ASSESSMENT OF FACTORS THAT INFLUENCED THE UPTAKE OF COVID -19 VACCINATIONS AMONG HEALTH WORKERS IN UGANDA, A CASE STUDY OF MULAGO NATIONAL REFERRAL HOSPITAL STAFFS

BY

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FEBRUARY 2024

- DECLARATION -

I, **Amorut Everline Ruth** declare that this is my own work titled "**assessment of factors that influenced the uptake of covid-19 vaccination among health workers in Uganda**" is my own original work, has never been produced or submitted to any university for any academic degree award.

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APPROVAL

This dissertation titled **"assessment of factors that influenced the uptake of covid-19 vaccination among health workers in Uganda"** has been produced under my guidance and supervision. It is ready to be submitted with the approval for examination

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DEDICATION

I take this time to dedicate this dissertation titled "**assessment of factors that influenced the uptake of covid-19 vaccination among health workers in Uganda"** to my beloved parents, sisters and brothers, relatives and friends who have been beside me during the course of my studies. I dedicate it to my supervisor and to all the staff and management of Mulago national referral hospital and King Ceasor University.

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With thankful and heartfelt appreciation, I take the pleasure to acknowledge the following persons in their various capacities for having contributed dearly towards my study and completion of this piece of work.

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LIST OF ABBREVATION

HWs **:** Health Workers

KCCA **:** Kampala Capital City Authority

MNRH **:** Mulago National Referral Hospital

MoH **:** Ministry of Health

NPIs **:** Non Pharmaceutical Interventions

OPD **:** Outpatient Department

Sdv **:** Standard Deviation

SPSS **:** Statistical Package for Social Sciences

TB **:** Tuberculosis

WHO **:** World Health Organization

UNICEF **:** United Nation Children Effort Fun

WHO **:** World Health Organization

DEFFINITION OF KEY TERMS

COVID-19: The name of the disease caused by the novel coronavirus, SARS-CoV-2, which is short for "Coronavirus Disease 2019." If you're sick, you have COVID-19. You were infected by SARS-CoV-2.

Drive-through testing: Testing in which individuals remain in their vehicles, and medical staff in protective gear come to administer the swab test. Afterward, swabs are sent to a laboratory for testing.

Endemic: A disease that regularly infects humans, like the flu, sore throat or any common illness. There are four coronavirus strains that commonly infect humans, usually manifesting as colds.

Epidemic: An increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area. When there are enough outbreaks, in places beyond that initial spot that amounts to an epidemic.

ABSTRACT

The study investigated the assessment of factors that influenced the uptake of covid-19 vaccination among health workers at Mulago National Referral Hospital.

The specific objectives of the study were to find out the factors for COVID-19 vaccination exercise among the health workers in MNRH, to examine the effects of COVID-19 vaccination exercise among health workers in MNRH and to find out the challenges facing COVID-19 vaccination exercise among health workers in MNRH

The study adopted a descriptive research design consisting of mainly quantitative approaches for the purpose of making valid and insightful conclusions. The study was conducted in Mulago National Referral Hospital, with the target population that mainly comprised of nurses who nursed post covid patients considering they have the required knowledge about the area of investigation. The study used both probability and non-probability sampling designs. The non-probability sampling design included purposive sampling while probabilistic sampling design specifically simple random sampling was adopted during the study. Interviews were conducted with a sample size of 100 respondents purposively estimated using a self-administered structured questionnaire.

The study findings revealed the fear of getting infected (reported by 66% of the respondents) followed by the fear of transferring the disease to their family members (reported by 53% of the respondents) as the greatest stress factors experienced. Bold attitude to treating Covid-19 patients and received equipment and means of protection as measures implemented to manage and balance the increased workload during the pandemic. Additionally, a high proportion (59%) of respondents noted the workload to have increased. However, the respondent's challenges while carrying out corvid-19 vaccination, limited funds, use of different vaccines (reported by 45%),

The study recommended that there should be surveys and interviews with health workers to understand their perceptions, attitudes, and beliefs regarding COVID-19 vaccination. Explore factors such as knowledge about the vaccine, concerns about safety and efficacy, and perceptions of risk.

Assess the accessibility and availability of COVID-19 vaccines for health workers in different regions of Uganda. Investigate whether logistical challenges, such as vaccine distribution and supply chain issues, are affecting vaccine uptake

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter includes the background of the study, objectives, and statement of the problem, purpose and significance, scope, research questions and limitations of the study, problem statement and the Conceptual framework.

1.1 Background of the Study

The novel coronavirus 2019, termed COVID-19, is a highly transmissible and pathogenic viral infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and COVID-19 vaccines are seen as an effective public health tool in mitigating the spread of SARS-CoV-2. The COVID-19 pandemic has raised many direct and indirect health problems. Although most people experience upper respiratory tract and pulmonary symptoms, those with severe COVID-19 may also experience widespread small and large vessel thrombosis, microvascular injury, cardiac conduction abnormalities, neurologic deficits, diarrheal symptoms, gastrointestinal bleeding, organ dysfunction, hypercytokinemia, and lymphopenia, any of which can be life-threatening.

Globally, More than three years since the first SARS-CoV-2 was first identified in Wuhan, China, the development of COVID-19 vaccines has accelerated at an unprecedented rate, and the WHO has approved several vaccines against COVID-19 that have been distributed globally in various regions at different stages. (syndr, 2021)The coronavirus disease 2019 (COVID-19), a respiratory syndrome caused by SARS-CoV-2, has brought about a worldwide pandemic since its breakout in 2019. As of 9 November 2022, there were over 600 million confirmed cases of COVID-19, including nearly 7 million deaths globally. In China, these figures were over 9 million and nearly 29 thousand, respectively and therefore three types of COVID-19 vaccines are available in China, including the single-dose adenovirus vector vaccine, the 2-dose inactivated vaccine and the 3-dose recombinant subunit vaccine. (Dula, 2019) However, with the emergence of Omicron variant full vaccination may not be enough to prevent infection. Receiving a booster dose is of great importance in the context of the Omicron wave. To address this issue, China called on key populations who completed the primary vaccination series of the adenovirus vector vaccine and inactivated vaccine to receive a booster dose.

In African countries, the continent has to date received around 500 million doses of the COVID-19 vaccine and administered 327 million doses. As of January 2022, Africa accounted

for approximately 3.3% of global cases and 4.2% of global deaths. However, it is of concern that only 10% of Africa's population is fully vaccinated. Vaccine uptake is dependent on various psychological states, behaviors, and contextual factors. (Khubchandani, 2021)More specifically, vaccine hesitancy (VH) refers to indecisiveness or uncertainty among individuals about vaccine uptake, and those vaccine-hesitant individuals can exhibit a spectrum of attitudes, dependent on individual and environmental influences. However, vaccination refusal is classified as a decision to reject vaccination. The current literature has noted a number of barriers related to vaccine uptake, i.e., inadequate infrastructure, prevailing cultural norms, poor health literacy, vaccine-related myths, conspiracy theories, and misinformation. Despite recent systematic reviews in low- and middle-income countries (LMICs) this review aims to synthesize and map the current literature specifically in African countries, which are not well represented in the above reviews due to the persistent challenges in the rollout of vaccines and subsequent vaccination of the population on the African continent. We furthermore intend to extend the focus on COVID-19 vaccine uptake and VH to include more detailed information on the individual, interpersonal, and structural barriers and facilitators to COVID-19 vaccination. Accordingly, this review attempts to explore factors influencing the intention and uptake of COVID-19 vaccines on the African continent. The present study will shed light on the existing literature by understanding the determinants of uptake and factors influencing people's decisions to vaccinate against COVID-19, which is necessary to inform health promotion interventions to improve the uptake of COVID-19 vaccination in this context. KJK (Dzieciolowska S, 2020)

In Uganda, the country recorded its first confirmed case of COVID-19 on 21 March 2020 and received its first batch of COVID-19 vaccines 1 year later in March 2021. At the start, vaccination targeted high-risk groups including health workers, teachers, security personnel, persons older than 50 years and those with comorbidities. Starting August 2021 when the country received more doses of vaccines, vaccination was opened up to all Ugandans aged 18 years and above. Vaccines were largely available through designated health facilities, outreaches and mobile vaccination service points. The Ministry of Health (MOH) ran media campaigns to mobilize communities for COVID-19 vaccination working hand in hand with local government structures. High vaccination coverage was critical for containment of the pandemic, re-opening of the economy and reversal of the negative socioeconomic impacts of the NPIs. However, the opening up of eligibility for vaccination was married with negative information and fears of vaccine hesitancy (Asaville, 2020). In order to develop critical

strategies to achieve high vaccination coverage, there is need for an in-depth understanding of factors influencing the uptake of COVID-19 vaccination. This study, therefore, sought to gather and analyze data to determine the uptake of COVID-19 vaccines and associated factors among adults in Uganda.

1.2 Problem Statement

In African countries, the continent has to date received around 500 million doses of the COVID-19 vaccine and administered 327 million doses. As of January 2022, Africa accounted for approximately 3.3% of global cases and 4.2% of global deaths. However, it is of concern that only 10% of Africa's population is fully vaccinated. Vaccine uptake is dependent on various psychological states, behaviors, and contextual factors. (Khubchandani, 2021)More specifically, vaccine hesitancy (VH) refers to indecisiveness or uncertainty among individuals about vaccine uptake, and those vaccine-hesitant individuals can exhibit a spectrum of attitudes, dependent on individual and environmental influences. However, vaccination refusal is classified as a decision to reject vaccination. The current literature has noted a number of barriers related to vaccine uptake, i.e., inadequate infrastructure, prevailing cultural norms, poor health literacy, vaccine-related myths, conspiracy theories, and misinformation.

Despite the widespread availability of Covid-19 vaccines, a significant of proportion of health workers unvaccinated, raising concerns about the effectiveness of vaccination campaigns. This study seeks to identify and analyses the Multifaceted factors contributing to the hesitancy or low uptake of Covid-19 vaccines among health workers with the aim of informing targeted intervention's and strategies to improve vaccination rates in this critical population

The successful vaccination of health workers against COVID-19 is crucial for ensuring the resilience of healthcare systems and minimizing the risk of transmission within healthcare settings. Despite the availability of COVID-19 vaccines, the uptake among health workers in Mulago Hospital, Uganda, appears to be influenced by various factors that need to be identified and addressed. This assessment aims to explore the barriers and facilitators influencing the decision of health workers in Mulago Hospital to accept or decline COVID-19 vaccination, with the goal of improving vaccination rates and enhancing overall community safety.

1.3 Justification

Assessing the factors that influence the uptake of COVID-19 vaccinations among health workers in Uganda is crucial for understanding and addressing the challenges faced in achieving widespread vaccination coverage. Justifying this assessment involves considering various aspects related to the context, healthcare system, and the attitudes and behaviors of health workers. Here's a breakdown of the justification:

Contextual Relevance:

Epidemiological Situation: Uganda's current COVID-19 epidemiological situation, including the prevalence of the virus and emerging variants, is crucial. Understanding the level of threat helps determine the urgency of vaccination among health workers.

Vaccine Availability: The availability and accessibility of COVID-19 vaccines play a significant role. Assessing the vaccine supply chain, distribution networks, and any challenges in procurement provides context for the evaluation.

Healthcare System Dynamics:

Infrastructure and Resources: Evaluate the capacity of the healthcare system to administer vaccinations. Consider factors such as the availability of vaccination centers, trained personnel, and necessary equipment.

Communication and Education: Assess the effectiveness of communication strategies and educational programs aimed at health workers. Identify gaps in knowledge and misconceptions that may affect vaccine uptake.

Health Worker Specific Factors:

Risk Perception: Understand health workers' perceptions of the risks associated with COVID-19 and the benefits of vaccination. Factors such as perceived severity of the disease, personal vulnerability, and the effectiveness of the vaccine influence decision-making.

Trust in Vaccines: Assess the level of trust health workers have in the safety and efficacy of COVID-19 vaccines. Factors such as misinformation, historical vaccine hesitancy, and concerns about side effects may impact trust.

Sociocultural and Economic Factors:

Cultural Beliefs and Practices: Consider cultural factors that may influence health workers' beliefs about vaccination. Addressing cultural barriers is crucial for effective vaccine communication.

Socioeconomic Status: Examine how socioeconomic factors, such as income, access to transportation, and living conditions, may impact vaccine uptake. Financial barriers and logistical challenges can affect the decision to get vaccinated.

Policy and Regulatory Environment:

Government Policies: Evaluate existing policies related to COVID-19 vaccination among health workers. Assess the effectiveness of policy measures in promoting vaccine acceptance and addressing potential barriers.

Regulatory Support: Consider the role of regulatory bodies in ensuring the safety and efficacy of vaccines. Confidence in regulatory processes can positively influence health worker attitudes toward vaccination.

Data and Monitoring:

Data Collection: Emphasize the importance of data collection mechanisms to monitor vaccine coverage among health workers. Regular updates on vaccination rates, reasons for refusal, and regional variations provide insights for targeted interventions.

Public Health Impact:

Herd Immunity: Emphasize the role of health worker vaccination in achieving overall herd immunity. Highlighting the public health benefits reinforces the importance of individual contributions to the collective well-being.

1.4 Objectives of the study

1.4.1 General objective

The main objective of this study was to assess the factors that have influenced the uptake of Covid-19 vaccination among health workers in Uganda taking a case study of Mulago national referral hospital.

1.4.2Specific objectives of the study

i. To find out the factors for COVID-19 vaccination exercise among the health workers in MNRH.
ii. To examine the effects of COVID-19 vaccination exercise among health workers in MNRH.
iii. To find out the challenges faced during COVID-19 vaccination exercise among health workers in MNRH.

1.5 Research Questions

1. What were the factors for COVID-19 vaccination exercise among health workers in MNRH?
2. What were the effects of COVID-19 vaccination exercise among the health workers of MNRH?
3. What were the challenges faced during COVID-19 vaccination exercise among the health workers at MNRH?

1.6 Scope of the Study

1.6.1 Content scope

This research proposal was carried out with the aim to assess the factors that have influenced the uptake of covid-19 vaccination among health workers in Uganda using Mulago national referral hospital as a case study.

1.6.2 Geographical Scope

This research study was conducted from Mulago national referral hospital- Kampala in Kawempe division of Kampala Capital City Authority (KCCA), MNRH is the biggest public hospital in Uganda. The researcher's choice of the areas is due to the fact that it is a hub of information required by the researcher for the success of this study.

1.6.3 Time scope

The study covered period of three years starting from 2022 to 2023

1.6.4 Factors that influence the uptake of covid-19

Demographic Factor:

Age: Different age groups may have varying levels of vaccine acceptance.

Gender: Explore if there are gender-based differences in vaccine uptake.

Socioeconomic status: Consider income levels, education, and occupation.

Cultural and Religious Beliefs:

Cultural perceptions: Explore how cultural beliefs and practices influence vaccine acceptance.

Religious beliefs: Assess the impact of religious beliefs on vaccine uptake.

Health Literacy:

Understanding of vaccine information: Evaluate how well people comprehend vaccine-related information.

Access to healthcare information: Assess the availability of accurate information.

Trust in Healthcare System

Confidence in authorities: Explore trust levels in government health agencies and healthcare providers.

Trust in the vaccine development process: Assess perceptions regarding vaccine safety and efficacy.

Risk Perceptions

Perceived severity of COVID-19: Evaluate how individuals perceive the risks associated with COVID-19.

Perceived vaccine risks: Assess concerns and misconceptions about vaccine safety.

Social Influence:

Family and peer influence: Consider the impact of social circles on vaccine decisions.

Public opinion and media influence: Explore the role of media and public discourse.

Access to Vaccination Centers

Proximity to vaccination sites: Assess how easily individuals can access vaccination centers.

Availability of vaccination appointments: Evaluate the ease of scheduling appointments.

Vaccine Hesitancy

Identify specific concerns: Address common reasons for vaccine hesitancy.

Tailor interventions: Develop strategies to address specific hesitancy issues.

Policy and Government Initiatives

Government communication strategies: Evaluate the effectiveness of public health campaigns.

Vaccine mandates and incentives: Assess the impact of policies encouraging or requiring vaccination.

Previous Health Behaviors

History of vaccine compliance: Consider the influence of previous vaccination behaviors.

Health-seeking behavior: Evaluate how individuals typically approach their health.

Psychological Factors

Fear and anxiety: Assess psychological barriers to vaccine acceptance.

Perceived benefits: Explore individuals' understanding of the benefits of vaccination.

1.7Significance of the Study

This study contributed in addition to the existing literature of the information that other or future researchers will be on. Therefore, the field of academic is bound to be enriched with additional data from the field.

The objectives of this study helped to discover the effects of vaccination activities (not only COVID-19) among the health workers.

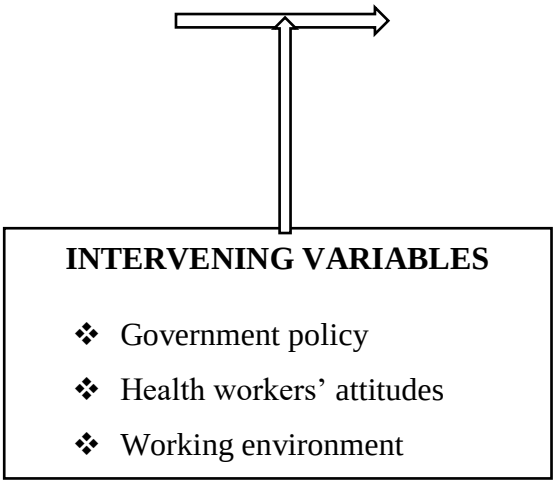
This study benefited policy makers like Government and stakeholders in making realistic policies that promote merit other than the technical know who theory of health services sector. This Research study helped or benefit other researchers who will carry out research in areas of vaccination exercises.

A study of this nature helped Mulago national referral hospital and other health providers' entities to adopt measures in the context of developing policies for forecasting the required action to health service providers.

1.8 Conceptual Framework

INDEPENDENT VARIABLES **DEPENDENT VARIABLES**

Vaccine availability Public awareness Vaccine hesitancy	8	Hard immunity Diseases transmission rates Public confidence



Source. As Modified by Researcher (2023)

The framework is based on existing scholarly works including but not limited to:(Brewer, 2021)and (Khubchandani, 2021)

In the conceptual framework depicted in the Figure 1 above, the framework portrays that vaccine availability, public awareness, vaccine availability are independent variables whereas hard immunity, public confidence are dependent variables.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

In this chapter, literature which are related to and consistent with the objectives of this study was reviewed. Important theoretical and practical problems are brought out, relevant literature on the aspects pertaining Covid-19 vaccination exercise among health workers were viewed. The literature under review was obtained from journal articles, websites and textbooks as well as newspapers.

2.1Theoretical review

COVID-19 infection rates are accelerating in Africa, including in Ethiopia. By October 24, 2021, Ethiopia had reported 362,088 COVID-19 cases and 6,347 deaths. Many countries, including Ethiopia have implemented various strategies to control COVID-19, including declaring a state of emergency, issuing restrictions on mass gathering, enforcing stay-at-home

orders, and promoting the use of personal protective equipment's. As part of the worldwide strategy, efforts have been made to develop and distribute vaccines. (Elhn, 2021)

The COVAX program, backed by the World Health Organization (WHO) and other multilateral bodies, aims to supply 600 million doses to Africa, enough to vaccinate at least 20% of the population. However, by April 2021, only 18 million doses, representing 2% of all vaccine doses administered globally, had been administered by 41 African countries. An additional 400 million doses of the Johnson & Johnson vaccine are scheduled to be shipped to the African Union starting in the third quarter of 2021. (Watel, 2020)The first large shipment (2.2 million doses) of the AstraZeneca vaccine was received by Ethiopia in early March 2021 through the COVAX program. The country expected to receive an additional 5.4 million doses by May 2021.

Despite the scarcity of COVID-19 vaccines in Africa, several countries including Sierra Leone and Malawi have discarded large numbers of vaccines doses that expired before they were used due to low demand in the population, a situation also anticipated in Uganda. In addition to the low accessibility of COVID-19 vaccines and hesitancy to be vaccinated for COVID-19, a preference for traditional medicines may constitute another barrier to vaccine acceptance in African countries, including Ethiopia. Indigenous medicines have been used to treat COVID-19 in Tanzania and Madagascar without meeting safety and efficacy standards. (Jh, 2021)The use of these plant products to treat COVID-19 carries safety risks and may hinder use of scientifically proven COVID19 vaccinations. A study in Nepal revealed that the use of medicinal plants has increased since the outbreak of the COVID-19 pandemic.

2.2 Factors for vaccinating health workers COVID-19 vaccine

Vaccination is the best approach to reduce COVID-19 morbidity and mortality and to preserve healthcare infrastructures. Health workers (HWs) are a critical group for vaccination; they provide essential delivery of the COVID-19 pandemic response and are at elevated risk of infection and onward transmission to vulnerable patients. However, vaccine hesitancy among HWs is widespread globally. Low COVID-19 vaccine uptake in HWs has previously been associated with vaccine safety concerns and younger age. (Asaville, 2020)

Globally, healthcare workers are some of the most trusted and influential professionals in individual and family decisions around vaccination. Beyond their work roles, healthcare

workers are also influential members of the communities in which they live. Vaccine hesitancy is prevalent among healthcare workers globally. (kempe A, 2020)The WHO emphasizes that targeted discussions and engagement with healthcare providers will be essential to obtaining widespread vaccination confidence, as they will be the first ones expected to get the vaccine and they will be on the front lines facing questions from the public. Here, we examine the demographic, work role and vaccine-related belief factors associated with COVID-19 vaccine receipt among healthcare workers during the initial roll-out of the COVID-19 vaccine in a diverse region of New York City heavily impacted by the pandemic. (Brewer, 2021)

Healthcare workers who agreed with statements about the COVID-19 vaccine's importance in protecting family members were more likely to receive the vaccine compared with those who did not agree with this statement (86% compared with 25%, $p<0.001$). This relationship was consistent across workers with different beliefs in the vaccine's importance in protecting community members, coworkers and patients. Presentation of the variable analysis of vaccine receipt by vaccine beliefs and risk appraisal.

From May 17 to July 17, 2021, we enrolled HWs across several hospitals in Uganda. Participants were enrolled per the COVID-19 VE study protocol; the study was publicized by each hospital's administration, and all HWs in all seven hospitals were offered enrollment regardless of whether they had been vaccinated or intended to get vaccinated. Participants completed an interviewer-led questionnaire, including questions about demographics, history of COVID-19 vaccine and infection, and knowledge and attitudes toward the vaccine. Vaccination and infection history for all participants was cross-checked with the national vaccination database and testing database, respectively. Data were entered into an electronic data management system and exported into Stata (Texas, United States of America).

In china certain common impediments to the acceptance of the COVID-19 vaccine seemed to be shared by HCWs across the continent. These included, side effects of vaccines, vaccine safety, efficacy and effectiveness of the vaccines, short duration of the clinical trials, the possibility of contracting COVID-19 infection from vaccines, limited information on the vaccines, and lack of social trust (i.e., insufficient trust in the vaccine's source, lack of trust from the manufacturers, lack of trust from governments). Vaccine hesitancy is mostly induced by the dissemination of misleading information, primarily through social media platforms and with the assistance of anti-vaccination organizations. (Dzieciolowska S, 2020) Biswas and

colleagues conducted a scoping review analysis of 35 studies and found that HCWs worldwide have a 22.5% COVID-19 acceptance rate on average. Their reasons for refusing the vaccination were identical to those revealed in this study.

Persuading individuals who are vaccine skeptics to change their beliefs is difficult, especially in a continent where there has been a history of vaccination resistance. Nevertheless, it's preferable to concentrate on disseminating positive and factual vaccine information while also strengthening healthcare workers' resistance to fraudulent information. Easy access and mandatory COVID-19 vaccination policies in Africa is a good way to promote COVID-19 immunization uptake. Encouragement of vaccine production within Africa, and comparison of these vaccines with others produced outside the continent, could build more confidence in the safety and efficacy of vaccines among health care workers in the continent. (Khubchandani, 2021) This would involve isolating local strains of the virus to be used in the production of vaccines and the conduction of clinical trials among locals. The outcome of this will be, more tailored interventions to the fight against the pandemic on the continent, and will bring the fight against COVID-19 nearer home. This will also help debunk unfavorable theories about the intents behind the production of vaccines. (kelly B, 2021) Finally, the onus is on governments and significant international stakeholders in the pandemic fight to utilize social media to educate the public, especially HCWs, on facts concerning vaccines in order to help debunk some claims made by conspiracy theorists.

2.3 Effects of COVID-19 vaccination exercise among health workers

Public health response across the globe at the initial phase of the pandemic generally focused on non-pharmaceutical interventions (NPIs) such as frequent hand washing, physical/social distancing and the use of face masks in public spaces. (Recht, 2021) Albeit these NPIs remain essential in the fight against the global pandemic, effective vaccine deployment is an ultimate intervention to propel humanity back to normal lives. In the later part of 2020, breakthroughs were announced of different variants of COVID-19 vaccines which got World Health Organization (WHO). Health workers were reportedly motivated to take up the vaccine because of the sustained governments call for them to do so as a preventive measure against escalation of the pandemic. This call together with vaccine success stories in other countries like the United states, and Britain that had been hardly affected by COVID-19 but were succeeding in stopping the pandemic through vaccination gave them optimism to accept the vaccine "The government tells us almost every day that they have given us the vaccine because they don't want us to get infected with covid-19 or severe COVID-19 and get near intensive care unit and

that it is also the best way to stop the pandemic. Even countries like the United States and Britain have managed to control the pandemic only through vaccination, these countries were badly hit by COVID-19 but have now gotten back to normal because of vaccination so why not Uganda too" (female informant, vaccinated).

Their willingness to get vaccinated as a measure for prevention of getting COVID-19 and or transmitting it to their families/social networks amplifies their knowledge scope about the importance of taking up the vaccine. Relatedly, some health workers had lost family members or friends due to COVID-19, the loss and grief caused by these deaths could have had a pushing effect for them to get vaccinated and avoid death. Risk susceptibility/ risk perception as well as personal protection and protection of others as drivers for vaccine acceptance has been established in other vaccine related studies in high and low income countries (Godinot, Sicsic e 2021) Guidry, Laestadius et al. 2021, Huynh, (Tran et al. 2021), Viswanath, Bekalu et al. 2021, Wong, Wong et al. 2021). Fear of death, serious effects of the disease or experience of losing a loved one as a motivator for health intervention uptake has been established in other studies as well (Kim, Han et al. 2020, Abdulmoneim, Aboelsaad et al. 2021, (Karlsson, Soveri et al. 2021).

Some health workers heeded to the sustained government appeal for them to get vaccinated to prevent severe Covid-19, had trust in the vaccine and attributed several benefits to getting vaccinated against Covid-19. This social phenomenon could be explained by the government's sustained efforts in explaining the benefits against risks of getting the vaccine and thrusting community trust and confidence in the vaccine. (szilagyi, 2021)Dissemination of appropriate information, education and communication (IEC) about the vaccine by the government positively impacted health workers to take up the vaccine. The government's efforts in IEC dissemination likely generated belief, positive perceptions and attitudes towards the vaccine. The government's insistence on vaccination certificates/mandate for all the vaccinated as well generated positive benefits (perceived or real) which motivated a few health workers to accept the vaccine. (Bogat, 2021).The success stories of the vaccine roll out in other countries as well had a positive impact on belief, attitude and perceptions of the health workers towards taking up the vaccine. The importance of dissemination of appropriate IEC materials on benefits/risks of health interventions as drivers for accepting health interventions and trust in a vaccine as a motivator for uptake has been established in other studies (Stephenson 2021), Health

intervention success stories as drivers for uptake of an intervention is also amplified in literature (Wood and Schulman 2021).

2.4 Challenges facing COVID-19 Vaccination exercise

On 13th January 2021, the African Union reported the procurement of nearly 300 million vaccine doses against COVID-19 for countries in the continent. This massive deal was a separate effort of the COVID-19 vaccine Global Access (COVAX) who also planned on getting millions of COVID-19 vaccines for underdeveloped and developing nations of the world. In spite of these vaccines procurement deals, and vaccines availability in Africa, the continent is the least vaccinated in the world despite having a combined COVID-19 case count of over 7 million as of 24th August, 2021 (ibrahm, 2018).Despite the landmark achievements in the procurement of COVID-19 vaccines, and the initial progress made at the beginning of the vaccination exercise, the vaccination momentum is subsiding presently in Africa. For instance, because of numerous factors, less than 1% of the total COVID-19 shots administered in the world have been given in the continent. Highlighted below are some of the challenges hindering the successful implementation of the immunization program against COVID-19? Large amounts of funds are usually required before any immunization program can be implemented. For instance, the cost for a full immunization for just a child in Africa for the DPT vaccine (diphtheria, tetanus and pertussis) ranges between 25 to 45 US dollars, this excluding other immunization logistics requirements and costs. Most times, limited funds are allotted for immunization campaigns by African leaders in their respective countries despite the proven overall beneficial effects. For example, some percentages of the overall cost of the immunization programs in Zambia in 2014 were provided by the Global Alliance for Vaccines and Immunization, while in many African countries, significant costs for immunization programs are usually covered by external donors and bodies. (Dula, 2019) In keeping to these requirements, however cold chain freezers were made available to countries via the Africa Medical Supplies Platform. The Oxford/AstraZeneca vaccine is confirmed to be safe and effective against COVID-19, and it is presently being used for mass vaccination exercise in most African countries. However, it only has six months ‘half-life after production when stored appropriately. The Oxford/AstraZeneca doses initially procured earlier in 2021 by the South African government had to be redistributed by the African Union to other countries like Madagascar, Togo and Ghana due to the 13th of April expiration date, and concerns regarding effectiveness against the beta variant rampant in the country. Vaccinating the essential workforce, for example medical workers, security personnel, workers in elderly homes,

transportation and food industry workers, and international students and personnel in the first phase of the immunization exercise is recommended to prevent economic shutdown and sustain important services to the public. The vulnerable population, for example, elderly people with or without medical conditions, should be vaccinated. Also, pregnant women and the general population should be vaccinated in subsequent phases in order to reduce infection rates. In addition, children should be prioritized for COVID-19 vaccination, and presently, the health authorities in the US have granted authorization for the administration of the Pfizer, Johnson & Johnson and Modern vaccines for children of over 12 years of age, and individuals who are over the age of 18 respectively, while the health authorities in Europe have granted permission for the use of the Pfizer/Biotech's vaccine for use in children between the age of 12 to 16 in European countries. For now, no vaccine is authorized for use in children below 12 years of age. Presently, different COVID-19 vaccines such as the ones produced by Oxford/AstraZeneca, Johnson and Johnson, Moderna, Pfizer/BioNTech and Sinopharm are some of the vaccines that have been granted approval and certified for global usage by the WHO, and other different regulatory health authorities in the world. In Africa, Botswana, Rwanda and numerous other countries in Africa are using different types of vaccines in the ongoing COVID-19 vaccination exercise. For example, South Africa has vaccinated some medical personnel with the Johnson & Johnson vaccines in a phase 3B open label implementation study among 500,000 healthcare workers after it discontinued the use of the Oxford/AstraZeneca shots, while Egypt has been making use of both the Sinopharm and Oxford-AstraZeneca vaccines to vaccinate its citizens.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0Introduction

This chapter presented the methodology which is used in the study; it includes research Design, Population of the Study, Sampling Procedures, Tools and Instruments of data collection, Procedure for Data Collection, Reliability and Validity, Data analysis and Presentation, and Limitations of the Study.

3.1 Study setting

The research study conducted at the covid-19 center of Mulago National Referral Hospital. The hospital is located on Mulago hill, about 5 kilometers North of Kampala and West of Makerere University College of Health Sciences in Kampala district, Central Uganda located at geographical coordinates $00^{0}20^{'}16^{0}$N & $32^{0}34^{'}32^{'0}$E. The hospital serves as a regional referral for Kampala metropolitan area and the surrounding districts like Wakiso and Mukono and as a teaching hospital for Makerere University. It was selected for this study because it is the largest public hospital in the country with a very busy covid-19 center

3.2 Study design

This study employed a quantitative cross-sectional study design. This study is preferred because it is cheap and convenient to both the researcher and the study participant.

3.3 Study population

The total population in Uganda is estimated to be 45 million (Uganda Bureau of Statistics, 2020). However, the study targeted beneficiaries that are health workers taking covid-19 vaccine. Mulago National Referral Hospital has over 1000 health workers registered. The targeted population for this study includes 107 respondents that is to say nurses, hospital administrators, Doctors Etc.

3.3.1Sample size determination

The sample size of the participants will be obtained using the Cochran's formula

$n = \frac{Z^{2}(pq)}{e^{2}}$ Where

Z = the normal distribution value at 95% confidence interval

p= the proportion of health workers taking covid-19 vaccine q = 1-p

e = margin of error (10 %)

$$n = \frac{1.96^2 * 0.5 * 0.5)}{0.1^{\ 2}}$$

= 96.04 health workers. This is a very small sample for a quantitative cross-sectional study.
By adding 10% to cater for non-response rate, the sample size was 107 health workers Consecutive sampling was employed to recruit study participants for the study

3.4 Data collection tool

The questionnaire was developed from the existing literature. Prior to data collection, the adopted questionnaire was pretested among 10 health workers at Mulago National Referral Hospital

3.4.1Data collection procedure

Data was collected using a self-administered questionnaire which comprised of closed ended questions about assessment of factors that influenced the uptake of covid-19 vaccination among health workers in Uganda. The researcher had to explain the aim of study to the study participants and obtain informed consent. Each study participant was interviewed from a private room for privacy, assigned a code for confidentiality and later be interviewed by the researcher for about 10-25 minutes. Informed Consent Form for Parents/Guardians:
This form seeked permission from the health workers and the hospital administrators had to participate in the study. It should include information on the purpose of the study, procedures involved, potential risks and benefits, confidentiality assurances, and their right to withdraw at any time. The questionnaires included the following

1. **Pre-Treatment Questionnaire**:
This questionnaire gathered baseline information on demographics (age, gender) and medical history (duration of sickle cell diagnosis, previous treatments) of the participants.

2**. Factors for covid-19 vaccination among health workers Questionnaire:**
This questionnaire assessed the factors of covid-19 vaccination among health workers and it recorded risks of family infection, perceived good health physical status etc.

3. Effects of covid-19 vaccination among health workers

This questionnaire captured subjective measures of effects of covid-19 vaccination exercise among health workers that is to say bold attitude to treating covid-19 patients, low risk of covid-19 exposure and perceiving that covid-19 vaccines were protective.

4**. Challenges faced during covid-19 vaccination**

This section collected data on use of different vaccines, accessing the most venerable people, limited funds, storage facilities for covid-19 vaccines.

5**. Adverse Effects and Complications Questionnaire**

This questionnaire documented any adverse effects or complications experienced by the participants during the course of covid-19 vaccination. It gathered information concerning common side effects, such as headaches, swellings as well as any severe complications that may require medical intervention.

3.4.2 Data management procedure

The questionnaires checked for completeness by the investigator, coded, cleaned and double data entry was done to ensure accuracy of data. Checks were used to exclude out range values and exported to SPSS IBM version 23 for analysis. Raw and analyzed data was stored on an external drive for retrieval.

3.4.3Data analysis plan

Descriptive data was analyzed using tables.

Primary data was analyzed using Regression.

3.5 Inclusion criteria

The study included health workers who were giving treatment from covid-19 center in Mulago National Referral Hospital and those accessing covid-19 vaccination was given voluntary informed consent.

In addition, the participants had a good medication adherence recorded for at least 6 months prior to the patients' records

3.6 Exclusion criteria

The study excluded participants who were not covid-19 task force (staff) and those who are not getting covid-19 vaccine for the 6 months prior to the commencement of the study, those who not gave voluntary consent will be excluded

3.7 Analysis Tools

The data analysis was done by presenting data in form of charts, frequency and percentage tables which was accompanied by interpretations, and then be studied critically to have different views of the study. Reference was also given to show another perspective evidence of the study. These acted as a basis for the assessment of the factors that influenced the uptake of Covid-19 vaccination among health workers in Uganda

3.8 Editing and Spot Checking

The researcher edited and spot check during and after each interview with the respondents. This was done in order to ensure that information given is logical, accurate and consistent. Obvious errors and omissions were corrected to ensure accuracy, uniformity and completeness so as to facilitate coding.

3.9 Coding

This was done in order to ensure that all answers obtained from various respondents were given Codes and classified into meaningful forms for better analysis.

3.10 Ethical considerations

Ethical approval was to be obtained from King Ceasor University Ethics Committee and administrative clearance was sought from the Dean of students and nursing department. Privacy, confidentiality and dignity of the study participants was considered during data collection. Codes were used instead of participants' names. Informed consent was sought from each study participant to ensure voluntarism and acceptability to participate in the study.

3.11 Dissemination plan

A copy of dissertation was presented to the Nursing Department Library and King Ceasor University main library. Also study results were disseminated to the Department of Nursing

CHAPTER FOUR: PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter presented the profile of the respondents, presentation and analysis of the data and from the table 4.1, it can be seen that the majority of respondents were female respondents representing 72% (72) of the total respondents and male respondents were 28 representing 28% of the total respondents. From the above presentation, it is clear that although majority of the respondents were female representing the highest percentage but beside that the issue of gender sensitivity was adhered to by including both female and male in the study of the study and this was done in line to the research objectives which was to find out the factors for COVID-19 vaccination exercise among the health workers in MNRH, to examine the effects of COVID-19 vaccination exercise among health workers in MNRH and to find out the challenges facing COVID-19 vaccination exercise among health workers in MNRH

4.1 Demographic characteristics

This section presented the biographic characteristics of the respondents as explained below

4.1.1 Gender

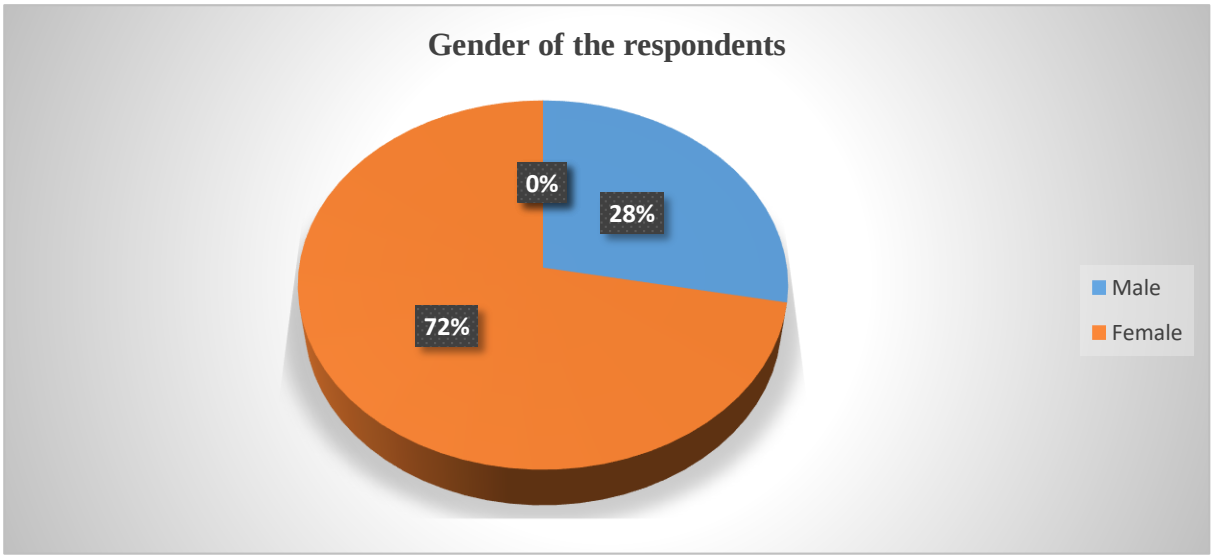
Table 1: Gender of the Respondents

RELATED STATEMENT	FREQUENCY	PERCENTAGE (%)
Male	28	28
Female	72	72
TOTAL	100	100

Source. Primary Data (2024)

From the table 1, it can be seen that the majority of respondents were female respondents representing 72% (72) of the total respondents and male respondents were 28 representing 28% of the total respondents. From the above presentation, it is clear that although majority of the respondents were female representing the highest percentage but beside that the issue of gender sensitivity was adhered to by including both female and male in the study

Figure 1: Showing Gender of the Respondents



Source. Primary Data (2023)

The findings presented from figure 1 above revealed that majority of the respondents were female 72 (72%) and male were 28 (28%)

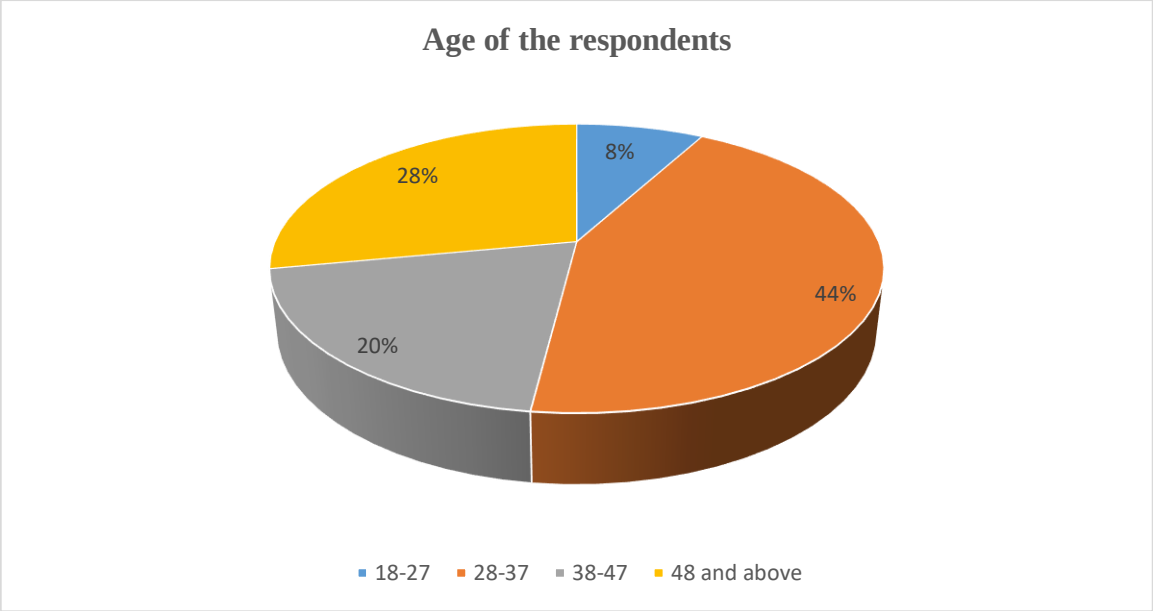
4.1.2 Age of the Respondents

Table 2: Age of Respondents

AGE	FREQUENCY	PERCENTAGE (%)
18 – 27	08	08
28– 37	44	44
38-47	20	20
48 and above	28	28
TOTAL	100	100

Source. Primary Data (2022)

Figure 2: Showing Age of Respondents



Source. Primary Data (2024)

From table 4.2, it was found that 18 respondents were in the age bracket of 18 -27 representing 18% of the total respondents, 28-37 were 44 respondents representing 44% of the respondents, 38-47 had 20 representing 20% and Above 45 had 28 respondents representing 28% of total number of respondents. From the above presentation, Age bracket of 28-37 had the highest percentage of 44% of the total respondents because they were the majority of the nurse employees available to have information needed and the age bracket of 18-27 had the lowest percentage of the respondents of 18% (18) due to several reasons among which included, retirement as shown in the table above.

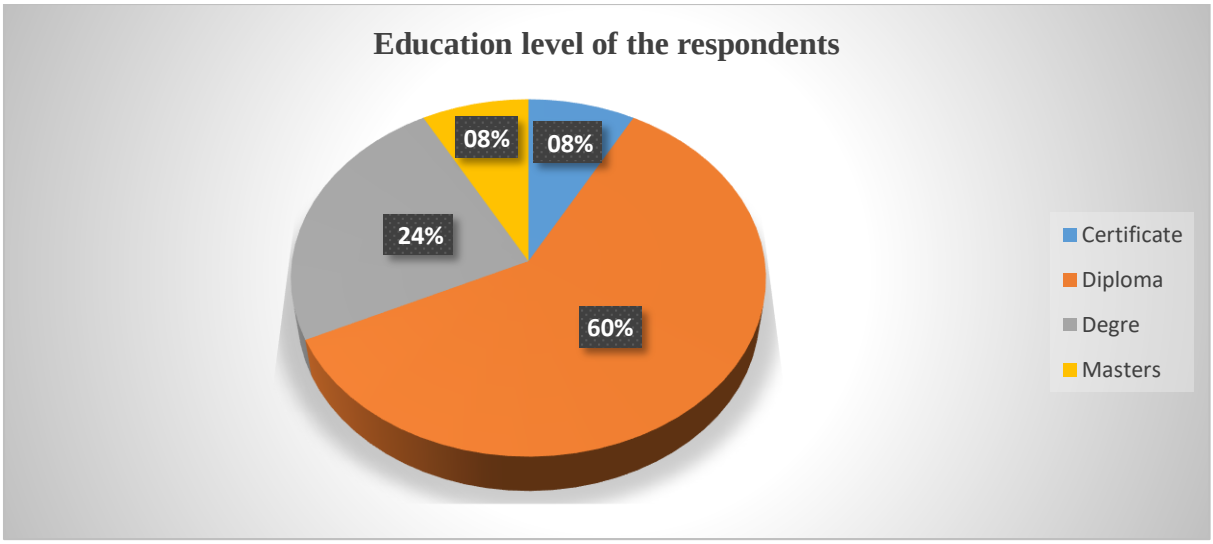
4.1.3 Education level of Respondents /current job level

Table 3: Education Level of Respondents

EDUCATION LEVEL	FREQUENCY	PERCENTAGE (%)
Certificate in Nursing	08	08
Diploma in Nursing	60	60
Degree in Nursing	24	24
Masters	08	08
TOTAL	100	100

Source. Primary Data (2022)

Figure 3: Showing Education Level of Respondents



Source. Primary Data (2022)

From table 3 above, it was found that the majority of the respondents were diploma in nursing holders with 60 representing 60% followed by degree in nursing holders with 24(24%) of the total respondents, certificate in nursing holders had 08 representing 8% and respondents with masters were 08 respondents representing 8%. This implies that the respondents from MNRH are well educated and therefore the information obtained from them can be relied upon for the purpose of this study.

4.2 Factors for covid-19 vaccination among health workers.

The first objective of the Study was to find out the factors for COVID-19 vaccination exercise among the health workers in MNRH.

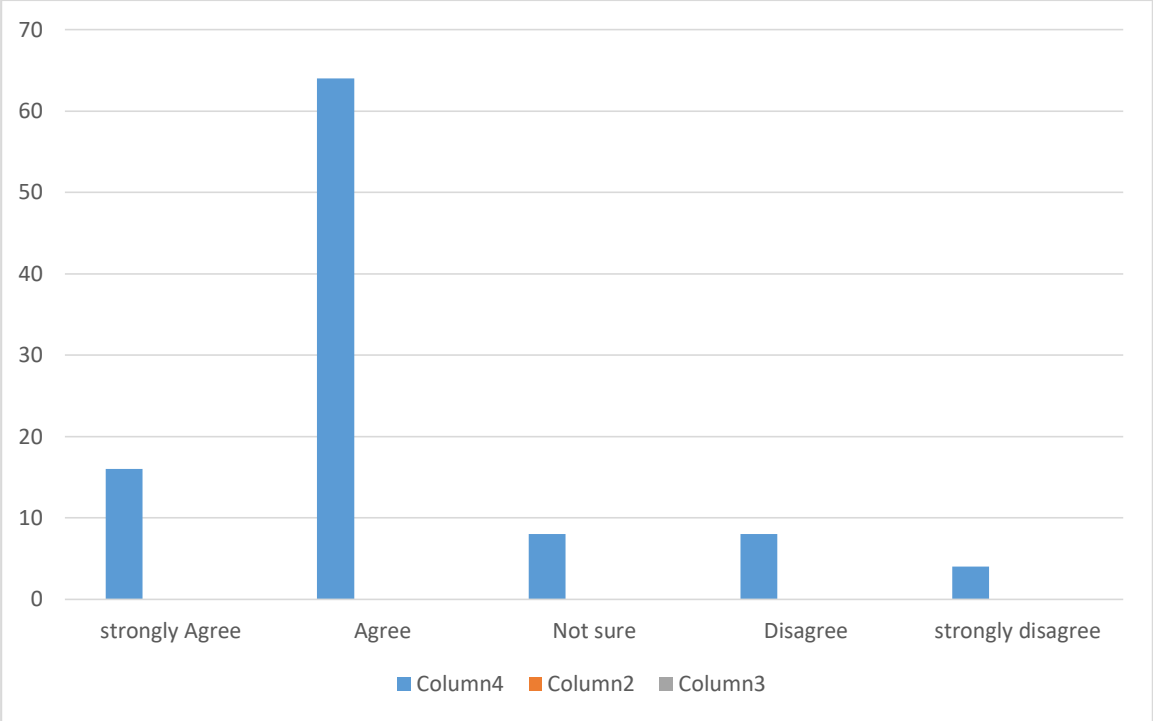
The data collected was presented as seen below;

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree)

Table 4: Factors faced during Covid-19 vaccination

N/S	RELATED ITEM	1	2	3	4	5	TOTAL
1	Are there some factors faced during Covid-19 vaccination among health workers?	64	16	08 08%	08 08%	04 04%	100 100%

Figure 4: Factors faced during covid-19



On the contrary, a further exploration to ascertain respondents' views on some factors faced during Covid-19 vaccination among health workers revealed that majority (64%) of the respondents to strongly agreed, 08% agreed and 08% were not sure about the statement compared to the 4% who disagreed

4.2.1 The factors of Covid-19 vaccination among health workers?

The following are responses of the factors of Covid-19 vaccination among health workers.

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree)

Tick the appropriate box.

Table 5: Factors of Covid-19 vaccination

FACTORS	1	2	3	4	5	Total
Contact with unknown suspected case	60 60%	04 04%	06 06%	26 26%	04 04%	100 100%
Perceived good physical health status	15 15%	40 40%	05 05%	25 25%	05 05%	100 100%
Risk of family health infection	35 35%	25 25%	40 40%	20 20%	10 10%	100 100%
High exposer to Covid-19 infection	40 40%	26 26%	24 24%	08 08%	02 02%	100 100%
Convincing tool to the majority population to the vaccine safety	55 55%	07 07%	08 08%	20 20%	10 10%	100 100%
Providing guiding perimeter for vaccination mobilization	65 65%	27 27%	37 37%	10 10%	10 10%	100 100%
Stimulation of health services	10 10%	27 27%	37 37%	10 10%	10 10%	100 100%

As revealed above, Contact with unknown suspected case had 60% (60) of the respondents who strongly agreed, 04% (04) agreed, 06% (06) were not sure, 26% (26) disagreed and 04% (04) strongly disagreed. Perceived good physical health status had 15% (15) of the respondents who strongly agreed, 40% (40) agreed, 05 (%) (05) were not sure, 25% (25) disagreed and 05% (05) of the respondents strongly disagreed. Risk of family health infection had 35% (35) of the respondents who strongly agreed, 25% (25) agreed, 40% (40) were not sure, 20% (20) disagreed and 10% (10) strongly disagreed High exposer to Covid-19 infection had 40% (40) of the respondents strongly agreeing, 26% (26) agreed, 24% (24) of the respondents were not sure, 08% (08) disagreed and 08% of the respondents strongly disagreed with the provided statement Convincing tool to the majority population to the vaccine safety had 65% (65) of the respondents who strongly agreed, 27% (27) agreed, 37% (37) were not sure, 10% (10) disagreed and 10% (10) of the respondents strongly disagreed.

Providing guiding perimeter for vaccination mobilization accounted for 65% (65) of the respondents who strongly agreed, 37% (37) agreed, 10% (10) were not sure, 08% (08) disagreed and 10% (10) strongly disagreed. Stimulation of health services had 10% (10) of the respondents strongly agreeing, 27% (27) agreed, 37% (37) of the respondents were not sure, 10% (10) disagreed and none of the respondents strongly disagreed with the provided statement.

4.3 Effects of covid-19 vaccination among health workers

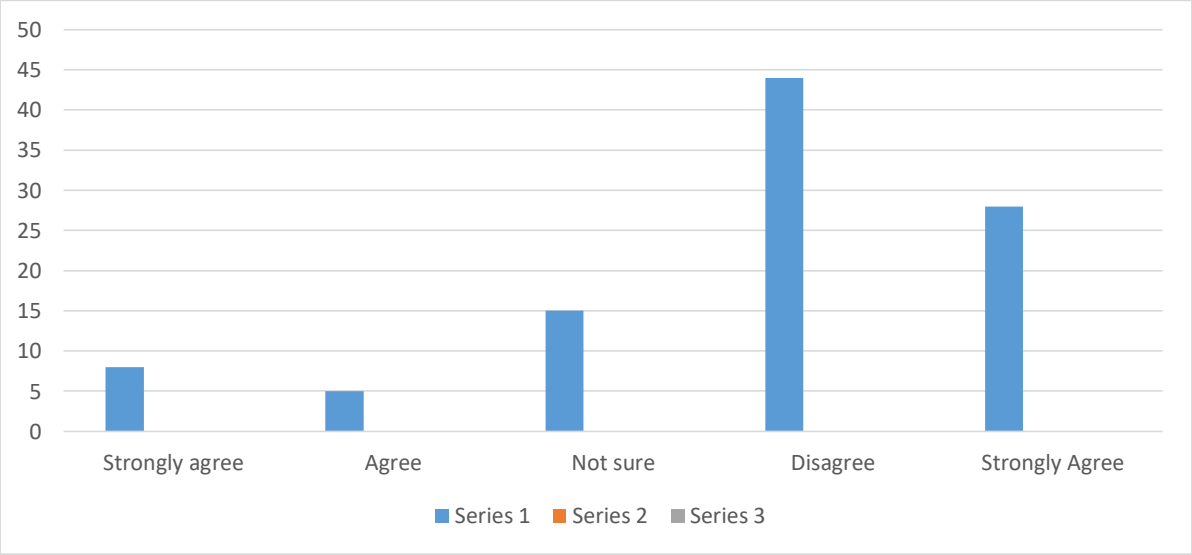
The following are responses on the effects f Covid-19 vaccination exercise among health workers.

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree)

Table 6: Responses on the effects of covid-19

N/S	RELATED ITEM	1	2	3	4	5	TOTAL
1	Does Covid-19 vaccination exercise among health workers have any effects	08 08%	44 44%	05 05%	28 28%	15 15%	100 100%

Figure 5: Responses on the effects of covid-19 among health workers



From the table above, out of 100 health worker's responses 08% of the respondents strongly agreed that covid-19 vaccination exercise had effects ,44% agreed,05% of the respondents were

not sure and 28 disagreed that the way no effects of covid-19 among health workers during vaccination period

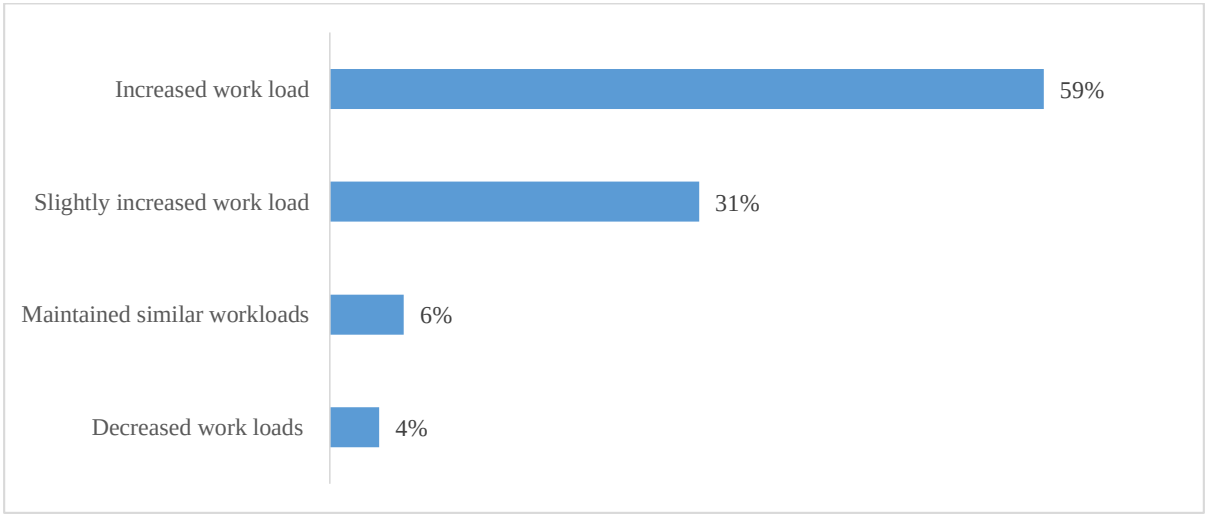
Table 7: Aspects of covid-19 that contribute to stress

Related statement	Frequency	Percentage
You may be infected by covid-19	66	66%
You can transfer covid-19 to your family members	53	53%
No treatment for Covid-19	40	40%
Conflict between your duty and your own safety physical exhaustion /fatigue	38	38%
To see how patients with Covid-19 die	33	33%
Seeing your colleagues stressed or scared of lack of insufficient protection	31	31%

Source. Primary Data (2023)

To further ascertain the effects faced by nurses at MNRH during the pandemic, respondents' opinions were sought about the workload during the pandemic compared to their usual work demands. Findings in figure 7 revealed a high proportion (59%) of respondents noting the workload to have increased followed by 31% who reported the workload to have slightly increased.

Figure 6: Workload during pandemic



Source. Primary Data (2023)

4.4 Responses on the effects of Covid-19 vaccination exercise among health workers

The following are the effects of Covid-19 vaccination exercise among health workers.
(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree)

Table 8: Effects of Covid-19

N/S	EFFECTS OF COVID-19 AMONG HW	1	2	3	4	5	Total
1	Bold attitude to treating Covid-19 patients	44 44%	26 26%	15 15%	10 10%	05 05%	100 100%
2	Low risk of Covid-19 exposer	55 55%	07 07%	08 08%	20 20%	00 00%	100 100%
3	Perceiving that Covid-19 vaccine are protective	44 44%	28 08%	20 20%	08 08%	00 00%	100 100%
4	Improve the safety of health workers' families from Covid-19 infections	64 64%	16 16%	08 08%	04 04%	08 08%	100 100%
5	Improve the working morale of health workers	15 15%	55 55%	25 25%	05 05%	00 00%	100 100%
6	Promotes work ethics among health workers	45 45%	25 25%	05 05%	15 15%	00 00%	100 100%
7	Enhance the Covid-19 vaccination rates among the population	50 50%	10 10%	30 30%	08 08%	05 05%	100 100%

The table above shows that, Bold attitude to treating Covid-19 patients had 44% (44) of the respondents who strongly agreed, 26% (26) agreed, 15% (15) were not sure, 10% (10) disagreed and 05% (05) strongly disagreed. Low risk of Covid-19 exposer had 55% (55) of the respondents who strongly agreed, 28% (28) agreed, 20 (20%) were not sure, 08% (008) disagreed and none of the respondents strongly disagreed.

Allowing for flexible hours and remote working had 45% (45) of the respondents who strongly agreed, 20% (20) agreed, 15% (15) were not sure, 15% (15) disagreed and 05% (05) strongly disagreed. Perceiving that Covid-19 vaccine are protective had 64% (64) of the respondents strongly agreeing, 16% (16) agreed, 08% (08) of the respondents were not sure, 04% (04) disagreed and 08% of the respondents strongly disagreed with the provided statement. Improve the safety of health workers' families from Covid-19 infections had 15% (15) of the

respondents who strongly agreed, 55% (55) agreed, 25% (25) were not sure, 05% (05) disagreed and none of the respondents strongly disagreed.

Promotes work ethics among health workers accounted for 45% (45) of the respondents who strongly agreed, 25% (25) agreed, 15% (15) were not sure, 00% (00) disagreed and non-strongly disagreed.

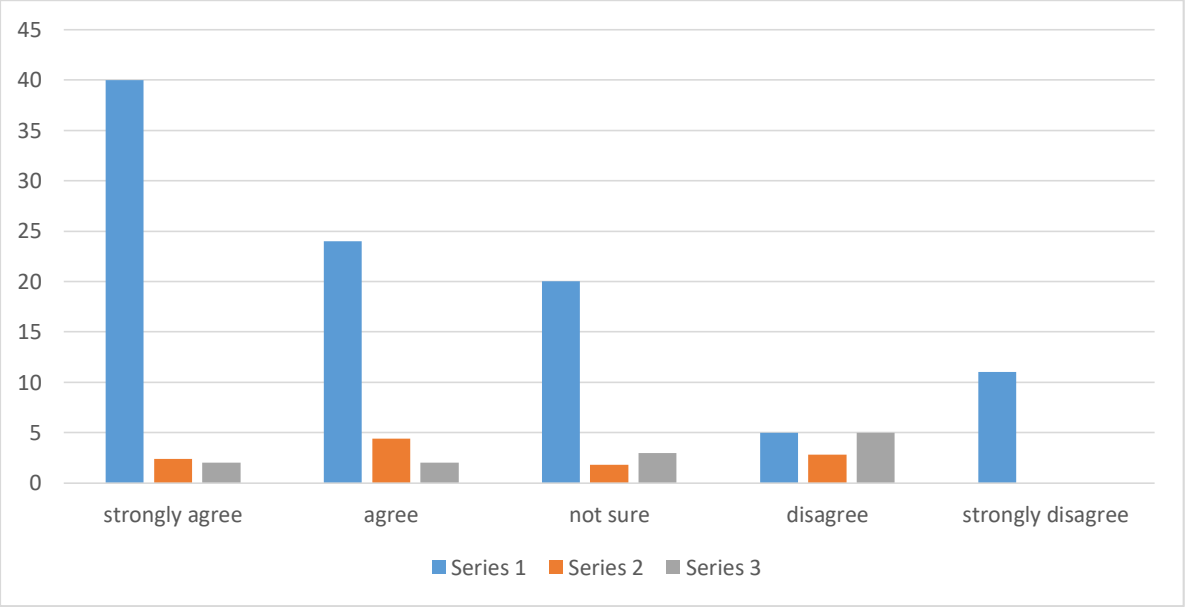
Enhance the Covid-19 vaccination rates among the population had 50% (50) of the respondents strongly agreeing, 10% (10) agreed, 30% (30) of the respondents were not sure, 08% (08) disagreed and 05% of the respondents strongly disagreed with the provided statement.

4.5 Challenges facedduringcovid-19 vaccination

Table 9: Did recruitment methods affect organizational performance

N/S	RELATED ITEM	1	2	3	4	5	TOTAL
1	Did recruitment methods affect organizational performance	40 40%	24 24%	20 20%	05 05%	11 11%	100 100%

Figure 7: Challenges faced during Covid-19 vaccination



4.5.1 Responses on challenges faced during Covid-19 vaccination exercise?

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree)

Table 10: Challenges faced during Covid-19 vaccination exercise

CHALLENGES	1	2	3	4	5	Total
Use of different vaccines	45 45%	25 25%	05 05%	15 15%	00 00%	100 100%
Accessing the most venerable people	33 33%	27 27%	10 10%	20 20%	10 10%	100 100%
Limited shelf life for Covid-19 vaccine	15 15%	55 55%	25 25%	05 05%	00 00%	100 100%
War and insecurity	44 44%	26 26%	15 15%	15 15%	10 10%	100 100%
Storage facilities for Covid-19 vaccines	40 40%	26 26%	24 24%	08 08%	02 02%	100 100%
Concerns about Covid-19 vaccines safety and uncertainty	55 55%	07 07%	08 08%	20 20%	10 10%	100 100%
Limited funds	15 15%	40 40%	05 05%	25 25%	05 05%	100 100%

Table 7 above presents summary statistics for responses on challenges facing covid-19 vaccination. The data is based on responses from 50 health workers. Use of different vaccines, 45% of respondents strongly agreed,25% agreed ,05 of the respondents were not sure and 15% disagreed. Among the 50 participants, 33% of respondents strongly agreed that accessing the most venerable people is a challenge responses face while carrying out vaccination exercise,27% agreed,10% participants were not sure while 10% disagreed 15% strongly agreed that limited shelf life for Covid-19 vaccine was another challenging factor affecting covid 19 vaccination in Mulago national referral hospital, 55% agreed ,25% were not sure while 05% disagreed. War and insecurity had 44% of the participants strongly agreeing ,26 agreed ,15% were not sure while 15% disagreed 10% strongly disagreed

40% of the health workers strongly agreed that Storage facilities for Covid-19 vaccines was another challenge that affected covid 19 vaccination 26% agreed that it was true, 24 were not sure while 08% disagreed. Additionally, 78% of respondents strongly agreed that taking the Covid-19 vaccine is legally mandatory, while21% disagreed. Among the 100 health workers, 55 (55%) strongly agreed that Concerns about Covid-19 vaccines safety and uncertainty was one of the challenges health workers faced during covid 19 vaccination while the 45% disagreed with this.

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CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary, conclusion and recommendations of the study findings in line with the study objectives which was find out the factors for COVID-19 vaccination exercise among the health workers in MNRH, to examine the effects of COVID-19 vaccination exercise among health workers in MNRH and to find out the challenges facing COVID-19 vaccination exercise among health workers in MNRH

5.1 Discussion of the Study Findings

5.1.1 Factors for COVID-19 vaccination exercise among the health workers

As the first objective of this study was to find the factors for COVID-19 vaccination exercise among the health workers in MNRH, the study finding was as below; According to the study findings through responses from the respondents of MNRH, contact with unknowed suspected cases ,60% of respondents affirmed that they had risk of family health infection and their work environments were stressful compared to only 35% had high exposure to covid-19

On the contrary, 40% of the respondents also perceived good physical status, stimulation of health services revealed to be very low at 10%. Majority (60%) of the respondents reported a high workload denoted by 8<10 compared to only 2% who seemed comfortable that the workload was low. The findings discussed above suggested a presence of occupational stressors, particularly stressful work environment and high workload (reported by 62% and 60% respondents respectively).

5.1.2 Effects of COVID-19 vaccination exercise among health workers

As the second objective of this study was to examine effects of COVID-19 vaccination exercise among health workers at Mulago National Referral Hospital, the study finding was as below and it was both positive and negative

44% of the respondents reported to have Bold attitude to treating Covid-19 patients and received equipment and means of protection as measures implemented to manage and balance the increased workload during the pandemic. Other mechanisms reported health workers had Low risk of Covid-19 exposer that almost comparable proportions (16%, 13% and 8%). In addition to the above, respondents also reported to have had support systems and resources to help manage covid-19 related stress. These included encouraging workplace wellness (reported

by 45%), recognition of nurses (reported by 28%), allowing for flexible hours and remote working (reported by 15%) and encouraging social activities (reported by 10%). Encouraging workplace wellness had 50% respondents who strongly agreed, revamping the habitat had 55% respondents who strongly agreed, allowing for flexible hours and remote working had 45% respondents who strongly agreed, encouraging of social activities had 40% respondents strongly agreeing, creation of quite time had 50% respondents who strongly agreed, recognition of nurse employees accounted for 57% who strongly agreed and providing onsite or distance counselling had 54% respondents strongly agreeing.

5.1.3 Challenges facing COVID-19 vaccination exercise among health workers

As the third objective of this study was to Challenges facing COVID-19 vaccination exercise among health workers at Mulago National Referral Hospital, the study finding was as below;

The fear of getting infected by corvid was the greatest (reported by 66% of the respondents) stress factor to the respondents followed by the fear of transferring the disease to their family members (reported by 53% of the respondents). Additionally, a high proportion (59%) of respondents noted the workload to have increased followed by 31% who reported the workload to have slightly increased. Considerably high proportions of respondents affirmed to the effects of the stress factors on the performance of nurses where working conditions, heavy amounts of work, low numbers of nurses in departments were among the top stressors affecting effectiveness and efficiency of nurses (reported by 99%, 99% and 97

5.2 Strength and Limitation

The cross-sectional nature that cannot permit the establishment of causality. Also, the time the survey was done, there could have been limited information about the different types of COVID-19 vaccines and vaccination locations. Therefore, people's vaccination intentions might have changed over time with new information on the vaccines. Nevertheless, this being one of the first few studies that involved physical interaction with the population regarding COVID-19 vaccination truly reflects the assessment of factors that influence the uptake of covid-19 vaccination among health workers

5.3 Conclusion

As this study was set to investigate the assessment of factors that influence the uptake of covid-19 vaccination among health workers in Uganda leads to the deterioration of nurse's physical

and mental health status, while it is negatively affecting the adoption of good practices concerning nurses' caring behaviors. therefore, the proportion of covid-19 hesitancy was high among the health workers in conclusion, the assessment of factors influencing the uptake of COVID-19 vaccination among health workers in Uganda underscores the importance of addressing multifaceted challenges to ensure comprehensive immunization coverage within this critical population. Through our analysis, several key determinants have emerged, including accessibility, vaccine confidence, knowledge, attitudes, and systemic support. Firstly, enhancing accessibility by expanding distribution points, ensuring consistent vaccine supply, and providing convenient scheduling options can significantly improve uptake rates among health workers, particularly those working in remote or underserved areas. Secondly, building vaccine confidence through transparent communication, tailored educational campaigns, and actively addressing concerns regarding safety and efficacy is imperative. Engaging with healthcare workers to understand and address their specific apprehensions can help alleviate hesitancy and promote trust in vaccination programs. Thirdly, bolstering knowledge through targeted training programs, emphasizing the importance of vaccination, and disseminating accurate information about the COVID-19 vaccines can empower health workers to make informed decisions and become advocates for immunization within their communities.

5.4 Recommendation

Conduct surveys and interviews with health workers to understand their perceptions, attitudes, and beliefs regarding COVID-19 vaccination. Explore factors such as knowledge about the vaccine, concerns about safety and efficacy, and perceptions of risk.

Assess the accessibility and availability of COVID-19 vaccines for health workers in different regions of Uganda. Investigate whether logistical challenges, such as vaccine distribution and supply chain issues, are affecting vaccine uptake.

Evaluate the effectiveness of communication strategies used to disseminate information about COVID-19 vaccines to health workers. Analyze the impact of communication channels, messaging, and sources of information on vaccination decision-making.

Examine the level of trust and confidence that health workers have in the government, healthcare institutions, vaccine manufacturers, and other stakeholders involved in the vaccination campaign. Investigate how trust influences vaccine acceptance.

Explore health workers' perceptions of the benefits and risks associated with COVID-19 vaccination. Assess whether concerns about side effects, long-term effects, or the perceived effectiveness of the vaccine impact vaccination decisions.

Investigate how socio-demographic factors such as age, gender, education, income, and geographic location influence COVID-19 vaccine uptake among health workers.

5.5 Areas of Further Studies

Conduct longitudinal studies to evaluate the long-term effectiveness and efficacy of COVID-19 vaccines, including the duration of protection, effectiveness against emerging variants, and the impact on transmission dynamics.

Investigate strategies to improve equitable distribution of COVID-19 vaccines, including addressing disparities in access based on socioeconomic status, geography, and marginalized populations.

Explore factors influencing vaccine acceptance and hesitancy among different population groups, including the role of misinformation, trust in authorities, cultural beliefs, and communication strategies.

Study the immune response to SARS-CoV-2 infection and vaccination, including the durability of immunity, the role of T-cell immunity, and factors influencing vaccine breakthrough infections.

Monitor the emergence and spread of SARS-CoV-2 variants, including their impact on vaccine efficacy, transmission dynamics, and disease severity. Investigate factors driving viral evolution and adaptation.

Evaluate the efficacy and safety of therapeutics for COVID-19 treatment, including antiviral drugs, monoclonal antibodies, and immunomodulatory. Assess their impact on clinical outcomes and healthcare resource utilization.

Investigate the long-term health effects of COVID-19, including post-acute sequelae of SARS-CoV-2 infection (PASC) or "long COVID." Study the prevalence, risk factors, and clinical manifestations of long-term symptoms

REFERENCES

Asaville, k. (2020). Kempe A, Saville AW, Albertin C, et al. Parental hesitancy about routine childhood and influenza vaccinations: a national survey. Pediatrics 2020. Pediatrics.

Bogat. (2021). Bogart LM, Ojikutu BO, Tyagi K, et al. COVID-19 related medical Mistrust, health impacts, and potential vaccine Hesitancy among black Americans living with HIV. J Acquir Immune Defic Syndr 2021. Ojikitu.

Brewer. (2021). Amin DP, Palter JS. COVID-19 vaccination hesitancy among healthcare personnel in the emergency department deserves continued attention. Am J Emerg Med 2021;48:372–3.doi:10.1016/j.ajem.2021.01.089pmid:http ://www.ncbi.nlm.nih.g ov/pubmed/33573852? ROTHERMAN.

Dula. (2019). Dula J, Mulhanga A, Nhanombe A, Cumbi L, Júnior A, Gwatsvaira J, et al. COVID-19 Vaccine Acceptability and Its Determinants in Mozambique: An Online Survey. Vaccines. 2021;9(8):828. pmid:34451953. Mulhaga.

Dzieciolowska S, h. (2020). Dzieciolowska S, Hamel D, Gadio S, et al. Covid-19 vaccine acceptance, hesitancy, and refusal among Canadian healthcare workers: a multicenter survey. Am J Infect Control 2021;49:1152–7.doi:10.1016/j.ajic.2021.04.079 pmid:http://www .ncbi.nlm.nih.gov/pubmed. Hamel .

Elhn, H. (2021). Chandler R, Guillaume D, Parker AG, et al. The impact of COVID-19 among black women: evaluating perspectives and sources of information. Ethn Health 2021. LEGOS: chandler R,Guillaume D,.

ibrahm. (2018). Ibrahimi S, Yusuf KK, Dongarwar D, et al. COVID-19 devastation of African American families: impact on mental health and the consequence of systemic racism. Int J MCH AIDS 2020;9:390–3.doi:10.21106/ijma.408pmid:h ttp://ww w.ncbi.nl m.nih.gov/pubmed/33014626. YOUSUF KK.

Jh, s. W. (2021). Larson HJ, Schulz WS, Tucker JD, et al. Measuring vaccine confidence: introducing a global vaccine confidence index. PLoS Curr 2020. lackson .

kelly B, B. C. (2021). Kelly B, Bann C, Squiers L. Predicting willingness to vaccinate for COVID-19 in the US Journal of health communication: international perspectives2020, 2020. Available: https://jhcimpact.com/posts/f/predicting-willingne ss-to-vaccin ate-for-covid-19-in-the-. Bannc.

kempe A, S. (2020). Brewer NT, Chapman GB, and Rothman AJ, et al. Increasing vaccination: putting psychological science into action. Psychol Sci Public Interest 2021. albertinc .

Khubchandani. (2021). Khubchandani J, Sharma S, Price JH. COVID-19 vaccination Hesitancy in the United States: a rapid national assessment. J Community Health 2021:1–8. Sharma.

Recht. (2021). Recht H, Weber L. Black Americans are getting vaccinated at lower rates than white Americans. Kaiser Health News, 2021. Kaiser health News.

syndr, J. i. (2021). Bogart LM, Ojikutu BO, Tyagi K, et al. COVID-19 related medical Mistrust, health impacts, and potential vaccine Hesitancy among black Americans living with HIV. . USA: Borgat LM.

szilagyi. (2021). Recht H, Weber L. Black Americans are getting vaccinated at lower rates than white Americans. Kaiser Health News, 2021. Thomas K.

Watel, P. (2020). Peretti-Watel P, Larson HJ, and Ward JK, et al. Vaccine hesitancy: clarifying a theoretical framework for an ambiguous notion. PLoS Curr 2020. nigeria: pretti.

APPENDICES

APPENDIX I: Consent form

Title of the proposed study:

An evaluation of occupational stressors impacting nurse's professionals in Uganda, a case study of Mulago National Referral Hospital"

Investigators:

Principal Investigator: **AMORUT EVERLINE** Contact: 0705159151

Sponsor institution identity King Ceasor University

Purpose

This study aims to assess**.** factors that influence the uptake of covid-19 vaccination among health workers in Uganda Understanding these factors is essential for enhancing patient, nursing and doctor's safety and healthcare quality.

Procedures

You will be requested to take part by sharing details about your encounters and observations pertaining to the above stated encounters at the hospital. Interviews, and a review of medical data may all be part of this.

Risks/Discomforts

Participation in this study involves minimal risks, such as the potential for discomfort or emotional distress when recalling. occupational stressors impacting nursing profesional
We will take measures to minimize these risks.

Benefits

By participating in this study, you will contribute to help current and feature hospitals, nurses and policy makers in designing mechanism that required safe and healthful working environment for nurses hence health services to the public
The results may benefit the broader scientific community and healthcare practices in Uganda.

Alternatives

Participation in this study is voluntary. You have the option to decline participation or withdraw at any time without any penalty. There are no mandatory alternatives to participating in this research.

Confidentiality

Your privacy will be maintained throughout the study. All personal and sensitive information will be kept confidential. Access to confidential information will be restricted to the research team, authorized representatives of the local Research Ethics Committee (REC), and Uganda National Council for Science and Technology (UNCST).

Compensation for research related injury

Participants will not receive direct compensation for participating in this study. However, if you are injured during the course of your participation, necessary medical treatment will be provided, and compensation for permanent damage will be discussed on a case-by-case basis.

Compensation for participating including time lost and inconvenience from procedures

There are no direct costs associated with your participation in this study. Any expenses related to your participation, such as meals, will be covered by the research project.

Compensation for transport if applicable

We will not reimburse you for any travel expenses, including time, but will offer some token for meals incurred while participating in this study

Questions about the study

If you have any questions about the study or need further information, you can contact the investigators at 0705159151 **AMORUT EVERLINE**

Questions about participant's rights:

If you have any questions about your rights as a research participant, please contact 0772618111-Dr. Nakibuuka the chair of the REC

STATEMENT OF CONSENT/ASSENT

..... Has described to me what is going to be done, the risks, the benefits involved and my rights regarding this study. I understand that my decision to participate in this study will not alter my usual services. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name ……Signature of particpants .....Date .....

Witness

Name ……Signature ……Date……

Investigator

Name ……Signature ……Date ……..

APPENDIX II: Research Questionnaire

Dear respondent

I am ***Amorut Everline Ruth***, a student of King Ceasor University pursuing a Degree in Nursing Sciences. I am carrying out a research with the topic ***"Covid-19 vaccination exercise among health workers, a case study of Mulago national Referral hospital***". You have been selected as a key information provider. This questionnaire is purely for academic purposes and the information will be kept confidential.

SECTION A: Back ground information of the respondents

1. Sex

a) Male ☐

b) Female ☐

2. In which age bracket are you?

a) 18-27 ☐ b) 28- 37 ☐

c) 38-47 ☐ d) 48 and above ☐

3. Education level

a) Certificate ☐ b) Diploma ☐

c) Degree ☐ d) Masters ☐

SECTION B: Structured Questions

FACTORS FOR COVID-19 VACCINATION AMONG HEALTH WORKERS.

4. where there some of the reasons forced during Covid-19 vaccination among health workers?

a) Strongly agree ☐ b) Agree ☐

c) Not sure ☐ d) Disagree ☐

e) Strongly disagree ☐

5. What were the factors that affected uptake of Covid-19 vaccination among health workers?

The following are the factors of Covid-19 vaccination among health workers.

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree)

Tick the appropriate box.

FACTORS	1	2	3	4	5
Contact with unknown suspected case					
Perceived good physical health status					
Risk of family health infection					
High exposer to Covid-19 infection					
Convincing tool to the majority population to the vaccine safety					
Providing guiding perimeter for vaccination mobilization					
Stimulation of health services					

If there were any other factors that lead to Covid-19 vaccination among health workers, Mention them

……

……

……

EFFECTS OF COVID-19 VACCINATION AMONG HEALTH WORKERS

6. Did Covid-19 vaccination exercise among health workers have any effects?

a) Strongly Agree ☐ b) Agree ☐

c) Not Sure ☐ d) Disagree ☐

e) Strongly disagree ☐

7. What were the effects of Covid-19 vaccination exercise among health workers?

The following are the effects of Covid-19 vaccination exercise among health workers.

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree)

Tick the appropriate box.

EFFECTS OF COVID-19 AMONG HW	1	2	3	4	5
Bold attitude to treating Covid-19 patients					
Low risk of Covid-19 exposer					
Perceiving that Covid-19 vaccine are protective					
Improve the safety of health workers' families from Covid-19 infections					
Improve the working morale of health workers					
Promotes work ethics among health workers					
Enhance the Covid-19 vaccination rates among the population					

8. If therewere any other effects of Covid-19 among health workers, please mention

……

……

……

CHALLENGES FACED DURIG COVID-19 VACCINATION

9. Did recruitment methods affect organizational performance?

a) Strongly Agree ☐ b) Agree ☐

c) Not sure ☐ d) Disagree ☐

e) Strongly disagree ☐

10. What were the challenges faced during Covid-19 vaccination exercise?

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree)

CHALLENGES	1	2	3	4	5
Use of different vaccines					
Accessing the most venerable people					
Limited shelf life for Covid-19 vaccine					
War and insecurity					
Storage facilities for Covid-19 vaccines					
Concerns about Covid-19 vaccines safety and uncertainty					
Limited funds					

11. If there were any other challenges faced during Covid-19 vaccination exercise, please mention them.

……

THANKS FOR YOUR PARTICIPATION IN THIS STUDY

APPENDIX III: Introductory letter

MULAGO HOSPITAL RESEARCH AND ETHICS COMMITTEE
RECEIVED
Signature:
Date: 5/07/2024

KING CEASOR UNIVERSITY
"Moral Rearmament, Wealth Multiplication"
P.O Box 88, Kampala, Plot 30/33 King Ceasor Road, Bunga Hill Main Campus,
Email: amoskalukusu@kcu.ac.ug

DIRECTORATE OF RESEARCH

10th August 2023

The Executive Director,
Mulago National Referral Hospital,
Uganda.

RE: RECOMMENDATION FOR RESEARCH DATA COLLECTION OF :-
Ms. AMORUT Evelyne Ruth (Index No. 2021AP/BNS/1110)

I write to recommend the above named student who is pursuing a Bachelor of Nursing from King Ceasor University, in Uganda.

Ms. AMORUT Evelyne Ruth (Tel: 0782-874566 amoureverlineruth@gmail.com) is now in her third year of study (3.2) and now expected to write her research dissertation as part of the requirements for the award of her degree.

She is working on the topic given as follows:

"***Covid-19 vaccination exercises among health workers in Uganda: A case of Mulago National Referral Hospital staff***".

The purpose of this letter is to request that you allow her undertake data collection from your hospital facility which will assist her to fulfill the requirements of the university.

The results of her research can be shared with you upon the successful completion of her study.

In any correspondence, use the address given herein. Looking forward to hearing from you.

Sincerely,

KING CEASOR UNIVERSITY P.O. BOX 88 KAMPALA - UGANDA
18 AUG 2023

Amos Ronald Kalukusu (PhD Fellow, Public Health).
Assoc. Director for Research.
Email: amoskalukusu@kcu.ac.ug Tel: 0781457183

CC: DVC Academic Affairs; Cc: Academic Registrar; Cc: Ms. AMORUT Evelyne Ruth

APPENDIX IV: Acceptance letter

TELEPHONE: +256-41554008/1
FAX: +256-414-5325591
E-mail: admin@mulago.or.ug
Website: www.mulago.or.ug

IN ANY CORRESPONDENCE ON THIS
SUBJECT PLEASE QUOTES NO.....

MULAGO NATIONAL REFERRAL HOSPITAL
P. O. Box 7051
KAMPALA, UGANDA

11 January 2024.

Ms. Amorut Everline Ruth
Principal Investigator
King Ceasor University.

Dear Ms. Amorut,

Re: Approval of Protocol MHREC 2678: "Assessment of Factors that Influence the Uptake of COVID-19 Vaccination among Health Workers in Uganda, A Case Study of Mulago National Referral Hospital Staff".

The Mulago Hospital Research and Ethics Committee reviewed your proposal referenced above and granted approval of this study on 11 January 2024. The conduct of this study will therefore run for a period of one (1) year from 11 January 2024 to 10 January 2025.

This approval covers the protocol and the accompanying documents listed below;

- Consent form
- Questionnaire

This approval is subjected to the following conditions:

1. That the study site may be monitored by the Mulago Hospital Research and Ethics Committee at any time.
2. That you will be abide by the regulations governing research in the country as set by the Ugandan National Council for Science and Technology including abiding to all reporting requirements for serious adverse events, unanticipated events and protocol violations.
3. That no changes to the protocol and study documents will be implemented until they are reviewed and approved by the Mulago Hospital Research and Ethics Committee.
4. That you provide quarterly progressive reports and request for renewal of approval at least 60 days before expiry of the current approval.
5. That you provide an end of study report upon completion of the study including a summary of the results and any publications.
6. That you will include Mulago Hospital in your acknowledgements in all your publications.

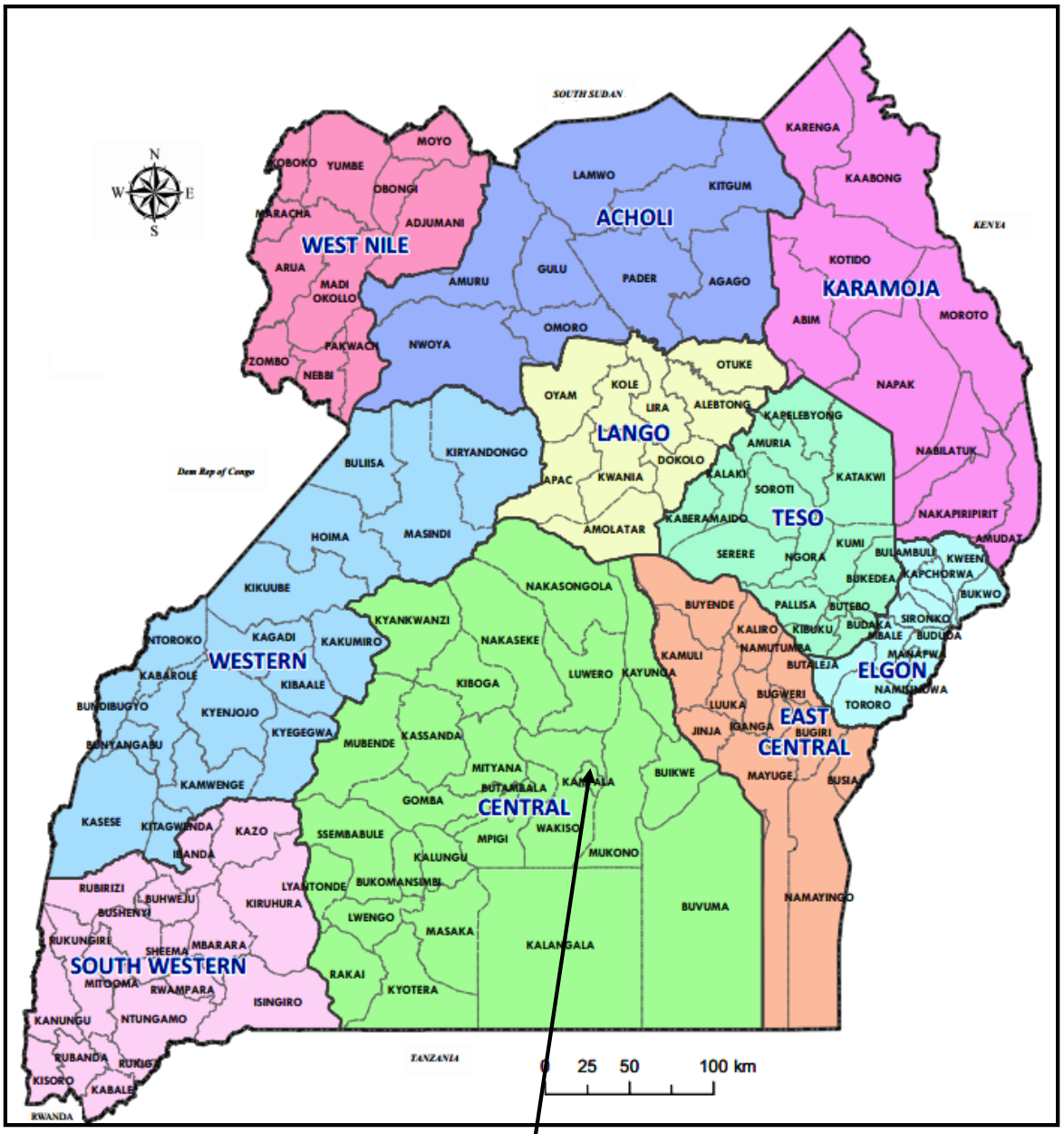
I wish you the best in this Endeavour.

APPROVED
APPROVAL DATE EXPIRY DATE
11 JAN 2024 10 JAN 2025
MULAGO RESEARCH ETHICS COMMITTEE
IRC

DR. JANE NAKIBUUKA
CHAIRPERSON- MULAGO HOSPITAL RESEARCH & ETHICS COMMITTEE.

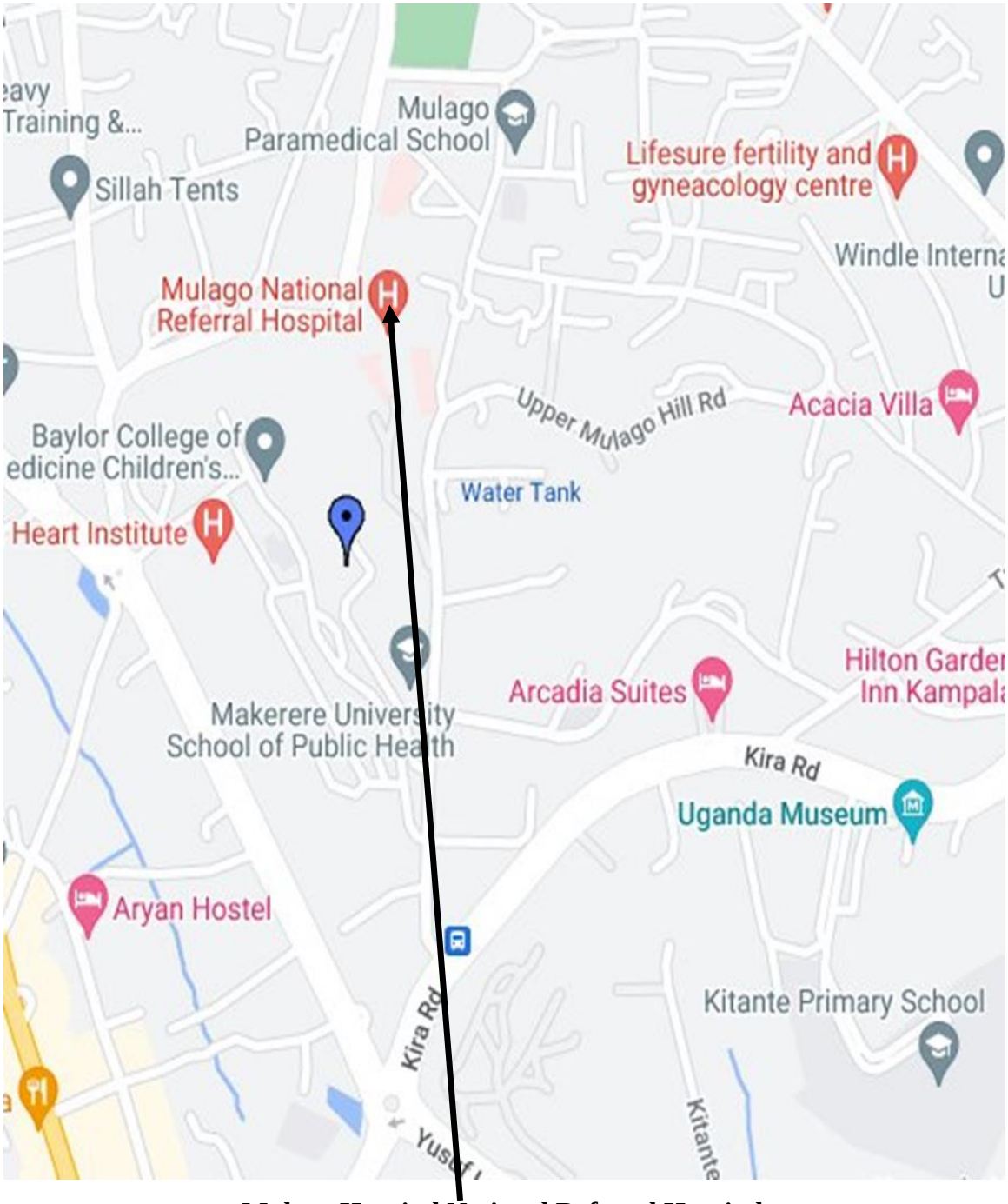
Vision: "To be the leading centre of Health Care Services"

APPENDIX V: A map of Uganda showing the location of Kampala District.



Kampala District

APPENDIX VI: A map of Kampala District showing Mulago National Referral Hospital



Mulago Hospital National Referral Hospital