GENDERED EXPERIENCES AND PERCEPTIONS OF COVID-19 VACCINATIONS: A CASE STUDY OF HEALTHCARE WORKERS AT KATUTURA HEALTH CENTRE, IN KHOMAS REGION, NAMIBIA

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ABSTRACT

Healthcare workers as frontline heroes in the COVID-19 pandemic were the first to be considered for the COVID-19 vaccine. The study aimed to explore the perceptions and experiences about COVID-19 vaccinations based on the gender of the healthcare workers at the Katutura Health Centre. The objectives of the study were to explore the perceptions about COVID-19 vaccinations; describe the experiences of healthcare workers vaccinated at the Katutura Health Centre and examine how gender is connected to how one experiences and perceives COVID-19 vaccinations. The study was informed by a qualitative descriptive case study design, with a sample size of 22 participants out of a population of 104, using convenience sampling. A pilot study was conducted but the results were not part of the main study. The data was collected using semi-structured interviews. The data was transcribed and analysed using thematic analysis. The principles of autonomy, beneficence, justice and non-maleficence were applied to the study. Three themes emerged from the thematic analysis, namely; the perception of healthcare workers on the COVID-19 vaccine, the experience of healthcare workers on the COVID-19 vaccine, and the link between gender and vaccine uptake. The findings were related to critical theory, which provided the basis on which to explain how Health Care Workers (HCWs) perceived and experienced the COVID-19 vaccine for themselves and the public. The findings conclude that HCWs received their information from formal sources and social media. However, HCWs understood the benefits of receiving the vaccine, which was also the factor that prompted them to receive the vaccine. The process of receiving the vaccine was described as fast and smooth. Yet, most experienced headaches and muscle pain as side effects. The uptake of the vaccine was common amongst females, however, they expressed fear of infertility and death as hindrances to receiving the vaccine. The study recommended the development and conducting of training for HCWs focused on benefits of vaccines, and vaccine safety.

Keywords: Gender, Health Care Workers, COVID 19, Experience, Perceptions.

TABLE OF CONTENTS

ABSTRACT I

LIST OF TABLES VI

LIST OF FIGURES VII

LIST OF ABBREVIATIONS AND ACRONYMS VIII

ACKNOWLEDGEMENTS X

DEDICATION XI

DECLARATION XII

CHAPTER 1: INTRODUCTION 1

1. Introduction 1

1.1 Background of the Study 1

1.2 Statement of the Problem 4

1.3 Objectives of the Study 4

1.4 Significance of the Study 5

1.5 Limitations of the Study 5

1.6 Delimitation of the Study 6

CHAPTER 2: LITERATURE REVIEW 7

2.1 Introduction 7

2.2 Public Health Systems in Africa, and their Challenges 7

2.2.1 The COVID-19 Pandemic and its effect in Namibia 9

2.2.2 Namibia's COVID-19 vaccination programme 11

2.3 Vaccinations 12

2.3.1 Medicalization of Vaccines 14

2.3.2 Vaccination Programs and Gender 17

2.3.3 Vaccine Sovereignty and Nationalism 19

2.3.4 Vaccine Nationalism 22

2.3.5 Vaccine Hesitancy 23

2.3.6 Vaccine Mandates and Ethics 27

2.4 Vaccinations from Pandemics and Epidemics: Smallpox, Ebola and Polio 32

2.5 A Perspective on COVID-19, COVID-19 Vaccine and its impacts on Health Care Workers in the Global North and Global South 38

2.5.1 Impacts of COVID-19 on Health Care Workers in the Global North 39

2.5.2 Impacts of COVID-19 on Health Care Workers in the Global South 41

2.5.3 Effects of COVID-19 Vaccines on Gender 42

2.6 Perceptions and Experiences of Healthcare Workers towards COVID-19 Vaccines 43

2.6.1 Perceptions of Health Care Workers towards COVID-19 vaccines in the Global North and Global South 44

2.6.2 Experiences of Health Care Workers towards COVID-19 vaccine in the Global North and Global South 47

2.7 Improving Vaccination Rates 50

2.8 Theoretical framework 52

2.9 Conclusion 54

CHAPTER 3: METHODOLOGY 56
3.1 Introduction 56
3.2 Research design 56
3.3 Population 58
3.4 Sampling 58
3.5 Research instruments 59
3.6 Data Collection Procedures 59
3.7 Pilot study 60
3.8 Data analysis 61
3.9 Research Ethics 63
3.9.1 Principle of Autonomy 64
3.9.2 Right to Beneficence 64
3.9.3 Principles of Justice 65
3.9.4 Principle of Non-Maleficence 65
3.10 Conclusion 66
CHAPTER 4: PRESENTATION AND DISCUSSION OF FINDINGS OF THE STUDY 67
4.1 Introduction 67
4.2 Overview of Demographic data 67
4.3 Findings from semi-structured interviews 71
4.3.1 Theme 1: Perception of healthcare workers on the COVID-19 vaccine 72

4.3.2 Theme 2: Experiences of healthcare workers on COVID-19 vaccine 79

4.3.3 Theme 3: Link between gender and vaccine uptake 89

4.3.4 Summary of the findings of the study 100

4.4 Conclusion 103

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS 104

5.1 Introduction 104

5.2 Findings of the Study 104

5.2.1 To explore the perceptions about COVID-19 vaccinations among Health Care Workers at the Katutura Health Centre 104

5.2.3 To describe the experiences of healthcare workers vaccinated at the Katutura Health Centre 105

5.2.3 To examine how gender is connected to how one experiences and perceives COVID-19 vaccinations. 106

5.3 Theoretical Significance of Findings 107

5.4 Recommendations from the study 107

5.5 Recommendations for future studies 108

5.6 Overall Conclusion 108

REFERENCES 110

ANNEX URE D: Interview Protocols 125

ANNEXURE E: Informed Consent 127

LIST OF TABLES

Table 3.1: Description of the steps of thematic analysis (Adopted from Kiger & Varpio, 2020) 62

Table 4.2: Demographic data of respondents. 68

Table 4.3: Themes and sub-themes from study 71

LIST OF FIGURES

Figure 1.1: The four-tiered health system that is currently in use in Namibia 3

Figure 2.1: Data analysis using the qualitative research design. 61

Figure 3.1: Marital status of participants. 69

LIST OF ABBREVIATIONS AND ACRONYMS

AZT	Azidothymidine
COVID-19	2019 novel coronavirus
COVAX	COVID-19 Vaccines Global Access
DNA	Deoxyribonucleic acid
EN	Enrolled Nurse
EHF	Ebola Haemorrhagic Fever
FDA	Food and Drug Administration
HCW	Healthcare Worker
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome
ICU	Intensive Care Unit
IMF	International Monetary Fund
IPPR	Institute for Public Policy
MICT	Ministry of Information, Communication and Technology
MPN	Manufacturer Part Number
MODVA	Ministry of Defence and Veteran Affairs
MOHSS	Ministry of Health and Social Services
NDF	Namibia Defence Force
PHC	Primary Health Care
PPE	Personal Protective Equipment

RN	Registered Nurse
RNA	Ribonucleic acid
SARS	Severe Acute Respiratory Syndrome
SNR	Senior Registered Nurse
TB	Tuberculosis
TCE	Total Epidemic Control
WHO	World Health Organization
UNAIDS	United Nations Programme on HIV/AIDS
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund

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DEDICATION

It is with genuine gratitude and warm regard that I dedicate this mini-thesis to my late grandmother Evelina Mwanyekele who taught me not to give up on education. I would like to dedicate this dissertation to my family, classmates, and colleagues for their unwavering support and encouragement that kept me motivated to complete the thesis.

Special thanks go to my friend Martha Jordan who continually provided me with moral and emotional support. Above all, I dedicated this work to almighty God, who showered me His blessings in my everyday life, protection from COVID-19, giving strength, patience, wisdom, courage, time, power of mind, and guidance in realization of this mini-thesis.

DECLARATION

I, Saara Twahafifwa Shindinge, hereby declare that this study "Gendered experiences and perceptions of COVID-19 vaccinations: A case study of healthcare workers at Katutura Health Centre, in Khomas region, Namibia" is my own work and is a true reflection of my research, and that this work or any part thereof has not been submitted for a degree at any other institution.

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Saara Twahafifwa Shindinge		October 2024
Name of student	Signature	Date

CHAPTER 1: INTRODUCTION

1. Introduction

1.1 Background of the Study

COVID-19 has been a dominant pandemic for the past few years with increasing variants affecting many people including both men and women. Literature across the globe from past pandemics pointed to the importance of using a gender lens when examining policy and experiences of pandemics which also includes COVID-19 (Wenham et al., 2020). A study carried out in the United Kingdom demonstrated the importance of understanding the experiences of Health Care Workers (HCWs) based on a gender lens and found a high range of inequalities, power relations, and impacts of disease among HCWs (Regenold & Vindrola-Padros, 2021). Furthermore, Regenold and Vindrola-Padros (2021) indicated that during the COVID-19 epidemic, men were more likely to have severe physical outcomes than women. Regenold & Vindrola-Padros (2021) described female HCWs as more likely to emerge with a higher prevalence of depression and anxiety compared to other HCWs. Gender disparities from past studies (Regenold & Vindrola-Padros, 2021), reflected on the need to address gender differences, experiences and gendered impacts of diseases during COVID-19.

Vaccines are regarded as one of the most effective public health innovations in the past 100 years. Studies (Portnoy et al., 2020 & Hussein et al., 2015) show that immunizations have saved more than three million lives and saved billions of dollars in the costs of illness and healthcare. Besides saving lives, immunizations help improve the health status of populations, increasing the life expectancy rate while subsequently enhancing economic growth. In light of rising COVID-19 infections and

death rates, vaccinations were again regarded as one of the most effective public health innovations (Portnoy et al., 2020). Namibia had not been spared from the devastation of the virus. As of 2021, the country recorded close to 46655 cases and 604 deaths (Namibia Statistics Agency, 2021).

The country has a public and private healthcare system. After independence, Namibia implemented a four-tiered health system that consists of Primary Health Care sites (PHC), district hospitals, intermediate hospitals and a referral hospital. The Ministry of Health and Social Services (MOHSS) acts as the manager and provider of public health services in Namibia. Clinics are staffed by nurses, pharmacy technicians and assistants (Christians, 2020). When a patient's needs exceed their scope of practice or available resources, clinics referred patients to health centres, which are staffed by doctors, pharmacists, and nurses. Patients who required care that goes beyond PHC are referred to district hospitals. Patients who required specialist care are referred to intermediate hospitals. The most medically complex patients are taken to the Central Hospital in Windhoek. The country does have a sizeable private sector that is comprised of 844 private health facilities. However, more than 80% of the population are served by the public health system. As such, the implementation of key health initiatives, such as responses to non-communicable diseases, surveillance, and supplementary immunisation activities are constrained by limited budgetary allocations. As such, Namibia is still facing challenges in providing equitable, person-centred PHC (Christians, 2020).

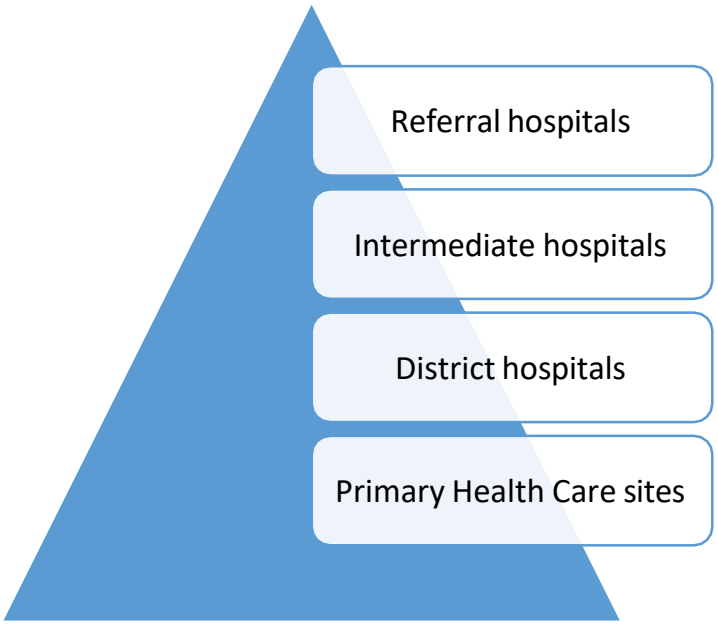

Figure 1. 1: The four-tiered health system that is currently in use in Namibia.

In late December 2019, an outbreak of mysterious pneumonia characterized by fever, dry cough, fatigue, and occasional gastrointestinal symptoms occurred in a seafood wholesale wet market, the Huanan Seafood Wholesale Market, in Wuhan, Hubei, China. The outbreak was caused by a novel beta-coronavirus, named 2019 novel coronavirus (COVID-19). However, this was not the first coronavirus outbreak, with the first outbreak having occurred in 2003, when a new coronavirus was first seen in the Guangdong Province of China. The mortality rate caused by the virus was around 10%–15%. In 2012, a novel coronavirus that shared similar features to the outbreak in 2003 was detected in the Middle East, which was similarly caused by a coronavirus, with a mortality rate of 37% (Wu et al., 2020).

This study was carried out with participants from the Katutura Health Centre located in the Katutura Central constituency in the Khomas region to determine the perceptions and experiences of the COVID-19 vaccine of healthcare workers. The Katutura Health Centre was commissioned in 1959, after the relocation of black

Namibians from the Old Location (today's Hochland Park) to Katutura. The Old Location had a clinic, commissioned in 1914 by the German colonial government (Nord, 2014). The state-run Katutura Health Centre is situated on Clemens Kapuuo Street, in the heart of Katutura. Due to an increase in population and the demand for services, the clinic was upgraded to a Health Centre in 2019. The recently inaugurated 24-hour Katutura Health Centre is located in a catchment area of approximately 120 600 persons (NAMPA, 2019).

1.2 Statement of the Problem

The Namibian government had received a total of 102 400 doses of COVID-19 vaccine, which mainly targeted healthcare workers. A newspaper report by Petersen and Nakashole (2021), reported that the country destroyed 154 595 unused doses of Sinopharm, AstraZeneca and Sputnik component. Keulder (2021) attributed this wastage of vaccines to vaccine hesitancy among Namibians, more so among healthcare workers. In addition, the gender disparities among healthcare workers regarding how they received and perceived vaccines were unknown. Moreover, a recent study by Baumgaertner et al. (2020) had shown that women were more at risk of acquiring influenza yet they displayed low vaccination acceptance rates. The study aimed to explore the perceptions and experiences about the COVID-19 vaccination based on the gender of the healthcare workers at the Katutura Health Centre.

1.3 Objectives of the Study

- To explore the perceptions about COVID-19 vaccinations among healthcare workers at the Katutura Health Centre.
- To describe the experiences of healthcare workers vaccinated at the Katutura Health Centre.

- To examine how gender is connected to the perceptions and experiences of COVID-19 vaccinations.

1.4 Significance of the Study

The findings of the study may assist in informing the Ministry of Health and Social Services on health planning policies for COVID-19 and other health emergencies that are tailor-made for healthcare workers. Furthermore, it may assist the Ministry of Health and Social Services and other stakeholders in developing marketing campaigns that are entrenched in cultural practices, making them more appealing to healthcare workers. Furthermore, it may assist the Ministry of Health and Social Services and other stakeholders in developing marketing campaigns that are entrenched in cultural practices, which will make them more likely to appeal to healthcare workers. The study findings may be used to develop tailored individual-level and population-level health interventions that are more responsive to gender. The study may also contribute to the academic body of knowledge regarding the perceptions and experiences of COVID-19 among health workers.

1.5 Limitations of the Study

The study was not able to collect sufficient data due to time constraints caused by healthcare workers being preoccupied with COVID-19 patients. Thus, the data collection process took place over 8 weeks to ensure maximum participation in the study. The interviews were conducted in line with the COVID-19 protection mechanisms, including social distancing of 1.5 m and the wearing of masks at all times.

1.6 Delimitation of the Study

The study was limited to the geographical boundary of Katutura Health Centre in the Khomas Region. Although there were other hospitals in the Khomas region, the Katutura Health Centre was more accessible during the COVID-19 pandemic compared to other hospitals which had limited entrance due to the pandemic restrictions.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

COVID-19 had been a dominant pandemic for the past few years with increasing variants affecting many people including both men and women. Wenham et al. (2020) had pointed out that past pandemics highlighted the importance of using a gender lens when examining policy and experiences of pandemics including COVID-19. Healthcare workers (HCWs) faced an increasing threat as a result of confronting the COVID-19 pandemic. Moreover, COVID-19 became one of the major causes of death, which continued to claim the lives of healthcare professionals. Hence, the development of COVID-19 vaccines that offered protection against the disease (Zewude et al., 2021). This chapter presents an overview of vaccines in the social context, a perspective of the impact of COVID-19, the perceptions and experiences of HCWs on vaccines. The chapter concludes with a discussion of how to improve vaccination rates and the theoretical framework that informed the study.

2.2 Public Health Systems in Africa, and their Challenges

Despite accounting for more than 11% of the total global population, the continent of Africa accounts for 24% of the disease burden in the world, coupled with an HIV/AIDS prevalence of 7%. Yet, the continent still spends less than 15% of its budget on healthcare. However, citizens still have to pay almost half of their health services out-of-pocket, for substandard healthcare. The amount most certainly increased due to the costs associated with acquiring COVID-19 vaccines (Azevedo, 2017).

The continent of Africa was colonized by the Europeans colonized between 1880 and 1910.The efforts of colonialism to create export economies had negative effects on the health of Africans that are still felt today. Administrators were inundated with issues related to a lack of financial resources and untrained health personnel, from which ethical issues arose in the health sector, namely, ethical uncertainties and transgressions of colonial research and treatment campaigns; intensive efforts to undermine African healing practices; epidemiological and bodily harms caused by economic development; uneven and inadequate health infrastructures established during the colonial era (Tilley, 2016). In addition, healthcare professionals were not oblivious to the importance of gender differentiation, thus generating empirical inaccuracies. Moreover, women were regarded as unimportant in colonial encounters (Bradford, 2009). The University College London Centre for Gender, Health and Social Justice (2020) further found that the health of a colonised population was deeply affected by the coloniality of gender. Aspects of health, such as reproduction, sexuality and sexual practices, maternity and maternal health were undermined, placing the lives of especially women at great risk.

Moreover, the re-emergence of infectious diseases previously thought to be eradicated such as Ebola, new epidemics such as Severe Acute Respiratory Syndrome (SARS) and the nature of the perennial HIV/AIDS, malaria, and tuberculosis (TB), were already a burden on the already strained public health system. Coupled with the increasing rate of non-communicable diseases including various cancers, cardiovascular diseases, and diabetes, have been noted as a serious threat. Moreover, with the economic, political, and leadership turmoil currently experienced, Africa still has a long way to go in addressing the inequalities (Azevedo, 2017).

A paper by Azevedo (2017), highlighted the challenges that public health systems in Africa were faced with. This includes the inability of countries to retain and entice the health workforce to stay and work in Africa and an overreliance on the theory of macroeconomics. Thus, falling prey to the distorted policies developed by international organizations such as the International Monetary Fund (IMF) and the World Bank that accord little to no attention to the health of Africans. In addition, an overreliance on medical concepts of health that were inherited from the colonial past, which focuses more on the individual instead of looking at the entirety of the community and the population and a lack of scientific analysis and studies on the health implications of determinants of health by African based scientists and governments scholars and ministries of health. Azevedo (2017) went on to state that underdeveloped infrastructure, including, an effective sewage system, hygiene awareness and implementation, especially in rural areas. Azevedo (2017) further highlighted poor nutrition, especially for vulnerable members of the populations such as children, mothers and pregnant women; the use of backdated agricultural techniques and a lack of the basic understanding of the link between the various sectors of life and the impact it may have on the health of individuals, communities and populations (Azevedo, 2017). All these factors made it even more difficult for African countries to acquire the COVID-19 vaccines and ensure that their people were fully vaccinated.

2.2.1 The COVID-19 Pandemic and its effect in Namibia

Coronavirus is an enveloped, positive single-strand RNA virus that belongs to the Orthocoronavirus subfamily, as the name, with the characteristic "crown-like" spikes on its surfaces. Since the onset of the epidemic, the virus had been constantly mutating, increasing new variants. This occurred due to the expansion of the virus as it adapted

and acquired selective advantages. Thus far, the globe had recorded five variants, with the latest known as Omicron discovered in November 2021 (WHO, 2021).

A paper by Wu et al. (2020), stated that COVID-19 had a mean incubation period of five days, which was described by Cheng et al. (2021) as the interval between initial infection and showing of symptoms. COVID-19 was characterised by the onset of common symptoms that included, dry cough, fever, and fatigue. However, the disease could affect multiple systems, including the gastrointestinal system, hence the diarrhoea, nausea, and vomiting; the respiratory system, thus symptoms comprised of chest pain, coughing, haemoptysis, rhinorrhoea, shortness of breath and sore throat; the musculoskeletal system that manifested as muscle ache, and the neurologic system, which had a headache or confusion as symptoms. Wu et al. (2020) further described the more common signs and symptoms that were present in more than 75% of the confirmed cases as having experienced a fever and a cough. While shortness of breath was only present in less than 50% of the cases. After the initial onset of illness, patients experienced mild symptoms that lasted up to seven (7) days. However, COVID-19 had the potential to progress from shortness of breath after eight (8) days to Acute Respiratory Distress Syndrome (ARDS) in nine (9) days, which resulted in patients requiring mechanical ventilation; however, this progression only occurred in less than 40% of the patients. The mortality rate in the early series of hospitalized patients was 11%–15%, but the later statistics were 2%–3%. (Wu et al., 2020).

There was no treatment regime for COVID-19. The main strategies that were employed were merely symptomatic and supportive care, this involved keeping vital signs, maintaining oxygen saturation and blood pressure, and treating complications that arose, such as secondary infections and/or organ failure (Wu et al., 2020). Since

there were no standard treatments for COVID-19, it became important for health authorities to implement strategies that either avoided infection or the further spread of the disease. This involved, avoiding travelling to endemic regions; minimising contact with infected persons, and monitoring body temperature and self-isolation for two (2) weeks. Healthcare workers ensured that they made use of Personal Protective Equipment (PPE) when exposed to the bodily fluids of ill persons. Persons that died of COVID-19 were either cremated or buried deeply in the vicinity where they died (Wu et al., 2020).

As of 24 February 2022, Namibia recorded close to 157 060 cases and 4002 deaths (NSA, 2022). The first case of COVID-19 was recorded on 13 March 2020, which culminated in the Erongo region having the highest number of cases, followed by Khomas; which indicated clustered community transmission. At the onset of the epidemic, the country was fourth in Africa in terms of the rate of daily new cases in the continent after South Africa, Eswatini and Gabon. In response, the government instituted a series of preventive measures to curb the spread of the virus, which included lockdowns, travel restrictions and limiting high-risk activities (Amesho et al., 2020).

2.2.2 Namibia's COVID-19 vaccination programme

The Namibian government through the Ministry of Health and Social Services (MOHSS) launched its COVID-19 vaccination campaign in March 2021, in two of the 14 regions. Upon being vaccinated, individuals were issued with a vaccination certificate. The campaign was rolled out to the rest of the country in April 2021. However, the uptake of vaccination had been slow. Despite research showing that COVID-19 certification leads to increased vaccination uptake (Mills, 2022). By July

2021, only 3000 individuals have been vaccinated. This number had risen to more than 374 000 persons, which translated to 14.7% as of 24 February 2022 (Ministry of Health and Social Services, 2021).

According to a report by WHO (2021), factors that contributed to the low uptake in the country included the circulation of rumours and/or fake news in communities, concerns over the safety and efficacy of vaccines, and vaccine hesitancy amongst HCWs. To address vaccine hesitancy amongst Namibians, MOHSS and the Ministry of Information, Communication and Technology (MICT) together with various United Nations agencies (i.e. WHO, UNICEF, UNESCO, UNFPA, UNAIDS) designed and implemented a comprehensive strategy intended to improve vaccine acceptance and increase access to vaccination sites in all health districts. A vaccine communication strategy was drafted and a mass media campaign on vaccination was launched under the tagline 'Get Vaccinated! Help Kick COVID-19 out of Namibia' (WHO, 2021). In addition, communication materials were produced and translated into local languages for use in radio, television and print media. Roadshows to all 14 regions using social media influencers were conducted to intensify mobilization for vaccine uptake (WHO, 2021).

2.3 Vaccinations

Research by Abdulkarim et al. (2011) and Hussein et al. (2015) had shown that vaccinations had saved more than three million lives from illnesses ranging from yellow fever, and rubella to rotavirus and saved billions of dollars in costs of illness and healthcare, and enhanced economic growth (Portnoy et al., 2020). Vaccines were defined by Abdulkarim et al. (2011:2) as "any preparation intending to produce immunity to a disease by stimulating the production of antibodies". Furthermore, it

prevented the effects of infections by many pathogens. The most common method of administration was by injections, but it could be given orally or by nasal spray. Abdulkarim et al. (2011:1) further defined vaccination as the "administrations of antigenic materials to produce immunity to a disease". In addition to the benefits stated in a study by Portnoy et al. (2020), Abdulkarim et al. (2011) further elaborated on the benefits of, controlling and eliminating life-threatening infectious diseases; preventing suffering, disability and death, especially to children and being a cost-effective health investment that is accessible to the poorest and vulnerable populations. Vaccines could easily and effectively be delivered through outreach activities. In addition, vaccinations reduced pressure on the healthcare system and it does not require individuals to implement any major changes to their lifestyles.

Vaccinations have been developed for various diseases throughout history, with the first indications of individuals being vaccinated as far back as 400 BC (Hussein et al., 2015). According to a paper by Lahariya (2014), the earliest communities in China, India, Turkey and Africa used to practise inoculation as a form of vaccination. Inoculation was defined as 'the process of injecting an infective agent in a healthy person, which leads to often mild disease and preventing that individual from future serious disease' (Lahariya, 2014:2). Inoculation, albeit offered the same protection as that provided by vaccination as it was considered less safe as persons could die; could experience higher incidences of adverse effects; complications from natural infection were high and individuals benefited at the expense of the community. The real evolution began in the eighteenth century as a result of Edward Jenner, who developed the first vaccine against smallpox. In the late nineteenth and twentieth century, factory laboratories were developed to produce vaccines on a large scale. Numerous vaccines

were extensively produced for various diseases, including, diphtheria, tuberculosis, yellow fever, influenza, poliomyelitis, measles, mumps, rubella and lastly hepatitis. In the mid-twentieth and early twenty-first century, with the WHO on the health front, more vaccines were added to the roster for herpes virus and rotavirus. Despite the advent of technology and improved health care, the world had seen new emerging diseases that proved to be a threat to the health of humans, including Ebola and the recent coronavirus (Hussein, 2015).

Despite COVID-19 being a relatively new pandemic, efforts had been put in place to manufacture vaccines to offset the disease. As of 3 June 2021, the WHO had evaluated that the following vaccines against COVID-19 had met the necessary criteria for safety and efficacy and could be used AstraZeneca/Oxford vaccine; Johnson and Johnson; Moderna; Pfizer/BioNTech; Sinopharm and Sinovac (Legal Assistance Centre, 2021). Despite the WHO not approving the use of the Sputnik V COVID-19 vaccine, Namibia in earlier 2021, introduced it and subsequently suspended its use. This was due to suspicions / research findings maintaining that men who received the vaccine were likely to be at a higher risk of contracting HIV (Reuters, 2021). Similarly, the United States Food and Drug Administration (FDA) had also limited the authorized use of the Janssen COVID-19 vaccine to persons who were 18 years of age and older due to the increased risk of thrombosis with thrombocytopenia syndrome (TTS). It is defined as a syndrome of rare and potentially life-threatening blood clots in combination with low levels of blood platelets (United States Food and Drug Administration, 2022).

2.3.1 Medicalization of Vaccines

Medicalization was addressed in a study by Pograniczna and Mroczek (2017), in which they described medicalization as a phenomenon that rests on an economical

basis and leads to the utilization of medicine that defines the health of individuals by categories of risk and material benefits, while also seeming to aim to control the health condition of the society. The arrangement of vaccination programs was based on many foundations, such as regulations on the necessity of prophylaxis; the tasks of doctors, nurses and midwives and legal sanctions that were imposed when individuals refused to follow the imposed rules. A paper by van Dijk et al. (2016) explained that medicalization must be addressed in sociology as it is a social process. This is because societal norms and values influences an individual's perception of health, what constitutes a medical problem, and who should be consulted when experiencing a problem that can be perceived as medical.

Medicalization is said to be influenced by cultural and societal conditions. As such medicalization is context-dependent and depends on the involvement of various players, including biotechnology, consumers, governments, media and the pharmaceutical industry (van Dijk et al., 2016). A paper by Maturo (2012) explained how medicalization occurred in society. In terms of consumers, health was continuously regarded as a commodity. As a result, the perceptions of the health of consumers were influenced by advertisements on television and on the internet. Technology had also been cited as a driving factor of medicalization. As technology is used as a diagnostic tool to discover new diseases. Technology as a source of medicalization had been spearheaded by pharmaceutical companies who stood to make billions from the development of medicines and vaccines. Wright (2015) found that less medical attention and interventions could be implemented as alternatives to medicalization. There had been increased calls for de-medicalization through the control of medical knowledge and technology. In addition, power must shift to local

populations to enhance autonomy over their health and mainstream medical institutions in such a way that individuals acquire the right to make decisions regarding their health (Braine, 2022).

Morral (2001) stated two types of power that exist within medicalization, coercive power and authoritative power. Coercive power is gained from physical force, while authoritative power is gained through social position. This study looked at the power construct of authoritative power medicalization. Authoritative power stated that the lives of populations were defined concerning medical knowledge and practice. Thus, people believed that the only way to solve problems is through medical interventions (Morral, 2001).

Abdulkarim et al. (2011) highlighted vaccines as reducing the risk of being infected by a virus or pathogen. In this light, Maturo (2012) made the connection between medicalization, health and risk. Maturo (2012:2) found a connection between "the individualization of social problems, biological reductionism, and the shifting of borders between normal and pathological". Governments tended to consider a clinical and biological definition of a disease rather than the underlying social causes of the disease. Hence, the reason why governments pushed their ideals on the health system by introducing policies, prioritising certain diseases or treatments over others (van Dijk et al, 2016).

However, Monajemi and Namazi (2020) in their paper stated that medicalization does not take into consideration the social, community, and political actions during pandemics. Instead, much emphasis is placed on medical institution-society relationships; doctor-patient relationships; community compliance, and medical and technical solutions. This can explain why measures to control the spread of COVID-

19 including the use of vaccines were highly ineffective. That's because the socio-cultural aspects of health that should have been considered were instead seen as obstacles in the management of the pandemic (Monajemi & Namazi, 2020).

An article by Choupaut (2022), linked medicalization and gender. According to Choupaut (2022), there had been much focus on the medicalization of female bodies by the medical profession. This is especially true, in the areas of family planning, childbirth and menstrual health. This led to the belief that medicalization is a top-down process, whereby females were treated as passive victims.

A study by Pograniczna et al. (2017), using a diagnostic survey with a questionnaire, found that by providing vaccines, it was a sign of authoritative medicalization by the state. Moreover, respondents with a high level of knowledge, believed that mandatory vaccinations were an ordinary example of human rights violation. Moreover, the study showed that the medicalization process could be considered as both positive and negative, and was in most cases subjectively experienced by the individual (Pograniczna et al., 2017).

2.3.2 Vaccination Programs and Gender

According to WHO (2015), gender was described as a concept that had been created and imposed through societal expectations. Gender was viewed as intrinsic to how an individual identified themselves, in a process known as social conditioning. Gender also depicted the role that males and females played in society. However, it was influenced by how each gender is treated in society and by the media, this had subsequently led to the proliferation of patriarchy. Patriarchy was defined by Nash (2020) as a system of relations, beliefs, and values that is deeply embedded in political, social, and economic systems that structure gender inequality between men and

women. Patriarchal ideology view feminine attributes as having no value, and masculine attributes as a privilege. The patriarchal structure ensured that men dominated the private and public domains (Nash, 2020).

The 1960s were synonymous with the widespread introduction of childhood vaccines that protected against polio, measles, mumps, and rubella. However, there was resistance, hence the introduction of coercive policies by the governments, which prevented unvaccinated children from being admitted to schools. This led to women actively fighting against patriarchy, in a bid to ensure that their children were safe from childhood diseases and could attend school (Conis, 2014). In Namibia, the status quo remains, with the country described as a deeply rooted patriarchal nation. In many cultural settings, the man is the head of the household and the wife is regarded as property and a subordinate to the husband. The contribution of women is only recognized in matters concerning children. As such, men hold all decision-making powers. Moreover, men exercised control of the family's resources, which included financial resources, livestock, and income from other sources. This is indicative of female oppression, which further exacerbates abuse (financial, physical, and emotional) against women. This has led to the development of an inferiority complex in women, where they were in continuous competition with men (Peters & Ubink, 2015).

An important aspect that was misrepresented was the linkages between immunization programs and gender. A paper by Nkangu et al. (2017) found that the differences in gender roles influenced exposure patterns of illnesses, such as responsibility for caring for the sick; access to healthcare, and scientific knowledge about treatment. Using the case study of the Ebola disease in West Africa, these gender differences and their

association with Ebola-related risk factors were discussed by Nkangu et al. (2017) to connect gender and Ebola disease in Africa. Women were typically considered the primary caregivers during illness. In their attempt to fulfil their gender roles, women were more inclined to nurse children and care for their sick family members as well as their entire support network. Fulfilling these duties became a burden for women. In contrast, it is uncommon for men to take care of their wives or children when they were ill, as this role is often assumed by other female family members or children if they were of reasonable age. Given that women were at higher risk of exposure due to their gender roles, their support network was equally at risk (Nkangu et al., 2017). The perceptions and attitudes of medical students towards vaccinations were addressed in a study by Salck et al. (2020), who found that the fear of infectious diseases, made them open to taking vaccines. Subsequently, a cross-sectional study by Adeniyi et al. (2021) found that there was no direct relationship between gender and perception of the COVID-19 vaccine, rather Adeniyi et al. (2021) found that education level played a bigger role. Moreover, the factors that could influence an individual's responsibility for vaccination were harm prevention and fairness in the contribution to public goods. Thus, individuals would only take vaccines if it was proven that they would not cause damage to their health while taking into consideration their role in gaining and maintaining herd immunity (Giubilini, 2020). In addition, the social and structural dynamics that influenced an individual's risk and vulnerability depended on their position on the gender hierarchy (Hawkes et al., 2021).

2.3.3 Vaccine Sovereignty and Nationalism

Satkauskas (2021) stated that the sovereignty of countries is what determined the allocation of who owns and controls vaccines and other pharmaceuticals. The country

that manufactures vaccines and medication have indisputable sovereignty over such resources until sold or imported to other countries as per international law. Therefore, to increase accessibility to vaccines and medications, issues related to the claims of sovereignty where the virus strains were isolated; where the vaccines or medication were manufactured, and where they were sold or exported, must be addressed. On 17 December 2020, the United Nations Office of the United Nations High Commissioner for Human Rights (UN OHCHR), stated that *"affordable, non-discriminatory access to the vaccine is a human right"*. The statement underlined the obligation of the right to health, on which, all people irrespective of gender were entitled to enjoy access to all the best available applications of scientific progress necessary to enjoy the highest attainable standard of health. However, as the world rolled out the COVID-19 vaccines, countries that were vaccine producers had been prioritizing their citizens above the citizens of other countries. This is the State's Parties' responsibility towards their population. However, the controversy continued, especially in African countries, widening the inequality gap (Satkauskas, 2021).

According to Articles 12 and 15 of the International Covenant on Economic, Social and Cultural Rights and Articles 25 and 27 of the Universal Declaration of Human Rights all human beings have the "right to the enjoyment of the highest attainable standard of physical and mental health and the right to enjoy the benefits of scientific progress". This included access to vaccines that were safe, effective and based on the best scientific developments. Thus, it was the responsibility of controls to take steps in achieving the prevention, treatment and control of epidemics. The International Covenant on Economic, Social and Cultural Rights, created a Committee on Economic, Social and Cultural Rights (CESCR), which during the COVID-19

epidemic stated exclusively that “States, therefore, have a priority obligation to take all the necessary measures, to the maximum of their available resources, to guarantee access to available vaccines for COVID-19 to all persons, without any discrimination" (Satkauskas, 2021: 3). Though State Parties ensured that such interventions were implemented on a national level, it did not remove their international obligation of ensuring that non-vaccine-producing countries also had access to COVID-19 vaccines (Satkauskas, 2021).

According to international law, the WHO Constitution does not require member States to increase access to health-related resources in low-income countries. Similarly, the International Health Regulations of 2005, do not contain provisions for State Parties to advance equitable access to vaccines and drugs. The regulations only state the obligation 'to undertake to collaborate…in the provision or facilitation of technical cooperation and logistical support, particularly in the development, strengthening and maintenance of the public health capacities" (Satkauskas, 2021:2). Thus, it is safe to say that there is no legal regime that advocates for global access to vaccines and drugs, non-vaccine producing nations will continue to lag behind in terms of vaccine acquisition and disease eradication (Satkauskas, 2021).

Even if vaccines were widely available, access and uptake were still hampered by gender-related barriers and inequities, both in communities and in health services and settings. Furthermore, data on the COVID-19 vaccine disaggregated by sex was highly limited or even absent, especially in low-income countries (Stevenson & Singh, 2022). According to an article by Stevenson and Singh (2022), only 89 countries worldwide had ever reported sex-disaggregated data for vaccinations. Similarly, regarding vaccine population coverage, only five countries had recorded this data. This was a

clear indication of the existence of gender-related barriers. Gender-related barriers to vaccination further included limited access to health services; increasing unpaid care responsibilities disproportionately borne by women; increases in gender-based violence; inequitable access to health information; limited ability to travel to health facilities; discrimination and harassment in health services, and limited decision-making power (Stevenson & Singh, 2022).

2.3.4 Vaccine Nationalism

Vaccine nationalism, according to a paper by Vanderslott et al. (2021) referred to the pursuit of vaccines in the national interest, through supply agreements or export bans, in a manner that was detrimental to other countries. Thus, during an epidemic, the acquisition of vaccines was subjected to conditions of limited supply. This affected the ability of countries to procure vaccines in larger quantities, negatively impacting countries, especially low-income nations. This was because high-income countries had the means to purchase sufficient vaccines for their populations several times over. As seen, during the COVID-19 pandemic, while low-income nations had yet to receive consignments of the vaccines; high-income nations were rolling out third-dose booster campaigns and vaccinating children (Vanderslott et al., 2021). Furthermore, low-income countries were at a disadvantage, as they did not have the means to negotiate favourable vaccine supply arrangements. Nor did they have the infrastructure necessary in developing local manufacturing capability. Through the urgings of the WHO, initiatives such as COVAX had been formed, to act as "a global risk-sharing mechanism for pooled procurement and equitable distribution of COVID-19 vaccines" (Vanderslott et al., 2021: 7).

Vanderslott et al. (2021) proposed vaccine internationalism as an alternative to vaccine nationalism. This suggested that vaccines ought to be available according to the needs of individual countries at an international level through multilateral cooperation. The term further merged two related concepts of vaccine diplomacy and medical internationalism, which integrated health policy with foreign policy. Vaccine diplomacy is concerned with the pursuit of national strategic interests alongside donating and selling vaccines to other countries. On the other hand, medical internationalism is related to the Cuban concept of posting Cuban doctors to countries around the globe to assist during health crises (Vanderslott et al., 2021).

2.3.5 Vaccine Hesitancy

Vaccine hesitancy is the unwillingness to receive vaccines when vaccination services were available and accessible (Wiysonge et al., 2021). Vaccine hesitancy is one of the leading causes of low and inconsistent vaccination uptake rates. Although it is common in low-and middle-income countries that had little access to vaccines. There had been an increase in vaccine hesitancy cases in high-income countries as well, due to a preference for natural lifestyles; fear of iatrogenic diseases; religious opposition to vaccines; increased sense of responsibility for the small risks associated with vaccines; medical experimentation during the colonial era; scepticism and concerns. Moreover, countries that did not have mandatory vaccination policies or have flexible policies also experienced high levels of vaccine hesitancy (Giubilini, 2020).

A historical analysis of the attitudes of Vietnamese towards medication by Monnais (n.d), indicated that vaccine hesitancy was not a new phenomenon. The reasons behind the mistrust of vaccines in general include, a lack of understanding of modern medicine; the notion that Western medication are not meant for Asians, refusal of

preventive measures and surgery; fear of innovation; high costs associated with consultations and prescription of pharmaceuticals, and the belief that individuals who took Western medicines might be judged by their ancestors for abandoning their traditions (Monnais, n.d).

In low-and middle-income countries, vaccine hesitancy may have occurred as a result of concerns or misperceptions regarding vaccine safety or low confidence in vaccine effectiveness. Individuals with lower formal educational levels tended to be more apprehensive on the use of vaccines, thus tending to believe and spread myths such as: "you will get COVID-19 from the vaccine"; "the vaccines will make you sick or kill you"; "my natural immune system is stronger than a vaccine"; "the vaccines were developed too quickly" or "there is a computer chip or magnets in the vaccine" (Legal Assistance Centre, 2021: 25). According to a study by Morales et al. (2021), gender interacts with an individual's social background to shape their vaccine hesitancy depending on their socioeconomic status. Morales et al. (2021) found that women that were living in poverty were more likely to be vaccine-hesitant in comparison to those living above the poverty threshold.

Gender gaps in education also played a role in limiting access to accurate vaccine information and thus resulted in less vaccine confidence, most especially for women (Heidari & Goodman, 2021). However, Morales et al. (2021) found that the effect of education extended to both females and males, as the lack of tertiary education contributed to both genders' COVID-19 vaccine hesitancy. Heidari and Goodman (2021) found that adverse reactions, confidence, experience, perception of safety and the risk of serious disease were factors that had the potential to influence vaccine uptake and can vary between women and men across different settings. Thus, it is of

utmost importance to consider the differential adverse effect profiles of COVID-19 vaccines among women and men and how they can influence vaccine confidence and acceptability. A study by Morales et al. (2021) found that females were more concerned about vaccine side effects than males. Furthermore, the vaccine hesitancy of females could be related to their childcare responsibilities.

Concerns about COVID-19 vaccines were also gendered. Possible side effects were the major distress for women, which might be related to the fact that women were in general more likely to practice risk-avoiding behaviours (Yaqub et al., 2014). However, this finding may also be indicative of gendered power relations within the field of medicine. Indeed, the patriarchal foundations of medicine had been shown to generate women's distrust in medicine or hesitancy towards seeking healthcare (Grodzicka, 2021). Conversely, men were more likely than women to believe that they did not need a COVID-19 vaccine or they did not trust the government's decision in recommending vaccination (Morales et al., 2021). Similarly, in a paper by Fieselmann et al. (2022), spiritual or religious beliefs, including the protection by God or the protective effect of precious stones, were more likely to be used as a reason to refuse the COVID-19 vaccine by females rather than males. Other notable reasons included low perceived benefits, low subjective risk, health concerns, information deficits and systemic mistrust (Fieselmann et al., 2022). A paper by Pertwee et al. (2022) described the emergence of conspiracy theories as emanating from an individual's attempt to try and gain an understanding of their social environment during times of uncertainty. They represented people's fears and anxieties, which can be damaging and fuel vaccine hesitancy. It can be understood that the fear and anxieties were associated with the fast

pace at which technology is advancing and political disempowerment (Pertwee et al., 2022).

However, vaccine hesitancy can also be attributed to colonialism, according to a paper by Greenwood and MacDonald (2021). Greenwood and MacDonald (2021) stated that there was a direct link between vaccination and colonialism. This was due to colonial governments stripping native people of their rights to make basic choices regarding their own lives and being confined to isolated reserves with the implementation of the apartheid policy. The segregation subsequently led to substandard healthcare facilities and services. In India, for example, these segregated hospitals were responsible for performing forced medical experimentation. As a result, the memories of these atrocities were passed on from generation to generation. Moreover, questions related to the value and safety of vaccines were directly impacted by the trauma experienced during colonialism. Thus, not accepting vaccines was not simply an act of rebellion but rather a symptom of ongoing mistrust (Greenwood & MacDonald, 2021).

Death caused by vaccines was also a contributing factor to vaccine hesitancy. Namibia has previously recorded deaths associated with vaccines, which were mostly children between six weeks to 60 months of age. The first vaccine-related death was recorded in 2006. Until 2016, 21 children had suffered from complications of vaccinations and subsequent death (Ndifon, 2016). Ndifon (2016) further highlighted that vaccine deaths were caused by a strong immune reaction to a live vaccine. Moreover, because children have an immature immune system, they were more susceptible to dying from vaccines (Ndifon, 2016).

The Walsh Medical Media (2022:1) has defined medical experimentation as a “branch of clinical research that deals with the employment of human beings as specimens for

research and investigation". It involved systematic and scientific investigation that can be either interventional or observational and involved human beings as research subjects. Human experimentation required the willingness of specimens and unwilling experimentation could be considered "medical torture". Washington (2007) has shown that Africa has had its fair share of unethical medical experimentation conducted on people. The first recorded case of a medical experiment occurred in Namibia on the Ovaherero people, who were forcibly sterilized during the early 1900s (Washington, 2007). In the 1970s, women in Zimbabwe were used in the clinical trial of Depo-Provera, a contraceptive drug. In the early 1990s, trials for Azidothymidine (AZT), an HIV/AIDS medication were conducted on people without their consent, nor were they informed on the methods for testing; how effective the medication is against the virus; the nature of the placebo effect and the possible side effects (Washington, 2007). In North Africa, Nigeria, the experimental drug for meningitis caused the deaths of children, while other children suffered from blindness, deafness and brain damage (Washington, 2007). In early 2021, the Food and Drug Administration (FDA) authorised the emergency use of Moderna, Pfizer and Johnson & Johnson for use for COVID-19 (FDA, 2021). This raised questions on the legal mandate of using experimental vaccines for public use and the protection of human rights which in turn further fuelled vaccine hesitancy especially for Africans, who for centuries, despite international bodies advocating for human rights seemed to be excluded (Nhemachena et al., 2021).

2.3.6 Vaccine Mandates and Ethics

According to the Legal Assistance Centre (2021), vaccine mandates are the rules that require being vaccinated as a condition for entry into places, employment or

participation in specific activities. There are hard mandates, in which vaccinations are required for attendance at certain places such as schools and soft mandates, where individuals have a choice between providing proof of vaccination or undergoing regular testing for Covid-19. At the time of conducting this research, vaccine mandates were being imposed upon individuals by governments through legislative regulations to reduce the COVID-19 infection rate and increase vaccination uptake, by either national or private action (Legal Assistance Centre, 2021).

In Namibia, the right to individualism is entrenched under the Bill of Rights in the Constitution of the Republic of Namibia (1990), most notably Article 7 and Article 8 which states that "No persons shall be deprived of personal liberty except according to procedures established by law" and "The dignity of all persons shall be inviolable", respectively. A closer inspection of Namibia's Labour Act 11 of 2007, provides authority for employers to impose vaccine mandates. Moreover, the Labour Act under Section 39 in Chapter 4 outlined the employer's duty to employees in protecting their workers and members of the general public who come into contact. The Public and Environmental Health Act 1 of 2015 does not specifically mention vaccination, except under Section 6 (c) where it provided for the classification of notifiable diseases into "vaccine-preventable notifiable infectious diseases", with a view of providing for the possibility of various regulations for the notification of diseases. The Correctional Service Act 9 of 2012 under Section 24(1) (b) (ii) and (2) authorises medical officers of a correctional facility to vaccinate inmates against disease without the consent of the inmate concerned. Defence Act 1 of 2002, specifically Section 81 of this Act, states that any member of the Defence Force may be required to submit to "immunization or prophylaxis against such communicable, infectious or epidemic illness. With regards

to children, the Child Care and Protection Act 3 of 2015 under Section 6 sets out the duty of a child's parents, guardian or another caregiver to secure their care and protection, which includes adequate health care and immunisation. (Legal Assistance Centre, 2021).

Namibian case law also addressed the right to personal medical autonomy, in the 2015 case of *ES v AC 2015 (4) NR 921 (SC)* which was concerned with the right of a parent to refuse a blood transfusion in a life-threatening situation. Which, the Namibian Supreme Court held that the “right to choose what can and cannot be done to one’s body, whether one is a parent or not, is an inalienable human right”.

i) Vaccination Mandates

Mandatory vaccination policies had been in place in different parts of the world for years. Mandatory vaccination policies included a non-voluntary clause to vaccine consent and/or may impose penalties for unjustified refusal. In Australia, they had implemented the "No Jab, No Pay" scheme, in which child benefits were withheld if the child is not vaccinated and a "No Jab, No Play" policy, where kindergarten childcare benefits were withheld. The United States of America have state regulations that prohibited children from attending school if they were not vaccinated. A similar regulation had been extended to healthcare workers, who were required to be vaccinated. Moreover, some states required parents to attend immunisation education courses. Similarly, Italian authorities had introduced fines for unvaccinated children who attended school (Savulescu, 2021). A paper by Savulescu (2021) found that there were numerous advocates for mandatory vaccination, provided four conditions were met: the vaccine is safe and effective; there is a grave threat to public health; mandatory vaccination offers a superior cost or benefit compared with other alternatives and the level of coercion is in proportion to the danger posed (Savulescu, 2021). In public health ethics, the principle of proportionality is used, which stated that additional coercion is justified when the restriction of liberty is both minimised and in proportion to the expected advantages offered by the more coercive policy (Savulescu, 2021).

ii) Vaccine Ethics

A paper by Giubilini (2020) highlighted two main ethical principles that can influence individual, collective and institutional responsibilities for vaccination. This is, harm prevention and fairness in the contribution to public goods. Thus, individuals will only receive vaccines if it can be proven that they will not cause damage to their health while taking into consideration their role in gaining and maintaining herd immunity. In the case of COVID-19, it will cease being a threat if enough people were willing and accorded the opportunity to be vaccinated. It should be noted that vaccination decisions affect not only the individuals who receive the vaccination but also their primary contacts and the community at large.

Moreover, in public health ethics, there is a principle of least restrictive alternative, which was the implementation of policies that entailed not interfering with the personal rights and freedoms of individuals (Giubilini, 2020). In light of vaccinations, this meant that individuals had the right to make decisions regarding their health, the health of their children, and the right to bodily integrity. This meant that governments have the responsibility to implement policies that imposed the lowest risk of harm possible for the population, but yet be compatible with achieving herd immunity (Giubilini, 2020). While taking into consideration the gender-related issues in immunization programs, which included coverage discrepancies between females and males and how gender roles, norms and relations influence who gets sick, who had access and control over resources, and whose health needs were being met (WHO, 2021).

Of late, there had been an increase in the use of incentives to encourage the uptake of the COVID-19 vaccine. Ethically, Giubilini (2020) mentioned that the use of

incentives for vaccination raised two main issues. Firstly, the use of incentives may be considered coercive if the offer was difficult to refuse. Secondly, a question arises if it is justifiable for governments to pay people to get vaccinated, while they have an independent moral obligation to do so (Giubilini, 2020). However, according to the WHO (2021), incentives for immunisation, including COVID 19 vaccination programs were critical in ensuring that they were gender-responsive.

2.4 Vaccinations from Pandemics and Epidemics: Smallpox, Ebola and Polio

Madhay et al. (2017) determined that the likelihood of pandemics had increased in the 21st century due to increased global travel and integration, urbanization, and an increase in the exploitation of the natural environment (Madhav et al., 2017). In the past decades, disease outbreaks had shown that there were indeed gaps related to the timely detection of disease, availability of basic care, tracing of contacts, quarantine and isolation procedures, and global coordination and response mobilization that were a hindrance to timely containment of disease outbreaks (Madhav et al., 2017).

History has shown that the health impacts of pandemics can be catastrophic. During the Black Death pandemic that occurred in Europe in the 1300s, close to 50% of the population of Europe was killed (Shang et al., 2021). By the late 1980s, 35 million people died due to HIV/AIDS pandemic globally. In 2014, Africa saw the emergence of the Ebola disease, causing the deaths of more than 10 000 people in the West Africa region. Recently, the COVID-19 pandemic also caused the death of millions worldwide. In addition, to an increase in mortality, pandemics lower the life expectancy rate of countries, while those who did survive, suffered long-term chronic effects of the disease. Therefore, depleting resources that were aimed at developing infrastructure and increasing access to healthcare (Shang et al., 2021). However, with

the advent of vaccines, these diseases were either eradicated or in the process of being eradicated. This section focused on the pandemics that had made a global impact, namely Smallpox, Polio and Ebola and the perceptions and experiences of individuals towards the vaccines.

i) Smallpox

Smallpox is a virus that is transmitted from person to person, through inhalation of respiratory droplets and contact with infected material. An individual infected with the virus displays symptoms such as fever, headache, malaise and a maculopapular rash (Belongia & Naleway, 2003). Since it was first discovered, the virus had caused the deaths of more than 500 million people over a hundred years, with an average of five million deaths per year (Ochmann & Roser, 2018). The virus did not have a cure, however, communities in Africa and Asia practised variolation, which is a form of inoculation against smallpox until a vaccine was developed in the late 18th century (Schneider, 2009). A modern and more effective version of the vaccine was developed in the 1950s and with it the launch of the smallpox eradication program spearheaded by WHO, which advocated for mass vaccination of populations. Although, such programs were successful in developed countries, the underdeveloped nations lagged behind due to insufficient vaccine supplies. Though the efficiency of the vaccine had been tested, epidemiologic data has suggested that it provided a high level of protection that lasts up to five (5) years after vaccination, with partial immunity that lasts for more than ten (10) years (Belongia & Naleway, 2003). Moreover, according to Belongia and Naleway (2003), the vaccine can prevent infection and reduce the severity of illness. The willingness to take the smallpox vaccine was addressed in a

study by Harapan et al. (2020). The study found that men were less willing to be vaccinated in comparison to women.

Sato et al. (2011), conducted a study in Japan on how the smallpox vaccine was perceived. Using a questionnaire, with a total of 1675 participants. In terms of the possible side effects of smallpox vaccination, 20% reported either past or present dermatologic disorders, while 3% reported immunologic disorders and only 4% had experienced seizure attacks. The side effects were noted by more females than males. Thus, if smallpox were to return, only 64% stated that they would receive prompt vaccination, while 35% expressed that they would only act by the orders from their government and only 28% desired immediate vaccinations. On the other hand, 17% of respondents answered that they would consult a trusted physician to decide on whether to be vaccinated (Sato et al., 2011).

According to Sato et al. (2011), there were key factors associated with the increased likelihood of being vaccinated, which included: the belief that side effects of vaccination were uncommon, the perception of high vulnerability to the disease, past vaccination experience, older age, physician recommendation, awareness of vaccination and ethnicity. While, the rejection of vaccination was associated with a perceived low likelihood of contracting the disease, cost concerns, and lack of time to obtain the vaccination. The vaccine was highly associated with mild to severe adverse effects. The mild effects included fatigue, fever, headache, muscle aches, nausea and pain at the site of vaccination. The severe effects included death (Belongia & Naleway, 2003). According to a paper by Belongia and Naleway (2003), the effects were severe enough that more than one-third of individuals, of which many were males who received the vaccine reported missing days to work and school, as a result.

ii) Polio

Poliomyelitis is an infectious disease that is caused by a virus that normally affects children leading to the permanent paralysis of various body parts and death through the arresting of breathing muscles. The virus is transmitted by drinking water that has been contaminated by the faeces of a person carrying the poliovirus. The disease has since its inception, caused the permanent paralysis of more than 350 000 children (Ochmann & Roser, 2018). In Namibia, the national polio vaccination schedule was introduced in June 1990, that is comprised of a dose of oral poliovirus vaccine that is given at birth and subsequently at six (6), ten (10), and fourteen (14) weeks of age, respectively (Biellik et al., 1997).

Khan et al. (2015) conducted a study in Pakistan to determine the knowledge, attitudes and perceptions towards polio immunization. Using a descriptive, cross-sectional study, the study found that more females than males had a negative perception regarding polio immunization. A positive attitude towards polio immunization was greatly associated with being tertiary educated, living in an urban area and being married. Respondents that were parents to children younger than five years of age also displayed a positive attitude towards the polio vaccine. The reasons for low immunization rates were attributed to religious beliefs, security issues, the wrong belief that polio vaccines cause infertility, vaccination was considered harmful and a lack of trust in healthcare workers (Khan et al., 2015).

Nzolo et al. (2013) conducted a study on the adverse effects of the polio vaccine, to which they found that the most common symptoms recorded after receiving the vaccine, included asthenia, abdominal pain, diarrhea, fever and headache. The study

reported cases of muscle weakness and paralysis one month after immunization (Nzolo et al., 2013).

iii) Ebola

Ebola hemorrhagic fever (EHF), is a critically lethal disease that occurs as a result of a viral infection. The disease was initially detected in the mid-1970s in the Democratic Republic of Congo. The virus is transmitted from primates to human beings, and it spreads through close bodily contact with the infected patient or their fluids, contaminated tissue surfaces, and unsafe traditional burial practices. The symptoms consist of, diarrhea, fever, headache, myalgia and vomiting; with hemorrhagic rash and internal and external bleeding manifesting in the late stages. Globally, there have been more than 28 000 cases reported and 11 000 deaths, with most deaths occurring in Liberia. Till recently, there was no exact antiviral management or vaccination for Ebola, however, clinical vaccine trials had been conducted done and were in various stages of development (Hasan et al., 2019).

Though the Ebola virus vaccine was still at a clinical developmental stage, Jalloh et al, (2019) conducted a study on the perceptions of healthcare workers and the general public on the Ebola vaccine in Sierra Leone. Using a combination of in-depth interviews and focus groups, the study interviewed public health leaders, HCWs and members of the general public. The study found that despite HCWs having some awareness of the Ebola vaccine trials that were being planned, their knowledge of the experimental Ebola vaccine was limited. Moreover, the general public viewed HCWs and local community leaders as trusted sources of information to communicate to the public about the experimental vaccine (Jalloh et al., 2019).

A study by Jalloh et al. (2019) found that the participants expressed that they would only trust Ebola vaccine trials that were sanctioned by the Government of Sierra Leone, the Ministry of Health, and the Sierra Leone College of Medicine and Allied Health Sciences. Safety was a major concern of all the participants, with some participants expressing fear that an experimental vaccine may cause Ebola. In addition, they also expressed fear of the unknown and long-term adverse events caused by the experimental vaccine. The safety concerns emerged as a major barrier among public health leaders who cited that there was little evidence that demonstrated that the vaccine was safe to use. All participants emphasized the need for the Ebola vaccine trial to regularly follow up with recipients during an experimental Ebola vaccine trial, as this had the potential to influence their decision to participate in any future trial. Thus, they would require rapid and quality care in the event of adverse events if they volunteered to participate in an experimental Ebola vaccine trial (Jalloh et al., 2019).

Moreover, Jalloh et al. (2019) further found that participants strongly expressed a desire for a compensation scheme that would compensate them or their family members if they experience serious adverse events or death as a result of their participation in a trial. In addition to safety concerns, efficacy concerns were also brought up by the HCWs. However, most HCWs were willing to accept the associated uncertainty provided they were be reassured about its safety. The public health leaders and HCWs were asked to identify motivating factors that could influence the hypothetical acceptability of an experimental Ebola vaccine. Men were more concerned with the need to contribute to the Ebola response, assist in finding a vaccine for Ebola and protect their patients and themselves from infection. While women were

influenced by the positive experiences with childhood vaccines that were delivered through the EPI program in Sierra Leone (Jalloh et al., 2019). A study by Kpanake et al. (2018) found that females, between the ages of 18 to 22, had a tertiary education, and practiced Islam were more likely to accept the Ebola vaccine once it becomes available.

2.5 A Perspective on COVID-19, COVID-19 Vaccine and its impacts on Health Care Workers in the Global North and Global South

According to Regenold and Vindrola-Padros (2021), gender disparities from emerging epidemics addressed the differences and experiences amongst the genders, while also seemingly taking into consideration the gendered impacts of diseases. The lifeline of every healthcare system is the HCWs, therefore their input was critical for the successful delivery and roll-out of the COVID-19 vaccine. From a gender perspective, the majority of HCWs happened to be women, thus, issues that were related to providing a working environment with zero-tolerance policies for gender-based discrimination; equitable access to training on infection prevention and control measures; sufficient PPE, and psychosocial support must be ensured.

A report by Heidari and Goodman (2021), stated that there were notable variations in the transmission patterns and incidence of COVID-19; to the extent that the mortality between women and men in different countries and within countries varied. It appeared that men had higher case fatality rates due to biological susceptibility and gender-related risk factors in social roles and health behaviours that contributed to the higher prevalence of pre-existing comorbidities among men. Other gender-related behavioural factors that influenced the risk of exposure, include hand washing, physical distancing and wearing masks that were more likely to be considered by

women. Men, due to masculinity and patriarchy were more likely to not comply with the recommendations. Women, being the majority in the healthcare sector, were at greater risk of being infected with COVID-19 due to frequent exposure to higher volumes of the virus. Moreover, the risks were intensified by the lack of adequate PPE. Furthermore, most PPE were designed with men in mind and thus less likely to fit a woman's anatomy (Heidari & Goodman, 2021).

Gender and equity dimensions had proven to be equally important in the development of communication and advocacy materials, especially in regards to who was being portrayed, whom they wanted to reach and how they were perceived to be (Heidari & Goodman, 2021). It became increasingly important to consider the following aspects, as they had the potential to influence the acceptability and perception of vaccines: how vaccine safety information and campaigns were communicated, including graphic communications and the languages used; how the information was distributed and disseminated (including the choice and use of social media) and the role and gender of healthcare professionals in communicating accurate and accessible vaccine information, including the severity and frequency of potential side effects (Heidari & Goodman, 2021). Heidari and Goodman (2021) looking at previous studies on the influenza vaccine, found that intersectional gender considerations related to affordability and accessibility also need to be considered, as they greatly influence the demand, access and uptake of vaccines (Heidari & Goodman, 2021).

2.5.1 Impacts of COVID-19 on Health Care Workers in the Global North

Roche (2019) stated that the Global North represented countries that were economically developed, technologically advanced and politically stable. Such countries played a dominant role in international trade and politics. This included

countries such as the United States of America, the United Kingdom, Japan, France, Spain, Belgium, Israel, Norway, Italy and Sweden (Roche, 2019).

The COVID-19 pandemic caused much financial, psychological and emotional distress to frontline healthcare workers. This led some healthcare workers to reassess their career options. Subsequently leading to the 2021 phenomenon known as the "great resignation" (Jiskrova, 2022). According to Poo et al. (2022), a total of 460 000 healthcare workers resigned in the Americas and Europe, between February 2020 and November 2021. Healthcare workers cited a lack of protective equipment; virtual micromanagement; and uncertainty which led to healthcare workers reassessing their work and life priorities and the impossibility of combining work demands with the remote schooling needs of their children. The phenomenon was a short-lived. Unfortunately, it was amplified by the media (Jiskrova, 2022).

The impact of the COVID-19 pandemic on HCWs being a vulnerable group was studied by Ferland et al. (2022), who stated that HCWs were at the most risk due to being exposed to infected patients. A study by Ferland et al. (2022), stated that HCWs were at a higher risk of requiring hospitalization and/or ICU admission. Moreover, HCWs that fall into the following categories, being aged between 60 and 69 years; having at least one (1) precondition and being male had a more increased risk of being hospitalized. However, due to the nature of their work, it meant that HCWs sought and received care earlier in comparison to non-HCWs. Moreover, HCWs were regularly tested, which increased the likelihood of being diagnosed with the same severity of the disease.

A paper by Huffman (2022) described how doctors were motivated to use the off-label medication in the treatment of COVID-19 symptoms in the United States of America.

Doctors were prescribing and treating the COVID-19-infected patients with ivermectin, and hydroxychloroquine, in the place of FDA-approved medication including nirmatrelvir/ritonavir (Paxlovid, Pfizer) and molnupiravir. It should be noted that doctors in the United States of America were also against the use of vaccines in the fight against COVID-19. Despite the doctors having good intentions, it led to a number of them being sued for prescribing them and for not prescribing them. Moreover, incidences had been reported of doctors being fired and losing their licenses to practice. Moreover, there had been reports of inmates who were dosed with ivermectin without their knowledge and consent-this led to numerous lawsuits issued against doctors based on ethics and an infringement of human rights (Nhemachena & Makamani, 2021).

2.5.2 Impacts of COVID-19 on Health Care Workers in the Global South

Countries in the Global South are regarded as having an agrarian-based and dependent economy, which are those usually associated with countries in Africa, Asia and Latin America. Moreover, such countries had a low level of economic and political development. Which was in part due to the colonial experience that left them independent after World War II. The Global South appeared to be a zone of turmoil, war, conflict, poverty, anarchy and tyranny (Odeh, 2010).

The first case of COVID-19 in Africa was reported on 14 February 2020 in Egypt. As of 24 February 2022, the continent had reported more than 8 million cumulative cases and less than 200 000 deaths (Haileamlak, 2020). A review study by Okpua et al. (2021) found that HCWs had a higher infection prevalence rate of 10.9% to 13.5%, of which the majority of infections were reported in HCWs who were female and/or nurses. The risk for infection among healthcare workers was proportional to the

duration and frequency of contact with COVID-19 patients (Mfinanga et al., 2022). In addition, to the physical impacts, HCWs also encountered increased workloads, longer working hours, stress and sleep disturbances. Despite studies indicating the impacts of COVID-19 on the health of persons, Tanzania was an exception. Though the country initially implemented the WHO-recommended measures, the government rescinded the decision to implement the measures. The use of vaccines was also not encouraged until the Tanzanian Ministry of Health conducted a robust evaluation. The country opted to adopt traditional remedies that were regarded as immune boosters. These measures were interpreted as undermining the WHO-recommended COVID-19 control measures (Mfinanga et al., 2022). A similar route was taken by Madagascar, which introduced a plant-based tonic, as a cure for COVID-19. The tonic was made out of two medicinal plants, *Artemisia annua* and *Artemisia afra*, the latter was already used in the treatment of Malaria (Atabong, 2020).

2.5.3 Effects of COVID-19 Vaccines on Gender

Hussain et al. (2021), highlighted the importance of biological sex and the impact it had on vaccine-induced immunity, sex-specific differences, immune response, and vaccine outcomes including efficacy and side effects. In terms of the COVID-19 vaccines, Hussain et al. (2021) found that vaccines produced by AstraZeneca and Johnson & Johnson were less likely to cause rare clotting disorders in women, while Pfizer-BioNTech's and Moderna's vaccines were more likely to cause anaphylaxis in females, and cause myocarditis in males. Moreover, differences had been observed in the immune response between the sexes. Females displayed a strong immune response to the vaccines in comparison to males, meaning a greater ability to produce antibodies

and thus greater efficiency. However, it also increased their likelihood of experiencing severe side effects in comparison to males (Hussain et al., 2021).

Despite studies indicating the importance of gender disaggregation, Durocher and Caxaj (2022) encouraged the use of postgenderism instead. Postgenderism holds the view that gender goes beyond the traditional notion of male and female. However, postgenderism has not been readily adopted in health studies. This explained the exclusion of persons who identified as other genders from health-related studies (Durocher & Caxaj, 2022).

2.6 Perceptions and Experiences of Healthcare Workers towards COVID-19 Vaccines

According to a paper by McDonald (2012), the term perception in the medical sense is used to describe personal manifestations of how individuals view the world, in light of many sociocultural elements. According to McCleery et al. (2014), social perception is related to identifying the contexts, relationships, and social rules on how individuals perceive phenomena in their lives. Through perception of sociology, individuals developed knowledge of social norms regarding situations and interactions with others. Individuals also learned about feelings and emotions that others were experiencing through verbal and non-verbal communication. A cross-sectional study by Adeniyi et al. (2021), found no direct relationship between gender and perception of the COVID-19 vaccine, rather the authors found that education level played a bigger role. The experiences of receiving the COVID-19 vaccine were influenced to a large extent by the possibility of HCWs encouraging others to also partake. This section presents the experience of healthcare workers in receiving the COVID-19 vaccine based on studies conducted in the Global North and Global south. Hohr (2013)

described sociology of experience as conceiving, feeling and living. Conceiving is concerned with isolating and abstracting an understanding of a phenomenon. The term, feeling referred to the basic mode of experience where action, emotion, cognition and communication make up one entity. Lastly, living, describes how an individual sees the world around them (Hohr, 2013). The next section connected the experiences and perceptions HCWs had towards the COVID-19 vaccine in the Global north and Global south.

2.6.1 Perceptions of Health Care Workers towards COVID-19 vaccines in the Global North and Global South

A cross-sectional comparative study by Salck et al. (2020), conducted in the Czech Republic on the perceptions and attitudes of 386 medical students towards vaccinations, found that they were afraid of infectious diseases, hence they were more open to taking vaccines. However, this translated into more females receiving the vaccine than males. Hence, fear of COVID-19 was a push factor for receiving the vaccine. In Namibia, this study expected more females than males to receive COVID-19. However, fear may not necessarily be the driving force. Rather an obligation to protect their families.

A cross-sectional study by Shekhar et al. (2021), on the acceptance of the COVID-19 vaccine among healthcare workers in the United States of America, found that female respondents had a lower vaccine acceptance rate in comparison to males. Similar sentiments were found in a study by Barry et al. (2021), who conducted a cross-sectional survey on 1512 HCWs in Saudi Arabia. Though 70% of the respondents attested to being willing to be vaccinated, only 53% expressed readiness to receive the vaccine. Their beliefs on the COVID-19 vaccines were also evaluated, with most of

the HCWs believing that a vaccine would be safe and the most effective way of ending the pandemic and preventing disease complications. Using quantitative analysis, the study found that respondents who were, male, and married but living alone and working in intensive care units (ICU) had higher levels of willingness and readiness to receive the vaccine. This study, however, expected more females to have a more positive perception of receiving the vaccine. The respondents were further probed on the reasons why they can refuse the vaccines, to which Barry et al. (2020) found that the HCWs' perception of the vaccine was centered around inadequate data on the safety of a new vaccine; concerns about the potential side effects of the vaccine; concerns about the affectivity of the vaccines and concern on prior adverse reactions to other vaccines. The affective turn had been described by La Caze and Lloyd (2011) as encompassing of passions, moods, feelings, and emotions that emanate from biological and social influences. In regards to vaccine hesitancy, only 13.6% of the respondents stated being completely against vaccines in general (Barry et al., 2021).

Adane et al. (2022), carried out a cross-sectional study in Ethiopia with 404 HCWs on the perception of the COVID-19 vaccine. The study discovered that 61% of the HCWs had a good perception of the COVID-19 vaccine, yet only 80% indicated plans of being vaccinated. The study also looked at the gender disparity and found that 63% of male and 58% of female HCWs had a good perception of the vaccine. In terms of job categories, doctors and laboratory technicians rated higher, while pharmacists and non-medical auxiliary staff rated in the bottom two. This current study therefore expected education to play a major role in how the COVID-19 vaccine is perceived. Thus, it was expected that persons with higher levels of education i.e. doctors had a positive perception of receiving the vaccine.

Adane et al. (2022) found that 75% of the HCWs considered themselves to be at high risk of becoming infected with COVID-19, 40% believed that they could get infected with COVID-19 through the vaccine. Such beliefs were common in HCWs who formed part of the 20-30 age group and 31-40 age group. Only 1.5% of HCWs who fell in the 51-60 age group shared the same sentiments. Among the occupational categories, mostly medical laboratory technicians and nurses believed that they could get infected with COVID-19 by being vaccinated. However, half of the respondents thought that the vaccine could worsen any pre-existing medical conditions that individuals might have had. Similarly, 44% did not believe in the effectiveness of the vaccine in reducing COVID-19 incidences. Thus, only 64% expressed plans of receiving the vaccine, with the remainder refusing to get vaccinated for COVID-19 (Adane et al., 2022). This study expected HCWs to have conflicting perceptions about the COVID-19 vaccine, despite their knowledge of healthcare.

A 2021 cross-sectional study on 384 healthcare workers in Southern Ethiopia conducted by Zewude et al. (2021), found that 51% of the respondents were fully vaccinated. Moreover, the healthcare workers' perception with regards to the COVID-19 vaccine as having life-threatening side effects decreased with increasing educational status in contrast to the results found in a study by Adane et al. (2022). Most importantly, Zewude et al. (2021) found no correlation between the HCWs' socio-demographic characteristics such as age, history of vaccination, history of COVID-19 infection, marital status, and perception regarding COVID-19, occupation, and sex their perception that COVID-19 vaccine had serious side effects. (Zewude et al., 2021). However, a paper by Hawkes et al. (2021) indicated that the social and structural dynamics that influenced an individual's risk and vulnerability depended on

their position in the gender hierarchy. Similarly, the study expected gender and social dynamics to influence the perception of HCWs towards the vaccine.

2.6.2 Experiences of Health Care Workers towards COVID-19 vaccine in the Global North and Global South

Regenold and Vindrola-Padros (2021), carried out a descriptive, cross-sectional study on 382 healthcare workers in the United Kingdom to understand the experiences of health workers taking into consideration gender. The study found that 89% of fully vaccinated respondents were female. Similarly, the study found that 84% of the respondents were fully vaccinated. The high vaccination rate among health workers was attributed to healthcare professionals having an ethical, legal, and moral obligation to protect their patients. However, a study by Franco-Paredes (2022) disputed these findings. Franco-Paredes (2022), found that there was no significant difference in the viral load of the vaccinated and the unvaccinated. Thus, vaccinated persons still had the potential to infect the unvaccinated with COVID-19. This study expected similar results, as the moral obligation of HCWs is universal. Regenold and Vindrola-Padros (2021), found that only 11% of the participants did not report any side effects after either the first or second dose. However, majority of the side effects that were experienced were minor. The most commonly reported side effect were headaches, myalgia, pain at the injection sites and sleepiness (Regenold & Vindrola-Padros, 2021). Thisstudy expected that HCWs with their knowledge of healthcare reported more side effects after receiving the COVID-19 vaccine due to their ability to identify the side effects within themselves.

The respondents from a study by Regenold and Vindrola-Padros (2021) were asked to state the possible reasons behind not receiving the vaccine, to which they mentioned

history of allergies, doubts over the efficacy of the vaccine, recent bouts of COVID-19 and safety concerns (Regenold & Vindrola-Padros, 2021). HCWs who were vaccinated did get infected with COVID-19 but only displayed mild cases, with only 1.4% of the respondents having recorded severe disease. Hence, HCWs can protect the unvaccinated, albeit at a very low rate. In terms of treatment of the symptoms of COVID-19, the most used drugs were paracetamol and vitamins (Regenold & Vindrola-Padros, 2021). This current study expected HCWs to report higher incidences of side effects due to their health knowledge.

Zewude et al. (2021), found that only half of the 384 HCWs had received their first dose of the vaccine, this was attributed to the lack of opportunities available to be vaccinated; concerns over the safety and side-effects of the vaccine; not being comfortable with the first-dose of the vaccines, and doubts on the effectiveness of the vaccine. Having trust in the adequacy of one's natural immunity, and reasons related to belief or religion were other reasons for not receiving the second dose of the COVID-19 vaccine. Despite low vaccination rates, information on the vaccine was made available by the health authorities. However, more than half of the respondents relied on local public electronic media outlets, social media, and international media outlets (Zewude et al., 2021). Zewude et al. (2021) found that fear of the side effects of the COVID-19 vaccine did not prevent almost 70% of the respondents from receiving the vaccine. After receiving the vaccine, more than 60% of the healthcare workers experienced a series of adverse effects such as muscle pain around the injection site, fatigue, headache, fever, redness around the injection site, and swelling around the injection site. Only eleven of the respondents reported serious side effects that required medical care. Furthermore, it was determined that less than five (5) of

the research participants had reported that they experienced other side effects that were more of a serious nature. The study found that HCWs made use of rest and anti-pain medication as medical interventions against the side effects. Only thirty-four (34) HCWs reported consulting a doctor for relief. The side effects lasted anywhere between three (3) days to less than a day (Zewude et al., 2021). Males were reported to be more likely to report adverse effects of the COVID-19 vaccine in comparison to females, according to a cross-sectional study by Islam et al, (2021) on 392 participants in Bangladesh. Much like the study by Zewude et al, (2021), side effects were reported within twelve hours after receiving the vaccine. Moreover, more than 70% of the participants received the COVID-19 vaccine out of interest, and more males were vaccinated in comparison to females (Islam et al., 2021). This study determined the perceptions and experiences of both genders through a qualitative methodology.

A study by Islam et al. (2021) found that more than 90% of the participants did not encounter any problems with the online self-registration system for vaccination. Moreover, 84% of the respondents observed proper discipline at the vaccination centres. However, half of the respondents reported waiting for at least thirty (30) minutes at the vaccination Centre before receiving the vaccine. Moreover, 48% reported not being well briefed on the vaccination before it was administered. However, 85% of the respondents found the volunteers stationed at the vaccination centres helpful in dealing with their enquiries. Despite the majority being happy with the services of the volunteers, only 37% reported receiving vaccination-related information from the centres. Vaccine-related information was more readily obtained through television, newspaper, social media, and text message. Seemingly, 70% of the respondents did not report experiencing any physical discomfort during vaccination,

thus 88% of the respondents would recommend COVID-19 vaccines to others. Moreover, 90% of the respondents were happy with the overall COVID- 19 vaccination management. However, males were more satisfied after receiving the COVID-19 vaccine than females (Islam et al., 2021). According to the study by Islam et al. (2021), respondents reported the highest satisfaction were those who, regularly received other scheduled vaccines; received support during the registration at the vaccination Centre and those who experienced order and discipline at the vaccination centres were more satisfied. In addition, those who found vaccine providers taking their disease and allergic history into consideration and knowing the source and manufacturer of the vaccine were more likely to recommend receiving the vaccine to others. This study expected similar results to the findings found in Islam et al. (2021), as individuals were likely to be more accepting of the vaccine if they have background information on the vaccine.

A study by Ratovoson et al. (2022) in Madagascar using a cross-sectional approach found that the country had a low vaccination rate and consequently a high incidence of infection among its healthcare workers. Despite most HCWs having been infected with COVID-19, a high proportion of those positive cases were asymptomatic.

2.7 Improving Vaccination Rates

A study by Dima et al. (2021) conducted in Romania, found that vaccine uptake rates were improved through social media exposure and the promotion of interpersonal discussions. Moreover, individuals were more likely to get vaccinated if they had more transparent data and information on hand regarding the safety and efficacy of vaccines. Despite HCWs recording higher rates of being vaccinated in comparison to the general population, mandatory vaccination was still frowned upon. The same sentiments were

correlated in a cross-sectional study conducted in Nigeria by Adedeji-Adenola et al. (2022), who learned that health workers were more likely to get vaccinated in comparison to non-health workers. The rates of vaccine acceptance were also found to be in direct proportion with age, with persons over the age of 55 and a fear of COVID-19, were more likely to get vaccinated. Heidari et al. (2021) found that to increase the rates of COVID-19 vaccine uptake, strategies must be implemented that are designed with gender dynamics in mind, moreover while being creative depending on the life course and the appropriate modes of delivery. This is so, as there were potential gender-related barriers that affect the uptake of the COVID-19 vaccine. Such barriers may include, autonomy and agency, access and control over time and financial resources, education and health literacy, decision-making, gender-based violence, mobility, provider attitudes, and quality of services. However, Adedeji-Adenola et al. (2022) found that gender and age did not significantly affect the level of awareness of the COVID-19 vaccine. According to a study by Adedeji-Adenola et al. (2022), individuals obtained information on the COVID-19 vaccine from the media, including television, radio, and print media; health workers and lastly social media platforms. The influence of health workers and mass media play an important role as a source of health-related information. Thus, to act against misinformation and distrust, the government of Nigeria developed a range of Facebook frames and Instagram stickers that individuals shared to show their support for getting vaccinated with their family and friends (Adedeji-Adenola et al., 2022).

From a practical perspective, Romania increased its vaccination rates by employing effective measures that controlled fake news regarding vaccines from spreading and implementing a vaccine campaign that had information on the efficiency of the

vaccine and safety profile (Dima et al., 2021). Adedeji-Adenola et al. (2022), included other strategies, continuous targeted messages and education that primarily focused on the effectiveness and safety of the vaccine and the active involvement of all HCWs in promoting health education of COVID-19 vaccination programs. The use of sensitization programs and stakeholder engagements between health workers, traditional and community leaders, community youth leaders and persons that can influence family and friends. Conducting training, mobilization and community engagements on the safety and importance of getting the COVID-19 vaccine was cited a strategy for increasing the vaccination rate (Adedeji-Adenola et al., 2022).

2.8 Theoretical framework

The study made use of the critical theory, which is a sociological theory that focuses on the link between the creation and reproduction of inequality. According to Nickerson (2022), the theory was developed by Frankfurt scholars, namely, Herbert Marcuse, Theodor Adorno, Walter Benjamin, Erich Fromm, and Max Horkheimer in the 1930s. The theory emerged out of a need to examine and deconstruct fascism and mass media. Moreover, the theory aimed to change and analyse society as a whole by focusing on the underlying assumptions in social life that prevent people from participating in a true democracy.

From the critical perspective, the focus in this dissertation was on the relationship between medical knowledge and how it was exercised through the increased medicalization of the body (Little, 2016). The critical theory was found to be applicable to this study as it had the ability to identify problems in daily practice, carrying out actions that enable improving the quality of care provided and transforming the stereotypes and established procedures that reinforce inequality. The

critical theory further provided the descriptive and normative bases for how HCWs received and perceived COVID-19 vaccinations (The Stanford Encyclopaedia of Philosophy, 2021), while establishing how health and illness fit into the structures of power in society (Little, 2016). This explained the top-down approach to COVID-19 communication, with all recommendations and measures originating from WHO. Observations were made of inequalities along racial, ethnic, economic, geographic, and educational ranges. Moreover, the WHO in 2021 brought forth the notion of a pandemic treaty that would outline aspects of pandemic preparedness and response. The pandemic treaty aimed to embed the principles of solidarity, fairness, transparency, inclusiveness and equity. Moreover, acted as the foundation of global health security (Wenham et al., 2022). However, Fidler (2021) made a case against the pandemic treaty, describing it as having health, political, and legal implications, especially on low-and middle-income countries. One of which was increasing medicalization, which was likely to benefit the pharmaceutical industry.

On the ground, African countries were simply provided with information but not accorded an opportunity to actively contribute with solutions based on indigenous knowledge (Kalocsányiová et al., 2022). An article by Vaughan (2020) reported on how the WHO disregarded the COVID-19 tonic made in Madagascar, this was a practical example of the implications of top-down power constructs in the combatting of COVID-19. The same mode of communication was replicated at a national level, with the Namibian government launching a COVID-19 communication centre, where all news related to the virus were communicated (WHO, 2020). In addition, Namibian employers had power over their employees, with employers having introduced

compulsory vaccination policies or employees stood to lose their jobs (Mbathera, 2021; Ngatjiheue, 2022).

Critical theory embraced the scientific traditions that advocated for proper objectivity and subjectivity in a manner that social construction of health care services became more appropriate, effective, and complete. Critical perspectives in health care transformed the system into an integrative multidisciplinary model that provides more thorough patient care, which brought about emancipating social changes at the three levels of the health care system. Critical competencies facilitated holistic-oriented, trustworthy and safeguarding individual professionals (Princeton, 2015).

Furthermore, the theory proposed a contextual analysis of phenomena as this theory assumed that to establish certainty, the study considered the historical vaccination conditions within which said truth emerged (Princeton, 2015). Further, this theory applied to this study for the reason that it enables the use of dialogic, to explore the perceptions about COVID-19 vaccinations among healthcare workers at the Katutura Health Centre where dialogue between the researcher and the HCWs generated informed insight. Critical theory enabled the researcher to explore the perceptions and experiences of HCWs regarding vaccination. As guided by the discipline's specific knowledge, nursing theories and models.

2.9 Conclusion

The COVID-19 epidemic caused widespread death and overwhelmed already stretched healthcare systems all over the world. This prompted pharmaceutical companies and countries to pump resources into developing several vaccines in an attempt to reduce high incidences of death and severe cases, despite instances of vaccine nationalism reported. Yet numerous studies have shown that despite the effectiveness of the vaccines, it failed to reduce the transmissibility of the virus. The introduction of the COVID-19 vaccination was regarded as a sign of increasing medicalization and a shift of power from individuals to healthcare professionals and governments. Moreover, studies have shown that males recorded the highest rates of being vaccinated in comparison to women; yet women made up the majority of healthcare workers.

Fear of death and side effects were cited as the main barrier to vaccination. Side effects experienced included headaches, and muscle aches that were easily alleviated by rest and pain medication. High levels of vaccine hesitancy were further fuelled by the belief that the vaccine was not necessary but rather another form of medicalization, especially amongst HCWs.

CHAPTER 3: METHODOLOGY

3.1 Introduction

To determine the experiences and perceptions of the COVID-19 vaccine on healthcare workers, it is key to derive the data from the participants using the correct procedure. Therefore, this chapter, presents the research design of this study, a description of the target population, sample and study setting. In addition, the chapter looks at the research instruments, and research procedures. The pilot that was used to test the research instrument is discussed in this chapter. Further, the chapter presented the data analysis procedures and research ethical principles that informed the study.

3.2 Research design

Qualitative research design is described being a non-numerical research that relies on narratives and image data (Fouché & Geyer, 2021). The design involved taking an interpretive, naturalistic approach to its subject matter. The design allowed for the observations and interpretations of individuals' perceptions of various events in their natural settings. Moreover, because it is less structured in the description, it allowed the researcher to formulate and build new theories (Mohajan, 2018). The research design makes use of interventions such as interviews, diaries, journals, classroom observations and immersions; and open-ended questionnaires to obtain, analyse, and interpret the data content analysis of visual and textual materials, and oral history to collect data. It tries to help us to understand the social world in which we live, and why things are the way they are (Mohajan, 2018).

According to Leavy (2022), there exist five meta-theoretical frameworks, namely: critical theory, constructivism, interpretivism, positivism and post-positivism. Positivism is concerned with uncovering and understanding the laws that govern

human behaviour, hence it works with a quantitative approach. Post-positivism is a derivative of positivism that accepts the notion that reality is imperfect and the truth is probable. Interpretivism aims to understand the experiences of people. Critical theory is centred on the idea that social constructs can be manipulated to dominate specific groups of people. Constructivism on the other hand deals with how social sciences operate (Kivunja & Kuyini, 2017).

The study made use of a qualitative descriptive case study design. The purpose of qualitative research is to describe and interpret issues or phenomena systematically from the point of view of the individual or population being studied and to generate new concepts and theories (Mohajan, 2018). A qualitative research approach accords the study an opportunity to cover issues and subjects in greater depth and detail. Moreover, it makes use of smaller sample sizes, thus saving costs. It also enhances the ability to study symbolic dimensions and social meaning, through the use of interviews that are not limited to particular questions, and can be redirected by researchers in real-time (Mohajan, 2018). Lastly, the direction and framework of research can be revised as soon as new information and findings emerge. It increases opportunities to develop empirically supported new ideas and theories, for in-depth and longitudinal explorations of leadership phenomena, and more relevance and interest for practitioners (Mohajan, 2018).

Case studies also form part of qualitative research that is characterized by the interpretative paradigm, which emphasizes experiences and the meanings they have for the individual. Case studies are defined as an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular system. A case study is a useful tool in this study as it can identify and measure the indicators that present the

concepts that the researcher is interested in. Which is to understand the intrinsic way in which the participants, in a specific context experienced and perceived the COVID-19 vaccine (Starman, 2013). The study made use of a case study as it has the power to discover information that wasn't anticipated at the start of the investigation, making it suitable to create hypotheses; which in turn assist in the development of a structure for the research while advancing the knowledge base and producing an empirically-rich and holistic interpretation of the phenomenon being investigated (Krusenvik, 2016).

3.3 Population

The study population refer to the particular group of people that the intended study would focus on (Grey & Burns, 2013). For this study, the target population included all the healthcare workers who currently worked at the Katutura Health Centre. The Katutura Health Centre has a total of 104 healthcare workers, which consists of five doctors, twenty-seven registered nurses, twenty-five enrolled nurses, three pharmacists, nine assistant pharmacists, three radiologists, ten health assistants, five Total Epidemic Control (TCE) field workers, six administration officers, seven hygiene officers, and four porters (J. Kamupingene, personal communication, June 25, 2021).

3.4 Sampling

Sampling is defined as a process of choosing a sample of individuals from the population of interest (Majid, 2018). Therefore, the study made use of convenience sampling to select participants for the research study. Etikan (2016) has defined the sampling method as a type of nonprobability sampling in which members of the target population that are easily accessible, are available at a given time, and have expressed the willingness to participate, are included. The study included all participants that

were available at the time of data collection. Thus, the sample consisted of 20 healthcare workers stationed at the Katutura Health Centre, Khomas region. The sample included both males and females as well as vaccinated and unvaccinated healthcare workers.

3.5 Research instruments

The study made use of a face-to-face semi-structured interview guide to collect the necessary data from the participants. An interview guide is a decent way of obtaining people's perceptions, by defining their situations and constructing meaning from the world they live in (see Annex A). The interview guide was used to guide the researcher in setting the outline for the topics that ought to be covered during the interviews and it is where the open-ended questions were derived from.

3.6 Data Collection Procedures

The researcher obtained ethical clearance from the Research Ethics Committee of the University of Namibia (see Annex B) and a permission letter from the Ministry of Health and Social Services (see Annex C) to allow the healthcare workers to participate in the study and provide the relevant protocols to be adhered to by the researcher. The participants were informed ahead of time to avail an available time slot for the interviews. The interviews were conducted in a well-lit and ventilated boardroom located on the premises of the Katutura Health Centre. To put the participants at ease, before the start of the interview, the researcher introduced herself and explained the purpose of the interview and the study; upon agreement, the participant signed a consent form, which indicated that the participants understood the motives and the benefits of carrying out the study (see Annex D). The researcher further identified vaccinated health workers by asking for their vaccination cards. This

was to determine which of the participants received the vaccine and those who did not. The vaccination cards were handed back to the participants after confirmation of vaccination status. The semi-structured interviews were conducted on a face-to-face basis with one participant at a time, with each interview taking between 30 to 45 minutes to be completed while observing the COVID-19 regulations. The interviews took place during working days (Monday to Friday) from 8:00 to 17:00, during intervals when the HCWs were free to participate in the study. Similarly, the interviews took place in English, which is the official language that HCWs are communicating in their workplace. The open-ended questions were derived from an interview guide that accorded the researcher an opportunity to delve further into the topic and get the participants' experiences and perceptions of receiving and administering the COVID-19 vaccine to clients. The responses were recorded on an audio-recorder, however, additional handwritten notes were also taken on a notepad to take down extra information and/or to record the responses of participants who were not comfortable being recorded.

3.7 Pilot study

Pilot studies are useful in the preparation of a study, as they allow the researcher an opportunity to mitigate and address potential practical issues that may arise in the research procedures timeously. Furthermore, by testing the questions in advance, the interview protocols can be strengthened, while simultaneously identifying any limitations within the interview design before the main study is conducted (Majid, 2021). A pilot study interview was conducted preceding the main study, with HCWs albeit at a different health centre. A total of three (3) interviews were made. The data

that was obtained from the pilot interviews was not included in the main study (Brink et al, 2012).

3.8 Data analysis

Data analysis in qualitative research is the process of systematically summarising the interview transcripts, to increase the understanding of the phenomenon in question. The process involves coding or categorising data (Papa et al., 2022). Therefore, the data derived from the study were subjected to thematic analysis. Thematic analysis is described in a paper by Javadi and Zarea (2016), as the extraction of meanings and concepts from data by examining and recording themes. Subsequently, a theme is described as an agreement found within the results that is accurate, concise, simple and short. The method was applied to this study as it is flexible (Javadi & Zarea, 2016). The themes that were relevant and vital in answering the research questions, were derived from the data.

The analysis of qualitative data was done in three steps, which involved data preparation, reading and reflecting and thematic analysis (Ravindran, 2019).

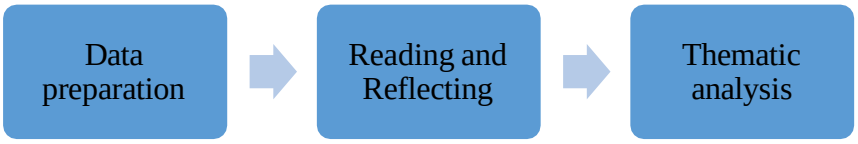

Figure 2.1: Data analysis using the qualitative research design.

The first step of data preparation involved transcribing the audio tapes verbatim into Microsoft Word. Transcription is the process of transforming recorded audio into a

written format that can be used to analyse a particular phenomenon (McMullin, 2021). The transcribed data was labelled according to the participants. The second step of reading and reflecting on the data, is vital as it enables the researcher to gain an initial understanding of the narrative. Moreover, it is at this stage that the researcher begins to gain an understanding of the perspectives of the participants, while seemingly deciding on the appropriate analytical framework for further data analysis (Ravindran, 2019).

The final step involved subjecting the data to thematic analysis. According to Kiger and Varpio (2020), thematic analysis is a six-step process that involves, data familiarization; generation of codes; search for themes; review of themes; definition and naming of themes and lastly writing up of final analysis and description of findings.

Table 3.1: Description of the steps of thematic analysis (Adopted from Kiger & Varpio, 2020).

Step	Description of step
1	Data familiarization
2	Generation of codes
3	Generation of themes
4	Review of themes
5	Definition and naming themes
6	Final analysis and description of findings

In step one, the researcher familiarized herself with the data by actively reading the data and gaining an understanding of the data. Step two involved generating codes for the data set. A code is essentially a segment of the raw data that can be assessed in a meaningful way regarding the experience and perception of healthcare workers on the COVID-19 vaccine. Step three is where the themes were generated by examining the coded data and looking for potential themes that were broad and significant. In step four, the generated themes were analysed to look for similarities, differences and complementariness among them. This led to some themes being discarded, added or combined. Step five involved defining and naming the themes of the research questions. Lastly, step six simply provided an interpretation of the generated themes (Kiger & Varpio, 2020).

Thematic analysis was found to apply to the study due to its flexible nature, while providing rich and detailed information. Moreover, thematic analysis is a useful method for examining the perspectives of different participants by highlighting their similarities and differences, and also generating unanticipated insights (Nowell et al., 2017).

3.9 Research Ethics

In research, there are principles of ethics that are applied to protect research participants from unethical research practices. According to a paper by Wu et al., (2019), there is a need to ensure that ethical principles were applied throughout the conducting of the study, which were the principle of autonomy (which includes the right to informed consent); the principle of beneficence; the principle of justice and principle of non-maleficence. In this light, approval was sought from the University of Namibia and the Ministry of Health and Social Services. Moreover, permission was

also granted by the management of the Katutura Health Centre to conduct the study. Ethical Clearance Certificate was obtained from University of Namibia Decentralized Ethics Committee (DEC) and research permission letter was obtained from Postgraduate Research Support Services.

3.9.1 Principle of Autonomy

The principle of autonomy is concerned with the obligation of the researcher to respect the decisions made by the participants (Jahn, 2011). This principle ensured that the researcher provided a truthful overview of the research while respecting the privacy of the participants by ensuring that confidential information was protected through the use of unique identifiers. In this study, the researcher provided the participants with information on the purpose of the study, the role they play in the study, the benefits as well as the risks involved. Moreover, the participants were allowed to ask questions. Similarly, the participants were provided with the choice to participate in the study or not. The researcher also ensured that the participants were aware that despite agreeing to participate in the study, they had the right to withdraw from the study without any justification or consequences at any time. The principle was applied by requesting informed consent, through the signing of a written consent form that serves as consent to participating in the study and being audio recorded, while also acting as evidence to protect participants against any unethical practice.

3.9.2 Right to Beneficence

According to Jahn (2011), the principle of beneficence is a moral obligation to act for the benefit of the participants during the study and remove the conditions that have the potential to cause harm. The principle entails protecting and defending the rights of

the participants. Confidentiality was ensured and maintained through the use of a secluded office and conducting the interviews one participant at a time. Furthermore, the recordings and written transcripts were not shared with anyone except the research supervisor. Moreover, the anonymity of the participants was maintained through the use of pseudonyms. This means that participants were assured that their responses and COVID-19 vaccination status were treated in the strictest of confidence. The participants were made aware that the information collected was to be used for study purposes only. Lastly, the recordings and written transcripts were kept on a password-protected computer of the researcher, for at least 5 years before they are discarded (Heale & Shorten, 2017).

3.9.3 Principles of Justice

The principle of justice is focused on the equitable distribution of benefits, risks, costs, and resources (Jahn, 2011). The selection of the participants was conducted in such a manner that participants were conveniently selected based on their availability to participate in the interviews (Quinn, 2015). The interviews were conducted from 07H00 to 19H00 from Monday to Friday for eight (8) weeks to ensure that all participants had an equal opportunity to participate in the study.

3.9.4 Principle of Non-Maleficence

The principle states that there is an obligation for the researcher not to inflict harm on others (Jahn, 2011). In this study, no harm was caused to the participants, thus questions that were likely to invoke negative emotions of humiliation, stress, embarrassment or low self-esteem were avoided. Participants that have just been vaccinated were interviewed after three weeks to ensure that they had enough time to

recuperate. Participants that were feeling unwell during the interviews, were exempted from participating to accord them an opportunity to recuperate. Similarly, the participants were treated with the utmost respect and fairness.

3.10 Conclusion

This study used a qualitative descriptive case study design that enables the researcher to get data that is rich and a true representation of the perceptions of the participants. The study targeted healthcare workers at the Katutura Health Centre that were sampled using convenience sampling. The data were collected using semi-structured interviews and an interview guide as a research instrument. A pilot study was conducted before the main study to strengthen the research procedures. The data of the main study were subjected to thematic analysis, to derive themes that speak directly to the research question. An ethical clearance certificate from the Ethics Research Committee of the University of Namibia and a permission letter approval from the Ministry of Health and Social Services were sought and provided for. The study applied the four principles of ethics, namely principles of autonomy, beneficence, justice and non-maleficence, to protect research participants from unethical research practices.

CHAPTER 4: PRESENTATION AND DISCUSSION OF FINDINGS OF THE STUDY

4.1 Introduction

This chapter presents the findings of the study after being subjected to thematic analysis. The chapter begins by describing the demographic data of the participants. The study objectives were, explore the perceptions about COVID-19 vaccinations among healthcare workers at the Katutura Health Centre; describe the experiences of healthcare workers vaccinated at the Katutura Health Centre and examine how gender is connected to the perceptions and experiences of COVID-19 vaccinations. The chapter concludes with a summary that relates the study findings to the critical theory.

4.2 Overview of Demographic data

The study had a total of 22 participants. The participants were described according to their age, sex, marital status, religion, position held, number of years in the position and vaccination status.

Table 4.2: Demographic data of respondents

The table below depicts the demographic data of the participants. The participants were identified through a code and the number of participants. The job position is abbreviated, with "EN" standing for Enrolled Nurse, "RN" for Registered Nurse and "SNR" for Senior Registered Nurse.

Name	Age	Sex	Position held	Number of years in the position	Vaccination status
P01	44	Male	RN	22	Vaccinated
P02	29	Female	EN	6	Vaccinated
P03	65	Female	EN (Retired)	40	Vaccinated
P04	27	Male	EN	1 year 10 months	Vaccinated
P05	27	Male	RN	2	Vaccinated
P06	43	Female	SNR	14	Vaccinated
P07	65	Female	RN (Retired)	45	Vaccinated
P08	39	Female	RN	15	Vaccinated
P09	61	Female	RN (Retired)	41	Vaccinated
P10	25	Female	RN	3	Vaccinated
P11	37	Female	SNR	12	Non-vaccinated
P12	26	Male	RN	2	Vaccinated
P13	33	Female	RN	3	Vaccinated
P14	34	Male	EN	2	Vaccinated
P15	25	Male	EN	2	Vaccinated
P16	63	Female	EN (Retired)	41	Vaccinated
P17	62	Female	EN (Retired)	40	Vaccinated
P18	33	Female	EN	4	Non-vaccinated
P19	29	Female	RN	4	Vaccinated
P20	27	Male	EN	5	Vaccinated
P21	24	Male	RN	2	Vaccinated
P22	31	Female	SNR	4	Vaccinated

The ages of the participants range from 24 to 65 years of age. The study included five participants who retired but were rehired on temporary contracts as part of government efforts to combat COVID-19. According to a newspaper report, the Ministry of Health and Social Services hired 278 retired nurses on temporary contracts ranging from three (3) to six (6) months to address staff shortages. The rehired nurses were all under the age of 67 years and were stationed at vaccination sites to mentor newly qualified nurses (Ngatjiheue, 2022). In terms of sex, fourteen (14) of the participants were female and the remaining eight (8) were male. This highlights that nursing remains a female-dominated field, which can be attributed to the Nightingale nursing training style that favoured women over men (Mao et al., 2021).

Regarding marital status, only five (5) of the participants were married, and one was widowed. The remaining sixteen (16) were single (Figure 1). According to Liu et al. (2023), marital status suggested a correlation between marital status and vaccine hesitancy. Hence, the collection of marital status in this study.

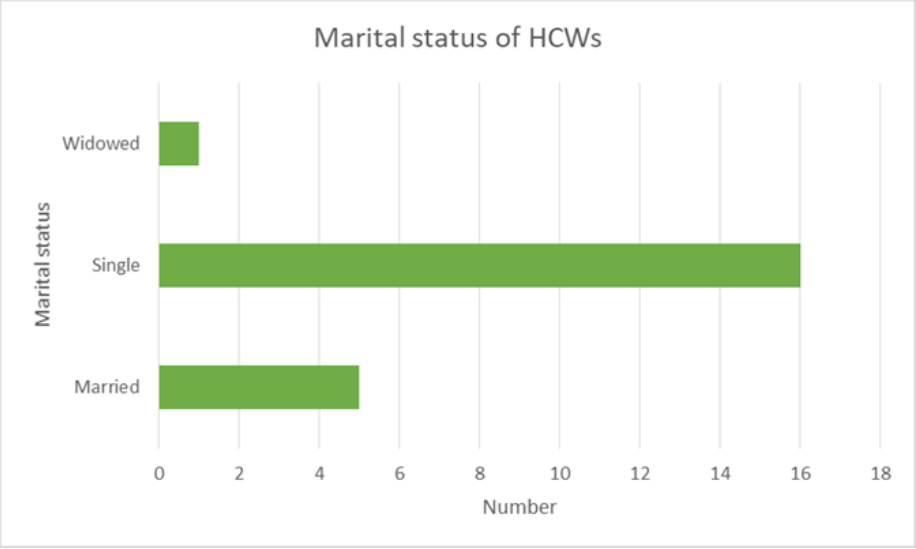

Figure 3.1: **Marital status of participants.**

All the participants identified as Christians. According to the World Population Review (2022), Christians account for 80-90% of religions practised in Namibia. Similarly, religious beliefs influence the willingness to receive the vaccine. According to Lopez-Cepero et al. (2022), religious beliefs influence the decision-making in health matters. Hence, the participants were asked their religion to determine whether their decision to receive the vaccine was influenced by their religious beliefs.

The study interviewed nine (9) Enrolled Nurses of which three (3) are retired. The Registered Nurses were ten (10) of which two (2) were retired. The Senior Registered Nurses were only three (3). The retired nurses had the highest number of years that ranged from 40 to 45 years. The study also included newly qualified nurses that had less than two (2) years of working experience. This was done to determine if the perceptions and experiences of COVID-19 was influenced by work experience. In terms of vaccination status, out of twenty-two (22) participants, only two (2) were not vaccinated. The remaining twenty (20) participants, were fully vaccinated.

4.3 Findings from semi-structured interviews

Table 4.3: Themes and sub-themes from the study

The study derived three (3) main themes and thirteen (13) sub-themes from the data sets. The participants' verbatim statements are depicted in italics.

Themes	Sub-theme
Perception of healthcare workers on the COVID-19 vaccine	Sources of information
	Factors considered on whether to take/refuse the vaccine
	Benefits of taking vaccines
	Obstacles hindering the uptake of the vaccine
Experience of healthcare workers on the COVID-19 vaccine	Experiences of taking the vaccine
	Side effects from the vaccine
	Differences and similarities of vaccine uptake from previous experiences
	Recommendations on improving vaccine rates amongst healthcare workers
The link between gender and vaccine uptake	Gender with high vaccine uptake
	The age group with high vaccine uptake
	Permission request from partners to take the vaccine
	Barriers that hinder vaccine uptake
	Concerns raised before taking the vaccine

4.3.1 Theme 1: Perception of healthcare workers on the COVID-19 vaccine

The first theme explored the perceptions of healthcare workers regarding the COVID-19 vaccines.

4.3.1.1 Sub-theme 1: Sources of information

The COVID-19 pandemic and subsequent vaccine programme was a fairly new development. Hence, the flood of information, whereby some sources were verifiable and others not. This propelled the need for information that was based on facts to avoid confusing the public and stirring hysteria. According to the participants, they received information about the vaccine from the radio, television, and pamphlets developed by the Ministry of Health and Social Services (MOHSS) and World Health Organization (WHO). The participants have also stated that they received their information from social media in particular Facebook, radio, posters posted at the playgrounds around Windhoek, and newspapers. Information was also shared at the healthcare centre, in the form of Standard Operating Procedure (SOP) Guidelines, communications with the Primary Health Care (PHC) supervisor and COVID-19-based training for healthcare workers. As stated by P16, "*I heard from the radio and I received training on covid-19*". While, P9 preferred official sources of information, "…*from the guidelines SOPs and World Health Organization*". Standard Operating Procedures (SOPs) in healthcare are defined as a written set of instructions that a healthcare worker follows to complete a job safely, with no adverse effect on personal health or environment and in a manner that maximizes the probability of a beneficial health outcome in an efficient manner (Singh, 2019).

The study found that the MOHSS has developed information sharing pamphlets and leaflets to share accurate and verified information regarding the vaccine to both HCWs and the public. Moreover, such information was further disseminated through training offered to HCWs and through print media. The need to acquire as much information as possible about the COVID-19 vaccine was explained through the sociology of embodiment. This entails that people need information on what is being placed in their bodies, so they make informed choices, this is especially true for persons that have preconditions; the elderly and pregnant women (Vallee, 2020). The study found that despite verified sources of information that they had access to, HCWs continued to make use of social media to retrieve information on the vaccine. A report by the Legal Assistance Centre (2021), emphasised the dangers of receiving misinformation from unverified sources, as it had the potential to promote vaccine hesitancy. The findings mirrored those found in a study by Adedeji-Adenola et al. (2022), who asserted that the most common sources of information regarding the COVID-19 vaccine were television, radio, and print media; other HCWs and social media platforms. However, the Institute for Public Policy Research (IPPR) had been instrumental in producing briefs that aimed to dispel untruths about the COVID-19 vaccine while also monitoring the spread of misinformation in the Namibian information landscape (Links, 2020). The study found no relationship between the preferred sources of information and gender.

4.3.1.2 Sub-theme 2: Factors considered on whether to take/refuse the vaccine

The decision whether to take the vaccine or not is deemed personal, as it is fuelled by both internal and external factors. The study found that the participants were influenced to take or refuse the vaccine based on the information they had, the

likelihood of exposure to the virus, plans to travel abroad, and the need to protect their families, and communities. Other factors included the need to increase the number of vaccinated persons to meet national targets and for individuals to take charge of their health. Moreover, obeying the laws of the country was also stated as a factor. The efficiency of the vaccines and the notion that the pandemic was an attack by the richer countries on the poorer nations were also highlighted by the participants as deciding factors in the uptake of the vaccine. The fear of using emergency vaccines that did not undergo rigorous testing, being medically fit to take the vaccine, getting sick from the vaccine, and the number of people who were in ICU or died from COVID-19, were also identified as factors. Interestingly enough, employment and the opinion of the community were also highlighted as factors affecting vaccine uptake and the spread of the virus. According to P01,

> "*Most of the factors to receive the vaccine are based on the information that the person has and the other factors like an individual to believe that they can be exposed or they can be infected. If they are infected they will get sick and might die, this can promote someone to go for vaccination but if this someone is still strong enough to stand against infection also it may also act as a factor for one not deciding to go for vaccine especially those that are young with no knowledge of chronic illnesses*".

The study findings concurred with those by Salck et al, (2020), who found that the fear of being infected with the diseases propels individuals to receive vaccination for it. A cross-sectional study by Presotto et al. (2022), similarly found that the factors that affected the acceptance of COVID-19 were the fear of COVID-19 late effects, the safety of flu and COVID-19 vaccines.

The current study found no link between how the COVID-19 vaccine is perceived and gender. Similar to what was found by Adeniyi et al. (2021), who stated that what influences the uptake of a vaccine by an individual is a positive impact on their health. Moreover, Hawkes et al. (2021), highlighted how the social and structural dynamics that influenced an individual's risk and vulnerability depended on their position in the gender hierarchy. However, the study found that women were more likely to consider taking the vaccine. The findings were similar to those found in a 2021 cross-sectional study by Alhassan et al. who found that individuals that were female, married and employed as nurses were more likely to have a higher vaccine uptake rate than individuals who did not meet that criteria.

Van Vuuren and Van Vuuren (2022), in a study conducted in South Africa using surveys as an approach, found that healthcare workers agreed with the COVID-19 vaccination passports for travelling purposes. The findings of this study aligned with the findings of Van Vuuren and Van Vuuren (2022), in regards to highlighting travelling purposes as a factor that propelled healthcare workers to receive the vaccine. According to Van Vuuren and Van Vuuren (2022), the study found that introducing vaccination passports, increases the uptake of the vaccine.

Medicalization and power constructs may also contribute towards persons not being comfortable taking the vaccine. The power to make decisions regarding the health of people is vested in the state and Medical doctors, who have the authority to declare certain behaviours as deviant to the recommended measures. In this case, vaccination was recommended as a measure against combatting COVID-19 (Marcus et al., 2011).

4.3.1.3. Sub-theme 3: Benefits of taking vaccines

Despite persons not being completely comfortable with vaccines, there are still notable benefits to taking the COVID-19 vaccine. Out of twenty-two (22) participants, ten (10) participants agreed that taking the vaccine assisted in developing immunity against the virus. Other participants stated that the vaccine helped in preventing individuals from getting severely ill and reducing community transmission. Other cited benefits of receiving the vaccine were achieving herd immunity and preventing death. One participant stated that the vaccine helped to protect against the seasonal flu, according to P8,

> "*…it's a good thing. I would suffer from periodic flues um and having received the COVID-19 vaccine Sinopharm two doses plus a booster I have not had the flu for this year so I don't know whether it's correlated to that but it helped*"

While P14, highlighted the importance of herd immunity, "*… it's (sic) very important to get the vaccine because the opinion that I can get is the only way to reach the herd immune only through the vaccine*".

A study by Moucheraud et al. (2022) using a cross-sectional survey approach in Malawi looked at the benefits of taking the COVID-19 vaccine according to HCWs. Taking the vaccine saved lives and strengthened the immune system. The results were similar to those found in this study. A study by Herzog et al. (2013), using a systematic approach stated that healthcare workers were more than likely to realise the benefits derived from vaccines due to their knowledge, attitudes and beliefs. Herzog et al. (2013) further indicated that healthcare workers have first-hand knowledge on vaccine contraindications. Moreover, HCWs believed that vaccines were beneficial and formed part of the social orientation of heath. Furthermore, the attitude of HCWs

towards vaccines is positive, as they recommend their use because immunity is not lifelong. The study found no relation between the perception of the benefits associated with vaccines and gender. Rather, the study found a relation between health-based knowledge and the acknowledgement of the benefits associated with taking vaccines. This reinforces the position of the critical theory that holding knowledge does provide power to the holder, especially in society (Ryoo & Mclaren, 2010).

4.3.1.4 Sub-theme 4: Obstacles hindering the uptake of the vaccine

There were several obstacles and actors that hindered the uptake of the COVID-19 vaccine, which were identified as either intrinsic or extrinsic. This study found that participants expressed fear of the unknown and rumours, side effects of COVID-19 vaccines, and myths about the vaccine as barriers to the uptake of the vaccine. There were a lack of studies that could explain the long-term effect of the vaccine and provide clear information about the virus and vaccine itself. Moreover, conspiracy theories about the vaccine circulating on social media were also attributed as causing vaccine hesitancy. Theories such as the vaccine causing infertility in men and women, erectile issues in men, placing magnets in the bodies of persons who were vaccinated, and the vaccine programme being a political ploy to kill people in the future. Traditional or tribal norms were also cited as obstacles. One participant stated how the vaccine was identified as being part of an experiment, and that those who were vaccinated will die soon. Most of the participants highlighted the fear of death and pressure from family, which may had resulted in vaccinated persons being stigmatized. The suspension of Sputnik for use as an emergency vaccine due to it increasing the susceptibility to HIV in men was cited as a reason to not receive the vaccine. According to P2, conspiracy theories were a contributing factor to not

receiving the vaccine, "*…get vaccinated and (sic) you will have skin that will vibrate, triple 666 issues*…" Religion also contributed to the fear, as indicated by P14

> "*…temporary but in the long run / in the future it will bring trouble for them, some they say they can turn into animals some they say that due to their religion that if they get COVID-19 vaccine that means they are given a sign of triple 6 (666)*".

P11 stated that the fear of needles kept individuals from receiving the vaccine,

> "*…Another thing some people want to get but maybe the needle prick, some of them do not like a needle prick, they do not like pain*".

Similar results were found in a 2022 cross-sectional survey study by Lielsvagere-Endele et al. conducted in Latvia on the barriers to the COVID-19 vaccine of healthcare workers. The study found that healthcare workers stated the following as barriers, concerns on the effectiveness of the vaccine; health risks associated with the vaccine; risk perception towards the vaccine; misinformation about the vaccine; belief that the vaccine is being imposed and belief in conspiracy theories regarding the COVID-19 vaccine. The study found no variation in how the benefits derived from the COVID-19 vaccine were perceived. The risk of taking the vaccine that was cited from this study could be an indicator of increased medicalization that individuals were afraid of. This was indicative of the authoritative power that the governments had over their bodies, which signalled a distrust in the vaccine (van Dijk et al, 2016).

4.3.1.5 Summary of Theme 1

In summary, HCWs had a generally positive perception on the COVID-19 vaccine. More females than males received the vaccine. Their perception was influenced less

by the medical knowledge but rather by external sources. Most especially the government and social media. The findings were indicative of the authoritative power that governments have in making decisions regarding the health of the population. The decision whether to take the vaccine or not was influenced by the exposure to the virus, need to protect their communities, meeting national targets as per government orders and the individual need to protect one's own health. The HCWs acknowledged the benefits of receiving the vaccine on their lives and the community. This realization was based on their medical knowledge. Despite their medical knowledge, the fear of the unknown and safety concerns were raised as barriers to receiving the vaccine. This indicated that although HCWs acknowledged the authoritative power of the government over their health. Elements of distrust still existed, as remnants of colonialism, where unsanctioned medical experiments were conducted on African bodies in the name of science.

4.3.2 Theme 2: Experiences of healthcare workers on COVID-19 vaccine

The second theme that emerged from the study spoke on the experience of healthcare workers regarding the COVID-19 vaccine.

4.3.2.1 Sub-theme 1: Experiences of taking the vaccine

This sub-theme explored how healthcare workers experienced the process of receiving the COVID-19 vaccine. Out of twenty (20) vaccinated participants, none of the HCWs had a negative experience when they were vaccinated; nor were the experiences different amongst males and females. According to the participants, the process of receiving the COVID-19 vaccine was smooth and fast, with most participants completing the entire process in done thirty (30) minutes. The only challenge

experienced is the vaccine running out of stock at vaccination points. The process of receiving the vaccine was explained by P12,

> "*The process was easy and smooth and faster. I did not even stay long there plus or minus maybe 20 minutes because from stage one where you have to complete the form and then there are two forms. And there is another register book and you have to go for parameters to check your vital signs, temperature, and blood pressure. They ask you for all those chronic diseases. If you have one of them, you need to inform them, if you are breastfeeding you need to inform, them if you are pregnant. It was really easy and smooth, very quick*".

P6 indicated that consent was given before receiving the vaccine. Other participants have also stated that by giving consent, it eased their anxiety and concerns.

> "*…you give the consent so that you can be vaccinated, then you receive the vaccine and after you get registered in the book so is that is it what you have to go through*".

According to a representative study conducted in Germany by Walach et al. (2022), providing consent to be vaccinated is related to the sources of information, motivation for taking the vaccine, potential side effects, potential improvements and beliefs regarding the COVID-19 vaccine. Walach et al., (2022) stated that informed consent between a healthcare worker and patient may act as justification for any medical intervention, which had the potential to compromise and pose risks to them. This may come in the form of insurance claims, criminal investigations and limitations to work as a healthcare worker. This held true at vaccination centres where HCWs had limited time to fully inform patients on the possible benefits and possible risks of the vaccine.

Haik and Polymenopoulou (2021) further explored the link between informed consent as a doctrine that stems from individual autonomy and privacy. In Namibia, such rights are duly protected under the Namibian Constitution, specifically the Bill of Rights. According to Haik and Polymenopoulou (2021), the difficulty in predicting the potential adverse effect of Messenger Ribonucleic acid (mRNA) vaccines and their nano-carrier constituents, which makes having informed consent even more important. mRNA vaccines were regarded as highly unstable, with a high possibility of side effects due to their high immune response and ineffective delivery. Hence, the fear associated with the use of such vaccines, for COVID-19. Haik and Polymenopoulou (2021) further explored the human rights aspects of the use of COVID-19 vaccines. According to Haik and Polymenopoulou (2021) the right to informed consent is closely related to the provision of medical treatment and medical experimentation. Hence, the International Covenant on Civil and Political Rights, International Covenant of Economic, Social, and Cultural Rights and the Nuremberg Code have stated that all human beings have the right to physical integrity; the right to private life, with emphasis on health information privacy; the right to health; freedom from inhuman and degrading treatment and the protection of the integrity of the person. All these provisions highlighted the importance of maintaining the legality of treatment with fully informed consent. This explained why the HCWs felt at ease with providing informed consent as it ensured that their rights were upheld.

The study reported vaccine shortages at some of the vaccination centres visited by the participants. Reports of vaccine shortages were reported in the media as well, in an article by Nembwaya (2021) who reported on COVID-19 vaccine shortages in the Ohangwena region. The blame was placed on procurement shortages and not on the

unwillingness of persons to receive the vaccine. This was confirmed in a paper by Torjesen (2021) who found that delayed shipments of vaccines were to blame for shortages. However, Liu and Lou (2022) attributed the shortages to interruptions in production and supply; higher-than-expected demands, and a lack of resources such as healthcare capacity to administer the vaccines. Liu and Lou (2022) further included, fair setting of proper targeted and/or priority order; reasonable delay period between the two doses and booster shoots; the selection of effective fractional dose per individual and the impact on controlling COVID-19 amidst and/or post-vaccination. Vaccine sovereignty can also be used to explain the shortage of vaccines. Van De Pasa et al. (2022) found that the global distribution of COVID-19 was not done reasonably, despite commitments by members of the European Union and the United States of America to treat the vaccine as a public good. Low-income countries were still lagging behind in terms of vaccination coverage, even with the COVID-19 Vaccines Global Access (COVAX) global initiative. Though Namibia did make a financial contribution to acquire vaccines through the COVAX facility. COVAX prioritised the distribution of vaccines to other countries. This led to shortages of the vaccines in the country (Petersen & Ngatjiheue, 2021).

Van De Pasa et al. (2022), further attributed the shortages to the intellectual property of the vaccines being held by pharmaceutical conglomerates, thus hampering the acquisition of such rights and the necessary technology to produce the vaccines locally and increase access to the vaccines. Governing national health systems, which for low- and middle-income countries were already hampered by low financial and human resources further led to shortages of the COVID-19 vaccine. Coupled with bottlenecks in national health systems, aspects of affordability of the vaccines, acceptability of the

vaccines by the population and the efficiency and effectiveness of the vaccines cannot be determined.

Though most of the participants expressed feeling anxious and having mixed feelings, such negative feelings disappeared after receiving the vaccine, as their concerns were dispelled by the nurses. The participants expressed how the healthcare workers at the vaccination points expressed kindness and the willingness to assist. Hence, the process of receiving the vaccine was regarded as fun and enjoyable. According to P13,

> "*It was also difficult for me to come up to get the injection until one day when I decided to get the vaccine but I did not experience anything it was fine with me".*

A study by Jun et al. (2022) using a social media/online data search and analytics tool found that emotions associated with fear, sadness, and anxiety were significantly associated with high rates of vaccine acceptance. However, there was no variation in how males and females experienced receiving the COVID-19 vaccine.

4.3.2.2 Sub-theme 2: Side effects from the vaccine

Side effects are normally experienced when a foreign body is introduced into the human body. Out of twenty (20) vaccinated healthcare workers, only seven (7) did not experience any side effects from the vaccine. The other participants indicated experiencing pain in the chest, muscle pain, weakness and body pain. The symptoms lasted between thirty (30) minutes to four (4) days. The most common side-effect experienced was a headache, for which HCWs made of use of paracetamol, drinking a lot of water and rest as medical interventions. However, none of the side effects were

severe enough to warrant medical intervention. Only one participant, P19 experienced other symptoms, in addition to what other participants have stated,

"*I had minor symptoms at the beginning e.g. cramps, headache, heavy bleeding*". Participant 11, who wasn't vaccinated at the time, stated that clients who came for vaccination, had experienced, "*headaches and heavy menstruation. Some complained of body pain or muscle pain that is all*".

Out of seven vaccinated males, four (4) reported experiencing side effects, while out of thirteen (13) vaccinated females, seven (7) reported side effects. However, the study found no reports of a connection between gender and the number of side effects reported. A study by Hussain et al., (2021) found that females were more likely than males to experience side effects. The study findings mirrored those found in a study by Regenold and Vindrola-Padros (2021) who found that the most commonly reported side effects were headaches, and pain at the site of injection. The study also found that the fear of the side effects did not deter healthcare workers from receiving the vaccine. Similar results were also found in a study by Zewude et al. (2021), who found that healthcare workers found relief from the side effects by resting and taking medication for the pain, serious interventions were not required in most cases as the side effects lasted between six hours to three days.

4.3.2.3 Sub-theme 3: Differences and similarities of vaccine uptake from previous experiences

Six (6) of the participants did not experience any difference in the way the past vaccinations that they may have received were conducted in comparison to COVID-19 vaccines. However, most of the participants agreed that all vaccines were vital in creating immunity against diseases.

However, the participants stated many differences between previous vaccines received and the COVID-19 vaccine, for starters, one participant stated that the vaccine they received before was made from RNA and injected in the arm. Other participants highlighted the difference between the COVID-19 vaccine and childhood vaccines in terms of the number and pain. Another participant indicated the difference lied in the level of trust between previous vaccinations and the vaccine for COVID-19. The participant believed that the COVID-19 vaccine was new and did not form part of the vaccination schedule currently in use in the country, hence the debate on its effectiveness. P09 spoke about the Manufacturer Part Number (MPN). The Free Dictionary (2022), defined it as a combination of numbers, letters, and symbols assigned by a designer, a manufacturer, or a vendor to identify a specific part or item of material. According to P09,

> "*…similarities is the MPN number and depend on the manufactures for COVID-19 there is no MPN number because of the different manufacturer".*

Participants stated that the vaccine for COVID-19 was different from other vaccines as the mortality rate was high and the concerns surrounding the safety of the vaccine. Another highlighted difference was the opinion that in the past, vaccinations were primarily administered to prevent diseases. While the vaccine for COVID-19 was administered to reduce the risk of severe illness. P19 highlighted the difference in side effects, "*Similarities- cramps and shivering, Difference- heavy bleeding during periods*".

Similar results were found in a 2021 article by the Pasadena Health Centre (PHC) which found that despite all vaccinations having one purpose, which is to prompt an immune response and subsequently gain immunity against the disease. The COVID-

19 vaccine was rolled out differently than what was normally used in previous vaccination programs. According to the PHC (2021), childhood vaccines had only one version of the vaccine, in comparison to COVID-19 which has four categories of vaccines, namely, whole virus, protein subunit, viral vector and nucleic acid (RNA and DNA). Another difference is the vaccines for most childhood diseases took several years to develop due to limited technology. However, the COVID-19 vaccines were developed very quickly due to the groundwork that was already laid and the use of advanced technology. The study found no link between how males and females perceived the COVID-19 vaccines in comparison to other vaccines. However, what stood out was the lack of trust in pharmaceutical firms. From a sociological standpoint, it was not unprecedented. This was due to an increase in the premature release of vaccines that were not thoroughly tested hence the unexpected side effects that could cause more harm than the disease. Moreover, the overestimation of the harm could be caused by the illness, which leads to the development of vaccines that may not otherwise be required (Calnan et al., 2022). The development of COVID-19 vaccines has brought to the fore the concept of medicalization, as people believed the COVID-19 vaccines were not necessary. Moreover, the pharmaceutical industry has been known to benefit from a lack of regulation; corporate bias and conflicting interests (Calnan et al., 2022).

4.3.2.4 Sub-theme 4: Recommendations on Improving Vaccine Rates amongst Health Care Workers

The participants stated that fellow healthcare workers can be encouraged to receive the vaccine by explaining the benefits, safety, and effectiveness of the vaccine to them. Another recommendation is to remind HCWs of the importance they hold in the

community, thus they must lead by example. Intensive training may be required to inform HCWs on all aspects related to the COVID-19 vaccine. Healthcare workers have busy schedules, which could hinder them from receiving the vaccine. Hence, the need for vaccination centres that must cater solely for healthcare workers, according to P9,

> "*Yes, they need to be encouraged to take the vaccine. Why they are not coming to the side maybe they are tired, have no time and do not need to take the vaccine on a busy schedule. Provide a Centre for the healthcare workers to go and vaccinated and get some rest, at least they must get an extra day off like. If they get off days they will come and get refreshments also. With the busy schedule is not easy*".

The use of incentives as means of increasing the uptake of the vaccine was supported in a report by Kluver et al. (2021) who encouraged the use of incentives by governments to increase the uptake of the vaccine. According to Kluver et al. (2021), governments can offer financial rewards and decentralise vaccination points to local HCWs to reduce costs associated with travelling. Moreover, incentives must be gender-response to ensure that all genders stand to benefit equally (WHO, 2021). However, Giubilini (2020) stated the use of incentives may be unethical. Firstly, it may be deemed coercive and unjustifiable as achieving herd immunity, is a duty for all mankind to do. In the context of the critical theory, however, providing incentives is one way of levelling the playfield and addressing the inequities that exist based on gender. As a result of the intersections between political, social and economic systems (Todic et al., 2022).

Both vaccinated and unvaccinated participants stated the need to make vaccinations compulsory, to ensure that all healthcare workers are vaccinated against COVID-19. Moreover, incentives, in the form of awards for healthcare centres with the most vaccinated healthcare workers, could work in encouraging healthcare workers to be vaccinated. A participant stated the need to carry out research studies on the barriers that hinder healthcare workers and use those findings to provide solutions.

A paper by Savulescu (2021) found that the COVID-19 vaccine could be made mandatory for all healthcare workers, provided it is done within the confines of human rights law. Moreover, potential gender-related barriers that can affect the uptake of the COVID-19 vaccine must be minimized, these include, autonomy and agency; access and control over time and financial resources; education and health literacy; decision-making; gender-based violence; mobility; provider attitudes, and quality of services. However, a report from the Gender Commission of the Republic of South Africa (16 January 2022) stated that mandatory COVID-19 vaccinations could be detrimental to women. Firstly, studies (Al-Mehaisen et al., 2022 & Edelman et al., 2022) have shown that the vaccine caused short-term effects on the length of menstrual cycles. Secondly, the majority of healthcare workers, especially nurses are females. In the event that the vaccine is made mandatory, women would not be in a position to negotiate with their employers regarding not receiving the vaccine, due to their position in society, past oppressive regimes and economic inequality. Moreover, it removed the right of women to make their own decisions regarding their reproductive health. However, Adedeji-Adenola et al. (2022) found that gender did not significantly affect the level of awareness of the COVID-19 vaccine nor did this study.

4.3.2.5 Summary of Theme 2

In summary, HCWs had a smooth experience receiving the vaccine, despite experiencing side-effects. The findings did not find any significant differences in how men and women experienced side-effects. None of the side-effects experienced warranted concern, they were quickly alleviated through rest, drinking water and pain medication. Comparing the experience of previous vaccinations with the COVID-19 vaccine, the key difference was the trust in previous vaccinations, derived from the tests that it undergone to ensure its safety and efficiency. However, HCWs did raise the issue of vaccines running out at vaccination centres. This was attributed to producers practicing vaccine sovereignty rather than internationalism. Concerns were raised with how quickly the vaccine was developed, this stemmed from distrust as a result of over-medicalization. The HCWs recommended providing incentives for HCWs to receive the vaccine. However, the use of incentives has been deemed unethical as it is the responsibility of all persons to contribute towards achieving herd immunity.

4.3.3 Theme 3: Link between gender and vaccine uptake

The third theme describes the link between gender and vaccine uptake. This information was derived from the experiences and perceptions of HCWs administering the COVID-19 vaccine to members of the public.

4.3.3.1 Sub-theme 1: Gender with high vaccine uptake

The importance of presenting data that is gender segregated is vital, as it determined the impact of the phenomenon on each gender. Out of twenty-two participants, eleven (11) stated that females actively participated in the COVID-19 vaccination programme, while four (4) of the participants mentioned the male gender. The

remaining seven (7) believed that both genders equally showed interest in receiving the COVID-19 vaccine. The participants attributed high vaccine uptake by females to them taking better care of their health in comparison to males. Males were found to only receive the vaccine if there were job prospects, as was the case with the Namibia Defence Force (NDF) requirements for a cadetship, which required all potential employees to be vaccinated against COVID-19 (Ministry of Defence and Veteran Affairs, 2022). As stated by P7 "…*recently we had more boys than females because of the job that was advertised for the NDF (sic)*"

P12 stated that females are more likely to be vaccinated as they tend to gather more information about the virus and the vaccine.

> "…*females were more actively taking because I think, I don't know whether they turn to read up more information or they turn to overcome the fear they are experiencing and they don't get shy to ask information because with men is a strangle when it comes to health to find out information*"

The study found that the uptake of the vaccine per gender ranged from the policies and environmental factors at that specific point in time. The study further found that males were more likely to take the vaccine if there were job prospects that required COVID-19 vaccination certificates or to travel out of the country for business or study purposes. Hence, why sociology paints experience as a connection between life and work (Wright, 2015). Moreover, compulsory vaccination was mandated by the Defence Act 1 of 2002, Section 81. Such findings were further substantiated in a systematic review by Zintel et al. (2022). On the other hand, female-dominated job sectors (persons employed in healthcare and education) and the caretaking role that women play tend to be the motivation behind having more females who were

vaccinated. Moreover, females take greater concern towards their health, hence they were more likely to implement measures that could ensure that they remain healthy according to a cross-sectional study by Terry et al. (2022). The critical theory identified inequalities amongst the genders as influencing the uptake of the vaccine. This means that the meaning, the goal and importance of taking the vaccine differs amongst the genders. This reiterates the notion that females were influenced and motivated by intrinsic factors, which was taking charge of their health. While for males, extrinsic factors such as employment was the main motivating factor (Rehbein, 2018).

4.3.3.2 Sub-theme 2: Age group with high vaccine uptake

All twenty-two (22) participants stated that the COVID-19 vaccine was commonly taken up by individuals older than forty (40) years of age. This is due to individuals of older age being more susceptible to severe illness from the virus and having underlying conditions. Persons younger than thirty (30) years of age, were only taking the vaccine if it was required by the employer or for travelling purposes. As stated by P3, "*30 years to 55 were most interested and over 60 with underlining conditions. Below 30 were only interested if there is work and when travelling*".

The findings of the study were in agreement with those found by Terry et al. (2022) who found that persons younger than 30 years of age were less likely to receive the vaccine. The study also found that older persons (both male and female) were much more likely to receive the COVID-19 vaccine, the same results were found in a cross-sectional study by Jung et al. (2022). According to Jung et al. (2022), individuals older than 65 years of age were motivated to take up the vaccine as they wanted to take care better care of themselves due to their susceptibility to the virus. Moreover, persons

that have chronic diseases, commonly hypertension and diabetes were more likely to be vaccinated, the same results were found in a cross-sectional study by Zakar et al. (2022). Interestingly enough, trust in the government was also highlighted as a factor that motivated them to be vaccinated (Jung et al, 2022). This is an example of the link between medicalization and the power that governments have on the health decisions taken by its people. A paper by Gozgor (2021) attributed it to governments having the capacity, expertise, and technical knowledge to make decisions that positively impact public welfare. In addition, higher levels of democracy and political rights were related to an increase in government trust.

4.3.3.3 Sub-theme 3: Permission request from partners to take the vaccine

In regards to requesting permission before receiving the vaccine, the responses were polarised. Some of the participants stated that they did not encounter a client not taking the vaccine due to permission not being granted, as it was voluntary. While other participants stated that it was important to ask permission based on maintaining good communication in relationships and respecting the man as the head of the house. Another participant stated that only persons who have little or no formal education and those who depended on their partners for financial assistance would request permission. For females who did request permission, it was due to the fear of the vaccine causing infertility and death. Hence, women felt obliged to require the consent of their partners before receiving the vaccine. However, women who were not granted permission still received the vaccine and opted not to disclose it to their partners. According to P11, "*Some people can even get the vaccine and tell their partner later*". P12 added,

"*…is just a good way how to have a good relationship just to avoid the conflict between two people. And also a right way for in case a person experiences any shock or affliction. In case of permission is not granted then I think is better if the two can go to any nearest facility that is administrating COVID-19 vaccine just to ask for more information on the vaccine because most of the time when it is refused it has just to deal with a conspiracy theory that is available there so is just better if the two partners can search more information about the vaccine or go to any nearest clinic where vaccine are been administered so they can get more information so that can be granted permission from the other partner*".

The participants stated that males also requested permission from their partners. This was caused by the misinformation that the vaccine causes infertility and loss of erections. The fear of having children with abnormalities was reported as the reason for requesting permission from a partner. However, if permission was not granted, participants have reported that males circumvent the opinions of their partners and receive the vaccine anyway. According to P15,

"*Men seek advice from their partners and consult their partners before making a decision to be vaccinated because they are together and if the woman refuses to permit the men to be vaccinated, some men won't get vaccinated because the woman or partner did not give permission*".

The study found that individuals requested permission from their partners to take the COVID-19 vaccine. The findings were disputed by Zakar et al. (2022), who found that individuals were more likely to take the vaccine if they were motivated to take it by their partners. This indicated that persons who were married or in long-term

relationships were more likely to take the vaccine than those who are not (Zakar et al., 2022). Moreover, men were more likely to be refused permission to receive the vaccine, if there were indications that the vaccine may cause harm to them. This was the case with the Sputnik V COVID-19 vaccine, which was found to increase the susceptibility of getting infected with HIV (Reuters, 2021). Women were likely to take up this information and warn their partners of the implications of the vaccine, due to the caretaker role that women play in the lives of their families (Terry et al., 2022).

A 2021 report by the United Nations High Commissioner for Refugees (UNHCR) stated that women have restricted decision-making power regarding their health, as their partners tend to control their access to health resources. Including information related to the COVID-19 vaccine and its safety and effectiveness. Moreover, the report further stated that women were not able to access vaccination centres nor were they in a position to negotiate with their partners to receive the COVID-19 vaccine. This was in part due to gender inequality, a patriarchal system and harmful traditional practices. Nair et al. (2021) similarly found that patriarchal societal norms have attributed to the lack of trust in vaccines. This was because men were the decision-makers and had the final say on whether a member of their family may take the vaccine or not.

4.3.3.4 Sub-theme 4: Barriers that hinder vaccine uptake

The attitude towards the vaccine was highlighted as the main barrier that hindered the uptake of the vaccine. Five (5) of the participants have also cited a lack of information as a barrier, as well as infertility and the side effects. According to the participants, females were barred by the fear of not getting pregnant, having miscarriages and even death. From a relationship perspective, women may not receive the vaccine even if they want to if their partner refused to permit them to leave the house.

In the words of P8,

> *"I think the first one is after they ask permission from their men if they can go or not. If the men say you should not go then I think they have to follow the rules that they must not go"*

Religion was also cited as a barrier, as women are easily influenced by pastors. According to P14,

> *"...especially women they are too emotional, especially like those who are too religious cause whatever myth brought by their pastor or whoever then they just follow"*

The participants stated that males were hindered from receiving the vaccine due to fear of erectile issues, conspiracy theories from peers and fear of side effects. A lack of information on the vaccine and a fear of needles and hospitals were also included as barriers. According to P11,

> "*…men they don't like hospitals. Men if they are sick they only come when they are about to die to the hospital, they don't like to be in queues, and wait for the vaccine. Number two they don't like the pain from a needle prick, because they are afraid of the pain. Number three is the rumours that was going on, because if you listen to COVID-19 vaccine rumours more of them were created by male people. If you listen to audios that were circulating on social media but what I know they are concerned about their time and they don't like pain*"

The vaccine was fairly new, hence individuals required clarification on certain aspects. However, if there were language barriers between the individual and the healthcare worker, that would constitute a barrier as they were not comfortable taking the vaccine,

if their concerns were not resolved. This finding reinforces the position of the critical that knowledge, in this case medical knowledge is valued by the members of the public, especially from HCWs. Thus, HCWs do have power to influence society on whether to take the vaccine or not (Ryoo & Mclaren, 2010).

According to Morales et al. (2021), gender-related barriers that affected the uptake of the COVID-19 vaccine included, autonomy and agency; access and control over time and financial resources; decision-making, gender-based violence, mobility, and provider attitudes. This is in line with what was found in this study. The findings of the study mirrored those by Zakar et al. (2022), who found that the main barriers to not receiving the COVID-19 vaccine were religious reasons, myths and misconceptions on social media, the side effects of the vaccine side effects and social pressure. A report by the UNHCR (2021) mentioned that female-headed households with limited financial resources and childcare arrangements acted as barriers that hindered women from receiving the vaccine. Going against the rules set by their partners, exposes women to various forms of gender-based violence. A paper by Mittal and Singh (2020), stated that women may potentially be exposed to sexual violence, physical violence, socio-economic violence and psychological violence. The Council of Europe (2022), described socio-economic violence as the removal of earnings from the victim; not being allowed to have a separate income or rendering the victim unfit for work through targeted physical abuse. While psychological violence comes in the form of isolation from others, verbal threats, intimidation, control, harassment, insults, humiliation and defamation.

A study by Afrifa-Anane et al. (2022) described the barriers that hindered women from taking the vaccine. Similar to what was found in this study, women expressed a fear

of the side effects. The same findings were further corroborated by Morales et al. (2021), who found that females were more concerned about vaccine side effects than males. This is especially true, as Afrifa-Anane et al. (2022) has shown that the vaccine can affect their menstrual cycles. Misinformation that stemmed from unverified sources, which propagated fears that the vaccines cause infertility, was also found in this study. Afrifa-Anane et al. (2022) similarly found that religious leaders deemed the COVID-19 vaccine as demonic, as a result, congregants were severely rebuked from taking the vaccine.

Long distances from healthcare centres were also mentioned as a barrier to the uptake of the COVID-19 vaccine. A study by Zakar et al. (2022) found that persons who identified as Christians were more likely to refuse the vaccine on a religious basis. This applied to what was found in this study, taking into consideration that despite Namibia being a secular state, 90% of the population identified as Christians during the Namibia Demographic and Health Survey of 2013 (Ministry of Health and Social Services, 2014). A paper by Trepanowski and Drążkowski (2022), explained the negative relationship between religion and the COVID-19 vaccine. According to Trepanowski and Drążkowski (2022), there exists a misbelief that religion competes with secular science. This led to the belief that science disproves God, hence the lack of trust in science. Moreover, there is a worldview that freedom of religious belief and expression might be restricted in the future.

In regards to the barriers that hindered men from taking the vaccine, a study by Dubik (2022) found similar results to those found in this study. According to Dubik (2022) men expressed a fear of needles, fear of side effects and the misconception that they were not at risk of being infected with COVID-19 as a barrier to receiving the vaccine.

A fear of needles is known as Trypanophobia, which is classified as a psychological issue. It was found to be more prevalent in men than women. Similar, to what was found in this study. The fear of needles requires interventions to enable affected individuals to overcome the fear (Duncanson et al., 2021). The findings of this study further reiterated the power that men have over the health of women. This is in line with the critical theory, which stipulates that there were elements of dominion exercised between the genders, with the female gender in a subordinate position to the male gender (Ryoo & Mclaren, 2010).

4.3.3.5 Sub-theme 5: Concerns raised before taking the vaccine

The fifth sub-theme was related to the concerns that clients expressed to healthcare workers before receiving the vaccine. According to the participants, clients were concerned with the side effects and the safety of the vaccine. The long-term effects of the vaccine were also a concern. Clients also asked questions related to death and the fear of infertility. Other concerns raised were related to the types of vaccines available, pain related to receiving the vaccine, vaccine expiry, and the next date of follow-up. Other questions posed were related to religion, such as if the vaccines were a sign of the end times as written in the bible. The giving of consent was also a concern for clients, according to P15.

> "*Why do I need to sign? Why do I need to complete the forms? Where is the vaccine from? What type of vaccine is it? Are you injecting me with corona? Will I have normal kids or no kids at all after the injection…*?"

The study found that the concerns were centred on fears and misconceptions from unverified sources of information such as social media. Similar results were found in a study by (Chukwuocha et al., 2020), using an exploratory qualitative study in

Nigeria. The study found that individuals were concerned with the hastened development of COVID-19 vaccines. Raising further concerns about its effectiveness and safety. Chukwuocha et al. (2022) similarly found that individuals were concerned with the conspiracy theories overload which negatively affected the uptake of the vaccine. Furthermore, the theories ignited negative feelings and misconceptions regarding the western agenda against black Africans. Therefore, the findings of this study can be explained using the principles of embodiment. It states that it is important for persons to have a sense of safety in the world and have trust in other people. Trust is fundamental if individuals were to maintain a sense of psychological well-being and avoid anxiety (Purnell, 2021). The lack of trust was attributed to the remnants of colonialism and the policy of apartheid (Greenwood & MacDonald, 2021).

4.3.3.6 Summary of Theme 3

In summary, females were more likely to receive the vaccine as they generally do take measures to protect their health. Males were found to be motivated to take the vaccine if it was a requirement for employment opportunities or travelling abroad. This is indicative of the application of vaccine mandates by governments. Older persons actively received the vaccine as a result of having co-morbidities and trust that the government is taking the right measures to protect their health. Males and females alike had to seek permission from their partners before receiving the vaccine. This was attributed to concerns on the safety of the vaccines and its possible impact on fertility. This was also indicative of patriarchal ideologies that still perpetuate control over women. A lack of accurate information and conspiracy theories were cited as concerns by participants.

4.3.4 Summary of the findings of the study

In this section, the findings of the study were analysed from the perspective of the critical theory. The theory focuses on the relationship between medical knowledge and how it is exercised through the increased medicalization of the body. Though an increase in the medicalization of the body might be regarded as an advantage in treating diseases and increasing the life expectancy of the lives of the general population. It may as well be considered unnecessary in the combating of COVID-19. Moreover, power structures come into play, with COVID-19 communication and decision-making being top-heavy, with decisions made by the WHO and rich governments. This explains why the WHO disregarded medical solutions from low- and middle-income countries. In addition, the power that males have over the health of females can also be considered skewed as it is based on patriarchal beliefs and systems.

Moreover, the COVID-19 vaccination programme brought to the fore the fear of medical experimentation, which was rampant during the colonial era, where Africans were experimented on in the name of medicine. The remnants of medical experimentation were still visible today in the form of vaccine hesitancy against the COVID-19 vaccine. This study found that there were differences in how the COVID-19 vaccine was perceived and experienced by HCWs. The theory was correctly applied in this study as it accurately assumed that there was a link between medical knowledge and medicalization. Healthcare workers were armed with medical knowledge, derived from their education and their experience in their various capacities. Thus, they exhibited a mostly positive perception of the vaccine as an immune booster. Moreover, HCWs that did receive the vaccine reported an overall good experience, despite

negative emotions of fear and anxiety. Although not all of the HCWs received the vaccine, which was attributed to fear of using vaccines that were not rigorously tested and the increasing number of vaccine-related illnesses.

The critical theory can identify issues in everyday life regarding how vaccines were perceived and experienced. This came in the form of barriers that hindered individuals from receiving the vaccine. The study found that these barriers were either individual barriers, such as fear of needles or side effects. Moreover, they could be interpersonal barriers, which were misconceptions about the COVID-19 vaccine and structural barriers, such as lack of financial resources and long distances to healthcare centres. Moreover, the risks associated with the vaccine were also cited, which can be associated with increasing medicalization.

Furthermore, the critical theory was utilized to explain how health and illness fit into the structures of power in society. The study found that individuals were led to believe that vaccines were a necessary medical intervention as part of the implementation of coercive and authoritative power and medicalization. The study also found that despite access to health, being a human right, men and women alike had to seek permission from their partners whether or not to take the vaccine. The study found that men were not accorded permission if the vaccine has detrimental effects. Women that were not accorded permission were at risk of physical, socioeconomic and psychological abuse. The finding reiterated the fact that women still do not have complete control over their bodies, as decisions regarding their health were taken by their male partners or the government. In addition, vaccinations are made voluntary in sectors that female-dominated, hence the detrimental effects on the bodies of women. Moreover, many

women due to patriarchal ideologies, do not have decision-making powers, hence they will not be in a position to negotiate for themselves.

The critical theory encourages taking a critical perspective in healthcare, to transform patient care. To which the study found that African health systems were already buckling under the pressures of limited financial and human resources and an increase in non-communicable diseases and were not in a position to handle the COVID-19 pandemic. Hence, the implementation of the COVID-19 vaccine programme to reduce the death and infection rate, while maintaining the integrity of the healthcare systems. However, the study found that the efforts of low-and middle-income countries to acquire COVID-19 vaccines were hampered by a lack of financial resources and a lack of access to the vaccines in part due to vaccine sovereignty. Moreover, the theory embraced science as a means of developing effective vaccines. The reality on the ground indicated a tug-of-war between religion and science, a war that fuelled vaccine hesitancy, this is especially true for Namibia, where 90% of the population are Christians (World Population Review, 2022). Trepanowski and Drążkowski (2022) indicated shown that Christians have the highest rates of vaccine hesitancy in terms of the COVID-19 vaccine. Furthermore, taking a critical perspective healthcare approach, it developed healthcare workers who were trustworthy and health-orientated. This statement was confirmed by the study findings, which found that individuals had a positive experience of receiving the vaccine as a result of healthcare workers who addressed their concerns and fears regarding the vaccine.

4.4 Conclusion

The chapter presented the demographic information of the participants. Such information comprised of age, sex, marital status, religion, position held, number of years in the position and vaccination status. The data were subjected to thematic analysis from which three themes emerged, namely, the perception of healthcare workers on the COVID-19 vaccine; the experience of healthcare workers on the COVID-19 vaccine and the link between gender and vaccine uptake. From the three (3) themes, a total of thirteen (13) sub-themes emerged. The chapter also included an analysis of the findings of the study and application of the theoretical framework.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study had the aim of exploring the perceptions and experiences about the COVID-19 vaccination based on the gender of the healthcare workers at the Katutura Health centre. The study yielded data using semi-structured interviews with twenty-two (22) healthcare workers stationed at the Katutura Health Centre, employing a qualitative descriptive case study design. The data were analysed using the thematic analysis approach.

5.2 Findings of the Study

The findings of the study were summarised according to the study objectives.

5.2.1 To explore the perceptions about COVID-19 vaccinations among Health Care Workers at the Katutura Health Centre.

The first objective of the study was concerned with exploring how healthcare workers perceive the COVID-19 vaccines. The study found that more female HCWs were likely to receive the COVID-19 vaccine, in contrast to what was found by Adane et al. (2022). HCWs made use of verified sources of information from the MoHSS and WHO. The use of international and local authorities were indicative of the authoritative power that such bodies have on the health of individuals. This finding was support by Pograniczna and Mroczek (2017). HCWs still utilised social media as a source of information, despite being a source of conspiracy theories which fuelled fear and propelled vaccine hesitancy. The HCWs were motivated to receive the vaccine to protect themselves and their families, and susceptibility of being infected by the virus. This finding was equally supported by the findings of Salck et al. (2020). The HCWs were knowledgeable about the benefits of the COVID-19 vaccine, which

included reducing community transmission, achieving herd immunity and reducing the incidences of death and severe illness. However, despite their medical knowledge, a number of HCWs hesitated to receive the vaccine due to allergies, safety concerns, and fear of stigmatization. Vaccine hesitancy was found to be linked to medical experimentation which occurred during the colonial error (Giubilini, 2020). The study findings indicate that the perceptions of HCWs regarding the COVID-19 vaccine was less influenced by gender but rather by how the vaccine positively impacts their health. This finding was similarly supported by Adeniyi et al. (2021).

5.2.3 To describe the experiences of healthcare workers vaccinated at the Katutura Health Centre.

The second objective of the study was to describe the experiences of healthcare workers that were vaccinated. The study found HCWs had a positive experience as all their concerns and fears were alleviated at the vaccination centres. Thus, female HCWs were more likely to have a satisfactory experience in comparison to males, as females take better care of themselves. This was similar to the findings of Islam et al. (2021). The providing of consent before receiving the vaccine was found to ease the fears of the HCWs, as it reinforced their rights to autonomy and privacy as supported by Walach et al., (2022). The shortage of vaccines at the vaccination centres was experienced by the HCWs, which highlighted the inequalities between vaccine producers in the global north and consumers in the global south (Satkauskas, 2021). The study found that healthcare workers did experience side effects, in the form of pain in the chest, muscle pain, weakness and body pain, however, no medical interventions were required. The side effects were alleviated by resting, drinking water and taking Paracetamol. More females experienced side effects in comparison to the

males, in contrast to the findings of Zewude et al. (2021The study found that healthcare workers observed differences in how the COVID-19 vaccine was developed and rolled out concerning other known vaccines. The identified differences were the quick development of the COVID-19 vaccine; the level of trust; the MPN and how it was developed from RNA. The healthcare workers all agreed that all vaccines had the same purpose, of boosting the immune system to protect the human body from illnesses.

5.2.3 To examine how gender is connected to how one experiences and perceives COVID-19 vaccinations.

The final objective of the study examined the connections between how each gender experiences and perceives the COVID-19 vaccine from members of the public receiving the COVID-19 vaccine. The study found that females were more likely to receive the COVID-19 vaccine for purely health reasons. This was similarly supported by Salck et al. (2020). Males were more likely to receive the vaccine if it was a requirement for employment or travelling. The vaccine was more common in individuals who were older than forty (40) years of age. This is due to their susceptibility to the disease, prevalence of chronic illness and trust that the government makes decisions that were beneficial for their health. This concurred with the findings in a study by Jung et al. (2022). The study found that males and females alike encountered instances where they had to seek permission from their partners to receive the vaccine. This was attributed to women more likely to be informed hence they were in a position to advise their male partners on the vaccine that had less side effects. This was equally the stance of Terry et al. (2022). On the other hand, women felt obligated to seek permission from their partners. As the patriarchal societal norms attributed to

the lack of trust in vaccines and men holding decision-making powers over the bodies of women (Nair et al., 2021). The study found that both men and women were hindered from taking the vaccine due to conspiracy theories from peers, fear of side effects, lack of information on the vaccine and religious beliefs. This was supported by Trepanowski and Drążkowski (2022), who found that there is a negative relationship between religion and the COVID-19 vaccine.

5.3 Theoretical Significance of Findings

The study findings may be useful in informing gender-disaggregated studies on HCWs, in regards to COVID-19. Several findings from this study resonated with the findings derived from similar studies. The finding that HCWs received the vaccine in order to protect themselves and their families was supported by a study by Salck et al. (2020). Similarly, the finding that females were more likely to have a good experience receiving the COVID-19 vaccine in comparison to males was also found by Islam et al. (2021). Gaps were identified in this study, in which no links were found between gender and the overall experience of receiving the COVID-19 vaccine. However, this could very well be an indication of a lack of gender-awareness by the HCWs. Another gap identified in this study was the efficiency of the various vaccines against COVID-19 and its effects.

5.4 Recommendations from the study

To increase the uptake of the COVID-19 vaccine among healthcare workers, some measures can be implemented, as derived from the study findings:

- Develop and conduct training that is focused on the COVID-19 virus, vaccine development, the benefits of vaccines, and vaccine safety.

- Designate vaccination centres solely for healthcare workers, to take into consideration their working shifts.
- Provide incentives solely to encourage healthcare workers to take the vaccine.
- Develop information-sharing pamphlets and leaflets that take into consideration the gender aspects.
- In future pandemics, it is recommended to develop population-level health interventions that are more gender sensitive and responsive.
- It is recommend to ensure the safety of vaccines by publishing information pertaining to the vaccines including methodology and manufacturer to calm safety concerns that were rampant during the COVID-19 pandemic.

5.5 Recommendations for future studies

For future studies,

- Conduct a quantitative study that is able to include more participants and other health care centres and hospitals in Windhoek.
- The study can be expanded to other regions in Namibia, where the variations in perceptions and experiences can be determined.

5.6 Overall Conclusion

Despite positive perceptions and experiences related to receiving the COVID-19 vaccine, there were still reservations fuelled by barriers as a result of the fear of increasing medicalization. The study also found that the after-effects of colonialism and apartheid still exist within African countries, which ought to be addressed as a means of urgency. As they affect how individuals view and accept medical interventions during times of health crises. Women, despite taking measures to take care of their health still face patriarchal ideologies and threats of GBV as men still

control aspects of their health, especially reproductive health. Healthcare workers need to be reminded of the role they play in society for them to realise the importance of being vaccinated against COVID-19 as they are the frontline heroes.

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ANNEXURE A: Ethical Clearance Certificate

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: SHS 0021 Date: 10 March 2022

This Ethical Clearance Certificate is issued by the University of Namibia Decentralized Ethics Committee (DEC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the School of Humanities, Society & Development Decentralized Ethics Committee.

Title of Project: Gendered Experiences and Perceptions of Covid-19 Vaccinations: A Case Study of Healthcare Workers at Katutura Health Centre, in Khomas Region, Namibia.
Researcher: Saara Twahafifwa Shindinge
Student Number: 201704125
Supervisor(s): Dr. A. Nhemachena

Centre for Research Services

Take note of the following:

1. Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the ethics committee. An application to make amendments may be necessary.
2. Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the ethics committee
3. The Principal Researcher must report issues of ethical compliance to the ethics committee (through the Chairperson) at the end of the Project or as may be requested by the ethics committee
4. The ethics committee retains the right to:

i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,
ii) Request for an ethical compliance report at any point during the course of the research.

The ethics committee wishes you the best in your research.

Prof. Trywell Kalusopa (Chairperson, Decentralised Ethics Committee)

Prof. Davis Mumbengegwi (Head, Multidisciplinary Research)

ANNEXURE B: Research Permission Letter from University of Namibia

ANNEX 16: RESEARCH PERMISSION LETTER

Student Name: Saara T Shindinge

Student number: 201704125

Programme: Master of Arts in Gender and Development Studies

Approved research title: Gendered Experiences and Perceptions of Covid-19 Vaccination: A Case Study of Healthcare Workers at Katutura Health Centre, in Khomas Region, Namibia

TO WHOM IT MAY CONCERN

I hereby confirm that the above mentioned student is registered at the University of Namibia for the programme indicated. The proposed study met all the requirements as stipulated in the University guidelines and has been approved by the relevant committees.

The proposal adheres to ethical principles as per attached Ethical Clearance Certificate. Permission is hereby granted to carry out the research as described in the approved proposal.

Best Regards

.....

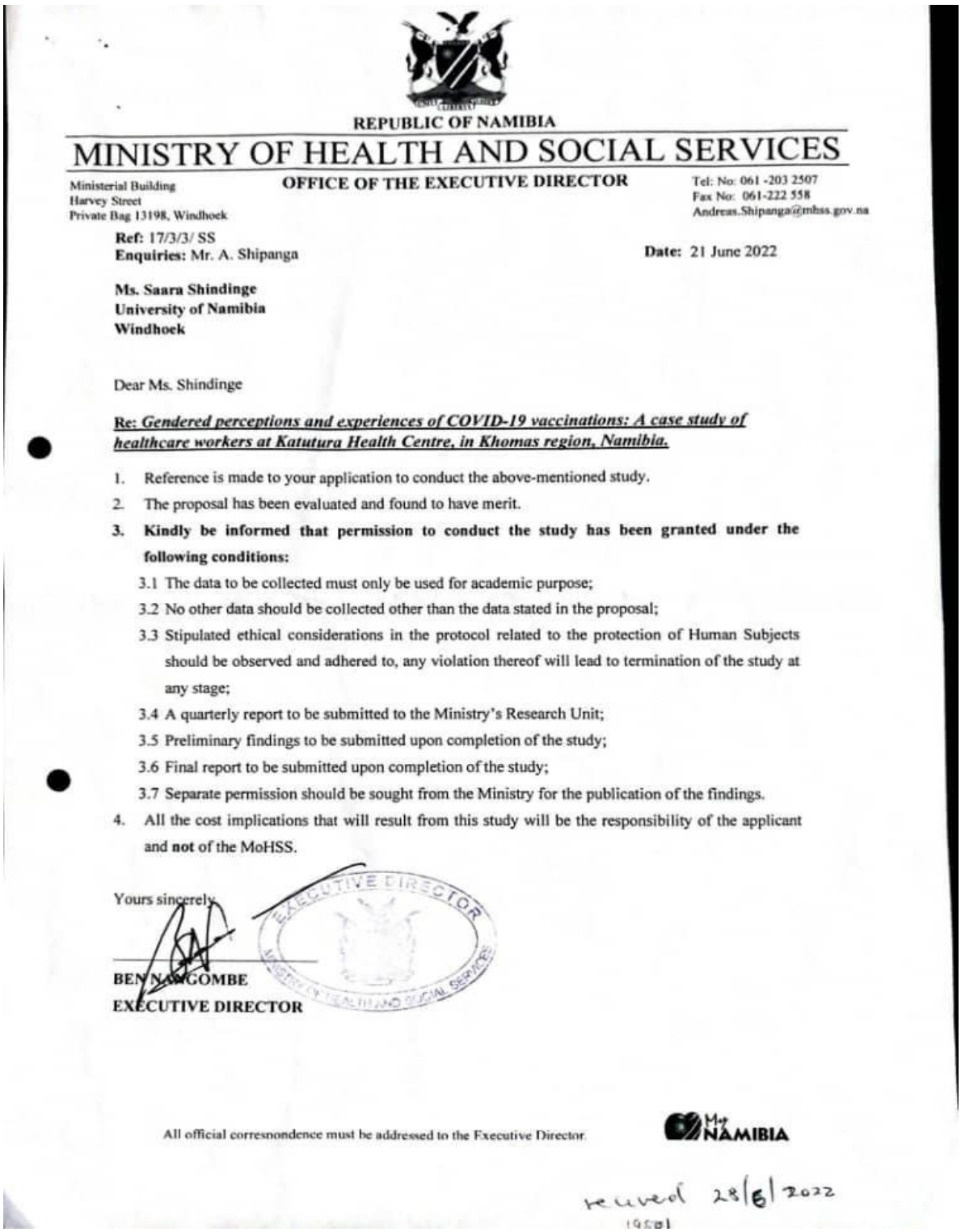
Name Date

Director: Centre for Research Services

Tel: +264 61 2063275

E-mail: nkanime@una.na

ANNEXURE C: Research Permission Letter from Ministry of Health and Social Service



REPUBLIC OF NAMIBIA

MINISTRY OF HEALTH AND SOCIAL SERVICES

OFFICE OF THE EXECUTIVE DIRECTOR

Ministerial Building
Harvey Street
Private Bag 13198, Windhoek

Tel: No: 061 -203 2507
Fax No: 061-222 558
Andreas.Shipanga@mhss.gov.na

Ref: 17/3/3/ SS
Enquiries: Mr. A. Shipanga

Date: 21 June 2022

Ms. Saara Shindinge
University of Namibia
Windhoek

Dear Ms. Shindinge

Re: *Gendered perceptions and experiences of COVID-19 vaccinations: A case study of healthcare workers at Katutura Health Centre, in Khomas region, Namibia.*

1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
   - 3.1 The data to be collected must only be used for academic purpose;
   - 3.2 No other data should be collected other than the data stated in the proposal;
   - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;
   - 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
   - 3.5 Preliminary findings to be submitted upon completion of the study;
   - 3.6 Final report to be submitted upon completion of the study;
   - 3.7 Separate permission should be sought from the Ministry for the publication of the findings.
4. All the cost implications that will result from this study will be the responsibility of the applicant and **not** of the MoHSS.

Yours sincerely

BEN NANGOMBE
EXECUTIVE DIRECTOR

All official correspondence must be addressed to the Executive Director

My NAMIBIA

received 28/6/2022

ANNEXURE D: Interview Protocols

SEMI-STRUCTURED INTERVIEW GUIDE

Section 1. Perceptions about Covid-19 vaccination among healthcare workers

1. Narrate your perceptions about Covid-19 vaccinations?
2. Describe the sources of your perceptions about Covid-19 vaccinations?
3. Describe the factors that you considered whether or not to receive the Covid-19 vaccine?
4. What is your opinion on people getting the Covid-19 vaccine?
5. Why should people be vaccinated or not?
6. Which vaccines do you suggest are the most effective among others? Why do you suggest that?
7. Explain what may be the obstacles hindering people from being vaccinated against Covid-19?

Section 2. Personal experiences of Covid-19 vaccination among healthcare workers

1. Narrate your experiences about Covid-19 vaccination?
2. What are the procedures for a healthcare worker to receive the Covid-19 vaccine?
3. How did you experience the process of receiving the Covid-19 vaccine?
4. Where there any side-effects from receiving the Covid-19 vaccine? How did you handle them?
5. What challenges (*if any*) have you encountered when you got the Covid-19 vaccine?
6. What are the benefits of receiving the Covid-19 vaccine?
7. What is your opinion on the importance for healthcare workers to receive the Covid-19 vaccine?
8. Describe any differences and similarities between Covid-19 vaccinations and any other vaccinations you have received in the past?

Section 3. Healthcare workers perceptions of the link between gender and the Covid-19 vaccine uptake

1. Which gender is more active in taking the Covid-19 vaccine at this health centre?
2. Why must women ask permission from their partners or any male figure to be vaccinated? What happens in the event that permission is not granted for women to take the vaccine?
3. Why must men ask permission from their partners to be vaccinated? What happens in the event that permission is not granted for men to take the vaccine?
4. What barriers prevent men from being vaccinated?
5. What barriers prevent women from being vaccinated?

6. Which age group is actively interested in taking the Covid-19 vaccine?
7. Which ethnicity shows more interest in taking the Covid-19 vaccine?
8. What questions/concerns do clients normally ask before receiving the vaccine?
9. How do you think healthcare workers can be encouraged to take the vaccine?

THANK YOU VERY MUCH FOR YOUR TIME!

ANNEXURE E: Informed Consent

INFORMED CONSENT FOR QUALITATIVE STUDIES

Informed Consent for healthcare workers

Name of Principal Investigator:	Saara Twahafifwa Shindinge
Name of Sponsor:	N/A

This Informed Consent Form has two parts:

- **Information Sheet (this section, to share information about the study with you)**
- **Certificate of Consent (for signatures if you choose to participate)**

You will be given a copy of the full Informed Consent Form.

PART I: INFORMATION SHEET

Introduction

I am Saara Twahafifwa Shindinge, pursuing a postgraduate degree at the University of Namibia. I am doing a research study on **Gendered Experiences and Perceptions of Covid -19 Vaccinations: A case study at Katutura Health Centre, Khomas Namibia,** under the supervision of Dr. Atwell Nhemachena and co-supervision Ms. Maria Kaundjua. This study will be submitted for the partial fulfilment of the requirements of my degree of master's in Gender and Development Studies. I am going to provide you with all the information and invite you to participate in this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research. This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them of me.

Purpose of the Research

The introduction of Covid-19 vaccinations has been received with mixed emotions; however, research has shown that vaccinations save more than three million lives from illnesses such as yellow fever, rubella, and rotavirus, as well as saving billions of dollars in illness and healthcare costs and enhancing economic growth. Hence, Covid-19 vaccines are critical in preserving lives and maintain the country's healthcare sector. By interviewing healthcare workers who are on the front lines and have more experience with health practices, the study aims to understand more about immunization and why it is necessary to be vaccinated.

Type of Research Intervention

The research involves semi-structured interview questions on Covid-19 vaccination.

Your participation in this study will be as a participant in an interview that will last 30 to 45 minutes.

Participant Selection

I am inviting you to participate in this study because I believe your expertise as a healthcare professional can greatly contribute to our understanding and knowledge about immunizations.

Voluntary Participation

Your participation in this research is strictly voluntary. If you choose not to participate, you can withdraw from participating at any time

Procedures

During the interview, I will sit down with you at the boardroom allocated to me here at Katutura health centre; the interview will strictly take place at this health centre. If you do not wish to answer any of the questions during the interview, you may say so and I will move on to the next question. No one else but me will be present unless you would like someone else to be here. The information recorded will be confidential, and no one else except my supervisor and myself will have access to the information documented during your interview. The entire interview will be recorded using a recording device, but your real name will not be used. The recordings will be stored in my personal computer for security reasons. The recordings will be destroyed after 3 years.

Duration

The entire research will take place over two (2) weeks total. The interview will only take place once with each participant. The interview will take about 30 – 45 minutes.

Risks

As a researcher, I may ask you to share with me some very confidential information health practical concerns, and you may feel uncomfortable talking about some of the topics. You do not have to answer any question or take part in the interview if you do not wish to do so or if you think you are not authorised to share such kind of information by management and that is fine. You do not have to provide a reason for not responding to any question or for refusing to take part in the interview.

Benefits

You will not be rewarded for participating in the study. Your participation is going to assist in providing more information on Covid-19 vaccinations.

Reimbursements

Do not expect any incentive to take part in the research. However, your participation will be highly appreciated.

Confidentiality

We will keep the information we collect through this study endeavour confidential. Your personal information will not be saved. Except for the research supervisor, no one will have access to the information you provide. The data gathered will be preserved on a recording device and carefully stored on a computer.

Sharing the Results

Nothing that you tell us today will be shared with anybody, and nothing will be attributed to you by name. No participant will receive a summary of the results. Only the University of Namibia has the right to publish this study.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so, and choosing to participate will not affect your job or job-related evaluations in any way. You may stop participating in the interview at any time you wish without your job being affected. I will give you an opportunity at the end of the interview to review your remarks, and you can ask to modify or remove portions of those, if you do not agree with my notes or if I did not understand you correctly.

Who to Contact

This research has been reviewed and approved by the relevant Ethics Review Committee at the University of Namibia, which is a committee whose task it is to make sure that research participants are protected from harm. The committee reports to the University's Centre for Research Services. If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact Saara, at mobile number 0812164140 or at email address tshindinge@gmail.com.

PART II: CERTIFICATE OF CONSENT

I agree to voluntary participate in this research. I have read the foregoing information. I am aware that I have the opportunity to ask questions during and after the interview. I will answer interview questions to my satisfaction.

……. …….

Name of Participant (print) Signature of Participant

……

Date (day/month/year)

If illiterate

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

…….

Name of Witness (print)

……

Signature of Witness

……

Date (day/month/year)

Statement by the Researcher/Person taking Consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

1. List procedures
2. Collect data
3. Complete the thesis

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Saara Twahafifwa Shindinge

……. ……

Name of Researcher/Person taking Consent (print) Signature

……

Date (day/month/year)

If Assisted by an Interpreter: Statement by Interpreter

I have accurately interpreted the information sheet to the potential participant in

…….. (Insert name of target language), and to the best of my ability made sure that the participant understands that the following will be done:

1. List procedures
2. Collect data
3. Complete the thesis

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been interpreted correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

I declare that I will not divulge any information that I interpret during this research intervention to a third party outside this study.

……. ……

Name of Interpreter (print) Signature

……

Date (day/month/year)

Signature of participant: ..... Date: .....