.*, 2020)

The WHO recommended vaccination and immunization, as effective measures to mitigate the COVID-19 pandemic. Other studies also established that the vaccines significantly lowered the burden of COVID-19, with low infection rates recorded in vaccinated populations(Maraqa *et al.*, 2021). Vaccination's role in disease control, elimination, or eradication has been recognized, and its benefits extend beyond the prevention of particular diseases in individuals. Therefore, high uptake or acceptance of vaccines must be embraced, to optimize the control of vaccine-preventable diseases in our communities (Maraqa *et al.*, 2021).

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