

**DEVELOPING A COMPETENCE-BASED FRAMEWORK FOR THE  
PROVISION OF MENTAL HEALTHCARE IN PATIENTS WITH MENTAL  
HEALTH PROBLEMS AND HIV IN PRIMARY HEALTHCARE IN  
MASERU, LESOTHO**

**BY**

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**A THESIS SUBMITTED TO: THE DISCIPLINE OF NURSING,  
SCHOOL OF NURSING AND PUBLIC HEALTH**



**COLLEGE OF HUMANITIES  
SCHOOL OF NURSING AND PUBLIC HEALTH**

**IN FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY IN NURSING AT THE  
SCHOOL OF NURSING AND PUBLIC HEALTH,  
UNIVERSITY OF KWAZULU-NATAL,  
DURBAN, SOUTH AFRICA.**

**PhD IN NURSING (MENTAL HEALTH)**

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**June 2023**

## PREFACE

The work contained in this thesis has not been previously submitted for a degree or diploma at any other higher education institution to the best of my knowledge and belief. This thesis contains no material previously published or submitted for publication by another person except where due reference has been made.

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## DECLARATION: PLAGIARISM

I **MALEROTHOLI POSHOLI MOKOKOLISI** declare that:

- (i) The research reported in this dissertation, except where otherwise indicated, is my original work.
- (ii) The work described in this thesis has not been submitted to UKZN or other tertiary institutions for the purposes of obtaining an academic qualification, whether by myself or any other party.
- (iii) That my contribution to the project was as follows:

As the principal researcher of the project, I conceived and designed the study.

I conducted both quantitative and qualitative data analysis, interpreted the findings and wrote the manuscripts, and I am the first and corresponding author of the manuscripts considered in the thesis and submitted to different journals. I structured and wrote the thesis.

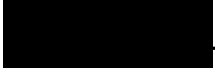
- (iv) That the contribution of others to the knowledgeable study supervisor and academic backer project was as follows:

DR Winnie Baphumelele Ngcobo was the knowledgeable study supervisor and academic backer of this study. She guided and advised during the conception and design of the research project and supervised in data collection, analysis and interpretation of the findings. DR Winnie Baphumelele Ngcobo went through the draft manuscripts and approved them for submission to different journals and is a co-author of the manuscripts considered in the thesis.

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### **Manuscript two:**

Posholi., M.T., Ngcobo W.B, 2023. (considered for publication) Barriers that hinder to delivery of mental health in PLWH at PHC (*International journal of nursing sciences*)

### **Manuscript three:**

Posholi., M.T. Ngcobo. W.B., 2023 (In review) Description of Health professionals' level of knowledge regarding integrating mental health with HIV services at primary health care. (*Primary healthcare and family medicine*)

### **Manuscript four:**

Posholi., M.T., Ngcobo. W.B., 2023 (In review) Health professionals' perceptions regarding availability of competence-based framework regarding the integration of mental health with HIV services. (*Primary healthcare and family medicine*).

### **Manuscript five**

Posholi., M.T., Ngcobo. W.B., 2023 (In review) Developing competence-based framework to assist health professional to successfully manage MHPs in people presenting with MHPs and HIV. (*American Journal of Psychiatric*)

## **DEDICATION**

I dedicate this study to my late mam Malerato Elizabeth Posholi, my husband Thabo Paul Mokokolisi, my sister Lerato Mathabiso Theoha, my children, Hlompho and Blessing Mokokolisi.

## ACKNOWLEDGEMENTS

Firstly, I would like to take this opportunity to thank God, for giving me strength and courage to undertake this Doctoral research up until the end.

Undertaking and completing the journey of this thesis would not have been possible without the support of many people. My thanks and gratitude goes to my supervisor Dr Winnie Baphumelele Ngcobo for the support throughout this research project. Without her unyielding support, guidance and professional advice, the outcome of this thesis would not have been like this. I would like to express my gratitude and appreciation to the participants who took time out of their busy and hectic schedule to share their experiences and knowledge with me.

I would also want to thank the Ministry of health in Lesotho by giving me an opportunity to pursue my study.

I would also want to thank the University of KwaZulu-Natal for giving me an opportunity to pursue my Doctorate Degree

To my great mentor, my husband Thabo Mokokolisi and my lovely kids. Thank you very much for your unfailing support and courage to continue even when it was difficult. Thank you Hlompho and Blessing for your patience and understanding when I could not play with you because of this thesis

Special thanks to my family of origin Lerato Posholi, Florida, Nephtaly, John, Matumo Mpati, Mantolo and Ntsebo Posholi for your prayers and support throughout this journey. I will never forget the love and the kind of people that you are to me.

My sister and pastor Lerato Posholi Mathabiso Theoha who prayed for me without ceasing throughout this journey. You are such a great parent and sister.

My pastor Mr Philip Moeketsi for his continuous prayers throughout this journey. You are such a great parent my pastor.

To my colleague and a friend Tabetta Seeiso, thank you for the great support during data collection of this study and motivation to continue throughout this journey

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## **LIST OF ABBREVIATIONS/ACRONYMS**

MHP: Mental health problems

MHS: Mental health service

PLWH: People living with Human immunodeficiency virus

## ABSTRACT

In 2017 there were approximately 792 million people with mental health problems globally. mental health problems are increasing rapidly globally but mental health services are lacking. Approximately 80% of people living with Human immunodeficiency virus have mental health problems yet these disorders have been absent from the global health agenda. Around 90% of people who require MHS do not obtain them in Low and middle-income countries.

### **Purpose of the study**

The aim of the study was to develop a competence-based framework for mental health provision in people living with Human immunodeficiency virus in primary Health Care in Lesotho.

### **Methods**

A mixed method study was used. In total, 88 questionnaires were returned by the respondents and 50 interviews were conducted. The findings from the quantitative and qualitative study were supportive and used to develop a competence-based framework that would facilitate the provision of mental health services for people presenting with mental health problems and Human immunodeficiency virus in primary health care. The quantitative data was analysed using an appropriate software package, in this case SPSS version 26. Qualitative data was analysed using the soft ware called Nvivo and thematic framework analysis.

### **Findings**

92 % of the participants needed competence-based frame work to enable them to successfully manage mental health problems in people presenting with mental health problems and Human immunodeficiency virus however the majority (69.7%) of the participants had inadequate knowledge regarding mental health. Competence-based frame work was developed in this study to enable health professional to successfully manage people with mental health problems and Human immunodeficiency virus. Currently, mental health services are lacking in primary health cares in Lesotho. There was lack of knowledge regarding mental health in health professionals, mental health was also not an in-country priority as the professionals are taught about mental health in colleges, but do not practice it in their professional work.

## **Conclusions and recommendations**

Availability of competence-based framework was seen as a great need by health professionals to manage mental health problems. Many studies emphasized the need to integrate mental health services with Human immunodeficiency virus services as they are related. However, in Lesotho it was still a serious problem during the time of the study. There is a need to train health professionals about mental health services and also hire at least one psychiatric nurse in each primary health care. Competence-based frame work was therefore developed in this study to enable health professionals to provide mental health services in people presenting with mental health problems and Human immunodeficiency virus.

**Keywords:** Competence-based framework, mental healthcare, mental health problems, primary health care, Human immunodeficiency virus.

# CHAPTER ONE

## INTRODUCTION AND BACKGROUND TO THE STUDY

### 1.1. Background

Approximately 792 million people globally had mental health problems (MHPs) in 2017 (Ritchie and Roser, 2018). In addition, 7.4% of the world's diseases are caused by mental and behavioural problems, which are also the main cause of disability globally (Whiteford, Ferrari and Degenhardt, 2016). Today's health problems are a result of mental and substance use illnesses (Van Coppenhaegen and Duvenage, 2019). More than 70% of individuals globally who require mental health services (MHS), do not have access to care, which is the root of the established global burden of disease linked with MHPs (Henderson, Evans-Lacko and Thorneycroft, 2013, Skuse, 2008, Wainberg, Scorza, Shultz, Helpman, Mootz, Johnson et al., 2017). According to studies by Dube and Uys (2016), Duko, Toma, Asnake and Abraham (2019), Yehia, Stephens-Shield, Momplaisir, Taylor, Gross, Dubé et al. (2015), and Yeneabat, Bedaso, and Amare (2017), people living with human immunodeficiency virus (PLWH) are twice as likely to experience depression as people without the virus.

The highest Human immunodeficiency virus prevalence is seen in Sub-Saharan Africa. Sub-Saharan Africa has 25.8 million PLWH, compared with 36.9 million globally (Duko et al., 2019, Unaid, 2015). According to estimates, 80% of the PLWH reside in 20 countries, 12 of which are in Sub-Saharan Africa, including South Africa, Nigeria, Zimbabwe, Mozambique, United Republic of Tanzania, Kenya, Zambia, Malawi, Ethiopia, Cameroon, Côte d'Ivoire, and the Democratic Republic of the Congo (Unaid, 2015). After the advent of antiretrovirals, there has been a significant reduction in PLWH mortality, but because these individuals have a chronic illness, their mental health has been adversely impacted (Nalukenge, 2017). Patients with Human immunodeficiency virus are more likely to experience mental health issues, which has an adverse effect on how well they respond to treatment. MHPs in PLWH may have an impact on public health because they raise the risk of risky sexual conduct, which aids in the spread of Human immunodeficiency virus. Depression and substance misuse can encourage infidelity and so contribute to the transmission of Human immunodeficiency virus (Hayes-Larson, Hirsch-Moverman, Saito, Frederix,

Pitt, Maama-Maime et al., 2017). MHP-related illnesses are becoming more prevalent globally, but they have not really been on the global health agenda (Baingana, Al'Absi, Becker, and Pringle, 2015; González, Tarraf, Whitfield, and Vega, 2010). Despite the present focus on mental health on a global scale, the burden of MHPs, particularly depression, was highlighted as the primary cause of illness in the modern world (Pike, Susser, Galea and Pincus, 2013, Whiteford et al., 2016). Around the world, 350 million people experience depression, and 800,000 commit suicide every year as a result of their depression (Duko, Geja, Zewude and Mekonen, 2018).

PLWH encounter a variety of difficulties, such as Human immunodeficiency virus-related perceived stigma, a lack of social support, and depression in western nations, which are overlooked in Sub-Saharan Africa (Duko et al., 2018). According to Bernard, Dabis, and de Rekeneire (2017), depression is one of the most prevalent MHPs in PLWH, but is undertreated in Sub-Saharan Africa. Depressive symptoms in PLWH on antiretrovirals treatment ranged from 13% to 78% globally (Beyene Gebrezgiabher, Huluf Abraha, Hailu, Siyum, Mebrahtu, Gidey et al., 2019). Although health professionals play key roles in most contexts, the integration of MHS into Human immunodeficiency virus services remains a problem, leading to a considerable treatment gap. Mental health policies place a strong emphasis on this idea (Dube and Uys, 2016). The most prevalent class of MHPs, anxiety symptoms and disorders frequently have a significant negative impact on how people with Human immunodeficiency virus function in daily life (Duko et al., 2018). MHPs worsen the outcomes of other medical diseases by impairing the ability to seek, receive, and adhere to treatment. For instance, the prevalence of significant depression is linked to delayed treatment seeking, a lower chance of discovering underlying medical disorders, and lower treatment adherence. Similar circumstances apply to PLWH, who are more likely than not to experience concomitant depression and/or anxiety at some point. Consequently, compared to individuals who do not have a mental or behavioral disease, such comorbidity is linked to a lower likelihood to begin and maintain therapy (Pike et al., 2013, Stangl, Earnshaw, Logie, van Brakel, Simbayi, Barré et al., 2019). According to Freeman, Nkomo, Kafaar and Kelly (2008) and Singer and Thames (2016) MHPs typically begin at the moment of diagnosis, when the patient begins exhibiting symptoms, and throughout the last stages of Acquired immune deficiency syndrome. When a loved one passes away, the infected person's relatives also experience depression and anxiety. In the general population, mental and substance use disorders have a greater impact than other infectious, maternal,

neonatal, nutritional, and non-infectious diseases, including Human immunodeficiency virus, injuries, and other illnesses on the number of people who become ill today and the number of years spent in infirmity. People with mental, neurological, and substance use illnesses have a high mortality rate. Similar to the global Human immunodeficiency virus burden, the burden of these illnesses develops in late adolescence and peaks in early adulthood. People with MHPs are sexually active and engage in dangerous sexual behaviors, such as unsafe sex, several sexual partners, selling their bodies, and drinking before sex. Additionally, the degree of MHPs may raise the chance of Human immunodeficiency infection (Remien, Stirratt, Nguyen, Robbins, Pala and Mellins, 2019, Van Copenhagen and Duvenage, 2019). Despite the issues with Human immunodeficiency virus and MHPs, World health organization continues to claim that the global health system has not adequately addressed needs in mental health (Sexena Funk & Chicholm, 2013).

PLWH are more likely than the general public to develop MHPs such as depression, anxiety, suicidality, psychosis, and substance abuse (Cele and Mhlongo, 2020). According to a study presented at the 2nd International Workshop on Human immunodeficiency virus & Women in 2012 in Bethesda, Maryland Human immunodeficiency virus is still a significant issue that can lead to anxiety and depression (Duko et al., 2019). Individuals with Human immunodeficiency virus have greater odds of developing depression. The highest MHPs in PLWH were anxiety and depression. Studies conducted in Western nations found that PLWH have roughly two times the rate of anxiety and depression (Bernard et al., 2017). According to the short form of the Composite International Diagnostic Interview, MHPs in PLWH were two to three times more prevalent than in the general population in the United States of America (Bernard et al., 2017). There are many causes for this increased risk of MHPs, including adverse effects of antiretroviral treatments, inflammatory processes, Human immunodeficiency virus-related stigma and prejudice, and dread of an early death. It has been demonstrated that depression raises PLWH death risk. For instance, the mortality rate was 6.6% in 1487 women monitored for 24 months in Tanzania, compared to 3.7% among those without depressive symptoms. In 765 women with Human immunodeficiency virus at four United States sites, followed up for 7 years, the women with chronic depressive symptoms were twice as likely to die as the women with limited or no depressive symptoms, even after adjusting for the predictors of mortality (Remien et al., 2019). However, a study conducted in Cameroon in 2020 found that using antidepressant medication for at least four months can

minimize or eliminate Human immunodeficiency virus clinical symptoms (Ezeanolue, EI-heanacho, Adedeji, Itanyi, Olakunde, Patel, et al., 2020).

Low income, widowhood, being a woman, non-adherence to highly active antiretroviral therapy, monthly visits to health services, and stage III and stage IV Human immunodeficiency-related symptoms are all connected with depressive symptoms in PLWH. People who are mentally ill had poor treatment outcomes, decreased CD4 counts, and increased viral loads in addition to poor adherence to highly active antiretroviral treatment. Additionally, depression has been linked to risky behaviours like having unsanitary sex (Beyene Gebrezgiabher et al., 2019). In 2015, there were over 1.1 million Americans living with Human immunodeficiency virus and 15% were unaware of their status. According to Mental health America, 44 million American individuals, or more than 20%, have MHPs. The relationship between MHPs and Human immunodeficiency virus risk behaviours has drawn increasing attention. In particular, there is a link between mental health issues and Human immunodeficiency virus risk behaviours in the general population, drug injectors, female sex workers, immigrants, and transgender people. This suggests that those with MHPs are more susceptible to engaging in Human immunodeficiency virus risk behaviours (Fang, Chuang and Al-Raes, 2019).

In a study conducted in the Mumbai slum in 2012, 28% of persons over the age of 18 years had MHPs, which went untreated because medical staff lacked the knowledge, abilities, and attitudes necessary to competently provide mental healthcare of a reasonable standard (Burgess, 2015, Cowan, Raja, Naik and Armstrong, 2012).

Additionally, according to international research, PLWH have higher rates of MHPs than the overall population (Niu, Luo, Liu, Silenzio and Xiao, 2016, Sikkema, Watt, Drabkin, Meade, Hansen and Pence, 2010). More than half (59%) of the PLWH in India who participated in a study showed symptoms of serious depression. Recent research in China revealed that 61% of PLWH had depressive symptoms (Niu et al., 2016). Although major depression is one of the MHPs that PLWH experience the most frequently, posttraumatic stress disorder rates in PLWH are also significantly higher than that in the general population. PLWH have a rate of MHPs that ranges from 10% to 74%, although the general United States population has MHPs prevalence of 8%. As with rates of

neurocognitive impairment, which affects roughly 50% of PLWH, the prevalence of substance use disorders tends to be higher in PLWH than in the general population, ranging from 21% to 71%. (Remien et al., 2019).

Numerous studies conducted in 2018 found that an estimated 35 million people globally were infected with Human immunodeficiency virus, of whom 24.7 million lived in Sub-Saharan Africa and 1.6 million died as a result of the virus. In 2012, 9.5 million patients in underdeveloped nations were receiving Human immunodeficiency virus therapy (Duko et al., 2018). Studies on the prevalence of depression in the PLWH in various nations found that it was 25.4% in South Africa, 25.3% in women and 31.4% in men in Botswana, and 47% in Uganda (Duko et al., 2018).

According to studies conducted in Lower-middle income countries, there are more PLWH with MHPs than before. A study conducted in Kampala, Uganda, reported that 82.6% of PLWH who participated had MHPs, and the proportions were 63% in Yaounde Cameroon, 38% in Nigeria, and 11.2% in the south of Ethiopia (Mathai, Obondo, Mutavi and Kumar, 2018). According to a recent global study, 14% of 1099 Ugandans using antiretrovirals had serious depression. In South Africa, MHPs are expected to affect 26%-38% of PLWH compared to 13% of the overall population (Remien et al., 2019). Insufficient focus has been placed on mental health conditions in the non-communicable illnesses observed in PLWH on antiretrovirals treatment especially in Sub-Saharan Africa, where the majority of PLWH reside and are under care. Although it is disregarded in Sub-Saharan Africa, one of the most prevalent MHPs in PLWH is depression (Bernard et al., 2017, Skuse, 2008). An editorial published recently in the *Acquired immune disease syndrome* journal detailed evidence of the impairment connected to Human immunodeficiency virus-related melancholy and emphasized the need of taking action (Nglazi, Joubert, Stein, Lund, Wiysonge, Vos et al., 2016).

It is corroborated by Altevogt, Hanson, Ssali, and Cuff (2010) that there are more persons in Sub-Saharan African countries with MHPs, but there is a dearth of psychiatrists and a lack of training in health professionals.

Primary health care in South Africa offer services for mental health promotion, MHPs prevention, and fundamental mental health care. MHPs are the major cause of disability, and it is believed that one in four persons globally have MHPs in their lifetime (Dube and Uys, 2016). MHPs are present in about 23% of primary health care patients. Despite the high prevalence of MHPs, mental health receives little attention in South Africa, and patients with these disorders are unable to access the care they require in primary health care (Dube and Uys, 2016, Modula and Ramukumba, 2018). In a study by Sexena et al. (2013), World Health Organization used MHGAP and policies on MHS to close the knowledge gap, but a study by Mthiyane, Harling, Chimbindi, Baisley, Seeley, Dreyer et al. (2021) in South Africa found that there are an increasing number of PLWH with MHPs who are not receiving treatment because of a lack of knowledge about MHS in primary health care. Despite the significant role primary health care nurses play in providing health to the general public, the provision of MHS by primary health care nurses is poor because of their limited understanding to manage MHPs. Their attitudes towards people with MHPs is frequently unfavourable.

According to Cele (2014), Fernandes, Santos, Moreira, Vargas, and Nóbrega (2019), as well as Wainberg et al. (2017), many nurses lack the knowledge and abilities to recognize and manage MHPs. According to World health organization, training primary health care nurses can support them better recognize MHPs in primary health care (Dube and Uys, 2016). Regardless of the guidelines that were developed in South Africa for the management of PLWH with MHPs, MHPs in patients with Human immunodeficiency virus increased with 50% (Crum-Cianflone, Moore, Letendre, Roediger, Eberly, Weintrob et al., 2013). This is mostly due to guidelines that are too broad to be implemented (Crum-Cianflone et al., 2013, Modula and Ramukumba, 2018).

Lesotho has over 2.2 million people (World health organization, 2011). Because of the high prevalence of HIV in Lesotho, health efforts have mostly focused on it as a national crisis (AIDS/HIV, 2011). In Lesotho, there were 340 000 PLWH in 2018. There were 23.5% adults with Human immunodeficiency virus in the age range of 15 to 49 years. In total, 13000 new Human immunodeficiency virus infections and 6100 Human immunodeficiency virus-related deaths were recorded. The majority (60%) of adults and 70% of children were on highly active antiretroviral treatment, respectively (Global Community of Mental Health Innovators, 2018). According to

National Human immunodeficiency virus and Acquired immunodeficiency syndrome strategic plan (2023) Lesotho has a mandate to eliminate Human immunodeficiency infection by 2030. In Lesotho, MHPs affect one-fifth of the population (Patel, Saxena, Lund, Thornicroft, Baingana, Bolton et al., 2018). The global community of mental health innovators reports that in 2018, 94 of 228 Multi drug resistant patients who underwent MHP assessments had a MHP (Patel et al., 2018).

In a Lesotho study, the prevalence of major depression, panic disorder, and generalized anxiety disorder was assessed in adults in one hamlet. Data from a sizable epidemiological study conducted in the United States using the same research tool as the prevalence data were compared. The majority (77%) of the individuals reported having had panic attacks (Hollifield, Katon, Spain and Pule, 1990). Since there are no psychiatrists in the country, there is a big treatment gap. Only a few psychologists and psychiatric nurses are employed in the country, and each hospital only has one of each (Ntsaba and Havenga, 2007).

MHPs are responsible for 14% of the world's illness burden, but Lesotho, like most African nations, views it as a unique issue (Hayes-Larson et al., 2017, Wakida, Akena, Okello, Kinengyere, Kamoga, Mindra et al., 2017). Similar to how the growth in MHP had an impact on the nation's economy, the rise in Human immunodeficiency virus infection in Lesotho has forced the nation to manage the epidemic as a national disaster. Despite the lack of statistics for all MHPs in Lesotho, neuropsychiatric disorders account for 4.8% of the global disease burden. According to a study by Hayes-Larson et al. (2017) Lesotho has exceptionally high rates of both depressive disorder and anxiety disorder but MHS are not offered in primary health care in Lesotho. Treatment of MHPs can support the management of Human immunodeficiency virus, enhance general health, and boost the economy by preventing the onset of most diseases brought on by depression. Comorbid psychiatric problems have been shown to significantly lower highly active antiretroviral treatment adherence, but this impact can be reversed with effective psychotherapies. The proper assessment and management of MHPs can have a substantial impact on a patient's quality of life, risk of recurrence, and willingness to seek medical attention (Sikkema et al., 2010). According to World health organization, it is crucial for people with MHPs that MHS are integrated into primary care. The advantages include providing the community with holistic care, reducing criminality in

the area because persons with MHPs will be stable, making MHS accessible to everyone, closing the treatment gap, and promoting respect for human dignity and positive health outcomes (Dube and Uys, 2016, Lake and Turner, 2017).

The other potential advantage is that stigma will be reduced when individuals with MHPs enjoy fulfilling lives because their MHPs will be managed, the financial burden will lessen, and the incidence of severe physical disorders will decline (Lake and Turner, 2017).

## **1.2. Problem statement**

In most contexts, like South-eastern in United States the prevalence of MHPs in PLWH is over 78% (Beyene Gebrezgiabher et al., 2019). Given that anxiety, depression, and Human immunodeficiency virus are frequently co-occurring disorders, integrated intervention measures (prevention, treatment, and health promotion) may be required. The elimination of treatment gaps and ensuring that the patients receive the care they need, are the main goals of this level of care improvement (Fernandes et al., 2016; Dube and Uys, 2016). (2019). The most frequent psychiatric side effect of Human immunodeficiency virus is a mood illness, mainly depression. According to Duko et al. (2018), anxiety and depression are two of the MHPs that are most frequently identified in PLWH. These can make treating Human immunodeficiency virus more difficult and confront the practitioner with many diagnostic and therapeutic hurdles (Schadé, van Grootheest and Smit, 2013). According to Naylor, Parsonage, McDaid, Knapp, Fossey, and Galea (2012), concomitant MHPs can significantly lower adherence to highly active antiretroviral treatment. Undiagnosed and untreated MHPs may result in actions that increase the risk of contracting and spreading Human immunodeficiency virus. Severely mentally ill, sexually active individuals engage in riskier sexual activity, such as poor use of condoms, having several sexual partners, trading partners, and drinking alcohol prior to sex (Remien et al., 2019). Additionally, the severity of MHPs may raise the chance of Human immunodeficiency virus infection (Collins, Holman, Freeman and Patel, 2006, Remien et al., 2019). Although health professionals play a crucial role in providing integrated care, MHS in people with MHPs are still inadequate because of a lack of understanding and poor attitude of health professionals in mental health (Dube and Uys, 2016). A study in 2018 found that engaging the staff of a primary health care in training programs and motivating health professionals have tremendous benefits for the integration of mental healthcare into services at a

primary healthcare level (Maconick et al., 2018, Mitchie, 2011). MHPs are responsible for 14% of the global burden of disease, yet Lesotho, like most African nations, views it as a unique issue (Murray and Lopez, 1996, Wakida et al., 2017, WHO, 2011). Similar to how the rise in MHPs has an impact on the nation's economy, the rise in HIV infection in Lesotho has forced the country to address the pandemic as a national disaster. However, according to National Human immunodeficiency virus and Aids strategic plan (2023) Lesotho has a mandate to eliminate Human immunodeficiency virus infection by 2030.

Due to the stigma associated with MHPs, the majority of persons with MHPs are unemployed. Statistics for all MHPs in Lesotho are not available, but globally, neuropsychiatric diseases account for 4.8% of the disease burden (WHO, 2011).

During the time this study was conducted in Lesotho, there was no study focusing on these issues, subsequently little was known about the knowledge, attitudes and beliefs of health professionals regarding assessing and managing of MHPs in PLWH. MHS were not offered in primary health care in Lesotho mainly because mental health is a neglected part as Ministry of health has not advocated for such services and provide training to Health professionals so that they can provide such services. However, there are 10 districts hospitals in Lesotho where one psychiatric nurse is hired to offer such services. No guidelines for MHS in Lesotho (Ntsaba and Havenga, 2007). Despite the fact that there is a global shortage of MHS for PLWH, numerous studies have shown an increase in MHPs in PLWH (Bernard et al., 2017, Duko et al., 2018). According to the 2010 Global burden of disease Study, depression is the second-leading cause of disability globally and a significant risk factor for suicide, ischemic heart disease, and other modern health problems (Whiteford, Degenhardt, Rehm, Baxter, Ferrari, Erskine et al., 2013). This study supported the development of a competence-based framework for mental care provision in PLWH at primary health care in Lesotho. World health organisation has emphasised on integrated care in order to improve MHS but regardless of all the measures taken by World health organization to integrate mental health into other general health services, MHS delivery is still a problem in Lesotho and most African countries.

### 1.3. Conceptual framework

The theoretical framework is the foundation where knowledge is created (metaphorically and literally) for a research study. It serves as the structure and support of the rationale for the study, the problem statement, the purpose, the significance, and the research questions. The theoretical framework offers a grounding base, or an anchor, for the literature review, and most importantly, the methods and analysis. The theoretical framework is a natural extension of the literature review. The theoretical framework details the perspective to address that gap and shortcoming (Michie, Van Stralen and West, 2011, Osanloo and Grant, 2016). The study's framework is provided by a theoretical framework. The theory of the Behavior Change Wheel, developed by Michie et al. (2011), was used by the researcher to direct this investigation. Successful behaviour modification interventions are essential for improving the use of evidence-based practice (Michie et al., 2011). Change in behaviour is necessary for the proper provision of mental healthcare. As a result, behaviour change initiatives are essential for the efficient delivery of MHS. "Behaviour modification interventions" are a coordinated series of actions intended to change a certain pattern of behaviour (Michie et al., 2011). In the literature it was shown that 90 % of people who need MHS in Low – middle income countries are not under treatment due to factors like lack of knowledge, stigma and discrimination regarding health professionals towards MHPs and many more so the aim of this theoretical framework was to change this behaviour in order to improve MHS.

In this 'behaviour system,' capability, opportunity, and motivation interrelate to produce performance that in turn affects these components as presented in Figure 1, the Capability, Opportunity and Motivation Behavioural System. Capability is defined as the person's psychological and physical ability to participate in the activity concerned. It comprises having the necessary knowledge and skills. Everything in the brain that influences and motivates behaviour is referred to as motivation. It involves automatic behaviours, emotional responses including attitude, beliefs, and perceptions, as well as analytical decision-making. As a result, the aim of this theoretical framework was to change the attitude, beliefs and perceptions of health professionals in order to improve MHS. Opportunity is characterized by all external factors, such as assistance from informed others, that enable or encourage an action (Michie et al., 2011).

The Capability, Opportunity and Motivation Behavioural System assessment is published in literature. The Behaviour Change Wheel framework consists of a behaviour system at the hub with three critical components: capability, opportunity, and motivation (see Figure 1). Surrounding the hub are nine intervention functions that aim to address the deficits in one or more of these conditions which are restrictions: education, persuasion, giving of incentives, coercion, training, enablement, modelling and environmental restructuring. Training health professionals and provision of some incentives to health professionals help enhance MHS. A larger wheel surrounds the intervention functions and consists of seven policy categories, including regulation, service provision, legislation, communication, marketing, environmental social planning, guidelines and fiscal measures. These policy categories are broader population-level strategies that enable the intervention functions to occur (Mangurian, Niu, Schillinger, Newcomer, Dilley and Handley, 2017, Murphy, Gardner, Kutcher and MartinMisener, 2014).

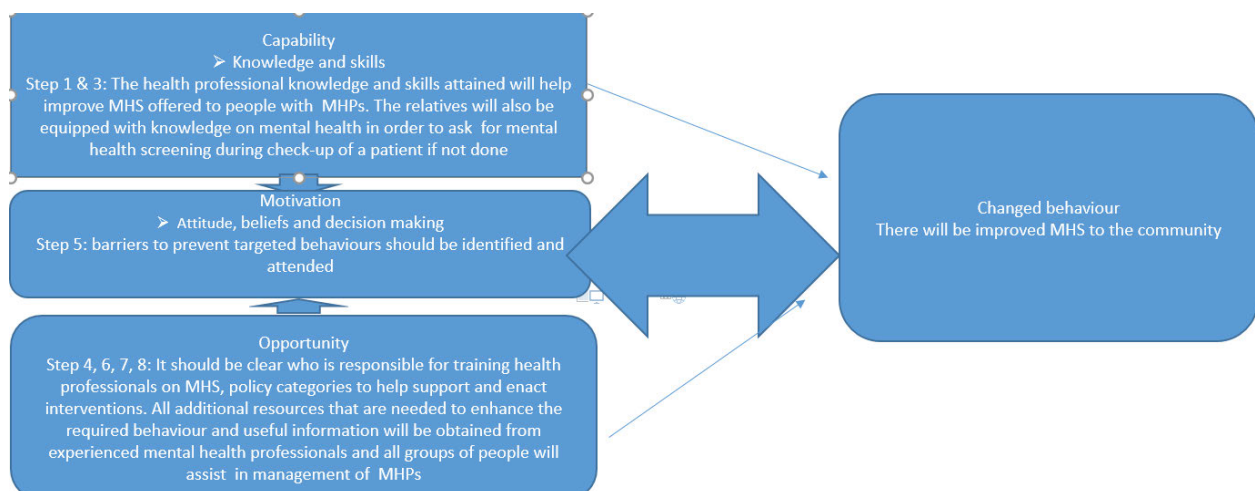


Figure 1. 1: The COM-B system: a framework for behaviour change

### 1.3.1 Application of the Behaviour Change Wheel Model (BCW) in this study

A model called the "behaviour change wheel" aims to include both the variables that influence behaviour and the various interventions that can be employed to alter behaviour. Improving the implementation of evidence-based practice and public health depends on behaviour change as the framework indicate behaviour change wheel model. Thus, behaviour change interventions should be fundamental to the effective practice of clinical medicine and public health. This study examined the behaviours that influence the provision of MHS and the interventions that can be used to

alter behaviour in clients with Human immunodeficiency virus. The Capability, Opportunity and Motivation Behavioural System assessment should be utilized by the health professionals to identify the gap in MHS. The health professionals' capacity has to be evaluated in order to improve the MHS provided to clients with Human immunodeficiency virus. The ability of a health practitioner to treat patients who have both MHPs and Human immunodeficiency virus has to be evaluated. To manage patients with MHPs and Human immunodeficiency virus, health professionals have to be evaluated to determine whether they have enough resources and assistance, such as access to medications and regular trainings on mental health. Motivation has to be evaluated as the third factor. The motivation of the healthcare providers to offer MHS to PLWH has to be evaluated. They have to be graded on how, when, and how often they deliver MHS as well as when to give follow-up care. Their opinions on providing mental healthcare to PLWH have to be evaluated. If health professionals hold stigmatizing beliefs about mental health care, this has to be evaluated. Since they act as a driving force for better services, the availability of incentives and disincentives for health professionals providing enhanced services has to be evaluated. The health professionals' feelings about the way MHS are delivered to people with a lived experience of MHPs and Human immunodeficiency virus have to be evaluated (Mangurian et al., 2017).

Eight steps outline the behaviour change wheel (Mangurian et al., 2017, Michie et al., 2011, Murphy et al., 2014):

Step1 Define the problem to be addressed in behavioral terms

The behaviour change wheel model states that the first stage is to identify a specific problem and describe it in terms of behaviour. The majority (90%) of people who have MHPs, as noted in the literature, are undiagnosed and untreated as a result of the health professionals' ignorance of the condition (Lake and Turner, 2017, Wakida et al., 2017). According to a study conducted in South Africa by Modula and Ramukumba (2018), there are more patients with Human immune deficiency virus who have MHPs than ever before, however there is a significant treatment gap since Primary health cares lack information about MHS. The framework is therefore used to identify problems that lead to poor MHS so that the competence-based frame work is developed to address this challenge. The health professionals behaviour therefore need to change in order to address the existing treatment gap in mental health.

Step 2: Select the target behaviours that are most likely to bring about change to address the problem to respond to existing treatment gap, behaviours that motivate change of behaviour of health professionals should be selected (Barker, Lusignan and Deborah, 2018, Mangurian et al., 2017, Murphy et al., 2014). Understanding the context of other behaviours that are important to the target behaviour of inadequate screening on MHPs and management by the health professionals, has a crucial aspect because the behaviours do not occur in isolation, but rather within a system. If a patient's mental health is not screened during the consultation, the patient's family members or client have to request screening when they visit the primary health care (Barker et al., 2018, Mangurian et al., 2017, Murphy et al., 2014).

Step 3: Specify the target behaviour in as much detail as possible

Identification of behaviours that motivate behaviour change is crucial to change treatment gap in mental health. Health professionals should be made aware that there is a plan to change behaviour of health professionals in order to manage existing treatment gap in mental health. In this step, Behavioural change wheel questions guide the development of the process to achieve the target (Barker et al., 2018, Mangurian et al., 2017, Murphy et al., 2014). The psychiatric assessment has to be done at every visit when the patients come to collect his or her antiretrovirals treatments. All the nurses and doctors consulting patients for follow-up care have to first do a psychiatric assessment and if the patient displays some psychiatric symptoms, he or she has to be referred to the psychiatric nurse.

Step 4: What needs to change to achieve the target behaviour?

The framework targets more on behaviours that need to change. To identify ways to facilitate the change of the targeted behaviour, this step is aimed at examining the existing situation in regards to the activities of the performers. The problem is treatment gap in mental health resulting in a failure to integrate MHS and Human immunodeficiency virus services. The behavioural target is improved mental health to support MHS. The health professionals should be trained regarding mental health, at least quarterly, to improve their level of knowledge regarding the management of people presenting with MHPs and also having Human immunodeficiency virus (Barker et al., 2018, Mangurian et al., 2017, Murphy et al., 2014).

#### Step 5: Identify the intervention functions

The barriers to the desired behaviours should be identified. For example, do the health professionals have sufficient knowledge to screen clients with Human immunodeficiency virus for MHPs (Barker et al., 2018, Mangurian et al., 2017, Murphy et al., 2014).

#### Step 6: Identify policy categories

Seven policy categories to support and enact the interventions should be considered, including communication/marketing, guidelines, fiscal measure, regulations legislation, environmental/ social planning and service provision. All these policy categories support improve MHS (Barker et al., 2018, Mangurian et al., 2017, Murphy et al., 2014).

#### Step 7: Identify behavioral change techniques

All the additional resources required to improve the mandatory practice of MHS for MHPs should be identified. It is therefore seen as a need to register all patients who had a mental health screening (Barker et al., 2018, Mangurian et al., 2017, Murphy et al., 2014).

#### Step 8: Identify mode of delivery

In the final step, delivery options for the behaviour change techniques should be identified, giving careful consideration to the context in which this intervention should be implemented. Useful information should be obtained from the experienced health professional in MHS and all groups of people to assist in the management of MHPs (Barker et al., 2018, Mangurian et al., 2017, Murphy et al., 2014).

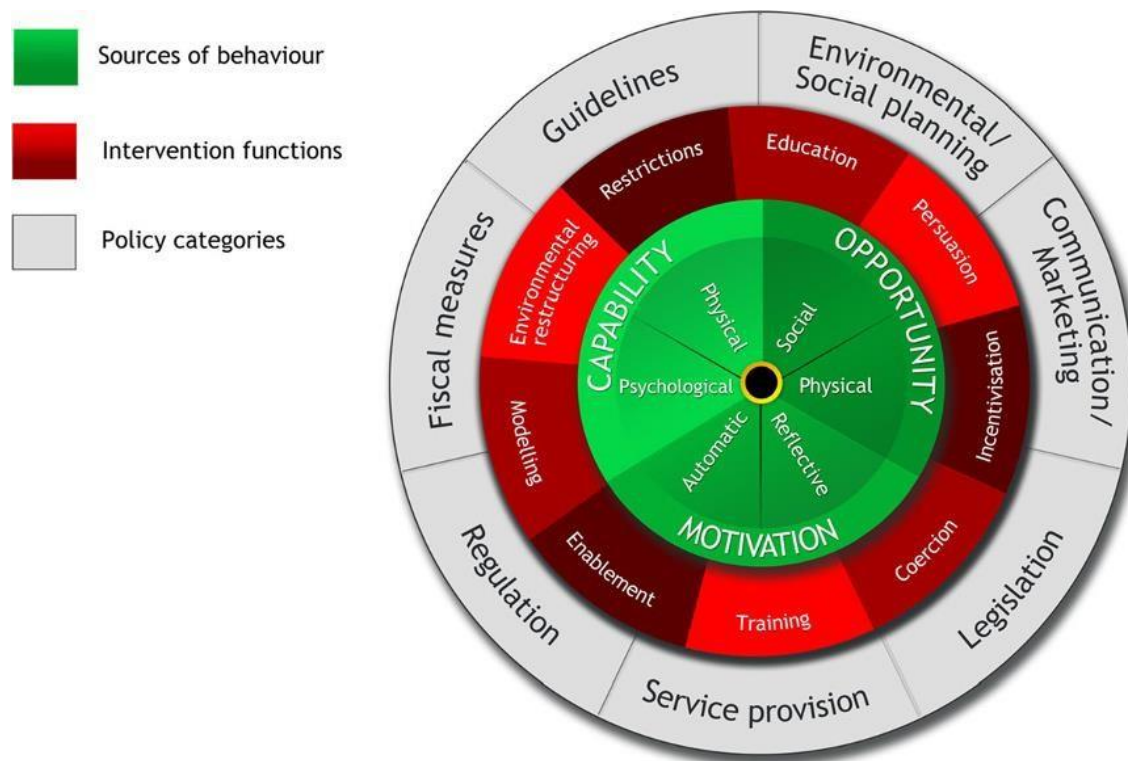


Figure 1. 2: Theory of the Behaviour Change Wheel (Michie et al., 2011)

Keywords: Mental health, Integration, Primary Health care, Human immunodeficiency virus services and competence-based framework

#### 1.4. The aim of the study

The aim of this study is to develop a competence-based framework for mental health provision in PLWH in primary health care in Lesotho.

#### 1.5. The specific objectives of the study were to:

- 1.5.1. Explore the enabling factors for the provision of mental healthcare in people presenting MHPs and Human immunodeficiency virus at primary health care.
- 1.5.2. Determine the barriers that can hinder the delivery of mental healthcare in people presenting MHPs and Human immunodeficiency virus at primary health care.
- 1.5.3. Describe the health professionals' level of knowledge regarding the integration of MHS into Human immunodeficiency virus services at primary health care.

1.5.4. Describe the health professionals' perceptions regarding the availability of a competence-based framework for the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus.

1.5.5. Develop a competence-based framework to assist health professional to successfully manage MHPs in presenting with MHPs and Human immunodeficiency virus.

## **1.6. Research questions of the study**

1.6.1. What are the factors that enable the provision of mental healthcare in PLWH at primary health care?

1.6.2. What are the barriers that hinder the delivery of mental healthcare in PLWH at primary health care?

1.6.3. What is the health professional's level of knowledge regarding the integration of mental health with Human immunodeficiency virus services at primary healthcare?

1.6.4. What is the health professional perception regarding the availability of a competence-based framework for provision of MHS in people presenting with MHPs and Human immunodeficiency virus?

1.6.5. How can a competence-based framework be developed that will assist health professional to successfully manage people presenting with MHPs and also having Human immunodeficiency virus?

## **1.7. Significance of the study**

The significance of the study is often referred to as the reason why the study is conducted, because the researcher is convincing the reader why the study is important. It also convinces the reader why he or she should read it. It also assures people who may want to fund the research project that it is worth doing (O'leary, 2017). Developing a competence-based framework for the provision of mental care in clients with MHPs and human immune deficiency virus at primary health care has a significant contribution to health professionals in the following manner:

### ***1.7.1. Nursing practice***

This research will support nurses, including other health professionals to acquire knowledge to improve the services offered to people presenting with MHPs and also having Human immuno

deficiency virus because the framework will emphasize training of the health professionals regarding MHS. This study will increase their level of knowledge regarding MHS, advance their field of expertise, stay updated and offer better patient care. The study will recommend the development of a competence-based framework for mental care provision for PLWH at primary health care.

All the health professionals would be able to provide the best treatment possible and advance patient care with the support of research. As new information is constantly being acquired, it is crucial that health practitioners become familiar with the value of research. The results of research can improve patient care by correcting past mistakes, developing new treatment procedures, and creating new methodologies.

This study will support healthcare professionals to adapt to changes in the patient healthcare environment, and governmental restrictions. The way health services are delivered is changing due to research. The knowledge students acquire soon become outdated, the graduates' careers are aided by their ability to stay current with innovations in health services. This study will contribute to their knowledge related to the understanding of the current practices concerning the management of MHPs in PLWH.

### ***1.7.2. Research***

Evidence-based practice will inform the current state of mental health in the country, and assist medical professionals in planning and enhancing the population's mental health, and have an impact on public health policy. The study will promote mental healthcare to meet the requirements of Basotho, because mental health is regarded differently in most countries due to factors such as stigma and discrimination. The research will establish the validity of mental health policy claims. The health practitioners will be able to determine from the study's data whether the population's existing mental health needs are being met by the MHS and resources already available (Thomas, Menon, Borruf, Rodrigueze & Ahmed, 2014)

### ***1.7.3. Education***

Using the comments of the alumni as a base, this study will identify the advantages and disadvantages of a certain curriculum. The study will assist in identifying the precise areas for increased focus and make improvements to better tailor the program to preparing the students for their future careers (Schleicher, 2012).

### ***1.7.4. Community***

By developing a competency-based framework for mental care provision in PLWH at primary health care, this study will benefit the community by lowering the morbidity and mortality rates for patients with Human immunodeficiency virus and MHPs. Health professionals, local priests, chiefs, and traditional healers will all have better knowledge of MHPs which will improve the services provided to patients as they will all promptly refer patients to MHS (Eaton, Gureje, De Silva, Sheikh, Ekpe, Abdulaziz et al., 2018). The majority of studies in literature established that there is still prejudice and stigma surrounding Human immunodeficiency virus, which causes drug abuse, psychosis, depression, and anxiety in PLWH (Brandt, Zvolensky, Woods, Gonzalez, Safren, and O'Cleirigh, 2017, Donnelly, Bailey, Jessani, Postnikoff, Kerston, and Brondani, 2016). According to Brandt et al. (2017) and Donnelly et al. (2016) caretakers or relatives who support patients with MHPs and Human immunodeficiency virus also experience a great deal of stress as a result of the care provided, which makes them feel stigmatized. The stigma associated with MHPs will be reduced as a result of this study's promotion of favourable perceptions of medical professionals, conventional healers, priests, and chiefs in relation to treating mentally ill patients with Human immunodeficiency virus. The availability of a competence-based framework for the provision of mental healthcare in PLWH will assist health professionals to have better knowledge on mental health hence better patient outcome which says community will benefit as patients will improve mentally

## **1.8. Operational definitions**

**Mental health problems:** Multiple conditions that impact mood, thinking, and behaviour (McGrath, Petersen, Agerbo, Mors, Mortensen and Pedersen, 2014). In the context of this study, MHPs will mean disorders that manifest as a disturbance in behaviour, mood or the cognition in individuals living with Human immunodeficiency virus.

**Framework:** The concepts, details, and guiding principles that comprise an organization's or plans structure (Bryson, 2018). In the context of this study, framework meant the supporting structure that entails the opinions, ideas and duties from the different stakeholders and other individuals that will be used to guide the health professional in the management of PLWH who have MHPs.

**Competency:** Having the necessary knowledge, psychomotor, communication, and decision-making abilities, as well as the assertiveness to permit actions and certain tasks to be executed to a defined level of competency (Huysmans, Clement, Whitley, Gonzalez and Sheehy, 2019). In the context of this study, competence meant having sufficient knowledge and skill to assess, diagnose and manage MHPs in PLWH.

**Mental Health Services** are defined as, assessment, diagnosis, and treatment or counselling in a proficient manner to help an individual or group in improving mental or emotional illness, symptoms, conditions or disorders (Sadock, 2015). In the context of this study, MHS meant screening, assessing, diagnosing and managing people with MHPs and Human immunodeficiency virus.

**Primary healthcare** refers to a broad range of health services provided by health professionals in the community. In the context of this study, primary healthcare was the mental health and medical or nursing services that are offered at the primary health care (World health organization, 2018)

**Human Immunodeficiency Virus** is a virus that kills the white blood cells of individuals and the immune system, causing the body of the diseased person to be more vulnerable to most infections (UNAIDS and Update, 2019). In the context of this study, Human immunodeficiency virus meant a virus that result in low immunity and negative psychological in the health of the individuals.

**Human immunodeficiency virus services** are those that manage all Human immunodeficiency virus-related illnesses and administer antiretroviral therapy to individuals who require it, taking their CD4 count and viral load into account (Jones, 2011). In the context of this study, Human immunodeficiency virus services meant those services that target the psychological well-being of individuals such as counselling, screening for MHPs as well as provision of highly active antiretroviral treatment.

Health professionals are people who maintain health in humans through the application of the principles and procedures of evidence-based medicine and caring (Kowalski, Sanabria, Ridge, Ng, de Bree, Rinaldo et al., 2020). In the context of this study health professionals were people who provided care to PLWH and also having MHPs

### 1.9 Research setting

This study was conducted in five primary health cares in the city of Maseru in Lesotho (Fogelman & Bassett, 2017). These primary health cares were clinic A, B, C, D and E. All the primary health care offered Human immunodeficiency virus services but do not offer MHS. The clinic A was located on the west site of Maseru city and it was 10 km from the city. The clinic B was located on the north part of the city and it was about 12 km from the city.

Clinic C was located in the south west of Maseru city and it was approximately 15 km from the city. The clinic D was located in the south part of the city and was 6 km from the city. Maseru was the capital and biggest city of Lesotho. It was also the capital of the Maseru district. The place was found near the Caledon River, which was the border between Lesotho and South Africa.



Figure1. 3: Map of Lesotho in Maseru (Fogelman & Bassett, 2017)

Clinic A clinic served around 100000 people monthly and had around 3900 people on antiretroviral treatment. It served people from Naledi, Tsosane, Khubetsoana, Ha foso sekamaneng and Ha mabote. The clinic did not have services for mental health.

Clinic B served around 13000 thousand people monthly and had around 4000 people on antiretroviral treatment. The clinic served people from stadium area, Moshoeshoe II and Thibella. The clinic did not have MHS.

Clinic C served around 12000 people. It also had around 4000 people on antiretroviral treatment. It served people from Hills view, Maseru west and Hahohlo.

Clinic D served around 140000 people monthly and had around 4000 people on antiretroviral treatment. The clinic served the following villages: Ha tsolo, Likostsi, Maseru south and Masowe. The clinic did not offer MHS.

Clinic E served around 140000 people monthly. It also serves around 4000 people on antiretroviral treatment. The clinic served the following villages: Qoaling, Ha Pita, Lithoteng, Ha abia and Lithabaneng. The clinic did not have department offering MHS.

## **1.10 Overview of methods**

This section provides an overview of the methods used in the study

### ***1.10.1 Study orientation and design***

This research was grounded in pragmatism. This was convenient as the emphasis was placed on the research problem and what works. Pragmatists have a view that the truth can change. Pragmatists indicate that a ‘true fact’ is whatever works and gets results at any point in time. Pragmatists are always willing to change their minds when new information or circumstances come about. They concentrate more on taking action and achieving results. Developing competence-based frame work fitted well in pragmatism as pragmatists concentrate more on taking action and achieving results. In this study there is a major treatment gap in MHS as a result developing competence based frame work for successful provision of MHS in people presenting with MHPs and

Human immunodeficiency virus will bring a great change to affected people and community at large. If they try something out and it does not work, they try something new. They are always experimenting and changing their minds about things. This has led to the pragmatic saying: “truth is formed by its results” It permits a combination of philosophical underpinnings and views of reality between researchers and more significantly, flexibility in the choice of frameworks and data gathering techniques. It allowed for the addition of the theoretical frameworks of the Behaviour Change Wheel Model, which was established by Michie 2011 (Michie et al., 2011).

Pragmatic research approaches are often described as driven by the anticipated important social consequences and guided by the value systems of the researchers. Worldviews and epistemological assumptions, which arise from ontological assumptions, give rise to methodological considerations affecting the choice of instruments used and the data collected (Cohen, Manion and Morrison, 2013). In other words, the research methods adopted were not simply a technical exercise but represented the researcher’s understanding of the world; how they viewed the world, what they believed understanding means and what they see as the purpose of understanding. Cohen et al. (2013) indicated that such considerations have implications for the kind of educational research which should be undertaken and move towards applied and evaluative research and away from ‘pure’ research.

There is still much argument about the relevance of different approaches to research in education and educational settings. Historically, there had been two major and opposing models or paradigms which had been the subject of discussion and which were derived from very different epistemological assumptions or worldviews. The first incorporates the view that the knowledge is “hard” objective and tangible: the positivist/empiricist approach. This approach allies itself with methods of natural science and gives the researcher the role of observer. It underlies what are called quantitative methods. According to the positivist paradigm, true knowledge is obtained through observation and experiment. The second sees knowledge as personal, subjective and unique: the constructivist/phenomenological orientation. This approach rejects the methods of natural science and requires the researcher to become involved with their subjects. It underlies what are called qualitative methods. The constructivism paradigm is a method that states that people create their own comprehension and information of the world through experiencing things and

reflecting on those experiences. It is based on the fact or foundation that people create or build much of what they learn through experience. The debate between these two approaches is often called the quantitative-qualitative debate. For many years, 110 researchers saw these two approaches as incompatible due to the inherent differences in the underlying philosophies underlying (Cohen et al., 2013, Tashakkori and Teddlie, 2009).

However, during the last ten to twenty years, there had been a shift away from seeing quantitative and qualitative approaches as incompatible and towards a pragmatic paradigm where researchers used both (Bryman, 2006). As a result, the researcher in this study used pragmatism which indicates that truth is what works (Mazlan and Abdullah, 2020). This has led to a rethinking about the underlying worldviews so that similarities rather than differences can be recognized. Reichardt and Rallis (1994) listed the following basic values as similarities: the value ladenness of inquiry, the theory ladenness of facts, that reality is multiple and constructed that knowledge is fallible, and that theory is undetermined by facts. They also listed shared beliefs and aspirations within the research field of evaluation regardless of quantitative or qualitative approaches: the importance of understanding and improving the human condition, the importance of evidence-based decisions, and finally the belief that the world is complex and multileveled and often hard to understand.

The researcher built the knowledge on pragmatic grounds, which indicate asserting truth is “what works” (Creswell, 2014, Maxcy, 2003). The researcher chose approaches, as well as variables and units of analysis, which were most appropriate for finding an answer to their research question (Tashakkori and Teddlie, 2009). A major tenet of pragmatism is that quantitative and qualitative methods are compatible. Thus, both numerical and text data, collected sequentially or concurrently, can help better understand the research problem.

This study employed a mixed method design, which is a combination of a qualitative and quantitative approach to collect and analyze data (Tashakkori and Creswell, 2007). The rationale for mixing is that neither quantitative nor qualitative methods are sufficient in themselves to capture the trends and details of the situation, such as the complex issue of developing a competence-based framework for the provision of MHS for people presenting with MHPs and also having Human immunodeficiency virus.

This study used one of the most popular mixed methods designs in educational research: sequential explanatory mixed methods design, consisting of two distinct phases (Creswell, 2014). In the first phase, the quantitative, numeric, data was collected first, via hand delivered questionnaire and the data was subjected to a discriminant function analysis. The goal of the quantitative phase was to identify potential predictive power of selected variables on the distributed participant's knowledge regarding developing of competence based framework for provision of MHS in patients with MHPs and Human immunodeficiency virus in primary health care in Lesotho and to allow for purposefully selecting informants for the second phase. In the second phase, a qualitative multiple case study approach was used to collect text data through individual semi-structured interviews, to help explain why certain external and internal factors, tested in the first phase, may be significant predictors of poor management of MHPs and Human immunodeficiency virus in Lesotho. This method was used to obtain a clearer picture from the quantitative data, and then to use the qualitative data to provide better understanding and explanation of the study in question.

The rationale for this approach is that the quantitative data results provide a general picture of the research problem. What internal and external barriers that contribute to and/or impeded health professional management of MHPS and Human immunodeficiency virus. While the qualitative data and its analysis refined and explained those statistical results by exploring participants' views in more depth (Botma et al., 2010, Bryman, 2006, Creswell, 2014).

The priority in this design was given to the qualitative method, because the qualitative research represented the major aspect of data collection and analysis in the study, focusing on in-depth explanations of quantitative results by exploring five objectives of the study. A smaller quantitative component goes first in the sequence and is used to reveal the predicting power of the selected factors that enable integration of Human immunodeficiency virus services into MHS in primary health care, knowledge of health profession regarding provision of MHS for people presenting with MHPs and Human immunodeficiency virus and perception of health of professionals regarding availability of competence-based framework for provision of MHS for people presenting with MHPs and Human immunodeficiency virus. During quantitative study all the participants were informed that only registered nurses and medical officers will be selected for qualitative data collection as they were believed to have better knowledge on mental health. The participants were

selected based on the statistically significant difference results from the discriminant function analysis. The quantitative and qualitative methods were integrated at the beginning of the qualitative phase while selecting the participants for case study analysis and developing the interview questions based on the results of the statistical tests.

The results of the two phases were also integrated during the discussion of the outcomes of the whole study (Bryman, 2006, Creswell, 2014).

In order to be able to explore in depth the quantitative data, the researcher gathered qualitative data from participants who could assist explain these results. The explanatory sequential design is therefore recognized as the easiest and straightforward of the mixed method designs (Creswell and Clark, 2017).

## **1.10.2. Study *participants* and sampling**

### **1.10.2.1 Population (Quantitative)**

The target population was healthcare professionals in five primary healthcares in the city of Maseru. Each primary health care had around 11 registered nurses, 5 nursing assistants, 3 pharmacists and 2 medical officers working in primary healthcare for a minimum of two years in quantitative study.

### **1.10.2.2 Population (Qualitative)**

During quantitative data collection all participants were informed that only registered nurses and medical officers will be included in the qualitative study as they were believed to have better knowledge on mental health. Forty three registered nurses and 7 medical officers participated in qualitative data collection.

#### **1.10.2.3.1 Sample size (Quantitative)**

Each clinic had approximately 21 eligible health professionals to participate in the study, indicating a sample size of 105 ( $n=105$ ). The sample size was determined by using  $n=z^2p(1-p)/d^2$  where  $n$  = sample size,  $p$  = assumed proportion (50%),  $z$  = z-value at 95% confidence (=1.96),  $d$  = desired level of absolute precision (=10%), indicated a total of 96 health professionals. The minimum

sample size required for this study was 96 health professionals. However, to allow for attrition, a 10% increase was made, resulting in a sample size of 105 health professionals. This step was necessary to ensure that study achieve a reliable statistical significance. The sample size would reduce the type I and type II errors, as well as known and unknown cofounder effects. The power ( $1-\beta$ ) (the % chance of detecting difference) was set at 80% (Grove, Gray and Burns, 2015).

#### **1.10.2.3.2. Sample size (Qualitative)**

For the purpose of the qualitative study, purposive sampling was used to select participants with rich information. The most frequently used criterion for determining an adequate sample size was reaching the saturation point. The researcher interviewed the participants until no new information was found (Speziale, Streubert and Carpenter, 2011). 50 health professional participated in the study. Only registered nurses and medical officers participated in qualitative data collection as they were believed to have better knowledge on mental health and Human immunodeficiency virus. Forty-three registered nurses and 7 medical officers participated in the study. Thirty-nine participants were female while eleven participants were males

#### **1.10.2.3.3. Sampling technique (quantitative)**

For the purpose of the first quantitative phase of the study, all-inclusive sampling was used as the sample size was small (Grove et al., 2015). In the study, 105 health professionals were eligible to participate. The five managers of the professions invited in the study participated in pilot study of the health centres and the researcher invited the 88 health professionals to participate in the study (Grove et al., 2015) .

#### **1.10.2.3.4. Sampling technique (qualitative)**

For the purpose of the second qualitative phase, purposeful sampling was also used (Grove et al., 2015). The idea was to purposefully select informants who could best answer the research questions and who were “information rich” (Grove et al., 2015). In the survey, the participants were informed that all registered nurses and medical officers will be selected for the follow-up of voluntary individual interviews as they were believed to have better on knowledge on Human immunodeficiency virus and mental health. 50 participants were interviewed until saturation point was

reached. In a qualitative study, small purposive samples were acceptable. A purposive sample was based on the judgment of the researcher regarding participants who are knowledgeable about the topic (Creswell, 2014, De Vos, Delport, Fouché and Strydom, 2011, Grove et al., 2015). The most frequently used criterion for determining an adequate sample size is based on the saturation point (Speziale et al., 2011). As a result, data collection continued until no new information could be obtained.

Due to the nature of the sequential design of this study, the selection of the participants for the second qualitative phase depended on the results from the first quantitative phase. Based on these results, maximal variation sampling, in which a researcher sampled cases or individuals differing in some characteristic, was used. This allowed the researcher to present the multiple perspectives of individuals to “represent the complexity of our world” (Creswell, 2014). For this study, the participants were selected based on the statistically significant difference results from the discriminant function analysis.

### ***1.10.3 Inclusion criteria and exclusion criteria***

#### **1.10.3.1 Inclusion criteria**

The inclusion criteria were as follows:

- The participants were registered nurses, nursing assistants, pharmacists or medical officers.
- Participants were permanent employees of the primary health care at least for two years, and if hired with a contract, working for two years at primary health care was considered.

#### **1.10.3.2 Exclusion criteria**

The exclusion included:

- Participants hired for less than two years.
- Participants who were not willing to be interviewed and audio recorded.

### **1.10.4. Measurements**

The following tools were used to obtain data required to develop the competency-based framework for the provision of MHS in PLWH.

### ***1.10.5. Questionnaires***

As the researcher used a mixed method study, a questionnaire was used in the first stage of data collection. Sookram (2016) affirms that one of the foremost benefits of an organized questionnaire is the capability to gather responses that are clear in meaning.

The questionnaire method was an easier method as it did not require techniques or knowledge. The questionnaire also covers a wide range of the population, and the response can be received very quickly. The questionnaire also put less pressure on the respondents (Dillman, Smyth and Christian, 2014). However, the response rate may be very low as the respondents complete the questionnaire in their own time (Botma et al., 2010). The researcher checked with the research supervisor whether the questionnaire was of the quality they wanted. The questionnaire contained two sections, namely: demographic data, attitude, knowledge and perceptions of the health professionals regarding the provision of MHS in people presenting with MHPs and Human immunodeficiency virus.

### ***1.10.6. Interview schedule***

In the second stage of data collection the researcher used semi-structured interviews, following a pre-constructed interview schedule. Semi-structured interviews are defined as organised areas around a particular interest, to collect detailed information while permitting flexibility to comprehend intensely the responses provided regarding a topic (Grove et al., 2015, De Vos et al., 2011, Polit, Beck and Polit, 2012). The use of the semi-structured interview in this study had a number of advantages. According to De Vos et al. (2011), semi-structured interviews are used when a researcher is interested in obtaining a comprehensive picture of the participant's views about a specific topic. In the semi-structured interview, the researcher was interested in comprehending the experience of other people and the meaning they attach to that experience. The researcher is more involved in the interaction and able to observe the participants clearly during data collection. The researcher was also interested in understanding the participants' response (Botma et al., 2010). The key questions of the interview schedule entailed exploring factors that can enable the provision of mental health in PLWH at primary health care, determining barriers that can hamper delivery of mental health in PLWH at primary health care, describing the level of knowledge of the health professional regarding integrating mental health with Human immunodeficiency virus services at primary health care, perceptions of the health professional regarding the availability of a

competence-based framework regarding for the provision of MHS in people presenting with MHPs and Human immunodeficiency virus.

Open-ended questions were used to direct the participants to express their experiences. Voice recordings were used and transcribed after every interview and discussion.

### **1.11. Pilot study (Pretesting of the research instrument)**

A pilot study is the initial phase of the whole research protocol and is often a smaller-sized study assisting in the development and amendment of the main study (Junyong, 2017). The primary benefit of pilot testing was to identify problems before implementing the full survey. Pilot testing looked to examine the validity of each question. It's concerned with whether the question is capturing the information it's intended to measure. The survey instrument was pilot tested on the managers of all the health professionals involved in the study who were the nurses, medical officers, the pharmacists and nursing assistant's manager at the primary health care. The goal of the pilot study was to validate the instrument and to test its reliability. All the responses were entered into the SPSS computer analysis system. These participants were excluded from the subsequent major study. The results of the pilot survey established the stability and internal consistency, reliability, face and content validity of the questionnaire. Based on the pilot test results, the survey items were revised. A week before the study was conducted; the participants received a notification from the researcher about the importance of their input for the study. This prevented a low response rate. To decrease the response rate error and solicit a relatively high response rate, a three phase follow-up sequence was used (Archer, 2003).

The same managers who responded to the questionnaire were also interviewed. The interviews were transcribed and the relevant field notes of the process were reviewed. To achieve this process, five interviews were conducted using the same instrument to be used in the main study. The findings for this interview were not included in the main study. The pilot study in the qualitative research allowed the researcher to focus on specific areas that may have been unclear previously and escaped scrutiny, and tested the questions which guided the data collection process (De Vos et al., 2011). During the pilot study, question 2 was not clear and was therefore rephrased for the main study. In qualitative studies, the pilot study also provided a space for the researcher to reflect on the nature of the activity in which he or she was engaged (Doody and Doody, 2015).

## **1.12 Data collection process**

### ***1.12.1 Quantitative Data Collection***

After ethics approval was obtained from the Ethics Committee of the school of nursing and public health, protocol number BREC00002710/2022, a letter was submitted to ministry of health for country ethical approval. After the ethical approval was received from ministry of health, letters were submitted to the management of primary health care to obtain approval and written feedback was requested in this regard. With the permission of primary health care management, meetings were held with each management to explain the study and the process of data collection. Meetings were held with managers in order to provide them with necessary information concerning the study. A list of the health professionals was obtained from each clinic manager. All nurses, medical officers, pharmacists and nurse assistants were invited to participate in the study. Respondents were invited to a meeting, at which researcher informed them about the study and extended an invitation to participate. The respondents were informed about the voluntary participation and their right to withdraw at any time during the study. Once a person had indicated willingness to participate, further information was given and all questions answered.

The researcher distributed the questionnaires by hand to the respondents who met the eligibility criteria so that the respondents can fill them in their own time and collected them again later. The researcher collected the completed questionnaires after 48 hours.

Research assistants were recruited during the data collection and analysis to ensure data accuracy, consistency, and completeness and for correction of mistakes as they occur.

For collecting quantitative data, a self-developed questionnaire, containing items of 5-point Likert type were used. The questionnaire was organized in two sections.

Demographic questions constitute the first, section of the questionnaire. They provided information regarding participants' age, gender and occupational position, qualification of a participant and marital status.

The second section of the questionnaire asked questions related to level of knowledge, of health professional regarding MHS, barriers that can hamper delivery of mental health in PLWH and level of knowledge of health professional regarding integrating mental health with Human immunodeficiency virus services at primary health care and perceptions of health professionals regarding availability of competence-based framework regarding provision of MHS in people presenting with MHS and Human immunodeficiency virus.

A choice of “Not applicable” (NA) was included, when necessary. The questionnaires were hand delivered to the participants in primary health care services in Maseru district.

### ***1.12.2. Qualitative Data Collection***

The main data collection instrument in this research was the researcher. Training on interviewing techniques prior to the research was undertaken and therefore arranged with the research supervisor. The quality of data collected depended on the quality of interviews and observations made by the researcher. De Vos et al. (2011) notes this can only be achieved through the use of various interviewing skills and successful communication. During quantitative data collection all the participants were informed that only registered nurses and medical officers will be included in the qualitative data collection as they are believed to have better knowledge on mental health. Data collection to both registered nurses and medical officers continued until no new information could be found. The process of interviewing includes communicating, involving asking, listening and talking; the premise for inclusion of these is that without communication there can be no interviews. The effective interviewing communicational skills were used in the interviews in order to get detailed information from the participants.

Individual times for interviews were arranged with each participant. These were arranged at times to suit each participant and also at a time where this will not interfere with their duties and thus possibly compromise care. Prior to the consenting of each participant, any further questions were answered. Permission was obtained from the participants for the use of an audio-recorder. After the consent form has been signed, the audio-recorder was switched on.

The interviews were conducted over a period of approximately two months. Each interview was estimated to last no longer than one hour. A copy of the interview schedule was made available to

the participants to enable them read the questions. All interviews were conducted in English, as all the potential participants had post school educational qualifications and were required to be able to communicate in English. The information and consent form, however, were made available in the language of the participant's choice. The interviews were conducted in the room allocated for interviews in the primary health care and in the room; it was only the researcher and the participants to enhance privacy.

Immediately after each interview, the researcher made observational field notes of verbal and non-verbal behaviour during the interview which helped the researcher to contextualise the interviews. Both quantitative and qualitative data were collected in the following phases:

#### ***1.12.1.1 Phase one***

Using a quantitative method, data was first gathered at five clinics that provided primary healthcare and services related to Human immunodeficiency virus services.

#### ***1.12.1.2 Phase two***

In the second phase, the data was collected from the five primary health cares using a qualitative approach. A semi-structured interview schedule was used to explore the knowledge, attitude and perceptions regarding MHS in people presenting with MHPs and Human immunodeficiency virus.

#### ***1.12.1.3 Phase three***

Using the data from phases one and two, the researcher described the opinions of the health professionals on the provision of MHS to people presenting with MHPs and Human immunodeficiency virus in primary care.

#### ***1.12.1.4. Phase four Framework development process***

In the fourth phase, a framework that enabled the provision of MHS to individuals presenting with MHPs and the human immunodeficiency virus was developed using the discovered results from the first, second, and third phases.

**Table 1. 1: Research Plan**

<b>Broad objective</b>	<b>Described factors that enabled provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus in primary health care</b>	<b>Determined the barriers that hinder the delivery of MHS for people presenting with MHPs and Human immunodeficiency virus in primary health care</b>	<b>Described the health professional's knowledge regarding the integration of MHS into Human immunodeficiency virus services in primary health care</b>	<b>Described the health professional's perceptions regarding the availability of a competence-based framework for the provision of MHS in people presenting with MHPs and Human immunodeficiency in primary health care</b>	<b>Developed a framework that will facilitate the provision of MHS in people presenting with MHPs and Human immunodeficiency virus in primary health care</b>
Research Approach	Quantitative and qualitative	Qualitative	Quantitative and qualitative	Quantitative and qualitative	The process of developing the competence-based framework was detailed and the description presented. The competence-based framework was developed.
Research Participants	Health professionals: nurses, doctors, pharmacists and nursing assistants	Health professionals: nurses and doctors,	Health professionals: nurses, doctors, pharmacists and nursing assistants	Health professionals: nurses, doctors, pharmacists and nursing assistants	Health professionals: nurses, doctors, pharmacists and nursing assistants
Research settings	5 settings	5 settings	5 settings	5 settings	5 settings
Data collection tool	Questionnaires and interviews	Interviews	Questionnaire and Interviews	Questionnaire and Interviews	Questionnaire and Interviews

## 1.13. Data Analysis

### 1.13.1 Data analysis (Quantitative)

The quantitative data was analysed using an appropriate software package, in this case SPSS version 26, which is useful for analysing data that is useful for later generalization (Osborne and Costello, 2009). A competent statistician was engaged to assist in data entry and the initial analysis but the interpretation and discussion of the data was done by the researcher.

Descriptive statistics was used to summarize the data. Frequency and percentage was used to summarize the categorical variables. The frequency distribution of the numeric data was examined for normality and mean, or median and was used appropriately. To account for possible factors, comparisons were made using a Chi-square statistical test for the categorical data and a t-test/Wilcoxon rank-sum test for the numeric data. All analyses were performed using SPSS version 26, and a p-value  $< 0.05$  was considered statistically significant.

It was crucial to ensure that both the qualitative and quantitative data were compared and integrated to achieve a comprehensive story, rather than two parallel stories. The diaries and other artefacts associated with the project were incorporated into the analysis.

Bivariate and multivariate analyses were performed to identify comparisons between the attitude, knowledge and perceptions scores of health professionals regarding MHS for people presenting with MHPs and Human immunodeficiency virus. When performing the ANOVA test the p-value of the attitude score was 0.138 and the p-value of the perception score was 0.869 meaning they were not significant. The cut-off value for significance level in multivariate analysis was set at  $p < 0.05$ . When all participants' perception was assessed the the crobach 'alpha was 0.832.

**Table 1. 2: Flow of Tasks in Analysing Quantitative Data**

<b>Pre-analysis Phase</b>	<b>Logged in checked and edited raw data</b>	<b>Selected a software package for analysis</b>	<b>Coded Data</b>	<b>Entered data into a computer file and verify</b>	<b>Inspected data for outliers/wild codes, irregularities</b>	<b>Cleaned Data</b>	<b>Created and Documented an analysis file</b>
<b>Preliminary Assessment</b>	Assessed missing values problems	Assessed data Quality	Assessed bias	Assessed assumptions for inferential tests			
<b>Preliminary Action</b>	Performed needed transformation and re-codes	Addressed missing value problems	Constructed scales, composite indexes	Performed other peripheral analysis			
<b>Principal Analysis</b>	Performed descriptive statistical analysis	Performed bivariate inferential statistical analysis	Performed multivariate analysis	Performed needed post hoc tests			
<b>Interpretive Phase</b>	Integrated and synthesized analysis	Performed Supplementary Interpretive analysis (e.g., power analysis)					

### ***1.13.2. Data Analysis (Qualitative)***

The transcripts were analysed by the researcher and reviewed by the research supervisor to ensure trustworthiness. Nvivo was software used to analyse data. The data was analysed using the thematic framework analysis method. De Vos et al. (2011) describe this method of data analysis as a way of analysing data by organising it into categories on the basis of themes, concepts or similar features. Data analysis was initially approached through reading each interview as a whole and thereafter question by question to ensure that a response to a specific question, which may have bearing on another question, was not missed. The significance of the views and opinions from each participant was determined by rereading the transcripts in conjunction with the voice recorded interviews after the transcripts had been read to restore the views and opinions of the participants during the interview. In this process the researcher was guided by the aim of the study (Bengtsson, 2016). During the analysis of data, the five steps of framework analysis were followed, including data familiarization, framework identification, indexing, charting, and mapping and interpretation.

### **1.14. Data management**

All data collected was used for the purpose of the study only. During data analysis, the crude data was kept locked to ensure confidentiality. Data was stored in a computer, which had a code of access (password) known only by the researcher. All hard copies and tape-recorded data were kept in a safe lockable cupboard in the supervisor's office. Only the researcher had access. The software and the hardware were disposed of to the university after the completion of the work. Memory sticks were physically destroyed. Electronic copies were wiped off, hard drives and the hard copies shredded. Data was retained by the supervisor for five years after the completion of the study under a password protected file in her office in the nursing discipline at the University of KwaZulu-Natal. In accordance with the university's policy, five years after the report was completed, written data will be shredded and data stored in the computer will be erased from both the programme and the recycle bin.

### **1.15. Framework development process**

The findings from the quantitative and qualitative data were used to develop a framework that facilitated the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus.

From the study findings, the participants showed that they required a framework, as an intervention to implement MHS. Almost all (97%) of the participants strongly believed that if this

framework was developed successfully, it would support and motivate them to implement MHS for people presenting with MHPs and Human immunodeficiency virus.

The main aim of developing a framework was to first understand and share the important aspects of the integration of mental health into Human immunodeficiency virus services. Following this, while developing a framework, the researcher set up a clear understanding of the concepts of the framework and its concepts and outlined relationships between these concepts to clarify exactly the relationships that existed (McNiff and Whitehead, 2010; Smith and Liehr, 2008).

The framework development followed the steps outlined by Sahay and Kaur (2021)) by first describing what framework they were trying to represent and the concepts active in this domain, the requirements of a successful framework and analysing them in relation to integrating mental health into Human immunodeficiency virus services at primary health care. The order of occurrence and relationship between the variables was identified and a visual representation of the framework was developed and refined. The researcher explained that critical reflection was useful in gaining insight into how the model relates to practice, research, and educational activities.

During the critical reflection, the researcher attended to the following concepts which were critical when developing a framework. The process of developing a framework used the sketch that was drawn by the researcher as a framework for provision of MHS in people presenting with MHPs and Human immunodeficiency virus.

The competency framework includes core values, core competencies and functional competencies. A person's actions and decisions are influenced by their core values. All employees are expected to uphold these moral standards, which are based on the standards of conduct for the worldwide civil service. It is therefore, necessary that all healthcare professionals uphold the following ethical principles: accountability, fairness, nonmaleficence, autonomy, beneficence, faithfulness, and honesty (Sahay & Kaur, 2021).

The framework's core competences serve as its cornerstone, outlining the conduct expected of every employee. They are described by the job-specific occupational functions. In this framework, lay personnel, employees and other stakeholders in healthcare will each have a part to

play in managing MHPs in patients who present with both Human immunodeficiency virus and MHPs so that services are integrated to support compressive care (Sahay & Kaur, 2021).

Functional competences are determined by the tasks and commitments employees make to a certain position. The framework will outline each healthcare provider's responsibility to deliver MHS in people presenting with MHPs and Human immunodeficiency virus (Sahay & Kaur, 2021).

The following categories of people should be available to promote successful provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus:

The provision of MHS in primary health care is regulated by the Ministry of Health (Sahay & Kaur, 2021). The stakeholders will pay for mental health workshops and ensure that all health professionals receive mental health training.

The Senior Manager is a member of staff at the Director level who is in charge of fostering an environment that is conducive to decision-making and has an impact on the entire program or functional area. This job will be filled by the nursing service manager of the hospital responsible for the clinic. The senior manager will ensure that the health professionals attend the workshops, address any complaints the primary health care may have regarding the provision of MHS, coordinate with the hospital's specialist in mental health, or with the Ministry of Health if the issue requires their attention (Sahay & Kaur, 2021).

The term "specialist" refers to a senior General Service employee (at the G6 or G7 level) or a medium or senior level professional specialist (at the P3 to P5 level) who has extensive knowledge in his or her area of expertise and works independently. Any medical specialist with a focus on MHPs will be in this position. The specialist will ensure that MHS are implemented appropriately at the primary health care for patients who present with MHPs and Human immunodeficiency virus. Additionally, he or she will communicate with the primary health care manager if a challenge arises in primary health care regarding MHS.

The Manager is a middle- or senior-level employee (P4 or P5) who is in charge of managing human and/or financial resources and is in charge of monitoring the execution of programmatic results. Typically, these roles include those of a section head, unit head, and team leader. In this role, the primary health care manager will be in charge of supervising the primary health care's plans, particularly those pertaining to MHS. The primary health care manager will ensure that MHS are provided to patients who present with MHPs and Human immunodeficiency

virus. She or he shall inform the hospital's top manager of any obstacles to this integration (Sahay & Kaur, 2021).

The individual contributor is a team member who is responsible for his or her own performance and contribution to the team's outputs but often has no supervisory responsibilities. All members of the medical profession who provide MHS for the patients with MHPs and Human immunodeficiency virus will be in this position. Any issues with the integration of MHS with Human immunodeficiency virus care will be discussed with the primary health care management (Sahay & Kaur, 2021).

In the community we shall have support people such as a village health worker, the chief and the pastor who shall identify people with MHPs and refer them accordingly. These people will communicate with the primary health care if such patients are identified in the village.

### **1.16. Trustworthiness**

The trustworthiness of this study was ensured by following the principles identified by De Vos et al. (2011) and includes the strategies for credibility (showing the accurateness of the findings), transferability (confirming applicability of the findings), dependability (confirming uniformity of the findings) and conformability (using the criterion of neutrality or freedom from bias) (Polit et al., 2012).

#### ***1.16.1 Credibility***

Credibility of the research process is a fundamental issue in research. Participants must be able to trust the integrity of the processes to increase the probability of a personal commitment essential to a well-founded inquiry (Stringer, 2013). The following discussed issues facilitated the participants of this study to gain a feeling of trust:

**Prolonged engagement:** During data collection the researcher interviewed the participants to provide the participants with the extended opportunity to explore and express their experiences regarding the events, actions, activities, and all the issues related to the inquiry under investigation (Stringer, 2013).

**Persistent observation:** the credibility of this study was enhanced when the participants consciously observed events, actions, activities, and context over a period of time (Stringer, 2013).

Triangulation: the credibility in this study was ensured and enhanced by the researcher using multiple sources of information. The researcher used different data set, a structured questionnaire and a semi-structured interviews schedule (Stringer, 2013).

Participant debriefing: During data collection the researcher focused on the feelings and responses of the participants, rather than the information provided by the participants only.

Diverse case analysis: The researcher enhanced the credibility of the study by ensuring that the perspectives of all the participants were incorporated into the study (Stringer, 2013).

Referral adequacy: The researcher inferred from and reflected the experiences and perspectives of the participating health professionals, rather than being interpreted according to the schema emerging from a theoretical or professional body of knowledge (Stringer, 2013).

Authenticity: The researcher conducted a thorough and systematic literature review showing how it relates to research questions, objectives and methods.

#### ***1.16.1 Transferability***

This study has made it possible for other researchers that were not the part of the study to judge whether the situation or inquiry was similar to their own, in terms of the outcomes applied. The judgements in this study indicated the degree of trust people had, that the research outcomes may be transferred to their own situation (Stringer, 2013).

#### ***1.16.3 Dependability***

In this study an inquiry audit was conducted to provide a detailed description of the procedures that had been followed and that provided the basis for judging the extent to which they were dependable (Stringer, 2013).

#### ***1.16.4 Conformity***

The researcher confirmed that all the procedures described took place during the study or data collection. The researcher provided an audit trail that enabled an observer to view the data collected, instruments used, voice recordings, and the journals related to the study. This was done to ensure the veracity of the study, providing other means for ensuring that the study was

trustworthy (Stringer, 2013). An in-depth methodological description was done to allow for the integrity of the research results and to allow the scrutiny of the study results.

#### ***1.16.5. Reliability and Validity***

The validity and dependability of the instrument used in the research study assisted to minimize mistakes that might result from measurement issues in quantitative research.

##### ***1.16.5.1 Reliability***

Through pilot testing, the survey instrument's stability or test-retest reliability was established. The test-retest reliability was demonstrated if the same findings were achieved when the same survey was administered to the same research participants repeatedly. The "Pearson r coefficient" was used to compare and connect the results of the real survey with those from the pilot research (Bolton, 2001, Grove et al., 2015).

##### ***1.16.5.2 Validity***

The survey instrument's concept, content, and criterion-related validity were all confirmed. The degree to which the survey items and the results of these questions were representative of all the potential inquiries concerning the provision of mental health treatment in PLWH was demonstrated by the content validity of the survey items. The supervisor reviewed the wording of the survey. This made it possible to determine if the questionnaire were appropriate for the topic they were intended to measure, and whether it was a realistic means of gathering the required data, and well-designed.

By contrasting a measure or method with another that has been shown to be valid, criteria-related validity, also known as instrumental or predictive validity, was used to show that a measure or technique is accurate, to determine if the results of the questionnaire were consistent with other research that tested similar constructs and used existing instruments to measure them (Bolton, 2001, Grove et al., 2015).

#### **1.17. Ethical considerations**

Research ethics is a set of ethical standards that is concerned with how research techniques follow professional, lawful and sociological duties to the study participants (Polit & Beck, 2012). In this study the participants' informed consent was obtained for participation, anonymity was guaranteed, the possibility of harm was minimised, confidentiality was ensured, and

the required permission for the study was obtained, community participation, social value, fair selection of the participants, independent ethics review and scientific validity and voluntary participation were observed. The Belmont report was used to guide the ethical principles in this study (Amundsen, Msoroka & Findsen, 2017).

### ***1.17.1 Community participation***

It is promoting of interest by the community through participation in research (Amundsen, Msoroka & Findsen, 2017). Community participation in this study was ensured by engaging institutions that were used to collect data by applying for gatekeeper permission prior to seeking ethical approval from the university.

### ***1.17.2 Social value***

Social value refers to the importance of the information that a study is likely to produce (Hirshleifer, 1978). The research is in line with the needs of the Basotho. The competence-based framework that was created will increase the understanding of the health professionals in mental health, leading to enhanced healthcare provided to the community.

### ***1.17.3 Fair selection***

The principle of justice gives rise to moral requirements that there be a fair procedures and outcomes in the selection of research subjects (US Department of Health and Human Services, 1979). Equal opportunities were given to each participant for inclusion in the research.

### ***1.17.5 Risks and benefits***

Benefit is the valued or desired outcome that the study will bring to participants while risk is the probability of harm or injury (physical, psychological, social, or economic) occurring as a result of participation in a research study (world medical association, 2013). There was no risk since there was little chance that the participants would be exposed to highly sensitive information throughout this investigation. The benefit of this study was that its findings might be used to develop and implement suitable care plans for people presenting with MHPs and Human immunodeficiency virus.

### ***1.17.6 Independent ethics review***

Independent review: In this principle it is ensured that the studies are conducted in the right manner to ensure safety of participants (Amundsen, Msoroka & Findsen, 2017). No recruitment commenced until the final written ethics approval was granted from the university Ethics Committee.

### ***1.17.7 Respect for persons, informed consent and the right to privacy***

Respect for humans encompasses at least two moral beliefs: people should be considered as independent agents and people who have less autonomy should be given assistance. Respect for people also demands that subjects be allowed the freedom to decide what happen to them and what not, to the extent that they are capable of doing so (US department of Health and Human Services, 1978). The rights to informed consent, privacy, and secrecy were included in this principle. An informed consent form was created. The questionnaire included a statement about the informed consent attached, and that participation indicated compliance. The participants were provided with an information sheet that included pertinent information about the research's purpose and how respondents might choose to participate or exercise their right to withdraw from the study (Chan, Tetzlaff, Gøtzsche, Altman, Mann, Berlin et al., 2013). The audio recordings were kept secure and without participant names. The participants' private information was handled with confidentiality.

### ***1.17.8 Voluntary participation***

In this principle participants are informed about the study and informed that their decision to participate is free and that they can end their participation where ever they like (Department of Health, 2013). The participants were informed that their right to engage in the study is completely free, and they were free to end it at any moment.

### ***1.17.9 Autonomy***

Respecting participants means acknowledging their rights, which include the freedom to decide for themselves whether or not to participate in the study and the freedom to leave at any moment without facing repercussions (Department of Health, 2013). In this study the participants were allowed to decide for themselves whether they decide to partake in the study or not.

#### ***1.17.10 Scientific validity***

In scientific validity the researcher has to bracket her own information about the study to avoid biasness in study findings (Grove et al., 2015). The researcher bracketed her personal knowledge, presumptions, and preconceptions of the provision of MHS in people presenting with MHPs and Human immunodeficiency virus throughout the data collection and analysis to validate validity.

#### ***1.17.11 Approval***

The Ethics Committee of the Faculty of Public Health and Nursing at KwaZulu-Natal University provided approval for the study, protocol number: BREC00002710/2022 (Amundsen, Msoroka & Finsen, 2017). After receiving authorization, approval was obtained from the administration of the primary health cares in Maseru city.

### 1.18 Structure of the thesis

**Table 1. 3: Summary of the structure and organisation of the thesis**

Chapter	Objective	Manuscript	Research approach
1.	Introduction, background of the study, literature review and research methodology.	Relevant literature was reviewed to ensure a clear background regarding the association between mental health and HIV services.	Relevant books, journal article, and other documents published in English were reviewed
2.	Literature review	A review of relevant literature was done to form the basis for the model development	Relevant books, journal article, and other documents published in English were reviewed
3.	Objective 1: Described the factors that enables the provision of MHS in people presenting with MHPs and Human immunodeficiency virus in primary health care	Manuscript one: Factors that will enable the provision of MHS in people presenting with MHPs and Human immunodeficiency virus in primary health care	Quantitative and qualitative
4.	Objective 2: Determined the barriers that hinder the delivery of MHS in people presenting with MHPs and Human immunodeficiency virus in primary health care	Manuscript two: The barriers that hinder the delivery of MHS in people presenting with MHPs and Human immunodeficiency virus in Primary health care	Qualitative
5.	Objective 3: Described health professionals' level of knowledge regarding the integration of mental health with Human immunodeficiency virus services at primary health care	Manuscript three: Health professionals' level of knowledge regarding integrating mental health with Human immunodeficiency virus services at primary health care	Qualitative and quantitative
	Objective 4: Described health professionals' perceptions regarding the availability of the competence-based framework for the provision of MHS in people presenting with MHPs and Human immune deficiency virus	Manuscript 4: Health professionals' perceptions regarding the availability of a competence-based framework for the provision of MHS in people presenting with MHPs and Human immunodeficiency virus	Qualitative and quantitative
	Objective 5: Developed a competence-based framework for the provision of MHs in people presenting with MHPs and Human immunodeficiency virus	Manuscript for 5: Developing a competence-based framework for the provision of MHs in people presenting with MHPs and also having Human immunodeficiency virus.	The process of developing the Competence-based framework was detailed, and presented. The competence-based framework was developed.
6.	Chapter 6: The synthesis, conclusion and recommendations, summary and limitations		All chapters were synthesized together.

## 1.19 Presentation of quantitative results

The quantitative results of this study are presented. The aim of this study was to develop a competence-based framework for the provision of mental healthcare for PLWH in primary health care in Lesotho. The specific objectives of the study were to explore the factors that will enable the provision of mental healthcare in people presenting with MHPs and Human immunodeficiency virus at primary health care, describe the health professionals' level of knowledge regarding the integration of MHS with Human immunodeficiency virus services in primary health care, describe the health professionals' perceptions regarding the availability of a competence-based framework for provision of MHS to people presenting with MHPs and Human immunodeficiency virus and develop a competence-based framework to assist the health professional to successfully manage MHPs in PLWH. In total, 88 questionnaires were distributed, completed and returned. The data are presented in the sequence of the questions. The data were analysed using the Predictive Analysis Software version 26. The theoretical framework and the research questions guided the data analysis.

**Table 1. 4: Demographic information**

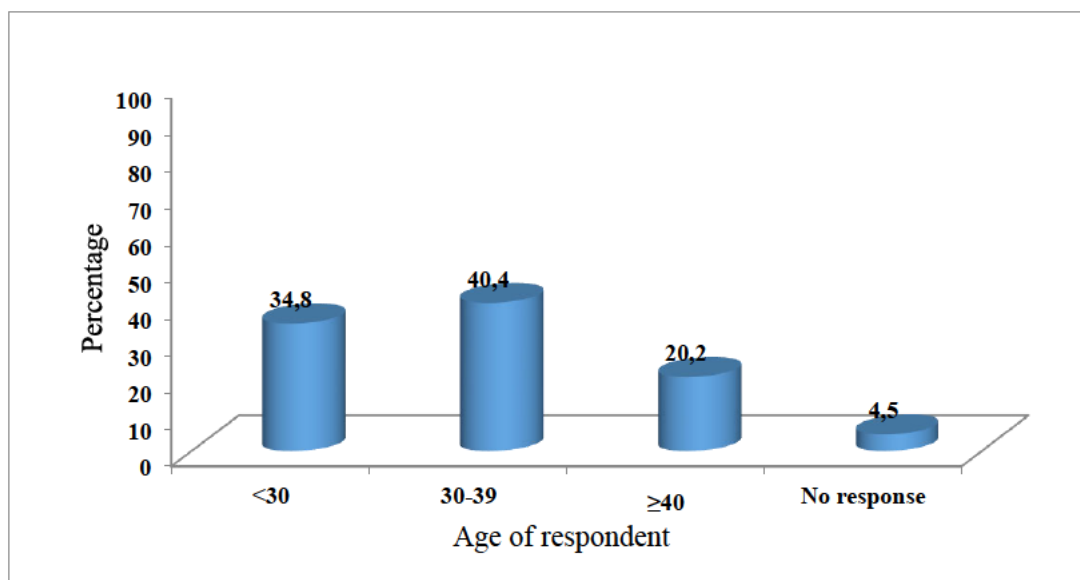
Characteristic	Category	%	N
Age	<30	34.8	31
	30-39	40.4	36
	≥40	20.2	18
	No response	4.5	4
Length of time working at PHC	<5	45.3	39
	5-9	27.9	24
	≥10	19.8	17
	No response	7.0	6
Gender	Male	16.9	15
	Female	83.1	74
Occupation	Medical officers	10.1	9
	Registered nurse	67.4	60
	Nursing assistant	7.9	7
	Pharmacist	11.2	10
	No response	3.4	3
Length of time working at PHC	<5	39	43.8
	5-9	26	29.2
	≥10	18	20.2
	No response	6	6.7

### ***Sample Realization***

The respondents comprised of 60 registered nurses, 9 medical officers, 10 pharmacists and 7 nursing assistants, working in 5 primary health cares located in Maseru. The researcher achieved the sample size by personally distributing 88 self-administered questionnaires to all the respondents who agreed to participate in the study. All the 88 questionnaires distributed were completed and returned, a response rate of 100%.

### ***Socio-demographic characteristics***

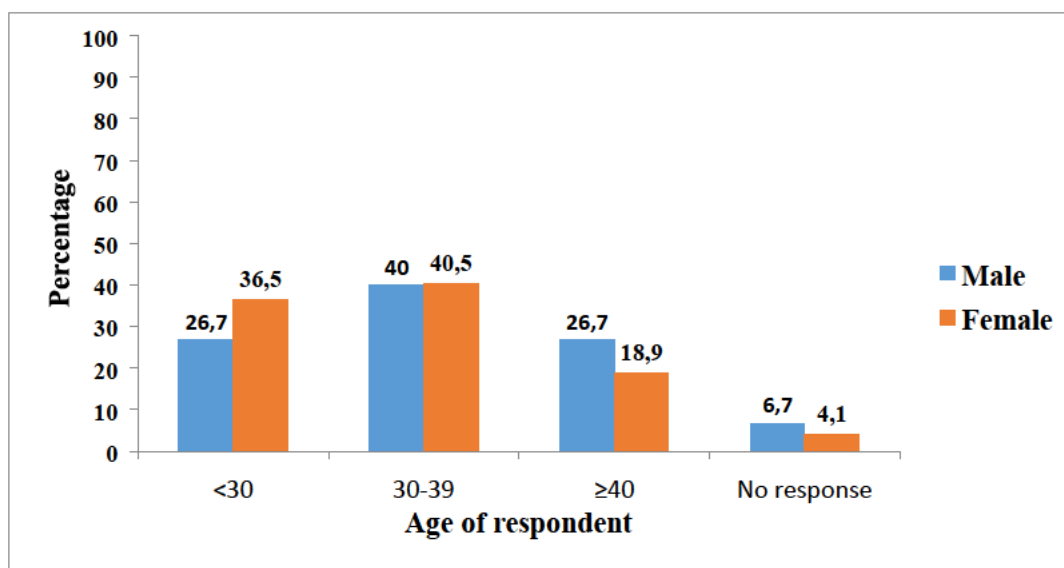
Table 1 presents the demographic information of the 88 participants. In terms of age, the highest proportion (n=36, 40.4%) were from 30-39 years, followed by the group less than 30 years (n=31, 34.8%). Only 18 (20.2%) were older than 40 years. Most of the participants had less than 5 years' experience (n=39, 45.3%), and 24 (27.9%) had 5-9 years' experience. Only 17 participants had a work experience of more than 10 years. A small proportion (16.9%) was male and 83.9% female. Regarding occupation, the highest proportion (n=60, 67.4%) were registered nurses, 19 (11.2%) pharmacists, 9 (10.1%) medical doctors, and 7 (7.9%) nursing assistant. The average for age was 28 and average in length of time working in PHC is 27.6.



**Figure 1. 4: Age distribution of respondents**

### ***Age distribution of respondents***

The highest proportion of the respondents was from 30-39 years (40.4%), followed by the group less than 30 years (34.8%), and 20,2% were older than 40 years.



**Figure 1. 5: Respondents age by gender**

*Respondents' age by gender*

The highest proportion of the age group by gender was the age group from 30-39 years, of which 40% were males and 40.5% females. The group who were less than 30 years, had 26.7% males and 36.5% females. The smallest proportion was the group who was older than 40 years, with 26.7% males and 18.9% females.

**Table 1. 5: Association of demographic variables**

Characteristic	Category	Occupation				Chi- square
		Medical Doctor n(%)	Nurse n(%)	Pharmacist n(%)	Nursing Assistant n(%)	
Gender	Male	5(35.7)	7(50.0)	2(14.3)	0(0.0)	0.012
	Female	4(5.6)	53(73.6)	8(11.1)	7(9.7)	
Age (years)	<30	0(0.0)	20(69.0)	6(20.7)	3(10.3)	0.253
	30-39	6(17.1)	24(68.6)	4(11.4)	1(2.9)	
	≥40	2(11.1)	14(77.8)	4(11.4)	2(11.1)	
Length of time working at PHC (years)	<5	3(7.7)	30(76.9)	4(10.3)	2(5.1)	0.697
	5-9	4(15.4)	18(69.2)	3(11.5)	1(3.8)	
	≥10	2(11.1)	11(61.1)	2(11.1)	3(16.7)	

*Association of demographic variables*

Male nurses accounted 50% of the respondents, medical officers 35.7%, and pharmacists 14.3%. There was no male nursing assistant. The female gender was predominantly represented by nurses (73%), followed by medical officers (35.7%), pharmacists (11.1%), and nursing assistants (9.7%). There were no medical officers less than 30 years, 17.1% of the medical officers were from 30-39 years and 11.1% older than 40 years. The majority (69%) of the registered nurses were less than 30 years, and 68.6% from 30-39 years, with 77.8% of the nurses above 40 years. A small group (20.7%) of the pharmacists were less than 30 years. 11.4% from 30-39 years and 11.4% more than 40 years. Only 10.3% of the nursing assistants were less than 30 years, and 11.4% were more than 40 years. Only 2.3% were 30-39 years old. The chi square test for gender was 0.012, and for age was 0.253.

**Table1. 6: The overall Knowledge of the respondents of Mental Health problems**

Item	SD n (%)	D n(%)	N n (%)	A n (%)	SA n(%)	Mean ± SD
My knowledge on mental health problems is adequate	6(6.7)	12(13.5)	29(32.6)	32(36.0)	10(11.2)	3.3±1.1
I can comfortably identify signs and symptoms of a patient with MHPs	3(3.4)	9(10.2)	20(22.7)	46(52.3)	10(11.4)	3.7 ±0.9
I can comfortably manage people with MHPs	7(7.9)	22(24.7)	33(37.1)	24(27.0)	3(3.4)	2.9±1.0
The care and support of family and friends can help people with MHPs to get rehabilitated	2(2.3)	2(2.3)	2(2.3)	24(27.3)	58(65.9)	4.5±0.8
Corporations and the community (including the government) should offer jobs to people with MHPs	4(4.7)	2(2.3)	14(16.3)	29(33.7)	37(43.0)	4.1±1.1
After a person is treated for MHPs they can return to their former job position	4(4.6)	1(1.1)	11(12.6)	31(35.6)	40(46.0)	4.2±1.0
The best way to help people with MHPs and HIV is to assess them for MHPs in every visit to ART clinic	3(3.4)	2(2.3)	3(3.4)	17(19.3)	63(71.6)	4.5±0.9
The counselling services is necessary for every client living with HIV on every visit to the ART clinic	5(5.7)	2(2.3)	2(2.3)	17(19.3)	62(70.5)	4.7±1.1

SD=Strongly Disagree D = Disagree N = Not Sure A = Agree SA = Strongly Agree SD = Standard Deviation

### ***Overall knowledge of respondents on mental health problems***

Table 4.3 presents the responses of the respondents regarding their level of knowledge regarding mental health problems. More than half (52.8%) of the respondents reported that their level of knowledge of mental health is not adequate, with 47.2% reporting adequate knowledge. About one third of the respondents (36.3%) indicated that they do not have adequate knowledge related to the signs and symptoms of MHPs, and 63.7% had adequate knowledge. Regarding the statement that ‘I can comfortably manage people with MHPs’, 69.7 % reported not to have knowledge regarding the management of MHPs, with 30.4% reporting adequate knowledge of managing MHPs. Concerning the statement ‘The care and support of family and friends will assist people with MHPs to get rehabilitated’, 93.2% of the respondents agreed

with the statement, and 6.9% disagreed. The majority (76.7%) of the respondents were of the view that corporations and the community (including the government) should offer jobs to people with MHPs, but 23.3% of the respondents disagreed, indicating a negative attitude in the respondents towards mental health clients. The majority (90.9%) of the respondents agreed that the best way to help people with Human immune deficiency virus and MHPs is to assess them for MHPs during every visit to- the antiretroviral treatment clinic, while 9.1% disagreed with the statement. The majority (89.8%) of the respondents indicated that counselling services are necessary for PLWH at every visit to antiretroviral treatment clinic, though a small proportion (10.3%) disagreed.

**Table1. 7: Medical doctors' knowledge of mental health problems**

Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ± SD
My knowledge of mental health problems is adequate	0(0.0)	2(22.2)	2(22.2)	2(22.2)	3(33.3)	3.7±1.2
I can comfortably identify signs and symptoms of a patient with mental health problems	0(0.0)	2(22.2)	1(11.1)	2(22.2)	4(44.4)	3.9±1.3
I can comfortably manage people with mental health problems	0(0.0)	2(22.2)	1(11.1)	5(55.6)	1(11.1)	3.6±1.0
The care and support of family and friends can help people with mental health problems to get rehabilitated	0(0.0)	0(0.0)		4(44.4)	5(55.6)	4.6±0.5
Corporations and the community (including the government) should offer jobs to people with mental health problems	1(11.1)	0(0.0)	1(11.1)	3(33.3)	4(44.4)	4.0±1.3
After a person is treated for mental health problems, they can return to their former job position	1(11.1)	0(0.0)	4(44.4)	2(22.2)	2(22.2)	3.4±1.2
The best way to help people with HIV and mental health problems is to assess them for mental health problems in every visit to ART clinic	0(0.0)	0(0.0)	0(0.0)	1(11.1)	8(88.9)	4.9±0.3
The counselling services is necessary for every client with HIV at every visit to the ART clinic	0(0.0)	0(0.0)	1(11.1)	2(22.2)	6(66.7)	4.6±0.7

SD=Strongly Disagree D = Disagree N = Not Sure A = Agree SA = Strongly Agree SD = Standard Deviation

***Medical doctors' level of knowledge related to mental health problems***

As indicated in Table 4, almost half of the medical officers (44.4%) reported that they did not have adequate knowledge regarding MHPs, with 55.5% reporting adequate knowledge. The majority (66.6%) of medical officers reported having adequate knowledge regarding the signs and symptoms of MHPs, and 33.4% indicated inadequate knowledge. Regarding the statement that 'I can comfortably manage people with MHPs' 66.7% of the medical officers agreed with the statement, and 33.3% disagreed. Regarding the statement that 'The care and support of family and friends can help people with MHPs to get rehabilitated', 100% of participants agreed to the statement.

**Table1. 8: Nurses' Knowledge on mental health problems**

Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ± SD
My knowledge on mental health problems is adequate	5(8.3)	9(15.0)	21(35.0)	21(35.0)	4(6.7)	3.2±1.
I can comfortably identify signs and symptoms of a patient with mental illness	3(5.1)	7(11.9)	13(22.0)	31(52.5)	5(8.5)	3.5±1.0
I can comfortably manage people with mental health problems	5(8.3)	16(26.7)	23(38.3)	15(25.0)	1(1.7)	2.9±1.0
The care and support of family and friends can help people with mental health problems to get rehabilitated	2(3.3)	2(3.3)	1(1.7)	17(28.3)	38(63.3)	4.5±0.9
Corporations and the community (including the government) should offer jobs to people with mental health problems	2(3.3)	1(1.7)	11(18.3)	23(38.3)	23(38.3)	4.1±1.0
After a person is treated for mental health problems they can return to their former job position	3(5.1)	1(1.7)	7(11.9)	21(35.6)	27(45.8)	4.2±1.0
The best way to help people with Human immunodeficiency virus and mental health problems is to assess them for MHPs in every visit to antiretroviral clinic	2(3.3)	2(3.3)	3(5.0)	9(15.0)	44(73.3)	4.5±1.0
The counselling services is necessary for every client living with Human immune deficiency virus on every visit to the antiretroviral clinic	5(8.3)	2(3.3)	1(1.7)	9(15.0)	43(71.7)	4.4±1.2

SD=Strongly Disagree D = Disagree N = Not Sure A = Agree SA = Strongly Agree SD = Standard Deviation

### *The level of knowledge of the registered nurses regarding mental health problems*

More than half of the of registered nurses (58.3%) reported inadequate knowledge of mental health, and 41.7% reported having adequate knowledge on MHPs. A smaller group (39%) of the registered nurses reported having inadequate knowledge regarding the signs and symptoms of MHPs, with 61% reporting an adequate level of knowledge on signs and symptoms. The majority (73%) of the registered nurses reported having inadequate knowledge related to the management of MHPs, and only 27% reported having adequate knowledge regarding management.

**Table1. 9: Nursing assistant's knowledge on mental health problems**

<b>Item</b>	<b>SD n(%)</b>	<b>D n(%)</b>	<b>N n(%)</b>	<b>A n(%)</b>	<b>SA n(%)</b>	<b>Mean ± SD</b>
My knowledge on mental health problems is adequate	0(0.0)	0(0.0)	1(14.3)	5(71.4)	1(14.3)	4.0±0.6
I can comfortably identify signs and symptoms of a patient with mental health problems	0(0.0)	0(0.0)	0(0.0)	6(85.7)	1(14.3)	4.1±0.4
I can comfortably manage people with mental health problems	0(0.0)	0(0.0)	4(57.1)	2(28.6)	1(14.3)	2.7±1.1
The care and support of family and friends can help people with mental health problems to get rehabilitated	0(0.0)	0(0.0)	0(0.0)	1(14.3)	6(85.7)	4.9±0.4
Corporations and the community (including the government) should offer jobs to people with mental illness	0(0.0)	0(0.0)	1(20.0)	1(20.0)	3(60.0)	4.4±0.9
After a person is treated for mental health problems, they can return to their former job position	0(0.0)	0(0.0)	0(0.0)	5(71.4)	2(28.6)	4.3±0.5
The best way to help people with Human immunodeficiency virus and Mental health problems is to assess them for mental health problems in every visit to antiretroviral clinic	0(0.0)	0(0.0)	0(0.0)	3(42.9)	4(57.1)	4.6±0.5
The counselling services is necessary for every client living with Human immunodeficiency virus on every visit to the antiretroviral clinic	0(0.0)	0(0.0)	0(0.0)	3(42.9)	4(57.1)	4.6±0.5

### ***Nursing assistant's knowledge on mental health problems***

The majority (85.7%) of the nursing assistants reported having adequate knowledge regarding MH, with 14.3% reporting inadequate knowledge. All (100%) the nursing assistants reported that they can comfortably identify the signs and symptoms of MHPs. More than half (57%) of the nursing assistants reported that they have inadequate knowledge regarding the management of MHPs, and 42.9% declared having adequate knowledge.

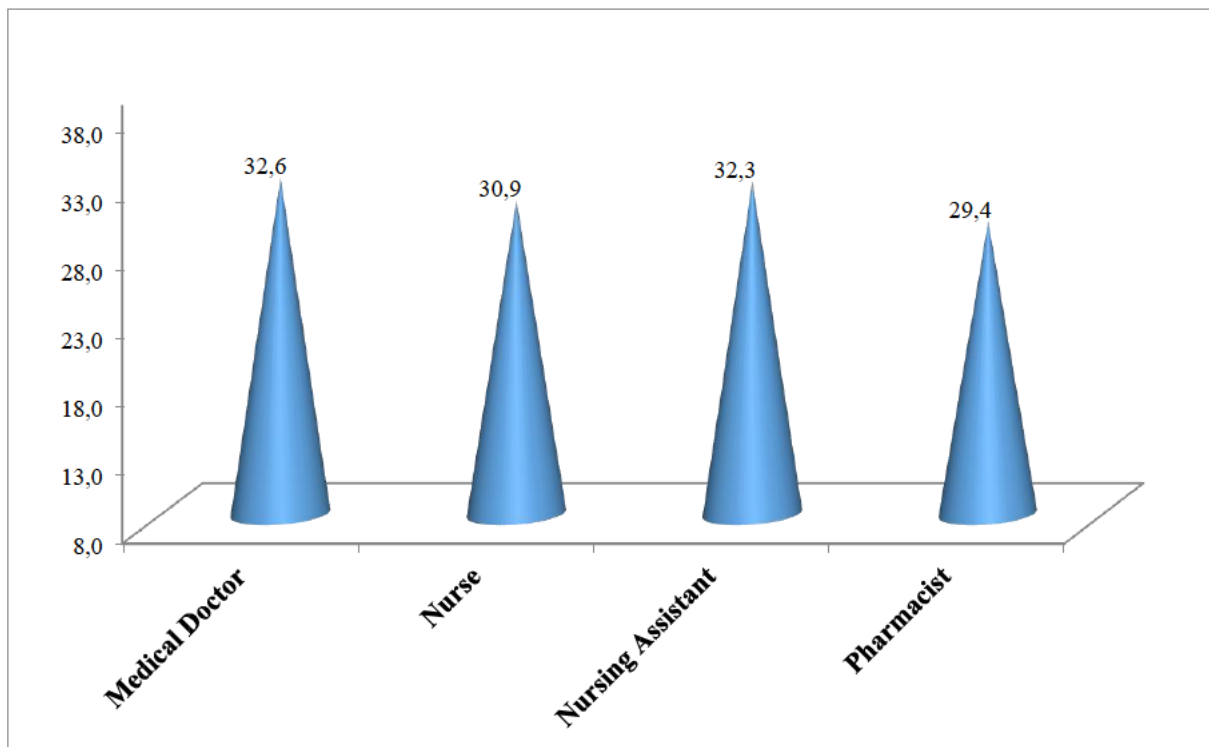
**Table1. 10: The Pharmacists responses regarding their level of knowledge of MHPs**

Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ± SD
My knowledge on mental illness is adequate	1(10.0)	1(10.0)	4(40.0)	3(30.0)	1(10.0)	3.2±1.1
I can comfortably identify signs and symptoms of a patient with mental health problems	(0.0)	(0.0)	5(50.0)	5(50.0)		3.5±0.5
I can comfortably manage people with mental health problems	2(20.0)	(0.0)	5(50.0)	3(30.0)		2.9±1.1
The care and support of family and friends can help people with mental health problems to get rehabilitated	(0.0)	(0.0)	1(11.1)	1(11.1)	7(77.8)	4.7±0.7
Corporations and the community (including the government) should offer jobs to people with mental health problems	1(11.1)	1(11.1)	1(11.1)	1(11.1)	5(55.6)	3.9±1.5
After a person is treated for mental health problems, they can return to their former job position	(0.0)	(0.0)	(0.0)	3(33.3)	6(66.7)	4.7±0.5
The best way to help people with Human immunodeficiency virus and mental health problems is to assess them for mental health problems in every visit to antiretroviral clinic	1(11.1)	(0.0)	(0.0)	4(44.4)	4(44.4)	4.1±1.2
The counselling services is necessary for every client living with Human immunodeficiency virus on every visit to the antiretroviral clinic	(0.0)	(0.0)	(0.0)	3(33.3)	6(66.7)	4.7±0.5

SD=Strongly Disagree D = Disagree N = Not Sure A = Agree SA = Strongly Agree SD = Standard Deviation

### ***Respondents' responses on Knowledge of MHPs (Pharmacists)***

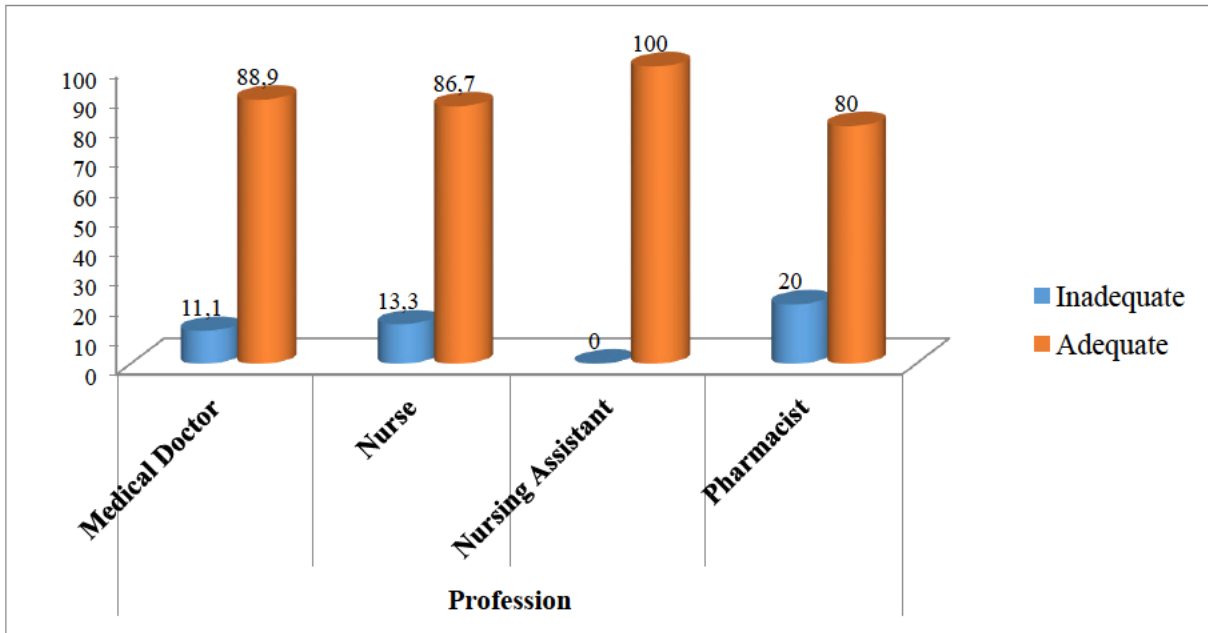
The majority (60%) of the pharmacists reported having inadequate knowledge regarding MH, with 40% reporting adequate knowledge regarding mental health. Half (50%) of pharmacists reported adequate knowledge regarding the signs and symptoms of MHPs, with 50% disagreeing. The Cronbach's Alpha statistic was used to check the reliability of the instrument. The Cronbach's Alpha was 0.832 indicating a reliable instrument.



**Figure 1. 6: Mean level of knowledge by profession**

### ***Mean level of knowledge by profession***

With the 8 items related to knowledge, the minimum score was 8 and maximum score was 40. A knowledge score of 8-24 was taken to denote inadequate knowledge, and from 25 to 40 denoted adequate knowledge. According to Figure 3, the nursing assistants had a mean of 32.3 followed by the medical officers with a mean of 32.6, the registered nurses with a mean of 30.9 and lastly the mean knowledge of the pharmacists at 29.4. However, the differences were only marginal. This has been confirmed by the ANOVA test for multiple comparisons. The overall mean level of knowledge of the health professionals regarding integrating mental health with Human immune deficiency virus services at primary healthcare was 31.



**Figure1. 7: Knowledge adequacy by profession**

***Knowledge adequacy by profession***

With respect to the adequacy of knowledge, Figure 4 presents the comparisons. The nursing assistants had adequate knowledge (100%), followed by the medical doctors at 89%, nurses at 86.2%, and 80% of pharmacists had adequate knowledge. Overall, with the grand mean knowledge of 87.8%, the respondents were quite knowledgeable. Based on the chi-square test, there was no significant association between profession and level of knowledge.

**Table1. 11: Post Hoc Tests: Knowledge scores by age of respondents**

<b>Multiple Comparisons</b>						
<b>Dependent Variable: Knowledge</b>						
<b>LSD</b>						
<b>(I) age</b>	<b>(J) age</b>	<b>Mean Difference (I-J)</b>	<b>Std. Error</b>	<b>Sig.</b>	<b>95% Confidence Interval</b>	
					<b>Lower Bound</b>	<b>Upper Bound</b>
<30	30-39	-0.018	0.084	0.831	-0.18	0.15
	≥40	0.038	0.101	0.711	-0.16	0.24
30-39	<30	0.018	0.084	0.831	-0.15	0.18
	≥40	0.056	0.098	0.574	-0.14	0.25
≥40	<30	-0.038	0.101	0.711	-0.24	0.16
	30-39	-0.056	0.098	0.574	-0.25	0.14

***Knowledge scores by age of respondents***

Table 8 presents the knowledge scores by age. The 30-39-year age group had the p-value of 0.831, and the group older than 40 years had a p-value of 0.16. The results had a 95% confidence interval.

**Table1. 12: Mean knowledge by profession**

Descriptive								
Knowledge								
	N	Mean	SD	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Medical Doctor	9	0.89	0.333	0.111	0.63	1.15	0	1
Nurse	60	0.87	0.343	0.044	0.78	0.96	0	1
Nursing Assistant	7	1.00	0.000	0.000	1.00	1.00	1	1
Pharmacist	10	0.80	0.422	0.133	0.50	1.10	0	1
Total	86	0.87	0.336	0.036	0.80	0.94	0	1

***Mean Knowledge by profession***

The nursing assistants had the highest mean knowledge 1.00, followed by medical officers with 0.89, registered nurses with 0.87 and lastly the pharmacists with the lowest mean knowledge of 0.80.

**Table 1. 13: Knowledge by profession**

ANOVA					
Knowledge					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.171	3	0.057	0.495	0.686
Within Groups	9.422	82	0.115		
Total	9.593	85			

The significance between groups was 0.686.

**Table 1. 14: Post Hoc Tests: Knowledge by profession**

Multiple Comparisons						
Dependent Variable: Knowledge						
LSD						
(I) Profession	(J) Profession	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Medical Doctor	Nurse	0.022	0.121	0.855	-0.22	0.26
	Nursing Assistant	-0.111	0.171	0.517	-0.45	0.23
	Pharmacist	0.089	0.156	0.570	-0.22	0.40
Nurse	Medical officers	-0.022	0.121	0.855	-0.26	0.22
	Nursing Assistant	-0.133	0.135	0.328	-0.40	0.14
	Pharmacist	0.067	0.116	0.566	-0.16	0.30
Nursing Assistant	Medical officers	0.111	0.171	0.517	-0.23	0.45
	Nurse	0.133	0.135	0.328	-0.14	0.40
	Pharmacist	0.200	0.167	0.235	-0.13	0.53
Pharmacist	Medical officers	-0.089	0.156	0.570	-0.40	0.22
	Nurse	-0.067	0.116	0.566	-0.30	0.16
	Nursing Assistant	-0.200	0.167	0.235	-0.53	0.13

### ***Knowledge of mental health problems by profession***

Post Hoc tests were performed to determine the level of knowledge regarding mental health comparing the professions. Comparing the medical officers' knowledge to the nurses' knowledge, the mean difference was 0.022 and the p-value 0.855. Comparing the medical officers' knowledge with the nursing assistants, the mean difference was -0.111 and p-value was 0.517. A comparison between the pharmacists' and the medical officer's knowledge, the mean difference was 0.089 with a p-value of 0.570. When the medical officers' knowledge was compared with the with the nurses' knowledge, the mean difference was -0.022 with a p-value of 0.855, and the nursing assistants' knowledge compared to registered nurse's knowledge, the mean difference was -0.133 with a p-value of 0.328. Comparing the pharmacists' knowledge and nurse's knowledge, the mean difference was 0.067 with a p-value 0.566. The nursing assistant's knowledge compared with the medical doctors resulted in a mean difference of 0.111 with a p-value of 0.517, and the nursing assistants compared with the registered nurse's knowledge, resulted in a mean difference of 0.133 with a p-value of 0.328. When the nursing assistants' knowledge was compared with the pharmacists' knowledge, the mean difference was 0.200 with a p-value of 0.235. When the pharmacists' knowledge was compared to the medical officers' knowledge, the mean difference was -0.089 with a p-value of 0.570. Comparing the pharmacists' knowledge with the registered nurses, resulted in a mean difference of -0.067 with a p-value of 0.566, and the pharmacists compared with the nursing assistant's knowledge, resulted in a mean difference of -0.200 with a p-value of 0.235. These p values were all regarded as statistically different as they were more than 0.05. The results had 95% confidence interval.

**Table1. 15: Mean by work experience**

Descriptives								
Knowledge								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
<5	39	0.87	0.339	0.054	0.76	0.98	0	1
5-9	26	0.88	0.326	0.064	0.75	1.02	0	1
≥10	18	0.83	0.383	0.090	0.64	1.02	0	1
Total	83	0.87	0.341	0.037	0.79	0.94	0	1

*Mean by work experience*

The group with 5-9 years of work experience had the highest mean, 0.88, followed by the group with less than 5 years' work experience with 0.87, and the group with more than 10 years' experience had the lowest mean of 0.83.

**Table 1. 16: Knowledge between groups**

ANOVA					
Knowledge					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.029	2	0.015	0.123	0.884
Within Groups	9.513	80	0.119		
Total	9.542	82			

***Knowledge between groups***

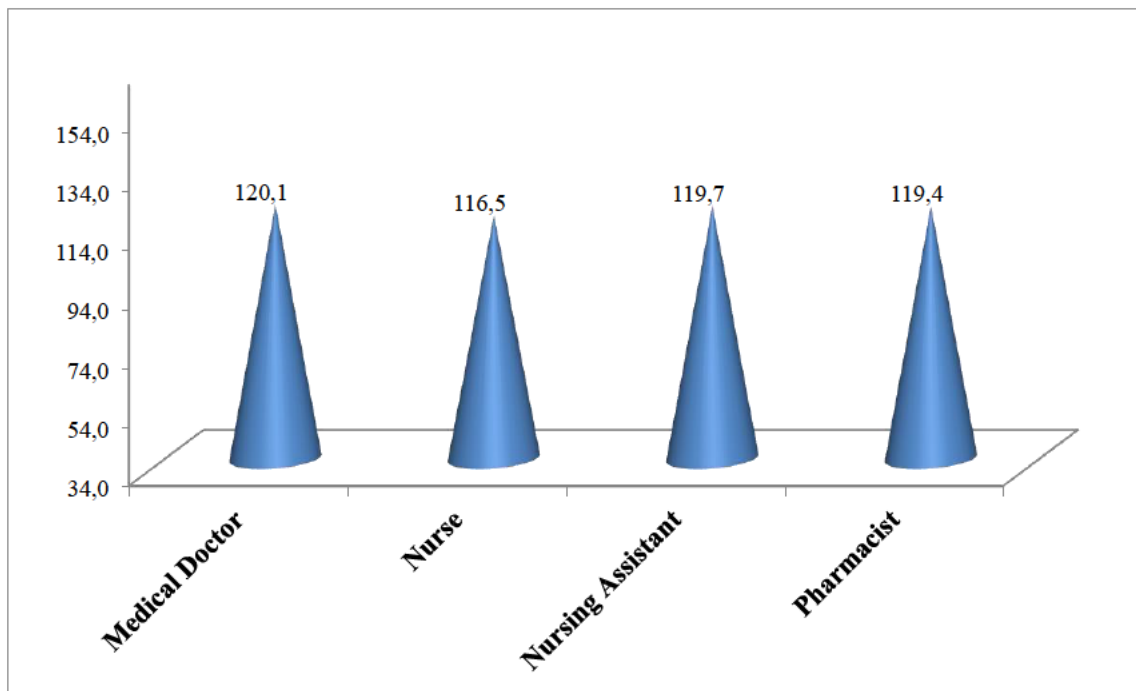
The mean knowledge between the groups was 0.015 and within groups 0,119.

Table 1. 17: Post Hoc Tests: Knowledge score by length of time working in PHC.

<b>Multiple Comparisons</b>						
<b>Dependent Variable: Knowledge</b>						
<b>LSD</b>						
<b>(I) Length of time working at PHC</b>	<b>(J) Length of time working at PHC</b>	<b>Mean Difference (I-J)</b>	<b>Std. Error</b>	<b>Sig.</b>	<b>95% Confidence Interval</b>	
					<b>Lower Bound</b>	<b>Upper Bound</b>
<5	5-9	-0.013	0.087	0.884	-0.19	0.16
	≥10	0.038	0.098	0.697	-0.16	0.23
5-9	<5	0.013	0.087	0.884	-0.16	0.19
	≥10	0.051	0.106	0.629	-0.16	0.26
≥10	<5	-0.038	0.098	0.697	-0.23	0.16
	5-9	-0.051	0.106	0.629	-0.26	0.16

***Knowledge score by length of time working at primary health care***

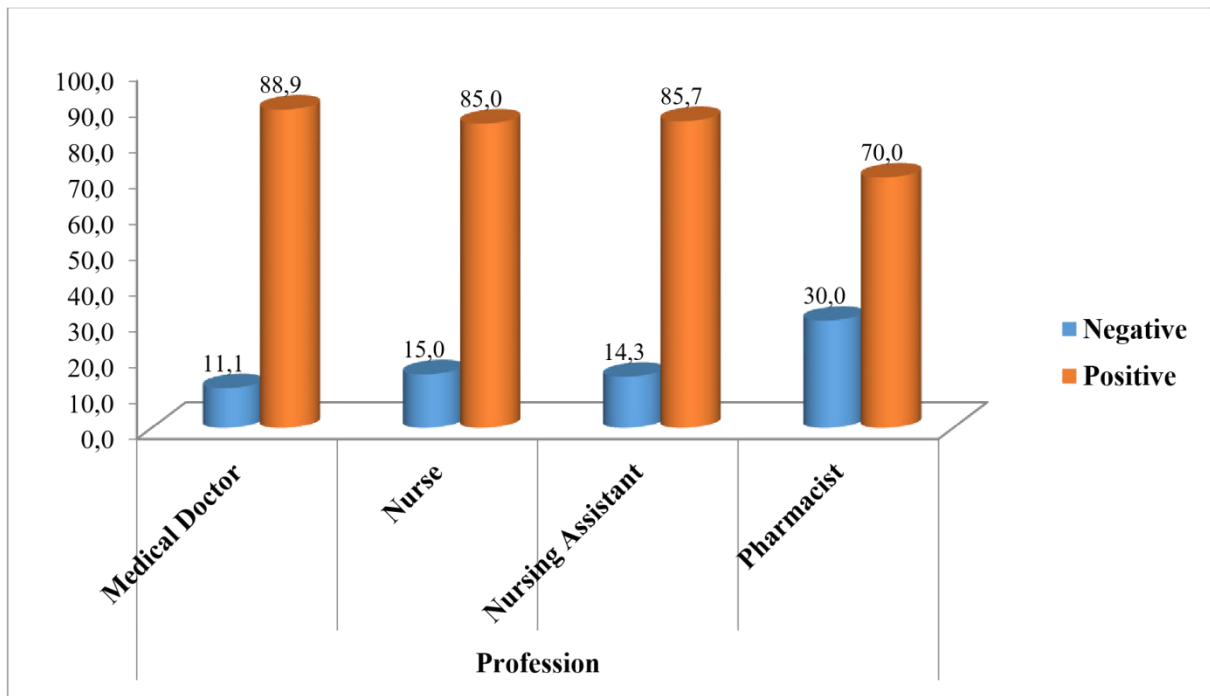
When the knowledge of the group with less than 5 years’ experience at a primary health care was compared to the group with 5-9 years’ experience, the mean difference was -0013 with a p-value of 0.884, and the group with less than 5 years’ work experience compared with the group with more than 10 years’ experience, the mean difference was 0.038 with p-value of 0.697. When knowledge of the group with 5-9 years’ experience was compared with the group with less than 5 years’ work experience, the mean difference was 0.013 with a p-value of 0.884. Comparing the group with 5-9 years’ experience with the group more than 10 years’ work experience, the mean difference was 0.051 with a p-value of 0.629, and comparing the group with more than 10 years’ experience with the group with less than 5 years’ work experience, the mean difference was 0.038 with a p-value of 0.697. When the knowledge of the group with more than 10 years’ experience was compared with the group with 5-9 years’ work experience, the mean difference was 0.051 with a p-value of 0.629. The results had a 95% confidence interval.



**Figure1. 8: Mean perception score by profession**

***Mean perception score by profession***

This sub-section presents the overall results of the respondents regarding availability of a competence-based framework regarding the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus. The mean perception score of the medical officers was higher at 120.1, followed by the nursing assistants at 119.7. The pharmacist had a mean perception of 119.4, which was closely related to the mean perception of nursing assistants. The lowest mean perception was the registered nurses at 116.5.



**Figure1. 9: The nature of the perception (negative or positive) by profession**

***The nature of the perception (negative or positive) by health professional***

The medical officers (88.9%), nurses (85.0%) and nursing assistants (85.7) reported a positive perception regarding availability of a competence-based framework regarding the integration of mental health with Human immunodeficiency virus services. Of the pharmacists, 7 in 10 (70.0%) reported a positive perception. This was a reinforcement of the findings presented in Figure 6. The overall mean score of the majority (83.7%) of the health professionals was a positive perception of the availability of a competence-based framework regarding the provision of MHS in people presenting with MHPs and also having Human immune deficiency virus.

**Table 1. 18: Mean perception score by demographic information**

<b>Demographic variable</b>	<b>Category</b>	<b>Perception score <math>\pm</math> SD</b>
Gender	Male	120.9 $\pm$ 14.6
	Female	116.9 $\pm$ 15.2
Age	<30	121.5 $\pm$ 15.2
	30-39	111.8 $\pm$ 15.3
	$\geq$ 40	119.0 $\pm$ 12.3
Occupation	Medical officers	121.0 $\pm$ 16.5
	Nurse	116.7 $\pm$ 15.2
	Nursing Assistant	119.7 $\pm$ 14.0
	Pharmacist	118.0 $\pm$ 17.7
Length of time working at PHC	<5	117.5 $\pm$ 15.3
	5-9	115.7 $\pm$ 16.1
	$\geq$ 10	121.7 $\pm$ 13.3

***Mean perception score by demographic information*****Mean attitude score by gender and age**

The mean perception score for the males were 120.9 $\pm$ 14.6, and for the females 116.9 $\pm$ 15.2. Regarding age, the group younger than 30 years had a mean perception score of 121.5 $\pm$ 15.2, with the group from 30-39 years 111.8  $\pm$  15.3. The 30–39-year age group had a mean perception score of 111.8 $\pm$ 15.3, and the group older than 40 years, 119.0 $\pm$ 12.3. The highest mean perception score was the group younger than 30 at 121.5 $\pm$ 15.2.

**Mean attitude and perception score by occupation**

In relation to occupation, the medical officers had the mean perception score of 121.0  $\pm$ 16.5, and the nurses a score of 116.7  $\pm$ 15.2. The nursing assistants had mean perception score of 119.7+ 14.0, and or the pharmacists, had the score of 117.5  $\pm$ 15.3. The highest mean perception score was for the medical officers.

**Mean attitude score by length of time working at primary health care**

Concerning the length of time working at primary health care, the group which worked at the primary health care for less than 5 years had a mean perception score of 117.5  $\pm$ 15.3, and the group with 5-9 years, had a score of 115.7  $\pm$  16.1. The group which worked at the primary

health care for more 10 years had mean perception score of 121.7±13.3. The group which worked more than 10 years had the highest mean perception score. The results had 95% confidence interval.

**Table 1. 19: Mean attitude and perception score by demographics**

<b>Demographic information</b>	<b>Category</b>	<b>Attitude score ± SD</b>	<b>Perception score ± SD</b>
Gender	Male	62.2±4.1	120.9±14.6
	Female	61.7±6.8	116.9±15.2
Age	<30	62.3±6.9	121.5±15.2
	30-39	60.9±6.5	111.8±15.3
	≥40	62.8±5.3	119.0±12.3
Occupation	Medical Doctor	63.8±3.8	121.0±16.5
	Nurse	61.9±6.7	116.7±15.2
	Nursing Assistant	66.0±5.2	119.7±14.0
	Pharmacist	58.0±3.8	118.0±17.7
Length of time working at primary health care	<5	61.8±6.4	117.5±15.3
	5-9	62.5±7.4	115.7±16.1
	≥10	62.0±6.3	121.7±13.3

***Mean attitude and perception score by demographic information***

Only the mean attitude and perception score of nursing assistants was significantly different from that of pharmacists. With 19 questions related to attitude, the minimum possible score was 19 and maximum score 95. An attitude score of 19-57 would denote a negative attitude, and a score from 58 to 95 denoted a positive attitude.

Perception had 34 questions, the minimum possible score was 34 and the maximum score 170. A perception score of 34-102 denoted a negative perception and a score from 103 to 170 a positive perception. Based on the definition of negative and positive attitude or perception, comparisons were made in the following tables.

The crude odds ratios with a 95% confidence interval (CI) were calculated to evaluate which group is more likely to report positive attitude or perception. With a Cranach’s Alpha of 0.823, the instrument for data collection was 82% reliable. Statistically speaking, the score of 50% is the lower limit for the instrument to be reliable.

**Results**

According to Table 14, 78.9% of the respondents had a positive attitude and 85.3% had a positive perception.

**Table1. 20: Mean score by age**

Descriptive								
Knowledge								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
<30	31	0.87	0.341	0.061	0.75	1.00	0	1
30-39	36	0.89	0.319	0.053	0.78	1.00	0	1
≥40	18	0.83	0.383	0.090	0.64	1.02	0	1
Total	85	0.87	0.338	0.037	0.80	0.94	0	1

**Mean score by age**

Table 15 illustrates that the age group 30-39 years had the highest mean of 0.89, followed by the group less than 30 years at 0.87. The group older than 40 years had the lowest mean of 0.87.

**Table 1. 21: Nature of perception comparisons about MHPs**

Demographics	Category	Negative	Positive	Odds ratio (95% CI)
Gender	Male	2(15.4)	11(84.6)	0.9(0.2,4.9)
	Female	9(14.5)	53(85.5)	1.0
Age	<30	3(10.7)	25(89.3)	1.3(0.2,8.7)
	30-39	6(20.7)	23(79.3)	0.6(0.1,3.4)
	≥40	2(13.3)	13(86.7)	1.0
Occupation	Medical Doctor	1(12.5)	7(87.5)	1.0(0.1,9.2)
	Nurse	6(12.0)	44(88.0)	1.0
	Nursing Assistant	1(14.3)	6(85.7)	0.8(0.1,8.0)
	Pharmacist	3(37.5)	5(62.5)	0.2(0.0,1.2)
Length of time at primary health care	<5	5(16.1%)	26(83.9)	0.7(0.1,4.3)
	5-9	3 (12.5)	21(87.5)	1.0(0.1,6.8)
	≥10	2 (12.5)	14(87.5)	1.0

***Nature of perception comparisons about MHPs***

The majority (84.6%) of males had a positive perception regarding the integration of MHS with HIV for people presenting with MHPs and HIV; however, 15.4% had a negative perception. Similarly, 85.5% of the female had a positive perception, but 14.5% had a negative perception. The majority (87.5%) of the medical officers had a positive perception regarding integration of MHS with HIV for people presenting with MHPs and HIV, and 12.5% a negative perception. Almost all (88%) the registered nurses had a positive perception, and only 12% had a negative perception. The health professionals with less than 5 years' experience had a positive perception (83.9%), with 16.1% a negative perception. Regarding the health professionals with 5-9 years' experience, 87.5% had a positive perception regarding integration of MHS with Human immunodeficiency for people presenting with MHPs, and 12.5% had a negative perception regarding the health professionals with more than 10 years' experience, 87.5% had a positive perception regarding the integration of MHS with HIV for people presenting with MHPs and also having Human immunodeficiency virus and 12.5% had a negative perception.

**Table 1. 22: Respondents' responses regarding the perceptions (all participants)**

Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ±SD
I can comfortably identify signs and symptoms of a patient who has mental health problems and Human immunodeficiency virus	10(11.2)	18(20.2)	26(29.2)	29(32.6)	6(6.7)	3.0±1.1
I can comfortably manage people with mental health problems	2(2.3)	22(25.3)	33(37.9)	28(32.2)	2(2.3)	3.0±0.9
I feel that I know enough about the factors that put people at risk of mental health problems to carry out my role when working with this client in a group	11(12.4)	28(31.5)	25(28.1)	22(24.7)	3(3.4)	2.8±1.1
I feel I know how to treat people with Human immunodeficiency virus and mental health problems	6(6.7)	20(22.5)	29(32.6)	31(34.8)	3(3.4)	3.1±1.0
I feel that I can appropriately advise my patient about mental health problems	3(3.4)	9(10.1)	27(30.3)	41(46.1)	9(10.1)	3.5±0.9
I feel that I have a clear idea of my responsibilities in helping patients with mental health problems and Human immunodeficiency virus	4(4.5)	15(17.0)	22(25.0)	31(35.2)	16(18.2)	3.5±1.1
I feel that I have the right to ask patients about their mental health status when necessary	4(4.5)	4(4.5)	11(12.4)	40(44.9)	30(33.7)	4.0±1.0
I feel that my patients believe I have the right to ask them questions about mental health problems when necessary	4(4.5)	13(14.8)	17(19.3)	37(42.0)	17(19.3)	3.6±1.1
I feel that I have the right to ask a patient for any information that is relevant to their mental health problems	5(5.6)	4(4.5)	11(12.4)	39(43.8)	30(33.7)	4.0±1.1
If I felt the need when working with patients with mental health problems, I could easily find someone with whom I could discuss any personal difficulties I might encounter	6(6.9)	13(14.9)	20(23.0)	24(27.6)	24(27.6)	3.5±1.2

If I felt the need when working with someone with mental health problems, I could easily find somebody who would help me clarify my professional difficulties	7(8.0)	11(12.6)	24(27.6)	25(28.7)	20(23.0)	3.5±1.2
If I felt the need I could easily find someone who would be able to help me formulate the best approach to a patient with mental health problems	3(3.4)	12(13.5)	20(22.5)	30(33.7)	24(27.0)	3.7±1.1
I am interested in the nature of mental health problems and the treatment of them	3(3.4)	6(6.7)	13(14.6)	37(41.6)	30(33.7)	4.0±1.0
I feel that I am able to work with patients with mental health problems as effectively as with other patients who do not have mental health problems	4(4.5)	23(25.8)	25(28.1)	31(34.8)	6(6.7)	3.1±1.0
I want to work with patient with mental health problems	9(10.1)	18(20.2)	27(30.3)	26(29.2)	9(10.1)	3.1±1.1
I feel that I have a number of good qualities to work with patients with mental health problems and Human immunodeficiency virus	8(9.1)	17(19.3)	28(31.8)	27(30.7)	8(9.1)	3.1±1.1
I have the skills to work with patients with mental health problems	15(17.0)	21(23.9)	30(34.1)	21(23.9)	1(1.1)	2.7±1.1
I want to work with patient with mental health problems	13(14.6)	25(28.1)	22(24.7)	24(27.0)	5(5.6)	2.8±1.2
I feel that I can assess and identify the medical/psychiatric/psychological/occupational therapy/nursing problems of patients with mental health problems	10(11.2)	15(16.9)	37(41.6)	25(28.1)	2(2.2)	2.9±1.0
I feel that there is nothing I can do to help patients with mental health problems	24(27.0)	27(30.3)	17(19.1)	16(18.0)	5 (5.6)	2.5±1.2
I feel that I have something to offer patients with mental health problems	9(10.2)	4(4.5)	25(28.4)	39(44.3)	11(12.5)	3.4±1.1
I feel that I have much to be proud of when working with patients with mental health problems and Human immunodeficiency virus	4 (4.5)	13(14.6)	34(38.2)	20(22.5)	18(20.2)	3.4±1.1
Caring for people with mental health problems and Human immune deficiency virus is an important part of a Health professional role	1(1.1)	1(1.1)	9(10.1)	28(31.5)	50(56.2)	4.4±0.8

In general, one can get satisfaction from working with patients with mental health problems	4(4.5)	8(9.0)	27(30.3)	30(33.7)	20(22.5)	3.6±1.1
In general, it is rewarding to work with patients with mental health problems	5(5.7)	9(10.2)	34(38.6)	27(30.7)	13(14.8)	3.4±1.0
In general, I feel that I can understand patients with mental health problems and Human immune deficiency virus	3(3.4)	7(8.0)	18(20.5)	49(55.7)	11(12.5)	3.7±0.9
I am satisfied with the way I work with patients with mental health problems	10(11.4)	22(25.0)	26(29.5)	24(27.3)	6(6.8)	2.9±1.1
When working with patients with mental health problems I receive adequate supervision from a more experienced person	25(28.1)	22(24.7)	18(20.2)	13(14.6)	11(12.4)	2.6±1.4
When working with patients with MHP I receive adequate ongoing support from colleagues	17(19.1)	17(19.1)	26(29.2)	17(19.1)	12(13.5)	2.9±1.3
I feel that I have a need to have competence-based framework that can help guide me in management of mental health problems in PLWH	3(3.4)	9(10.1)	9(10.1)	17(19.1)	51(57.3)	4.1±1.2
Developing competence-based framework to assist health professional to successfully manage PLWH and mental health problems is important	2(2.2)	3(3.4)	5(5.6)	18(20.2)	61(68.5)	4.5±0.9
Competence-based framework for integration of mental health services and Human immunodeficiency virus services will help me successfully manage mental health problems in PLWH	2(2.3)	1(1.1)	6(6.8)	17(19.3)	62(70.5)	4.6±0.9
Availability of competence-based framework will facilitate successful integration of management of mental health problems and Human immune deficiency virus.	2(2.3)	1(1.1)	4(4.5)	15(17.0)	66(75.0)	4.6±0.8
Educating the stake holders about mental health problems and Human immunodeficiency virus will facilitate improved integration of MHP and Human immunodeficiency virus	2(2.3)	0(0.0)	0(0.0)	1(1.2)	83(96.5)	4.9±0.6

SD=Strongly Disagree D = Disagree N = Not Sure A = Agree SA = Strongly Agree SD = Standard Deviation

***The respondents' responses regarding the perceptions (all participants)***

Less than half (43,7%) of the respondents felt that they advise their patients appropriately about mental health problems. More than half (56,3%) disagreed with the statement. The majority Out of the participants, (64%) of the respondents' perceptions was that they cannot identify people with MHPs, though 46% agreed that they can identify the signs and symptoms of MHPs. In addition, 65.5% agreed that they cannot manage people with MHPs, with 34.5% disagreeing. Regarding the perception that I feel I know how to treat people with HIV and MHPs, 61.8% disagreed and 38.2% agreed with the statement. In addition, 72% of respondents perceived that they know enough about the factors that increase the risk of MHPs, but 38% of the participants disagreed. The majority (76.4%) of the respondents stated that they need a competence-based framework that can guide them in the management of mental health problems in PLWH, with 23.6% not requiring a competence-based framework to support them in the management of MHPs. The majority (88.7%) of the respondents agreed that developing competence-based framework will support them to successfully manage mental health problems in people who also have HIV, and 11.2% disagreed with the statement. Almost all (92%) agreed that the availability of a competence-based framework will support the management of patients with MHPs and Human immunodeficiency virus. Similarly, almost all (97.7) of the respondents agreed that educating stakeholders about MHP and Human immunodeficiency virus will facilitate the improved integration of Human immunodeficiency virus services and MHS, with only 2.3% disagreeing with the statement.

**Table1. 23: Comparisons regarding the attitude towards MHPs**

Demographic	Category	Negative	Positive	Odds ratio (95% CI)
Gender	Male	2(14.3)	12(85.7)	1.8(0.4,9.0)**
	Female	13(22.8)	44(77.2)	1.0
Age	<30	7(26.9)	19(73.1)	0.3(0.0,2.5)
	30-39	7(22.6)	24(77.4)	0.3(0.0,3.2)
	≥40	1 (9.1)	10(90.9)	1.0
Occupation	Medical Doctor	0(0.0)	8(100.0)	Not calculated due to 0 negative attitude of medical doctors and nursing assistants
	Nurse	11(22.4)	38(77.6)	
	Nursing Assistant	0(0.0)	5(100.0)	
	Pharmacist	2(28.6)	5(71.4)	
Length of time working at pri- mary health care	<5	7(21.9)	25(78.1)	0.2(0.1,2.1)
	5-9	4(21.1)	15(78.9)	0.3(0.0,2.5)
	≥10	1(6.3)	15(93.8)	1.0

***Attitude comparisons about MHPs***

The males had a higher positive attitude (85.7%), compared to the females (77.2%). Conversely, more females had more negative attitude (22.8%), compared to the males (14.3%) towards mental health. The group less than 30 years had the highest proportion of a negative attitude (26.9%), followed by the 30-39-year age group (22.6%), and lastly the group less than 40 years (9.1%). The group older than 40 years had the highest positive attitude (90.9%), followed by the 30-39-year age group (77.4%) and the group younger than 30 years (73.1%).

**Table 1. 24: Participants' responses regarding attitudes (all participants)**

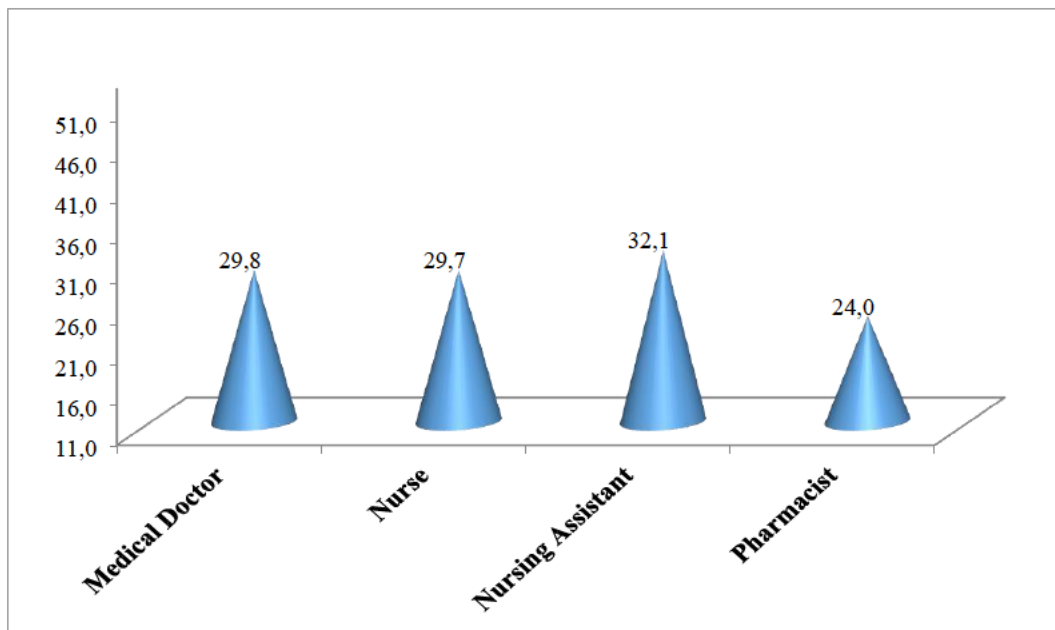
Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ± SD
After people with mental health problems are treated and rehabilitated, we still should not make friends with them	60(69.8)	9(10.5)	4(4.7)	4(4.7)	9(10.5)	1.8±1.4
After people with mental health problems are treated, they are still more dangerous than normal people	45(51.7)	20(23.0)	10(11.5)	7(8.0)	5(5.7)	1.9±1.2
It is possible for everyone to have mental health problems	6(7.2)	0(0.0)	3(3.6)	15(18.1)	59(71.1)	4.5±1.1
We should not laugh at the people with mental health problems even though they act strangely	11(12.6)	1(1.1)	2(2.3)	16(18.4)	57(65.5)	4.2±1.4
It is harder for those who have mental health problems to receive the same pay for the same job	17(19.5)	13(14.9)	35(40.2)	11(12.6)	11(12.6)	2.8±1.3
After treatment it will be difficult for People with mental health problems to return to the community	13(14.8)	20(22.7)	21(23.9)	20(22.7)	14(15.9)	3.0±1.3
People are prejudiced towards those with Mental health problems	8(9.8)	7(8.5)	19(23.2)	22(26.8)	26(31.7)	3.6±1.3
It is seldom for people who are successful at work to have Mental health problems	42(47.7)	6(6.8)	19(21.6)	10(11.4)	11(12.5)	2.3±1.5
It is shameful to have mental health problems	44(50.0)	15(17.0)	12(13.6)	11(12.5)	6(6.8)	2.1±1.3
Mental health problem is a punishment for doing some bad things	69(78.4)	7(8.0)	0(0.0)	3(3.4)	9(10.2)	1.6±1.3
I suggest that those who have a mental health problem do not tell anyone about their illness	57(64.8)	11(12.5)	4(4.5)	7(8.0)	9(10.2)	1.9±1.4

SD = Strongly Disagree D = Disagree N = Not Sure A = Agree SA = Strongly Agree SD = s99Standard Deviation IQR= Interquartile Range

***Participants' responses on attitudes (all participants)***

Regarding statement that after people with MHPs are treated and rehabilitated, we should not make friends with them, the majority (85%) disagreed, and 15.4% agreed with the statement. In addition, 86.2% disagreed that after people with mental health problems are treated, they are more dangerous than normal people, and 13.7% agreed. Moreover, 89.6% stated that it is possible for everyone to have MHPs, and 10.8% disagreed.

**Figure 1. 10: Mean attitude score by profession**



***Mean attitude score by profession***

The nursing assistants had a highest mean attitude score of 32.1, followed by the medical officers with 29.8, and similarly, the registered nurses with 29.7. The pharmacist had the lowest mean attitude score of 24.0.

**Table 1. 25: Attitude score by age**

Descriptive									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Attitude score	<30	26	62.31	6.927	1.358	59.51	65.11	50	73
	30-39	31	60.87	6.500	1.167	58.49	63.26	42	74
	≥40	11	62.82	5.269	1.589	59.28	66.36	55	76
	Total	68	61.74	6.452	0.782	60.17	63.30	42	76

The attitude score of the group older than 40 years had the highest mean of 62.82, followed by the group less than 30 years with 62.31 and lastly the group from 30-39 years with 60.87.

**Table 1. 26: Attitude score by groups**

ANOVA						
		Sum of Squares	Df	Mean Square	F	Sig.
Attitude score	Between Groups	44.577	2	22.288	0.528	0.592
	Within Groups	2744.659	65	42.226		
	Total	2789.235	67			

The attitude score between groups was 0.592 and it was not a significant factor.

**Table 1. 27: Attitude score of age by age**

Multiple Comparisons							
LSD							
Dependent Variable	(I) age	(J) age	Mean Difference (I-J)	Std. Error	Sig.	95% Interval Confidence	
						Lower Bound	Upper Bound
Attitude score	<30	30-39	1.437	1.728	0.409	-2.01	4.89
		≥40	-0.510	2.337	0.828	-5.18	4.16
	30-39	<30	-1.437	1.728	0.409	-4.89	2.01
		≥40	-1.947	2.281	0.396	-6.50	2.61
	≥40	<30	0.510	2.337	0.828	-4.16	5.18
		30-39	1.947	2.281	0.396	-2.61	6.50

\*. The mean difference is significant at the 0.05 level.

**Attitude score by age to age**

The attitude score of respondents who were less than 30 years who were more than 40 had the highest significance. The respondents who were more than 40 years compared to the respondents who were less than 30 years (0.828), followed by the respondents who were less than 30 years to participants who were 30-39 years and the respondents who were 30-39 years to respondents who were 30 years had a significance of 0.409.

**Table 1. 28: Attitude score by profession**

Descriptive									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Attitude score	Medical officers	8	63.75	3.845	1.359	60.54	66.96	58	70
	Nursing Assistant	5	66.00	5.244	2.345	59.49	72.51	60	72
	Pharmacist	7	58.00	3.830	1.447	54.46	61.54	51	64
	Nurse	49	61.90	6.728	0.961	59.97	63.83	42	76
	Total	69	62.01	6.291	0.757	60.50	63.53	42	76

**Attitude score by profession**

The attitude score of the nursing assistants had the highest mean (66) followed by the medical officers (63.75), the registered nurses (61.90) and the pharmacists at 58.

**Table1. 29: Significance score by profession**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude score	Between Groups	216.996	3	72.332	1.900	0.138
	Within Groups	2473.990	65	38.061		
	Total	2690.986	68			

**Significance score by profession**

Attitude score between groups was 0.138 which indicated that the score was not significant as it was more than 0.05.

**Table1. 30: Attitude score by profession to profession**

Multiple Comparisons							
LSD							
Dependent Variable	(I) Occupation	(J) Occupation	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Attitude score	Medical officers	Nursing Assistant	-2.250	3.517	0.525	-9.27	4.77
		Pharmacist	5.750	3.193	0.076	-0.63	12.13
		Nurse	1.852	2.353	0.434	-2.85	6.55
	Nursing Assistant	Medical Doctor	2.250	3.517	0.525	-4.77	9.27
		Pharmacist	8.000*	3.612	0.030	0.79	15.21
		Nurse	4.102	2.896	0.161	-1.68	9.89
	Pharmacist	Medical Doctor	-5.750	3.193	0.076	-12.13	0.63
		Nursing Assistant	-8.000*	3.612	0.030	-15.21	-0.79
		Nurse	-3.898	2.493	0.123	-8.88	1.08
	Nurse	Medical Doctor	-1.852	2.353	0.434	-6.55	2.85
		Nursing Assistant	-4.102	2.896	0.161	-9.89	1.68
		Pharmacist	3.898	2.493	0.123	-1.08	8.88

\*. The mean difference is significant at the 0.05 level.

***Attitude score by profession to profession***

The attitude score of the pharmacist to nursing assistants was 0.030, which was statistically significant.

**Table1. 31: Mean attitude scores by length of time at primary health care**

Descriptive									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Attitude score	<5	32	61.84	6.431	1.137	59.53	64.16	50	73
	5-9	19	62.53	7.449	1.709	58.94	66.12	42	74
	≥10	16	61.63	4.674	1.169	59.13	64.12	55	76
	Total	67	61.99	6.297	0.769	60.45	63.52	42	76

***Mean attitude scores by length of time at primary health care***

The mean attitude score for the group with 5years of work experience was the highest at 62.53, followed by the group with less than 5 years’ work experience with 61.84, and the group which had more than 10 years’ experience in primary health care had the lowest mean of 61.63.

**Table1. 32: Significance of attitude score by length of experience in PHC**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Attitude score	Between Groups	8.279	2	4.140	0.102	0.904
	Within Groups	2608.706	64	40.761		
	Total	2616.985	66			

***Significance of attitude score by length of experience in primary health care***

The length of stay at work was not a significant factor (p-0.904).

## **1.20 Presentation of qualitative findings**

### ***Introduction***

The qualitative results of this study are presented in this chapter. The aim of this study was to develop a competence-based framework for mental health provision to people presenting with MHPs and Human immunodeficiency virus in primary health cares in Lesotho. The specific objectives of the study were to explore the factors that will enable the provision of mental healthcare in people presenting with MHPs and Human immunodeficiency virus at primary health care, determine the barriers that may deter the delivery of mental healthcare in people presenting with MHPs and Human immune deficiency virus at primary health care, describe the health professionals' level of knowledge regarding integrating mental health services with Human immunodeficiency virus services at primary healthcare, describe the health professionals' perceptions regarding the availability of a competence-based framework for provision of MHS in people presenting with MHPs and Human immunodeficiency virus services and develop a competence-based framework to assist the health professional to successfully manage people presenting with MHPs and Human immuno deficiency virus. The data was analysed using the thematic framework analysis, which was designed by Goldsmith in 2021.

The interview guide (Annexure 5) comprised two sections: Section A consisted of the questions related to the demographic information, and Section B of 11 open-ended questions which resulted in four themes relating to the participants' perceptions regarding mental health provision in people presenting with MHPs and Human immunodeficiency in primary health care in Lesotho.

### ***Participant demographic information***

In total, 50 interviews were conducted (Table 4.1), of which 11 were male and 39 females. The age range of the participants was 24-52 years. The sample consisted of 43 registered nurses, and 7 medical officers.

**Table1. 33: Participant demographic information**

Interview ID	Sex	Period of working in PHC	Age (years)	Occupational position
01	F	3 years	29	Registered nurse midwife
02	F	12 years	35	Registered Nurse Midwife
03	M	6 years	36	Medical officer
04	F	5 years	29	Registered Nurse Midwife
05	M	2 years	26	Registered Nurse Midwife
06	F	12 years	45	Medical officer
07	F	2 years 9 months	28	Registered nurse midwife
08	F	3 years	34	Registered Nurse Midwife
09	M	2 years	27	Registered Nurse Midwife
10	F	4 years	28	Registered Nurse Midwife
11	F	11 years	38	Registered Nurse Midwife
12	F	11 years	39	Registered nurse midwife
13	F	2 years 9 months	24	Registered nurse mid wife
14	F	9 years	33	Registered nurse midwife
15	F	8 years	34	Registered Nurse Midwife
16	M	7 years	43	Registered nurse midwife
17	M	2 years	29	Medical officer
18	M	9 years	45	Medical officer
19	F	10 years	38	Registered Ophthalmic Nurse
20	F	18 years	46	Registered ophthalmic nurse
21	F	2 years	29	Registered ophthalmic nurse
22	M	2 years 1 month	25	Registered Nurse midwife
23	F	6 years	39	Registered ophthalmic nurse
24	F	7 years	41	Nursing officer
25	F	11 years	35	Registered nurse midwife
26	F	2 years	24	Registered nurse midwife
27	M	2 years	30	Registered Nurse midwife
28	F	6 years	31	Registered Nurse clinician
29	F	2 years 8 months	29	Registered nurse midwife
30	M	2 years	26	Registered nurse Midwife
31	F	2 years 9 months	26	Registered nurse Midwife
32	F	9 years	33	Registered nurse Midwife
33	M	4 years	36	Registered nurse Midwife
34	F	12 years	52	Registered nurse Midwife
35	F	5 years	41	Registered nurse Midwife
+36	F	7 years	45	Registered nurse Midwife
37	M	5 years	33	Medical officer
38	F	9 years	36	Registered nurse Midwife
39	F	7 years	33	Registered nurse Midwife
40	F	14 years	40	Registered nurse Midwife
41	F	6 years	37	Registered nurse Midwife
42	F	10 years	38	Registered nurse Midwife
43	F	2 years	27	Registered nurse Midwife
44	F	5 years	40	Registered nurse Midwife
45	F	3 years	31	Medical officer
46	F	16 years	46	Nursing Officer
47	F	8 years	35	Registered nurse Midwife
48	F	4 years	36	Medical officer
49	F	7 years	31	Registered nurse
50	F	3 years	26	Registered nurse

## ***Themes***

Four themes emerged from the analysis of the data, namely knowledge of MHPs, the management of MHPs in people presenting with MHPs and also Human immunodeficiency virus, barriers to accessing MHS, and improvement of the MHS.

### **Theme 1: Knowledge of mental health problems**

Three subthemes informed this theme: limited knowledge of signs and symptoms of MHPs, limited knowledge of the diagnosis of MHPs and limited knowledge regarding management of MHPs.

### **Theme 2: Management of MHPs in people presenting with MHPs and Human immunodeficiency virus**

Six subthemes informed this theme: no availability of psychiatric medication, no mental health professional who consults at the facility, no hired mental health professional such as a psychologist, psychiatric nurse and psychiatrist, no counselling services offered to PLWH to prevent MHPs, no mental health department in primary health care, consequently MHS are not offered and no counselling services offered to PLWH to prevent MHPs.

### **Theme 3: Barriers to accessing mental health services**

This theme had seven subthemes: the unavailability of staff qualified in mental health in primary health care, lack of knowledge regarding MHPs in health professionals, time constraints, focus of the country, culture and the structure of the clinics, stigma due to discrimination from the health professionals and families.

### **Theme 4: Improving mental health services**

Five subthemes emerged from this theme: the need to hire qualified personnel in mental health, need for in-service training or workshops related to mental health, the need for screening all the PLWH for MHPs and the need for integrating MHS with Human immunodeficiency virus services.

**Table 1. 34: Themes and subthemes**

Themes	Subthemes
Knowledge of MHPs	<ul style="list-style-type: none"> <li>• Limited knowledge on signs and symptoms of MHPs</li> <li>• Limited knowledge on diagnosis of MHPs</li> <li>• Limited knowledge on management of MHPs;</li> </ul>
Management of MHPs in people presenting with MHPs and Human immunodeficiency virus	<ul style="list-style-type: none"> <li>• No availability of psychiatric medication</li> <li>• No mental health professional who visits the facility</li> <li>• No hired mental health professional like psychologist, psychiatric nurse and psychiatrist</li> <li>• Not enough knowledge about MHS in health professionals</li> <li>• No Counselling services offered for PLWH to prevent MHPs.</li> <li>• No Mental Health Department in primary health care therefore MHS are not offered</li> <li>• Inadequate continuity of care for clients with MHS at the primary health care</li> <li>• No preventive health services concerning mental health problems offered</li> <li>• Few mental health conditions are identified and referred to Mhloni Hospital</li> </ul>
Barriers to accessing mental health services	<ul style="list-style-type: none"> <li>• Unavailability of staff qualified in mental health in primary health care</li> <li>• Lack of knowledge regarding MHPs in health professionals</li> <li>• Time constraints</li> <li>• Focus of the country</li> <li>• Culture</li> <li>• Structure of clinics</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Stigma and discrimination from the health professionals and families</li> </ul>
Improving mental health services	<ul style="list-style-type: none"> <li><input type="checkbox"/> Need to hire qualified personnel in mental health need for in-service training or workshops on mental health</li> <li><input type="checkbox"/> Need for screening all patients with Human immune deficiency virus for MHPs</li> <li><input type="checkbox"/> Need for integrating mental health services into Human immune deficiency virus services</li> <li><input type="checkbox"/> Need for competency-based framework that will help health professionals to successfully manage MHPs.</li> </ul>

## ***Findings***

### **Theme 1: Knowledge of MHPs**

The majority of the participants reported that they were not knowledgeable regarding the management of MHPs. In addition, most participants reported that they have limited knowledge regarding the signs and symptoms of MHPs and the diagnosis of MHPs. However, a few medical officers indicated that they are knowledgeable about mental health, but they were not offering such services due to time constraints. A participant<sup>16</sup> said *“I did not know that MHPs and Human immune deficiency virus are closely related so it is very important that the health professionals receive training regarding mental health to address this gap of unavailability of MHS in people presenting with MHPs and Human immunodeficiency virus. These services are not offered mainly due to lack of knowledge concerning mental health”*.

Participant 43 said *“We last did mental health at the college, so we are out of information concerning psychiatric so it’s better that we are trained on Mental health so that these services can be provided”*.

Participant 34 said *“You know I think we meet so many psychiatric patients that we fail to address because sometimes I suspect that this might be anxiety but because I have forgotten almost everything about psychiatric, I fail to make informed decision then leave the patient without assisting the patient regarding her problem because I didn’t have information to say this might be a certain condition in psychiatric so I can refer this patient to a doctor. I think we need capacitation on mental health as staff”*.

Participant 3 *“said that currently we are not doing anything regarding MHS for people presenting with MHPs as we did not even think they are related.”*

Participant 9 *“Hmmm we just need the screening tools to help us identify MHPs because currently we are not doing anything regarding mental health in this facility because of lack of knowledge regarding mental health. The training will also help because once we are trained after identifying them, we shall know what to do after realizing what the problem the patient is having.”*

Participant 33 said *“I can’t remember anything on mental health. Because we last did it at the college so I cannot be able to help patients with MHPs”*.

## **Theme 2: Barriers to accessing MHS**

All the participants reported the unavailability of staff qualified in mental health in primary health care. The majority of the participants were of the view that the absence of specialists, such as a psychiatric nurse or psychologist hinders the delivery of MHS to people presenting with MHPs and also having Human immunodeficiency virus as the current health professionals do not have knowledge on MHPs. The lack of knowledge regarding MHPs was a general concern as most participants reported that they did not retain any knowledge related to mental health, because their last exposure was at school so many years back. Participant 39 said *“I don’t have any information on mental health; we desperately need training in order to offer these services.”*

Participant 37 also said *“I don’t have any knowledge on mental health as a result we desperately need training in order to offer these services.”*

A few participants who were medical officers reported that they are knowledgeable about mental health but there were time constraints that did not allow them to assist these patients as full psychiatric assessment requires more time, which they did not have. She further said *“if I take a longer time with one patient in here you will see other patients knocking at the door to show you that I have delayed”*. Most participants also raised the issue that mental health is not a priority in the country, which is the reason why they did not have any guidelines or screening tools to assess patients at primary health care. A few participants said some patients fear to seek medical help concerning MHPs because they have a belief that they have been bewitched. Participant 19 said *“We still have lack of knowledge as the general population outside there because so many people that still regard MHPs as witchcraft”*.

A few nurses said the way the primary health care infrastructure does not allow comprehensive services. Participant 21 said *“You know even if we like to provide these services, we don’t have space where we can be saying this is a place where people with MHPs can be helped because the space it’s just too small”*. A few of the participants also said there must be serious stigma to health professionals concerning MHPs. One participant (37) said there must be a serious stigma on the side of health professionals that’s why these services are not offered. She further said *“what is surprising is that, the Director for Nursing in Lesotho is a psychiatric nurse, but MHS are not improving’*. Few participants indicated that the infrastructure in primary health care does not allow the provision of MHS. Participant 19 said *“there was no way MHS can be offered in this place as we do not have an infrastructure for it*. Participant 16 also said *“infrastructure is a problem in this primary health care so even if we like to offer such services it’s not easy because of our infrastructure”* Most participants also talked about the focus of the country that affect the MHS delivery. Participant 20 indicated that *“Our country has focus on Human immunodeficiency virus a national crisis therefore leaving other conditions behind”* Participant 23 also said *“the stake holders in this country only focus to the diseases that have donations so it’s not it’s to offer MHS as it does not have any donations currently.”* Most participants also raised the issue of lack of guiding tools to guide delivery of MHS and shortage of mental health professionals. Participant 17 said *“there were no tools to help us at-least to*

*identify people with MHPs and shortage of mental health professional causes a great treatment gap.*” Participant 17 said *“unavailability of guiding tools and mental health professionals was a serious problem that hinder delivery of MHS”*

### **Theme 3: Management of MHPs in people presenting with MHPs and Human immunodeficiency virus**

The qualitative findings indicated that the majority of the health professionals needed knowledge to identify the signs and symptoms of MHPs in PLWH, no adequate knowledge to diagnose and manage the people presenting with MHPs and Human immunodeficiency virus. However, a few said they had enough knowledge to identify, diagnose and manage people presenting with MHPs, but had to time constraints that prevent them to provide these services. People with MHPs need more time to assess them fully and provide counselling. Lack of knowledge regarding MHPs was a general concern as most participants reported that they are no longer knowledgeable about mental health as they last did it at school so many years ago. Participant 39 said *“I need information on mental health, we desperately need training in order to offer these services”*.

Participant 33 said *“I can't remember anything on mental health. Because we last did it at the college so I cannot be able to help patients with MHPs”*.

According to Participant 9 *“It is clear that health professionals do not have knowledge on MHPs as we never offered MHS after training, unless a health professional worked in mental health institution”*

The shortage of psychiatric professionals was a general concern as most participants reported that they need a mental health specialist, because the availability of such personnel would support MHS. At least one primary health care should have a psychiatric nurse who could train all health professionals regarding mental health. According to participant 28 *“shortage of specialist on mental Health is a main problem as we are not specialist on mental health and we cannot fully know about mental health”*.

Participant 16 said *“I think it's better that psychiatric nurses are present in primary health cares as their shortage had made a great treatment gap on mental health”*.

*“It’s very crucial that we have specialist on mental health at the primary health cares” [Participant 21]*

The findings of this study confirmed that there were no preventive MHS in the facilities. In addition, their health education does not include topics relating to mental health.

Participant 23 *“I have never heard anyone health educating patients about mental health topics in this facility for that matter I cannot say we offer preventive MHS in this facility”*.

Participant 26 indicated that *“Preventive MHS are not offered in this facility as I believe if these services were offered we would be including them in our daily health education that are done in the morning”* A few participants said they had very limited psychiatric medication, and as a result, continuity of care is inadequate as the patients who require psychiatric treatment still need to go to Mohlomi hospital for their check-ups. *Participant 26 said “I only saw few drugs of psychiatric here and they are rarely prescribed to patients”*. Most participants were of the view that the counselling services that are offered to clients with Human immunodeficiency virus is mainly adherence counselling about antiretroviral drugs, not counselling to assist patients to accept their status to prevent MHPs. *Participant 28 said “there was counselling services offered by social workers in the facility, but what I realised was that the counselling was mainly on drug adherence”*. *The counselling services in this facility are offered by social workers, so I don’t think they are very skilled to provide a thorough counselling when looking at their level of knowledge [Participant 15]*. *Participant 24 said “I believe counselling services regarding prevention of MHPs are very minimal in this facility as most counselling that is done by social workers is mainly on adherence”*.

#### **Theme 4: Improving mental health services**

The qualitative findings indicated that the majority of the health professionals needed a competence-based framework to enable them to successfully manage patients presenting with MHPs. Participant 37 said *“the framework should involve the training of stakeholders so that MHS can get support from higher people”*. Another participant said *“If we can have this framework, we believe there will be easy implementation of MHS for people presenting with MHPs and also Human immunodeficiency virus”* (Participant 24). In addition, they also reported that there should be screening tools to assist them to identify MHPs and provide the appropriate treatment.

Participant 5 said *“If we can have some screening tools, they shall help us to see patients with MHPs and refer them accordingly to the right places. “Screening tools would make a great change on MHS so we desperately need them”* [Participant 8]. Most participants were also of the view that hiring a mental health specialist would improve MHS. Participant 1 said *“If the mental health specialist can be hired MHS will be better provided as they will also train us in order to identify people with MHPs and refer to them”*. Participant 2 also said *“We must at least have one psychiatric nurse in every primary health care so that MHS can be improved in primary health cares”*. All the study participants were of the view that there should be in-service training or workshops in mental health to improve MHS.

As the findings identified that the health professionals need the competency-based framework to successfully manage people presenting with MHPs and Human immunodeficiency virus, the researcher planned to develop a competence-based framework. The participants reported that they currently do not have anything to guide the implementation of MHS in people living with Human immunodeficiency virus. This deficit is a barrier to the provision of mental health care to assist people presenting with MHPs and also living with Human immunodeficiency virus. Participants 35 said *“I believe if there was any tool to guide the MHS, we would be providing services and we desperately need assistance to provide the services as currently we are doing nothing on mental health”*. Few participants raised the issue that even the general public should be educated about MHPs as there will not be any delay in seeking help. Participant 42 said *“if the public is also having knowledge on mental health it will be easy for these services as most will present to the health facility”*. Participant 43 also said *“public knowledge is a requirement for these services to be offered”*.

### **Conceptual framework**

An organizational competency framework is a paradigm that broadly denotes performance excellence. An organization's various occupational responsibilities can use a variety of abilities that are typically included in such a framework. Each competency creates the standard by which staff members are evaluated. It does this by broadly defining excellence in their working behaviour. Organizations can convey which behaviours are necessary for, highly valued for, acknowledged as, and rewarded in relation to particular occupational tasks by using a compe-

tency framework. It ensures that all staff is aware of the organization's values and the behaviours that are anticipated to result in good performance (Sahay, Goel, Jadliwala and Upadhya, 2021).

The competency-based framework includes core values, and core competencies and functional competencies. A person's actions and decisions are influenced by their core values. All employees are expected to uphold these moral standards, which are based on the standards of conduct for the global civil service. It is necessary that all the healthcare professionals uphold the following ethical principles: accountability, fairness, nonmaleficence, autonomy, beneficence, faithfulness, and honesty (Sahay, 2021).

The framework's core competences serve as its cornerstone, outlining the conduct expected of every employee. These are described in the job-specific occupational functions. In this framework, lay personnel, employees and other stakeholders in healthcare will each have a part to play in managing MHPs in patients who present with both MHPs and Human immuno deficiency virus, so that the services are integrated to support compressive care (Sahay, 2021). The functional competences are determined by the tasks and commitments employees make to a certain position. The framework will outline each healthcare provider's responsibility to advance the provision of MHS in PLWH.

The following categories of people should be available to promote the successful provision of MHS in people presenting with MHPs and also Human immunodeficiency virus:

The provision of MHS in primary health care is regulated by the Ministry of Health. The stakeholders will pay for mental health workshops and ensure that all medical personnel receive mental health training.

The Senior Manager is a member of staff at the director level who is in charge of fostering an environment that is conducive to decision-making and has an impact on the entire program or functional area. This job will be filled by the nursing service manager of the hospital. The senior manager will facilitate the health professional's attendance at workshops, address any complaints the primary health care may have regarding the provision of MHS, and discuss them with the hospital's specialist in mental health, or with the Ministry of Health if the issue requires their attention (Sahay, 2021).

The term “specialist” refers to a senior General Service employee (at the G6 or G7 level) or a medium or senior level professional specialist (at the P3 to P5 level) who has extensive knowledge in his or her area of expertise and works independently. Any medical specialist with a focus on MHPs or Human immunodeficiency virus will be in this position in this situation. The specialist will ensure that MHPs are managed properly at the primary health care for patients who present with MHPs and Human immunodeficiency virus. Additionally, he or she will speak with the clinic manager regarding any challenge that arises in the primary health care regarding MHS (Sahay, 2021).

The Manager is a middle- or senior-level employee (P4 or P5) who is in charge of managing human and/or financial resources and is in charge of monitoring the execution of programmatic results. Typically, these roles include those of a section head, unit head, and team leader. In this role, the primary health care manager will be in charge of supervising the primary health care's plans, particularly those pertaining to MHS. The primary health care manager will ensure that MHS are provided to patients who present with MHPs and Human immunodeficiency virus. She or he shall inform the hospital manager of any obstacles to this integration (Sahay, 2021).

The Individual Contributor is a team member who is responsible for his or her own performance and contribution to the team's outputs, but who often has no supervisory responsibilities. All members of the medical profession who provide the MHS for patients who present with MHPs and Human immunodeficiency virus will be in this position. Any issues with the integration of MHS with Human immunodeficiency virus care will be discussed by the health professionals and primary health care management (Sahay, 2021).

In the community, there will be support people, including the village health worker, the chief and the pastor who shall identify people with MHPs and refer them accordingly. These people will communicate with the primary health care if such patients are identified in the village.

### ***Process of generating the framework***

In the process of generating the framework, the researcher started by describing the Framework and analysed the components in relation to the phenomenon of interest. The

researcher deliberated about what could generate a positive result in developing a competence-based framework for the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus (Sahay, 2021). The framework was modified multiple times before the researcher confirmed that that the framework was good and could be used for the successful and active provision of MHS in people presenting with MHPs and Human immunodeficiency virus. The researcher worked through material and conducted searches. The researcher analysed how to best capture the elements that were most important in the idea of developing a realistic and practical framework, as well as one that will be easily understood by everyone, after reflecting on the proposed components of the various adapted framework. The process followed was suggested by Bright. (2018). The researcher deliberated on the visual representation of the framework. The researcher revisited the findings of the study several times in order to follow exactly what the participants needed. During this stage the researcher was guided by the objectives of the study where she took one objective at the time and revisited the findings of the study to get clearly what the participants needed in each objective.

The first objective talked about factors that can enable provision of MHS for people presenting with MHPs and Human immunodeficiency virus. The researcher listed all aspects in this objective and looked at more several factors that participants indicated they can enable provision of MHS.

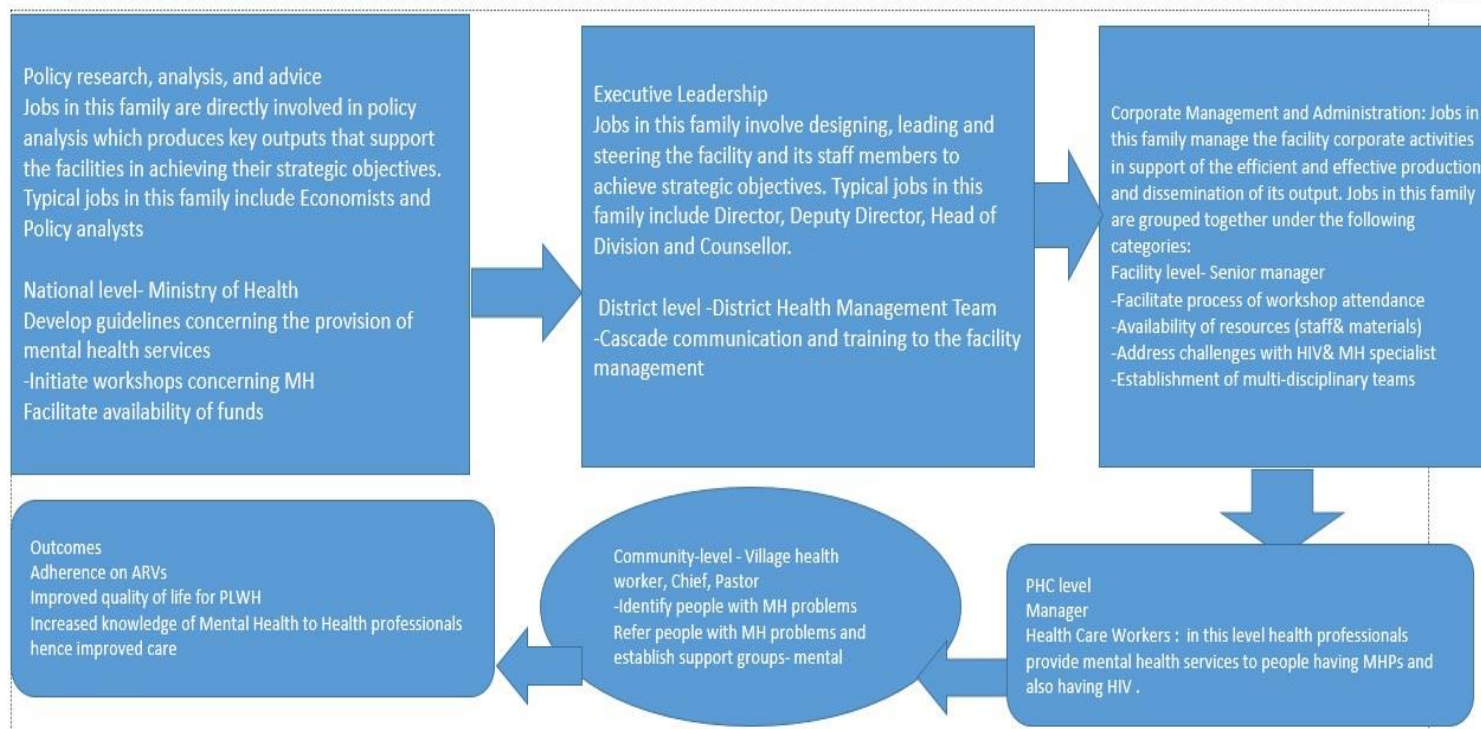
The second objective was also analysed the same way. The second objective was barriers that hinder delivery of MHS. In this step all aspects that were mostly indicated by most participants were given attention and the researcher also looked deeply on how participant indicated how these barriers can be overcome. The most aspects that participants thought can be used to overcome this problem of poor MHS for people presenting with MHPs were incorporated into the framework. The third objective talked about describing knowledge of health professionals in regard to MHS. Then the researcher looked again on what the participant indicated in regard to their knowledge level and what they thought could be done as they reported poor knowledge on mental health.

The fourth objective indicated perception of health professionals regarding availability of the competence-based framework. In this objective almost all participants felt the need for competence-based framework, as a result the researcher felt it as a major need to develop the competence-based framework.

Later versions of the framework were submitted to the research supervisor. The researcher considered the most effective ways to summarize the key ideas from the literature and the results from quantitative and qualitative study. Then referred back to the study findings and ensured that the results were combined. The researcher did not only rely on the evaluated literature (Hatch, 2002).

A draft framework that contained the elements that created the groundwork for the concepts to be included in the developed framework was produced as a result of this on-going process of refining and working with the findings.

The researcher assessed the prospective ideas for inclusion in the framework development process. Each idea was assessed to determine if it made sense for the delivery of mental healthcare in this specific context. The researcher confirmed that the framework devised was appropriate after it was seen by the research supervisor. The developed framework is diagrammatically presented in Figure 1.11



**Figure 1. 11: Competence based framework (Bright, 2018)**

## ***Discussion, Recommendations and Conclusion***

### **Introduction**

The study aimed to develop a competence-based framework for the provision of mental health care for people presenting with MHPs and Human immunodeficiency virus in primary health care in Lesotho. The objective one of the study was to explore the factors that would enable the provision of mental healthcare in people presenting with MHPs and Human immunodeficiency virus at primary health care. The findings revealed the factors that enable the provision of MHS are the availability of qualified mental health professionals, in-service training for all health professionals related to mental health and the availability of a competence-based framework for MHS. Objective two was to determine the barriers that can hinder the delivery of mental healthcare in PLWH at primary health care. The findings indicated that the lack of knowledge related to mental health in the health professionals, the unavailability of mental health specialists, culture, stigma and discrimination and the focus of the country on other communicable diseases and ignoring mental health were the barriers to the implementation of MHS. Objective three was to describe the health professionals' level of knowledge regarding integrating mental health services with Human immunodeficiency virus services at primary healthcare. The findings highlighted that the health professionals are not knowledgeable regarding MHS, resulting in the failure to provide patients with MHPs with MHS. Objective four was to describe the health professionals' perceptions regarding availability of a competence-based framework for the provision of MHS for people presenting with MHPs and Human immunodeficiency virus. The findings indicated that almost all the health professionals needed a competence-based framework to successfully manage people presenting with MHPs and Human immunodeficiency virus. The fifth objective was to develop the competence-based framework to assist the health professional to successfully manage MHPs in PLWH. After the data collection the framework was developed.

### **Discussion of themes**

#### **The level of knowledge related to mental health**

Most of the study participants had inadequate knowledge related to mental health. The findings of this study are confirmed by a study indicating that the level of knowledge regarding mental health is lacking globally, resulting in many people's MHPs undiagnosed and untreated. Although health professionals play key roles in most contexts, the integration of MHS into Human immune deficiency virus services remains a problem, leading to a considerable treatment gap, though the mental health policies place a strong emphasis on this idea (Dube and Uys, 2016). Even though mental healthcare is emphasized in high-income nations, MHS are still insufficient due to a lack of trained mental health staff, inadequate knowledge, and the unfavourable attitudes of medical professionals regarding mental health issues. A small number of participants also mentioned that lack of knowledge concerning mental health may be due to the considerable stigma among the stakeholders. In Low-middle income countries, up to 90% of persons with severe mental health problems are not treated, compared to less than 50% in high-income countries (Lake and Turner, 2017, Wakida et al., 2017). The documented global burden of disease associated with MHPs is caused

by a significant “mental health treatment gap” as globally, more than 70% of the people who need MHS, lack access to care (Henderson, Evans-Lacko and Thornicroft, 2013, Skuse, 2008, Wainberg, Scorza, Shultz, Helpman, Mootz, Johnson et al., 2017). Compared to individuals who are not infected with the human immunodeficiency virus, the group living with Human immunodeficiency virus are twice as likely to experience depression (Dube and Uys, 2016, Duko, Toma, Asnake and Abraham, 2019, Yehia, Stephens-Shield, Momplaisir, Taylor, Gross, Dubé et al., 2015, Yeneabat, Bedaso and Amare, 2017)

Mental healthcare has been integrated into Human immunodeficiency virus programs in high income countries for many years as a result of substantial evidence of the link between mental health and Human immunodeficiency virus; however, the treatment gap still exists mainly due to a lack of knowledge in health professionals (Ayano, Assefa, Haile, Chaka, Haile, Solomon et al., 2017, Remien et al., 2019).

At the moment, mental health policies strongly emphasize the idea of integrating the treatment with other healthcare services, particularly at the primary healthcare level. Identifying mental health issues in primary health care has been ineffective and insufficient, especially in terms of therapy, mostly because of a lack of knowledge.

Major changes in this level of care are required to integrate MHS, close the treatment gap, and guarantee that patients get the care they require. Primary care providers must get enough training and encouragement to develop the attitudes, abilities, and competences necessary to evaluate, identify, treat, assist, and, if necessary, refer patients with MHPs to specialist services (Fernandes et al., 2019).

The World Health Organization has called for this integration of primary health care services and MHS, but according to a study by Ayano et al. (2017) in Ethiopia, there is still large treatment gap in MHS for PLWH as there is a continuing lack of knowledge concerning mental health and a poor attitude in health personnel in regard to mentally ill people.

### **Barriers to accessing MHS**

All the participants reported that the unavailability of staff qualified in mental healthcare in primary health care. The majority of the participants were of the view that the absence of specialists, such as a psychiatric nurse or a psychologist hinders the delivery of MHS in people presenting with MHPs and Human immunodeficiency virus. The current health professionals had inadequate knowledge related to MHPs. In Sub-Saharan Africa, MHS are of a low standard. The number of mental health specialists per patient in Human immunodeficiency virus care is quite low, and there are only a few mental health treatments available. In Africa, there is one specialist for every 100,000 clients (Atindanbila and Thompson, 2011). The difficulties experienced in responding to the shortage of educated mental health professionals have been noted by a recent systematic analysis that examined the training of mental health workers in Africa over time. There is a significant

difference between people with MHPs and people who are receiving care globally. (Reynolds 3rd and Patel, 2017). Studies conducted in low- and middle-income nations show that the treatment disparity is severely detrimental. Compared to 45% in Europe, the treatment gap for depression is 67% in Africa (Walker, Hansen, Martin, Symeonides, Ramessur, Murray et al., 2014). There are limited MHS available in Sub-Saharan Africa. A recent systematic analysis that examined the training of mental health workers in Africa over time noted the difficulties in finding qualified mental health practitioners to fill the gap in care.

The lack of knowledge regarding MHPs was a general concern as most participants reported that they were no longer knowledgeable regarding mental health as their only exposure was during their training many years ago. These findings are confirmed by studies reporting that although many countries in Sub-Saharan Africa are moving towards the incorporation of mental health into primary care, the primary care workers do not have the ability to identify MHPs and the treatment given is sometimes inadequate (Nalukenge, 2017).

The majority of the participants also reported that the lack of knowledge is a major barrier for the delivery of MHS for people presenting with MHPs and Human immunodeficiency virus. Mental health is not a priority area for policy makers even today (Yerramilli and Bipeta, 2012). The above literature is also confirmed by study findings where some participants also indicated that mental health is also not country 's priority. The major contributing factors to the unsuccessful integration of mental health into primary health care is the low level of knowledge concerning MHS, negative attitude of health personnel towards MHPs and the lack of experience of health personnel in mental health (Ahmed, Merga and Alemseged, 2019, Ayano et al., 2017).

A 2016 study by Dube and Uys in South Africa reported that 23% of the patients at primary healthcare facilities have MHPs. Despite the high prevalence of MHPs, South Africa places little emphasis on mental health and primary health cares do not provide the care the patients require. The nurses' attitudes toward patients with MHPs are frequently unfavorable, and it has been demonstrated that primary health nurses' ability to identify and treat MHPs are below standard due to a lack of training in this area (Dube and Uys, 2016). The above literature was also confirmed by study findings where participant indicated that health professional have stigma towards MHPs. Some participants indicated culture as a barrier. People fail to access MHS because they believe they have been bewitched. Some of the participants also reported that stigma and discrimination on the side of the family and also the health professionals served as barriers to the utilization of MHS in PLWH. Stigma about MHPs is extensively practiced by the general public in the Western world. Studies propose that most of the inhabitants in the United States and many Western European nations have denouncing attitudes about MHPs. Stigmatizing views about MHPs are not only practiced by the public, but also health professionals trained in terms of mental health issues. Most people with MHPs suffer psychologically due to stigma attached to their MHPs. Many people with serious MHPs are challenged doubly. On one hand, they suffer because of the symptoms and incapacities that result from the MHPs, and on the other, they are challenged by the stereotypes

and preconception that result from misconceptions about MHPs. As a result of both, people with MHPs are denied the opportunities that define a quality life, including good jobs, safe housing, satisfactory healthcare, and affiliation with a diverse group of people (Ahmed et al., 2019, Gibbs, Dawson and Mullen, 2006, Gureje and Alem, 2000, Scior, 2013). Culture was reported as a barrier by some participants in this study. These findings were confirmed by studies confirming that the majority of nations allow their traditional beliefs to impact how they perceive MHPs. These ideas frequently have a negative impact on mental healthcare because they prevent those who are affected from seeking MHS. Treatment seeking is frequently postponed as a result of the stigmatization and discrimination of MHPs by the public and healthcare professionals. As a result, policymakers frequently hold the assumption that MHPs are mainly incurable or, at the very least, unresponsive to medical therapy. Such attitudes have an impact on the provision of MHS for the underserved (Corrigan, Druss and Perlick, 2014). The literature is also confirmed by the current study findings indicating that stigma and discrimination are a barrier to accessing MHS. A few of the participants also reported that time constraints were a barrier to the delivery of MHS because there was limited time to assess and provide counselling to the client with MHPs during a consultation.

### **Management of MHPs in people presenting with MHPs and Human immune deficiency virus**

In the qualitative data, the majority of the participants reported an inadequate level of knowledge regarding the integration of MHS into Human immunodeficiency virus services. Primary health cares in South Africa provide mental health promotion, prevention of MHPs and mental healthcare basic services. According to estimates, one in four persons has MHPs at some point in their lives, and MHPs are the primary cause of disability (Dube and Uys, 2016). About 23% of people attending primary healthcare suffer from MHPs. Despite the significant prevalence of MHPs, mental health is not given attention it deserves in South Africa, and people who suffer from these diseases are not given the treatment they require in primary health care (Dube and Uys, 2016, Modula and Ramukumba, 2018). In a study done by Sexena et al. (2013), World health Organization has engaged the use of Mental Health Gap Action Programme and policies related to MHS to close the gap due to a lack of knowledge; however, a study done by Mthiyane, Harling, Chimbindi, Baisley, Seeley, Dreyer et al. (2021) in South Africa reported that there is an increased number of PLWH and MHPs, but who are not on treatment because of a lack of knowledge concerning MHS in primary health cares.

Despite the crucial role primary health care nurses play in providing MHS to the general public, these nurses frequently have negative attitudes towards people who have MHPs. It has been demonstrated that the provision of and identification of MHPs suffers as a result of a lack of knowledge regarding MHPs. Many nurses lack the information and expertise needed to recognize and treat MHPs (Cele, 2014, Fernandes, Santos, Moreira, Vargas and Nóbrega, 2019, Wainberg et al., 2017). According to the World Health Organization, educating primary health care nurses can support them to recognize MHPs quickly in clinical settings (Dube and Uys, 2016). Despite the

recommendations for PLWH with MHPs created in South Africa, MHPs in patients with Human immunodeficiency virus rose by 50% (CrumCianflone, Moore, Letendre, Roediger, Eberly, Weintrob et al., 2013). This is mostly due to guidelines that are too broad to implement (CrumCianflone et al., 2013, Modula and Ramukumba, 2018).

According to Altevogt et al. (2010) it is confirmed that there is increased numbers of people in Sub-Saharan countries with MHPs but there is shortage of psychiatric doctors and a low level of knowledge in health personnel resulting in a shortage of MHS. The statement is supported by the study findings indicating that there are no preventive MHS in the primary health care facilities, no continuity of MHS as the psychiatric drugs are lacking and absence of trained personnel related to mental health. Most participants also stated that counselling services provided are mainly on Human immunodeficiency virus, drug adherence, not the prevention of MHPs.

### **Improving Mental health services**

The findings disclosed that the health professionals needed a competency-based framework to successfully manage people presenting with MHPs and Human immunodeficiency virus. They reported that currently they do not have anything to guide the implementation of MHS in people presenting with MHPs and Human immunodeficiency virus, and therefore they are not assisting people presenting with MHPs and Human immunodeficiency virus. The World health organisation has engaged the use of Mental Health Gap Action plan and policies related to MHS to close the gap created by the lack of knowledge (Mthiyane, Harling, Chimbindi, Baisley, Seeley, Dreyer et al., 2021).

Most participants were also of the view that there should be training for the health professionals regarding mental health to support the provision of MHS. Research indicated that the implementation of mental healthcare into general services at the level of primary healthcare can be achieved by employing in-service training (Liu et al., 2016, Maconick et al., 2018). This study reported the unavailability of workshops or in-service training concerning mental health. A study by Maconick (2018) found that engaging the staff of a clinic in long-term workshops and in-service training programs have substantial benefits for the integration of mental healthcare into general services at a primary healthcare level (Maconick et al., 2018).

Insufficient focus has been placed on mental health conditions due to the non-communicable illnesses in PLWH on antiretroviral therapy, especially in Sub-Saharan Africa, where majority of PLWH reside and receive care. Although it is disregarded in Sub-Saharan Africa, one of the most prevalent MHP is depression (Bernard et al., 2017, Skuse, 2008). An editorial published recently in the *Acquired Immune Deficiency Syndrome* journal detailed the evidence of the impairment connected to Human immunodeficiency virus-related melancholy and emphasized the need for taking action (Nglazi, Joubert, Stein, Lund, Wiysonge, Vos et al., 2016). This was corroborated by Altevogt, Hanson, Ssali, and Cuff (2010) that there are more people with MHPs in Sub-Saharan African countries, but there is a scarcity of psychiatrists and a lack of training in the medical

personnel. The statement is confirmed by the current study findings indicating that there is a lack of mental health specialist and knowledge in primary health care therefore there should at least be one psychiatric nurse in every primary health care. About 23% of people attending primary healthcare suffer from MHPs. Despite the high MHPs prevalence, mental health has a low priority in South Africa and patients with these disorders do not receive the care they require (Dube and Uys, 2016, Modula and Ramukumba, 2018).

Currently, mental health policies emphasize the concept of integrated care with other health services, especially at the level of primary healthcare. The identification of MHPs in primary health care has been inefficient and is lacking interventions, mainly due to a lack of knowledge. Major reforms at this level of care are required to ensure the integration of mental healthcare, eliminate the treatment gaps, and ensure that people receive the care they need. The statement is also confirmed by the current study findings highlighting that there should be an integration of MHS with Human immunodeficiency virus services to improve MHS. Most study participants also indicated the issue of developing the competence based framework that can help guide MHS. The other participants also talked about the issue of availability of guiding tools that help guide MHS.

### **Recommendations**

A number of recommendations emanated from this study related to policy, practice, education and research.

#### **Policy recommendation**

- The policy makers under Ministry of Health should ensure that MHS are offered in all primary health cares in Lesotho.

#### **Recommendations for education**

- Ministry of health should ensure that all health professionals receive in-service training concerning MHS. Health professionals should receive frequent teaching related to MHS and be allowed adequate time to contribute in these training. Training should include sessions focusing on the clinical manifestation of MHPs, emergency management of MHPs, and the side-effects of medication.

#### **Practice recommendations**

- It was recommended that the Ministry of Health addresses the shortages of mental health staff working in primary health care facilities at least by hiring one psychiatric nurse in every primary health care.
- There is a need to employ a mental health specialist in every primary health care as this is the entry point to health systems for every client.
- The need for examining and evaluating mental health conditions of PLWH should be made clear to healthcare providers through education and training programs

**Recommendations for further research**

- A study regarding the healthcare policymakers and administrators' opinions regarding the development of policy guidelines to successfully manage patients presenting with MHPs and Human immunodeficiency virus.

**Dissemination of findings**

Copies of this study will be uploaded to the university library and distributed to the Ministry of Health, and the primary health cares in Maseru Lesotho.

***Conclusion***

Chapter 1 outlined the introduction, background, and research methodology findings, discussions and disseminations of findings of the study and highlighted how the data was collected, stored, analysed, and managed. It has also discussed the pragmatic paradigm used in this study. The ethical considerations that were followed to ensure that neither the participants nor the researcher can be harmed in any way were outlined. The literature review for the present study is described and discussed in Chapter two.

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## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

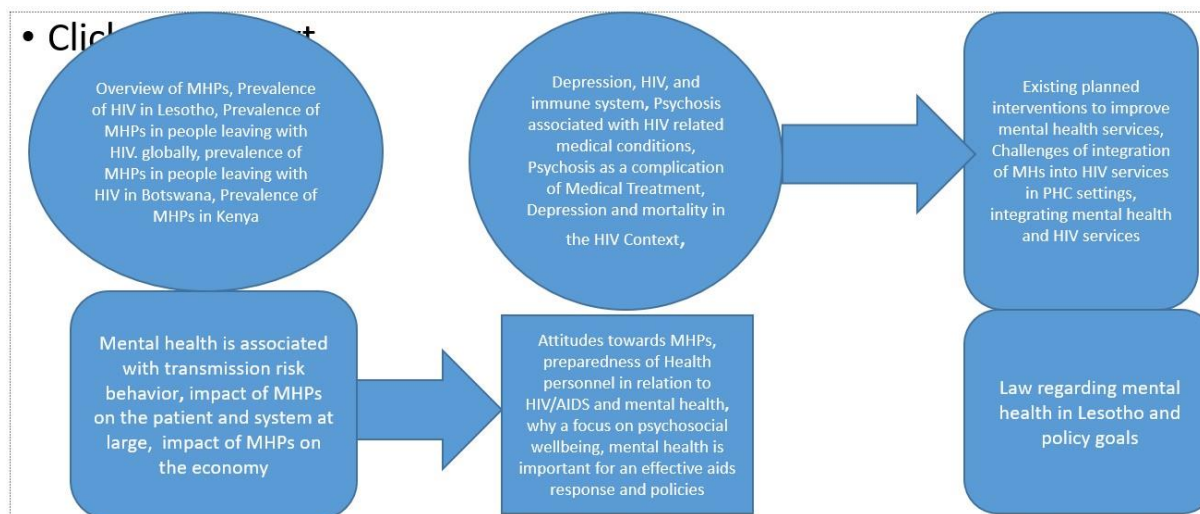
The review of the literature relevant to this study is presented in this chapter. A literature review's purpose is to categorize research results in light of what is already known and informs the readers of how the study's findings relate to what is already known about the topic being examined (Botma, Greeff, Mulaudzi and Wright, 2010). The literature review provides the background and context for the study, and form the basis for the development of the semi-structured interview guide. The literature review is presented in themes: an overview of MHPs, prevalence of MHPs in PLWH globally, prevalence of MHPs in Kenya, prevalence of MHPs in PLWH in Botswana, prevalence of Human immunodeficiency virus in Lesotho, why a focus on psychosocial wellbeing, mental health is important for an effective Aids Immune Deficiency Syndrome response and policies, depression, Human immunodeficiency virus, and immune system, psychosis associated with Human immunodeficiency virus related medical conditions, psychosis as a complication of medical treatment, depression and mortality in the Human immunodeficiency virus context, impact of MHPs on the patient and system at large, impact of MHPs on the economy, mental health is associated with transmission risk behaviour, the mental health treatment gap and mental health of Human immunodeficiency virus-infected individuals, integrating mental health and Human immunodeficiency virus services, challenges of integration of MHS into Human immunodeficiency virus services in primary health care, attitudes towards MHPs, preparedness of health professionals in relation to Human immunodeficiency virus and mental health, existing planned interventions to improve MHS, and law regarding mental health in Lesotho and policy goals.

#### *Search strategy*

The following search terms “mental health and Human immunodeficiency virus, mental healthcare in primary health care and integration of mental health into Human immunodeficiency virus services in primary health care”, were used to search for literature in the online databases of PubMed, Medline, Ebcobhost, Cinahl and Google Scholar, as well as national, regional and international organisational websites (for example, UNAIDS and WHO). The University of KwaZulu-Natal librarian was also used to help search information. The searches were conducted from 1997-2022.

The purpose of this subsection of chapter 2 was to provide baseline information related to the subject to compare the findings of this study with local and international literature.

Keywords: Competence-based framework, mental healthcare, mental health problems, primary health Care, Human immunodeficiency virus.



**Figure 2. 1: An outline of the themes discussed in this review**

## 2.2 Overview of mental health problems

Mental illness is a principal term that embraces minor conditions, such as anxiety or depression, as well as more complex conditions, including bipolar disorder and schizophrenia (Videbeck, 2011). MHPs are becoming more prevalent, yet these diseases have largely been left off the global health agenda (González et al., 2010). Despite the current attention on mental health globally, depression in particular was ranked as the third cause of disease in 2004 and is predicted to be the first by 2030 (Pike et al., 2013). According to the 2010 Global Burden of Disease Study, depression is the second-leading cause of incapacity globally and a major cause of suicide and ischemic heart disease (Whiteford et al., 2013). In 2010, it was reported that behavioural and MHPs, such as depression, anxiety, and drug use were the main causes of ill health globally, accounting for more than 40 million years of incapacity in the group aged 20 to 29 years (Whiteford et al., 2013).

**Table 2. 1: Statistics of MHPs globally (Ritchie and Roser, 2018).**

Disorder	Share of population with disorder (2017) [difference countries]	global across	Number of people with the disorder (2017)	Share of males: females with disorder (2017)
Any mental health disorder	10.7%		792 million	9.3% males 11.9% females
Depression	3.4% [2-6%]		264 million	2.7% males 4.1% females
Anxiety disorders	3.8% [2.5-7%]		284 million	2.8% males 4.7% females
Bipolar disorder	0.6% [0.3-1.2%]		46 million	0.55% males 0.65% females
Disorder	Share of population with disorder (2017) [difference countries]	global across	Number of people with the disorder (2017)	Share of males: females with disorder (2017)
Eating disorders (Clinical anorexia & Bulimia)	0.2% [0.1-1%]		16 million	0.13% Males 0.29% females
Schizophrenia	0.3% [0.2-0.4%]		20 million	0.26% Males 0.25% females
Any mental or substance use disorder	13% [11-18%]		970 million	12.6% Males 13.3% females
Alcohol use disorder	1.4% [0.5-5%]		107 million	2% Males 0.8% females
Drug use disorder (excluding alcohol)	0.9% [0.4-3.5%]		71 million	1.3% Males 0.6% females

### 2.3. Prevalence of MHPs in PLWH globally

Around 950 million individuals globally reported having a MHP in 2016, and more than 162 million reported having a drug or alcohol use problem. This equates to a total of more than 1 billion people, or 16% of the world's population. About 268 million individuals experienced depression, and 100 million were thought to have alcohol use problems. MHPs affect adolescents and young adults as they begin school, make the transition to maturity, have their first sexual experiences, and establish families. About 50% MHPs appear in adulthood and begin by the age 14 years old, and 75% by the time they are 25 years (Kulisewa, Stockton, Hosseinipour, Gaynes, Mphonda, Udedi et al., 2019). In 155 epidemiologic surveys from 55 countries, 18% of the people indicated having symptoms of a mental health condition, alcohol use disorder or a substance use disorder in

the past year and nearly 30% of the people experienced at least one of these conditions over the course of their life (Kulisewa et al., 2019).

Although the World health organization's mental action plan from 2013 to 2020 intended to provide comprehensive, integrated, and responsive treatment in community-based settings. One in four individuals may have mental or neurological illnesses at some point in their life (World health organisation, 2001, Saxena, Funk and Chisholm, 2013). A third (29%) of the world's population suffers from common mental diseases, including depression, somatic complaints, and anxiety (Chibanda, Cowan, Gibson, Weiss and Lund, 2016). The World health organization's mental health action plan has six guiding principles, one of which is to provide universal health coverage, integrated care, and responsive care so that people with MHPs have access to vital medical and social services to recover and achieve the highest level of health. However, in the general population, mental and substance use disorders are the leading causes of years lived with disability, having a greater impact than other communicable diseases (Chibanda et al., 2016, Evenson, Wood, Nuttall and Cho, 1982, Whiteford et al., 2013, Saxena et al., 2013). Excess mortality in persons with mental, neurological, and substance use disorders is evident, with a shortened life span of approximately 15–20 years. The global burden of these disorders rises in late adolescence and peaks in young adulthood, which emulates the global HIV burden (Remien et al., 2019).

Prevalent MHPs are a significant contributor to Human immunodeficiency virus disease progression in PLWH, especially in low and middle-income countries with inadequate Human immunodeficiency virus, diagnosis and care (Burgess, 2015, Remien et al., 2019). According to estimates, there are 2.5 million individuals in Sub-Saharan Africa for every psychologist, 1 million people for every mental health nurse, and 2 million people for every psychiatrist. In comparison, the population to psychiatrist ratio in high income nations is 1:10000. (Chibanda et al., 2016, Nwao-para, 2015). Despite the fact that mental health is given a higher priority in high-income nations, MHS are still insufficient owing to a lack of staff, inadequate knowledge, and the unfavourable attitudes of medical professionals concerning MHPs. Up to 90% of people with serious MHPs in Low-middle income counties do not receive treatment, compared to less than 50% in high-income nations (Lake and Turner, 2017, Wakida et al., 2017). Due to strong evidence linking mental health and Human immunodeficiency virus, MHS have long been included in Human immunodeficiency virus programs in wealthy nations; yet, there is still a treatment gap (Ayano, Assefa, Haile, Chaka, Haile, Solomon et al., 2017, Remien et al., 2019). Approximately 7.4% of the world's diseases are caused by mental and behavioral problems, which are also the main cause of disability globally (Whiteford et al., 2016). More than 90% of individuals globally who require MHS do not have access to care, which contributes to the established global burden of disease linked with MHPs (Lake and Turner, 2017, Wakida et al., 2017). PLWH are twice as likely to experience depression as people without Human immunodeficiency virus infection (Dube and Uys, 2016, Duko et al., 2019, Yehia et al., 2015, Yeneabat et al., 2017).

The highest Human immunodeficiency virus prevalence is observed in Sub-Saharan Africa, with 25.8 million PLWH, compared to 36.9 million globally (Duko et al., 2018). According to estimates, 80% of PLWH reside in 20 countries, 12 of which are in SSA, including South Africa, Nigeria, Zimbabwe, Mozambique, United Republic of Tanzania, Kenya, Zambia, Malawi, Ethiopia, Cameroon, Côte d'Ivoire, and the Democratic Republic of the Congo (Unaid, 2015).

PLWH are more likely to experience MHPs, which has an adverse effect on how well they respond to highly active antiretroviral treatment. MHPs in PLWH have an impact on public health because they raise the likelihood of risky sexual conduct, which supports the transmission of Human immunodeficiency virus. Depression and substance misuse can encourage infidelity, which increase the spread of the Human immunodeficiency virus. Globally, 350 million people are affected by depression and 800,000 people die due to suicide every year (Duko et al., 2018). In SSA, PLWH encounter a variety of difficulties, such as depression and perceived stigma connected to Human immunodeficiency virus, but they are disregarded in Sub-Saharan Africa. Although disregarded, one of the most prevalent MHPs in PLWH is depression (Bernard et al., 2017). Depressive symptoms in PLWH on antiretroviral treatment ranged from 13% to 78% globally (Beyene Gebregiabher et al., 2019).

People with Human immunodeficiency virus commonly have considerable impairments in everyday functioning due to the most common class of MHPs (Bernard et al., 2017). The most prevalent class of MHPs, anxiety symptoms and disorders frequently have a significant negative influence on how PLWH function in daily life (Duko et al., 2018).

There is a higher frequency of MHPs in PLWH, with anxiety and depression being the most prevalent, even though integration of mental healthcare in primary health care has resulted in some shift in the United States. In a nationally representative United States sample receiving care for Human immunodeficiency virus infection, 48% had at least one mental condition in the previous year; the most common diagnoses were severe depression (36%), dysthymia (27%), generalized anxiety (16%), and panic (11%). Comparing these rates to the overall population, they are quite high. A meta-analysis found that major depressive disorder was twice as common in PLWH as it was in Human immunodeficiency virus-negative people. Similar high percentages of lifetime and present mood and anxiety disorders, as well as their symptoms, have been seen in PLWH in other investigations conducted in primary health care. Despite the fact that the prevalence of posttraumatic stress disorder and bipolar disorder in PLWH has not been thoroughly examined in large cohort studies, data shows that these illnesses are likewise more prevalent among PLWH than the general population (Sikkema et al., 2010).

#### **2.4. Mental health problems in PLWH in Kenya**

In Kenya, the prevalence of MHPs is relatively high. In research in 2018 by Mathai and his colleagues assessing the incidence of unrecognized MHPs in PLWH in Nairobi, Kenya, 71% of the participants had MHPs but were not receiving treatment (Mathai et al., 2018). Major depressive

disorder (32%), post-traumatic disorders (18.4%), dysthymia (17.6%), and obsessive-compulsive disorder (17.6%) were the MHPs that were identified. This information pertains to studies that were conducted in low-middle income countries and indicating that almost identical MHP incidences. The incidence of generalized anxiety disorders was reported as 77% in PLWH in research piloted in Kenya in 2013. In Kenya, the number of people suffering from depression increased (Khasakhala, Ndeti, Mathai and Harder, 2013, Mathai et al., 2018). Even though the prevalence of depression symptoms in Kenya appears to be significant, they are not properly identified or treated. Kenya has a weak integration of MHS, a shortage of mental health experts, and inadequate knowledge of mental health in medical practitioners. All of the conditions make it difficult to manage MHPs properly, increasing the prevalence in PLWH (Nyongesa, Mwangi, Wanjala, Mutua, Newton and Abubakar, 2019). The treatment gap is substantial globally, with 76% to 85% of people with severe MHPs in low and middle income and 35% to 50% in high income countries.

## **2.5. Mental health problems in PLWH in Botswana**

According to UNAIDS, Botswana has the third-highest rate of Human immunodeficiency virus infection in the world, after Swaziland and Lesotho, at 22% in individuals aged 15 to 49 years. In a 2012 study conducted in Botswana, female hospitalized mental patients had a much higher seroprevalence of Human immunodeficiency virus (53%) than male patients (19%) ( $p=0.001$ ). The Human immunodeficiency virus prevalence is higher in patients with organic illnesses (F:68%, M:41%) as well as neurotic, stress-related, and somatoform disorders (F:68%, M:42%) in both women and men. The majority of Human immunodeficiency virus infections were found in patients with mood (affective) disorders (F:21%; M:16%), neurotic, stress-related, and somatoform disorders (F:16%; M:20%), and schizophrenia, schizotypal, and other psychotic disorders (F:48%; M:55%). In a study focusing on depression in PLWH in 2008, in Botswana 38% of the people participating in the study had depression, 24% had a major depressive disorder, 2% were mildly depressed and 14% were severely depressed (Opondo, Ho-Foster, Ayugi, Hatitchki, Pumar, Bilker et al., 2018).

## **2.6. Prevalence of HIV in Lesotho**

Almost one-quarter of Lesotho's population is living with Human immunodeficiency virus and the disease is the country's leading cause of death. A significant portion of the population in Lesotho also has tuberculosis, which is the second leading cause of mortality and a risky opportunistic infection for PLWH. The Human immunodeficiency virus prevalence is disproportionately higher in women than in males in every age group under 40 years. Through the implementation of Human immunodeficiency virus prevention, care, and treatment initiatives, advocacy, and research, the Elizabeth Glaser Pediatric AIDS Foundation aims to eradicate paediatric Human immunodeficiency virus and improve maternal, neonatal, and child health. In 2004, Elizabeth Glaser Pediatric AIDS foundation started working with the Lesotho Ministry of Health (UNAIDS, 2017). In Lesotho, the annual prevalence of Human immunodeficiency virus in adults is 1.47%: 1.74% in females and 1.22% in men between the ages of 15 and 59. This corresponds to 13,000 new Human immunodeficiency cases in individuals from 15 to 59 years annually. Lesotho has a 25.6%

prevalence of Human immunodeficiency virus in persons aged 15 to 59 years, with the female prevalence at 30.4% and the male prevalence 20.8%. In Lesotho, this amounts to more than 306,000 PLWH between the ages of 15 and 59 years. The prevalence of Human immunodeficiency virus in children from 0 to 14 is 2.1%, with girls at a prevalence of 2.6%, and the males at 1.5%. This translates to over 13,000 Lesotho children aged 0 to 14 years who are living with Human immunodeficiency virus. In Lesotho, 67.6% of PLWH aged 15 to 59 years have viral load suppression, with 70.5% of women and 63.4% of men (Low, Frederix, McCracken, Manyau, Gumerson, Radin et al., 2019).

## **2.7. Why a focus on psychosocial wellbeing, mental health is important for an effective AIDS response**

### ***Quality of life and psychosocial wellbeing***

Health is more than just the absence of sickness; it encompasses a person's physical, mental, and social well-being. Human immunodeficiency virus testing and treatment must include interventions to improve the quality of life and wellbeing, in combination with the people impacted by and living with Human immunodeficiency virus. The availability of Human immunodeficiency virus services and high-quality mental healthcare is crucial for promoting quality of life (UNAIDS and Update, 2019). PLWH experience a lower quality of life than the general population, if their CD4 level remains low. These results are greatly influenced by depression and anxiety. Recognizing the connection between quality of life, psychosocial well-being, mental health, and Human immunodeficiency virus-related outcomes are essential, and providing care, support, and treatment treatments in accordance (Liu, Zhao, Ren, Qi, Sun, Qu et al., 2018).

## **2.8. Depression, Human immunodeficiency virus, and immune system**

Literature suggests that the immune system and depression interact in both directions. Although the underlying processes are still unclear, depression has a deleterious impact on the immune system (reduction in CD4 cells). Chronic immunological activation and dysregulation of the hypothalamic-pituitary-adrenal axis, which Human immunodeficiency virus infection can worsen, are known risk factors for depression and probably responsible for the high incidence of depression in PLWH (EshunWilson, Siegfried, Akena, Stein, Obuku and Joska, 2018, Qiao, Li, Zilioli, Chen, Deng, Pan et al., 2017, Valdez, Rubin and Neigh, 2016). Immune activation is caused by Human immunodeficiency virus crossing the blood brain barrier in the brain and central nervous system. Specifically, the on-going inflammatory response to Human immunodeficiency virus infection causes elevated cytokine levels, including IL-6 and TNF- $\alpha$ , which can trigger a chain reaction involving tryptophan depletion through the activation of Indoleamine 2,3-dioxygenase enzyme. Inflammatory proteins (e.g., C-reactive protein, cytokines) lead to oxidative stress and injury of the neurons. Reduced tryptophan results in lower amounts of serotonin and higher levels of kynurenine and its metabolites, which are poisonous to neurons and linked to depressive, suicidal, and anxious situations as well as physical illnesses including cancer, cardiovascular disease, and

early mortality. It is clear that persistent inflammation and a decrease in tryptophan contribute to the negative consequences of depression on physical health outcomes (Remien et al., 2019).

The diagnosis is made more challenging since some PLWH have neurocognitive impairment, such as slow thinking, lack of attention, forgetfulness, and executive dysfunction. Executive dysfunction in PLWH, who have a fronto-striatal brain injury, can lead to apathy and a flat affect. As a result, individuals are frequently given the wrong diagnosis of depression and prescribed antidepressants (Remien et al., 2019). PLWH can also develop psychosis, which is primarily triggered by immune responses in the brain that allow more damage from infectious pathogens, neurodegeneration brought on by Human immunodeficiency virus itself in the subcortical region, encephalopathy or dementia, and high intracellular calcium levels that contribute to improper neurotransmitter secretion (Nebhinani and Mattoo, 2013).

## **2.9. Psychosis associated with Human immunodeficiency virus related medical conditions**

Toxoplasmosis, cryptococcal meningitis, persistent multifocal leukoencephalopathy, tuberculous meningitis, and some central nervous system neoplasms, such as lymphoma or Kaposi's sarcoma, can have an impact on psychological health and result in situations such as delirium. There are several reports of paranoid psychosis and progressive multifocal catatonia caused by opportunistic illnesses such as tubercular meningitis (Kumarasamy, Vallabhaneni, Flanigan, Mayer and Solomon, 2005, Nebhinani and Mattoo, 2013, Shankar, Satishchandra, Mahadevan, Yasha, Nagaraja, Taly et al., 2003).

### **2.9.1. Psychosis as a complication of medical treatment**

Some Human immunodeficiency virus medications frequently result in psychological side effects. A wide variety of neuropsychiatric adverse effects have been seen with efavirenz. Efavirenz therapy-related psychotic symptoms start to appear soon after the treatment began, which may lead to the drug being stopped. Corticosteroids, other antiviral drugs like ganciclovir, antifungal drugs such as amphotericin B, and other antibacterial treatments, dapsone and sulphadiazines, are some additional commonly used Human immunodeficiency virus medications that have been linked to MHPs. Treatment with certain fluoroquinolones, isoniazid, ethionamide, ethambutol, and other drugs may also result in mania or delirium. Peruvian research indicated that between 1991 and 1999, 1% of TB patients experienced severe MHPs linked to isoniazid (Jonsson and Joska, 2009).

## **2.10. Depression and mortality in the Human immunodeficiency virus Context**

It has been demonstrated that depression raises the risk of death in PLWH. For instance, the mortality rate was 6.6% in 1487 women with depression monitored for 24 months in Tanzania compared to 3.7% in the group without depressive symptoms. After controlling for the predictors of mortality (such as CD4 cell count, antiretroviral treatments duration, and age), women with chronic depressive symptoms were twice more likely to pass away than women with minimal or no depressive symptoms. The study was done with 765 women living with Human immunodeficiency virus at four United States sites and followed for up to 7 years. When compared to women

on antiretroviral treatments who did not have depression, women with chronic depressive symptoms had a mortality risk that was over three times higher in the women taking anti-retro viral treatment and over seven times higher than women not taking anti-retro viral treatment (Remien et al., 2019).

### **2.11. Impact of mental health problems on the patient and system at large**

MHPs are a significant public health issue with chronic tendencies and treatment challenges caused by inadequate administration of MHS as a result of ignorance. Anxiety and depression are the most typical. MHPs frequently exhibit observable behavioural changes that might cause other people to have unfavourable attitudes, stereotypes, and associated beliefs. Stereotypes about these clinical illnesses are linked to the idea that a particular group of individuals is hazardous and in charge of their own illness. Prejudice starts when a person endorses this behaviour and emotionally responds by engaging in particular actions, such as being frightened of all MHPs. In addition to the stigma of the general public, health professionals are also impacted by this viewpoint and exhibit less optimism about the development of MHP than does the general public. Due to ignorance, medical professionals stigmatize and discriminate against people with MHPs, which has a negative psychological impact on the patients (Choudhry, Mani, Ming and Khan, 2016, Dube and Uys, 2016, Ramalisa, Du Plessis and Koen, 2018). Negative perceptions of the condition in medical personnel may hinder the effective treatment of the patients with MHPs (Choudhry et al., 2016, Fernandes et al., 2019). MHPs may provide a significant obstacle to effective participation and retention in HIV primary care. Research has linked the low rates of Human immunodeficiency virus care and retention to the prevalence of MHPs. According to research from Alabama, missed Human immunodeficiency virus primary care appointments within the first year of treatment were more likely in individuals with drug misuse issues (Remien et al., 2019). For example, depressed patients are three times more likely not to comply with medical regimens than non-depressed patients; there is also evidence that depression predicts the incidence of heart disease. In the case of infectious diseases, non-adherence can lead to drug resistance, and this has profound public health implications concerning resistant infectious agents. Illness-associated depression impairs the quality of life and several aspects of the functioning of the patients with chronic disease. Moreover, it results in higher healthcare utilization and costs as the patients are likely to have several medical conditions due to depression (Hare, Toukhsati, Johansson and Jaarsma, 2014).

Some areas are working toward even loftier objectives like "95-95-95" and eventually "getting to zero" for new Human immunodeficiency infections. Although these objectives are admirable and ambitious, it will be exceedingly challenging to achieve zero Human immunodeficiency virus infection due to the on-going diagnostic and treatment gap in mental health (Remien et al., 2019, UNAIDS and Update, 2019). People with MHPs have a higher chance of acquiring Human immunodeficiency virus than the general population; hence addressing MHPs will significantly reduce new Human immunodeficiency virus infections. The failure to identify and treat MHPs has a significant negative impact on a country's economy since most MHP patients, especially those

with depression, are likely to have several medical conditions that go untreated for extended periods of time. Since depression is known to impair immunity (e.g., CD4 cell reduction), opportunistic infections are more likely to arise (Remien et al., 2019). Recent studies have also shown that depression impacts the course of Human immunodeficiency virus disease in Botswana and other Sub-Saharan African countries. PLWH and MHPs have a slow lowering of viral load (Yehia et al., 2015).

Depression is regarded by the World health organization as one of the most debilitating disorders in the world (Funk, 2016). There are several causes of depression associated with Human immunodeficiency virus, some of which may be connected to the neurotropic disease process itself. The virus has the ability to kill brain cells that directly control affect and mood in the subcortical areas of the brain. Additionally, the stigma associated with Human immunodeficiency virus and having a chronic disease cause PLWH to experience significant psychosocial stress rather regularly (Lawler, Mosepele, Seloilwe, Ratcliffe, Steele, Nthobatsang et al., 2011, Remien et al., 2019).

Poor adherence to highly active antiretroviral treatment regimens is influenced by depression. Inadequate antiretroviral treatment dosages might cause resistance to develop, which makes it harder to treat Human immunodeficiency virus illness. This damaging loop can be stopped since depression-related poor adherence may improve with therapy of antidepressant drugs (Lawler et al., 2011, Remien et al., 2019).

Although diagnosing depression has not been a top priority in Africa's Human immunodeficiency virus-endemic regions, it may accelerate the progression of Human immunodeficiency virus and contribute to the emergence of antiretroviral resistance. The absence of qualified workers and medical resources contributes to this neglect of depression and other emotional disorders (Burgess, 2015). Somatic symptoms including weariness, weight loss, and sleeplessness might make it difficult to diagnose depression in PLWH. Because some PLWH experience neurocognitive impairment, such as slower thinking, poor focus, forgetfulness, and executive dysfunction, the diagnosis is made more difficult. Due to damage to the fronto-striatal areas of the brain, PLWH with executive dysfunction may acquire a flat affect and apathy. As a result, they are frequently misdiagnosed as depressed and treated with anti-depressants. Since antidepressants are often not harmful from a medical standpoint, this can be considered a minor issue; but, from the perspective of resources, this might be wasteful and result in a high number of PLWH being prescribed expensive prescriptions with no benefit (Lawler et al., 2011).

## **2.12. Impact of mental health problems on the economy**

According to Fisher, Tran, Hammarberg, Sastry, Nguyen, Rowe et al. (2020), persons with MHPs have a higher unemployment rate than healthy Australians. Australians with MHPs have unemployment rates that are four to five times higher than healthy persons. People with MHPs lack effort and are averse to working. Additionally, it was shown that workers with MHPs typically work less productively (presentism) and take more sick days (absenteeism) (Doran and Kinchin,

2019). In a study done by Hilton and his colleagues in 2008, high psychological distress increased absenteeism by 1.7%, decreased employee performance at work by 6.1%, and resulted in a net loss of 6.7% of productivity (Zingela, van Wyk, Pietersen, 2019). In 2010 Hilton conducted a study where he estimated that psychological distress produces a reduction of A\$5.9 billion (equivalent to A\$7.8 billion in 2015) (Doran, 2013, Doran and Kinchin, 2019). In many developed countries, 35%-45% of absenteeism is due to MHP (Yerramilli and Bipeta, 2012).

### **2.13. Mental Health is associated with transmission risk behaviour**

The Human immunodeficiency virus research community has always examined sexual risk behaviours, antiretroviral compliance, and Human immunodeficiency treatment independently. However, combining the two has lately been encouraged because both of these activities contribute to Human immunodeficiency virus infection transmission and share comparable correlates. In particular, people with MHPs, such as depression and substance abuse, are more likely to engage in unprotected sexual activity, regardless of whether they are aware of their Human immunodeficiency virus status. They are also more likely to neglect antiretroviral therapy and frequently miss primary health care appointments, which can lead to an elevated viral load and thus increase the risk of the virus spreading to others. If these habits are not addressed concurrently, a chance for successful secondary Human immunodeficiency virus prevention may occur (Levy, Phillips, Magnus, Kuo, Beauchamp, Emel et al., 2017, Nebhinani and Mattoo, 2013).

Numerous researchers have discovered a link between depressive symptoms and higher sexual risk behaviours in PLWH. Increased sexual risk behaviours are also linked to anxiety disorders, such as social anxiety disorder and posttraumatic stress disorder (Hill, Maman, Kilonzo and Kajula, 2017, LeGrand, Reif, Sullivan, Murray, Barlow and Whetten, 2015, Sikkema et al., 2010). The range of effect sizes in studies was 41 to 55, despite the fact that two meta-analytic evaluations of the literature revealed no association between the negative affect (defined as depression or anxiety symptoms) and sexual risk behaviour. Evidence exists to support a potential U-shaped relationship between sexual risk behaviour and depression, with increased sexual risk behaviour associated with moderate but not severe depression (Sikkema et al., 2010).

The poor risk awareness, impaired judgement, substance abuse and the potential for sexual victimization and use of drugs in people with MHPs contribute to an increased rate of Human immunodeficiency virus infection (Nebhinani and Mattoo, 2013). In a study done by Carey and his colleagues in 1997 in New York, behaviours related with the spread of the Human immunodeficiency virus were measured in a sample of 60 adults with severe and persistent MHPs. The results indicated that 68% of the people had sex in the previous year; 30% of the women, and 24% of the men reported having two or more male partners. The majority only infrequently used condoms. The majority of the patients found their sexual partners in bars or mental health facilities, and a substantial percentage were known injectable drug users or nonmonogamous. Overall, 48% of the men and 37% of the women reported at least one risk factor (Carey, Carey, Weinhardt and Gordon, 1997). The prevalence of infection with Human immunodeficiency virus in persons who have

severe persistent MHPs is 10 to 76 times greater than the rate in the general population; approximations designate that 4% – 23% are infected with Human immunodeficiency virus compared to 0.3% – 0.4 % of the general population (Zingela, van Wyk, Pietersen, 2019). Senn, Walsh and Carey (2016) assessed risk behaviour in adults at community mental health clinics in Milwaukee. They discovered that 33% of the adults had a history of sexually transmitted illnesses other than Human immunodeficiency virus, and 12% of the adults said that they had traded sex for money, drugs, or a place to stay. According to Kalichman, Kelly, Johnson, and Bulto (1994), 18% of their participants accepted cash or drugs in exchange for sex, and 27% had two or more sexual partners in the preceding year. According to Carey et al. (1997), 68% of the males and 20% of the women engaged in actions that increased their chance of contracting Human immunodeficiency virus. Studies conducted in Russia and America revealed that up to 50% of PLWH reported having had unprotected vaginal or anal intercourse with sero-discordant partners. In Vietnam, 20% of PLWH reported having sex with many friends, and fewer than half indicated they routinely used condoms with their regular casual sexual partners. Such actions may cause Human immunodeficiency virus to spread to Human immunodeficiency virus-negative people.

Additionally, PLWH who engage in these behaviours are more likely to get new Human immunodeficiency virus strains or other sexual transmitted diseases, which can speed up the progression of Human immunodeficiency virus, cause resistance to Human immunodeficiency virus therapy, or result in secondary Human immunodeficiency virus transmission.

#### **2.14. The mental health treatment gap and mental health of PLWH**

Globally, the gap between people suffering from MHPs and the group receiving treatment and care is significant (Reynolds 3rd and Patel, 2017). Studies in low- and middle-income countries designate that the treatment gap is devastating. In Africa, the treatment gap for depression is 67% compared to 45% in Europe (Walker, Hansen, Martin, Symeonides, Ramessur, Murray et al., 2014). In Sub-Saharan Africa, MHS are very poor. There is a deficit of MHS in Human immunodeficiency virus care and an extremely low ratio of mental health professionals to patients. It is projected that there is less than one professional for 100,000 clients in Africa (Atindanbila and Thompson, 2011).

A recent systematic review examining the training of mental health workers in Africa over time acknowledged the challenges encountered in responding to the lack of trained mental health professionals. There are no standard guidelines of training procedures and evaluation of the outcomes. The main focus has been placed on improving the knowledge and attitudes of the mental health workers with no procedures for evaluating the skills gained by the mental health workers, and this may partly account for on-going issues with MHS delivery (Liu et al., 2016). Although many countries in Sub-Sharan Africa are moving towards the incorporation of mental health into primary care, primary care workers do not have the ability to identify mental disorders and the treatment given is sometimes inadequate (Nalukenge, 2017).

### **2.15. Integrating mental health and Human immunodeficiency virus services**

The general health of PLWH is improved through the integration of mental health into Human immunodeficiency virus services initiative programmes. For incorporating MHS in antiretroviral therapy programs, the World health organization has prepared a number of modules and some training materials. Human immunodeficiency virus programs must incorporate mental evaluation and MHPs management. When necessary, primary healthcare professionals, including Human immunodeficiency virus counsellors, can refer patients to specialist services by being educated to identify and treat common mental and drug use issues (Cele, 2014). The health infrastructure must include a process for referring patients to mental health care, as well as enough supervision for these professionals (Ayano et al., 2017). In service integration, two or more organizations foster relationships to create results for their clients, coordinating the efforts to provide patients with better responsive care. This implies that rather than limiting clients to a single agency or program, health experts from several disciplines collaborate on case planning, exchange recommendations, and leverage the resources of numerous agencies. Services are fragmented and duplicated in non-integrated systems, which makes them chaotic, expensive, and frequently not in the client's best interests. The strength of integrated services is in their capacity to provide comprehensive care for patients with many problems, provide superior service availability, organization, endurance, and quality, achieve early intervention and prevention, and reduce duplication, inefficiency, and costs. Coordination and integration of services also improve client outcomes in a number of areas, such as medical adherence, a decline in hospitalizations and out-of-home placements, and increased satisfaction (Chuah, Haldane, Cervero-Liceras, Ong, Sigfrid, Murphy et al., 2017, Dodds, Nuehring, Blaney, Blakley, Lizzotte, Lopez et al., 2004).

Integrated service systems reveal three general features. The first is a mutual obligation to holistic, comprehensive care, with patients viewed as having physical, psychological, social, and cultural dimensions within an environment consisting of family, neighbourhood, and larger institutions. All-inclusive service packages that consider all these dimensions and stress prevention and early intervention is developed by a collaborative team of providers. Secondly, integrated systems stimulate whole service delivery, such as the allocation of services and staff to encourage accessibility, fluid provider communication, and client perception of the system as unified and non-redundant. Finally, administrative and programmatic accomplishments demonstrate integration in a number of ways, through joint planning and resource and information sharing; effective case referral, service planning, and follow-up procedures, staff support via cross training and team building, sharing case planning with the client, and methods to evaluate the effectiveness of the system as a whole (Chuah et al., 2017, Dodds et al., 2004, Udedi, Stockton, Kulisewa, Hosseinipour, Gaynes, Mphonda et al., 2018).

### **2.16. Challenges of integration of mental health services into Human immunodeficiency virus services in primary health care**

Even in the present, policymakers do not prioritize mental health (Yerramilli and Bipeta, 2012).

The lack of understanding of MHS, the unfavourable attitudes of health professionals about MHPs, and the lack of experience of health professionals with mental health are major contributors to the failed integration of mental health into primary health care. It was shown by Dube and Uys (2016) in South Africa that 23% of patients in primary health care have MHPs. Despite the high prevalence of MHPs, South Africa places little emphasis on mental health, and primary health care facilities do not provide the necessary care to patients with MHPs. The nurses' attitudes toward patients with MHPs are frequently unfavourable, and it has been demonstrated that primary health care nurses' ability to identify and treat MHPs is subpar due to a lack of training in this area (Dube and Uys, 2016).

In a study that was done by Ayano et al. (2017) in Ethiopia, one of the major challenges of the successful integration of mental health into primary health care is the lack of adequate knowledge, a positive attitude, and skills in terms of MHS of primary health care professionals participating in care and treatment of people with MHPs at primary health care levels.

### **2.17. Attitudes towards MHPs**

In the Western world, stigma towards MHPs appears to be widely practiced by the general population. According to studies, the majority of people in the United States and many Western European countries have negative sentiments of MHPs. Even health professionals who have received training in MHPs hold stigmatizing opinions about MHPs. The stigma associated with MHPs causes psychological anguish in the majority of MHP sufferers. On one hand, they suffer because of the symptoms and incapacities that result from the MHPs. On the other, they are challenged by the stereotypes and preconception that result from misconceptions about MHPs. As a result of both, people with MHPs are denied the opportunities that define a quality life: good jobs, safe housing, satisfactory health care, and affiliation with a diverse group of people (Ahmed et al., 2019, Gibbs, Dawson and Mullen, 2006, Gureje and Alem, 2000, Scior, 2013).

The majority of nations allow their traditional beliefs to impact how they see MHPs. These ideas frequently have a detrimental impact on mental health treatment because they prevent those who are affected from seeking MHS. Treatment seeking is frequently postponed as a result of MHPs' stigmatization and discrimination by the public and healthcare professionals. As a result, policymakers frequently hold the assumption that MHPs are mainly incurable or, at the very least, resistant to medical therapy. Such attitudes also have an impact on the provision of mental healthcare services for the underserved (Corrigan, Druss and Perlick, 2014).

### **2.18. Preparedness of health professionals in relation to Human immunodeficiency virus and mental health**

Insufficient attention has been paid to mental health issues, particularly in sub-Saharan Africa where most PLWH live and receive care. Depression is one of the most prevalent MHPs in PLWH but is neglected in sub-Saharan Africa (Bernard et al., 2017, Skuse, 2008). A recent editorial in an acquired immunodeficiency syndrome journal reported evidence on the disability associated with

Human immunodeficiency virus -related depression and insisted on the need to act (Nglazi et al., 2016).

According to Altevogt et al. (2010), it is confirmed that there is increased numbers of people in Sub-Saharan Africa countries with MHPs, but there is a shortage of psychiatric doctors and low levels of knowledge in health professionals. Primary health cares in South Africa provide basic services in mental health promotion, prevention of mental disorders and mental healthcare. It is estimated that one in four people globally experience MHPs during their life span and mental health conditions are the leading cause of disability. About 23% of people attending primary health care suffer from MHPs in South Africa. In a study done by Cele (2014) in South Africa, it was reported that there is increased numbers of PLWH who have MHPs but there is a serious treatment gap due to lack of knowledge concerning MHS in primary health care.

Despite the important role primary health care nurses play in the provision of health to the general population, their attitudes towards people with MHPs are often negative, and the provision and identification of MHPs by primary health care nurses is poor because their knowledge to deal with mental health conditions is inadequate. Many nurses lack the knowledge and skills to identify and manage mental health conditions (Cele, 2014, Fernandes et al., 2019, Kigozi and Ssebunnya, 2009, Wainberg et al., 2017, Wakida et al., 2017).

### **2.19. Existing planned interventions to improve MHS**

Currently, mental health policies place a strong emphasis on the concept of the integrated treatment with other healthcare services, particularly at the primary healthcare level. Primarily in terms of treatment, the identification of MHPs in primary healthcare has been ineffective and deficient. Major changes at this level of care are required to integrate MHS, close the treatment gap, and guarantee that patients get the care they require. Primary care providers must get enough training and encouragement to develop the attitudes, abilities, and competences necessary to evaluate, identify, treat, assist, and, if necessary, refer patients with MHPs to specialist services (Fernandes et al., 2019). The World Health Organization has called for the integration of primary health care services and MHS, but a study by Ayano et al. (2017) in Ethiopia found that there is still a significant treatment gap for PLWH due to a lack of knowledge about mental health and poor attitude of medical staff toward those who are mentally ill.

The National Antiretroviral Treatment Guidelines published by the South African Department of Health in 2004 indicated that patients should not have "untreated active depression" or "active alcohol or other drug addiction" as part of the patient selection criteria before beginning antiretroviral treatment.

The 2010 guidelines also recommended doing a psychosocial assessment or mental health screen at the first visit to promote adherence. In South Africa, it is still a requirement that all PLWH

receive some form of evaluation for depression and substance abuse prior to the initiation of antiretroviral treatment. Unfortunately, with the growing burden of MHPs, especially in PLWH, there remains a considerable mental health treatment gap in South Africa (Van Coppenhagen and Duvenage, 2019).

Of all the health professionals, nurses provide immediate care to patients with MHPs. They need to be cognizant of their attitudes as it can significantly affect the quality of care provided. The positive attitude of nurses towards people with MHPs will support the improvement of treatment and recovery of MHPs (Fernandes et al., 2019).

The WHO recommends that the psychosocial needs of PLWH should be part of Human immunodeficiency virus care. These needs include assistance with finding a job, income, accommodation issues, being allowed to make their own decisions, coping with illness and discrimination and prevention and treatment of mild and serious MHPs (Elkington, McKinnon, Mann, Collins, Leu and Wainberg, 2010).

The education of the public should be given prominence in the development of mental health policies in Africa, because many aspects of mental healthcare require the active collaboration of the community. Community rehabilitation of the mentally ill is an important example. Community understanding is also important in the actions aimed at reducing stigma and discrimination. In most parts of the continent, the family remains an important resource for the support and care of patients with MHP. Families with mentally ill persons can only be strengthened in this role to prevent rejection and lack of understanding by the community (Corrigan et al., 2014).

## **2.20. Policies and law regarding mental health in Lesotho**

The Government of Lesotho has stated its intention to create the ideal path for the future growth of MHS within the Kingdom of Lesotho in the final draft of the Lesotho National Mental Health Policy, which has not yet been submitted to parliament. As a result, the policy has been created to ensure that all Basotho with MHPS may easily access the appropriate facilities (Government of Lesotho, 2016). The policy acknowledges that a cogent national strategy and planning framework provide a chance for the nation to address psychiatric problems in a methodical way. The policy also acknowledges the potential for a comprehensive multi-sectoral approach to mental health when based on a rigorous collaborative process and includes the most recent evidence-based therapies.

### ***2.20.1. Policy goals***

A set of objectives directs the creation of mental health policy in Africa. The public's negative opinion of MHPs must be changed, their incidence and prevalence, including those linked to improper use of addictive substances, must be reduced, and adequate treatment for the mentally ill must be provided. Policies must support families in providing the best possible care for the mentally ill while maximizing the use of limited public resources. The objectives must specify the

requirement for the precise methods to lessen the impairment caused by mental disease and to promote research regarding mental disorders, as well as the prevention and treatment methods (World health organization, 2001).

### **2.21. Conclusion**

Most of the studies in this review were conducted in developed countries and contributed to the understanding of MHPs and its management in PLWH. The prevalence of MHPs in PLWH is high globally. The rise in MHPs in PLWH remains a challenge for MHS, and many people with MHPs and Human immunodeficiency virus obtain inadequate treatment. It is evident that MHPs in PLWH need improved management. In this chapter, a review of the literature was presented and the next chapter describe the methodology used in the study.

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## CHAPTER THREE

### MANUSCRIPT ONE

**Title of the article: Factors that can enable the provision of mental health services in people presenting with mental health problems and Human immunodeficiency virus at primary health care: Mixed method design (Considered for publication)**

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#### **Abstract**

##### **Background**

People with Human immunodeficiency virus frequently experience mental health problems yet mental health services are lacking globally. Mental health problems can present a substantial barrier to adequate engagement and retention in Human immunodeficiency virus primary care. Research has established links between the presence of mental health problems and the poor rates of Human immunodeficiency virus care linkage and retention. Since most patients have their initial interaction with healthcare services at the primary healthcare level, it is crucial to integrate mental health services into Human immunodeficiency virus services.

##### **Aim**

The aim of this study was to explore factors that can enable the provision of mental health services in people presenting with mental health problems in people living with Human immunodeficiency virus at primary health care.

## **Method**

This study was a quantitative and qualitative descriptive study, designed to explore the factors that can enable the provision of mental health services in people living with Human immunodeficiency virus at primary health care. The all-inclusive sampling method was used to elect 88 health professionals who participated in the questionnaire and 50 participants for interviews were elected using purposive sampling method.

## **Findings**

92% of respondents reported that availability of competence-based framework will help them manage mental health problems. All participants also claimed that availability of specialist on mental health and training to health professionals will enable provision of mental health services in people presenting with mental health problems and Human immunodeficiency virus.

## **Conclusion**

The study indicated that all the stakeholders involved need to implement initiatives to address this knowledge gap.

## **Contribution**

The study highlighted an urgent need to integrate mental health services into Human immunodeficiency virus services in Lesotho as mental health problems seem to be increasing but there was great treatment gap for people showing signs of mental health problems and Human immunodeficiency virus

Keywords: Factors, provision, mental health problems, mental health services, Human immunodeficiency virus

## **Introduction**

Globally, the rates of depressive symptoms in adult living with Human immuno deficiency and taking antiretroviral treatment range from 13% to 78% (Gebrezgabher, Huluf Abraha, Hailu, Siyum, Mebrahtu, Gidey et al., 2019). Despite the significant roles played by health professionals in most settings, mental health policies emphasize the concept of integrated mental healthcare with other general health services. However, the beliefs and attitudes of health professionals regarding the integration of MHS into Human immunodeficiency virus services are still poor and this cause large treatment gap in MHS (Dube and Uys, 2016).

The anxiety disorders are the most prevalent class of psychiatric disorders and often cause a substantial negative impact on life functioning in PLWH (Duko, Geja, Zewude, Mekonen, 2018).

## **Background**

MHPs worsen the outcomes for other medical diseases by impairing the ability to seek, receive, and adhere to treatment. For instance, the prevalence of significant depression is linked to delayed treatment seeking, a lower chance of discovering underlying medical disorders, and lower treatment adherence. Similar circumstances apply to PLWH, who are more likely than not to experience concomitant depression and/or anxiety at some point. Consequently, compared to individuals without a mental or behavioural disease, such comorbidity is linked to a lower likelihood to begin and maintain therapy (Pike, Susser, Galea, Pincus, 2013, Stangl et al., 2019).

Globally, the gap between people suffering from MHPs and those receiving treatment and care is significant (Reynolds 3<sup>rd</sup> and Patel, 2017). Studies in low- and middle-income countries designate that the treatment gap is also devastating. In Africa, 90 % of people who require MHS do not receive them (Walker et al., 2014). In Sub Saharan Africa, MHS are very poor. There is a scarcity of MHS in Human immunodeficiency virus care and an extremely low ratio of mental health professionals to patients. It is projected that there is less than one professional for 100,000 clients in Africa (Atindanbila and Thompson, 2011). A recent systematic review looking at training of mental health workers in Africa over time has acknowledged the challenges encountered in responding to the lack of trained mental health professionals. There are no standard guidelines of training procedures and evaluation of the outcomes (Liu, et al., 2016). Although many countries in Sub-Saharan Africa are moving towards the incorporation

of mental health into primary care, primary care workers do not have the ability to identify MHPs and the treatment given is inadequate (Nalukenge, 2017).

In the Western world, stigmas towards MHPs appear to be widely practiced by the general population therefore affect general population knowledge acquisition on mental health. According to studies, the majority of people in the United States and many Western European countries have negative sentiments of MHPs. Even health professionals who have received training in MHPs hold stigmatizing opinions about MHPs. The stigma associated with MHPs causes psychological anguish in the majority of MHP sufferers. As a result of both, people with MHPs are denied the opportunities that define a quality life (Ahmed, Merga and Alemseged 2019, Gibbs, Dawson and Mullen, 2006, Gureje and Alem, 2000, Scior, 2013) The majority of nations allow their traditional beliefs to impact how they see MHPs. These ideas frequently have a detrimental impact on mental health treatment because they prevent those who are affected from seeking MHS. Treatment seeking is frequently postponed as a result of MHPs' stigmatization and discrimination by the public and healthcare professionals. As a result, policymakers frequently hold the assumption that MHPs are mainly incurable or, at the very least, resistant to medical therapy. Such attitudes also have an impact on the provision of MHS for the underserved (Corrigan, Druss and Perlick, 2014).

The incorporation of MHS into Human immunodeficiency virus services initiative benefits PLWH's health overall. To incorporate mental health interventions into antiretroviral therapy programs, World health organization has prepared a number of modules and some training materials. Human immunodeficiency programs must incorporate mental evaluation and MHPs management. When necessary, primary health care professionals, including Human immunodeficiency virus counsellors, can refer patients to specialist services by being educated to identify and treat common mental and substance use issues (Cele, 2014; Shidhaye, Lund and Chisholm, 2015; Remien et al., 2019). In service integration, two or more organizations foster relationships to create results for their clients, coordinating efforts to provide patients with improved responsive care. This means that rather than limiting clients to a single agency or program, health professionals from several disciplines collaborate on case planning, exchange referrals, and motivate the resources of numerous agencies. Services are fragmented and duplicated in non-integrated systems, which makes them chaotic, expensive, and frequently not in the client's best interests. The strength of integrated services is in their capacity to provide

comprehensive care for patients with many problems, provide superior service availability, organization, endurance, and quality, achieve early intervention and prevention, and reduce duplication, inefficiency, and costs. Coordination and integration of services also improve clients results in a number of areas (Chuah et al., 2017, Kasven-Gonzalez, Souverain, and Miale, 2010, Dodds et al., 2004).

Strong healthcare delivery systems that take into account the complex medical requirements of PLWH, from psychological to social needs, must be put in place, and the best way to achieve this is to develop integrated programs (UNAIDS, 2018).

### **Aims and objectives**

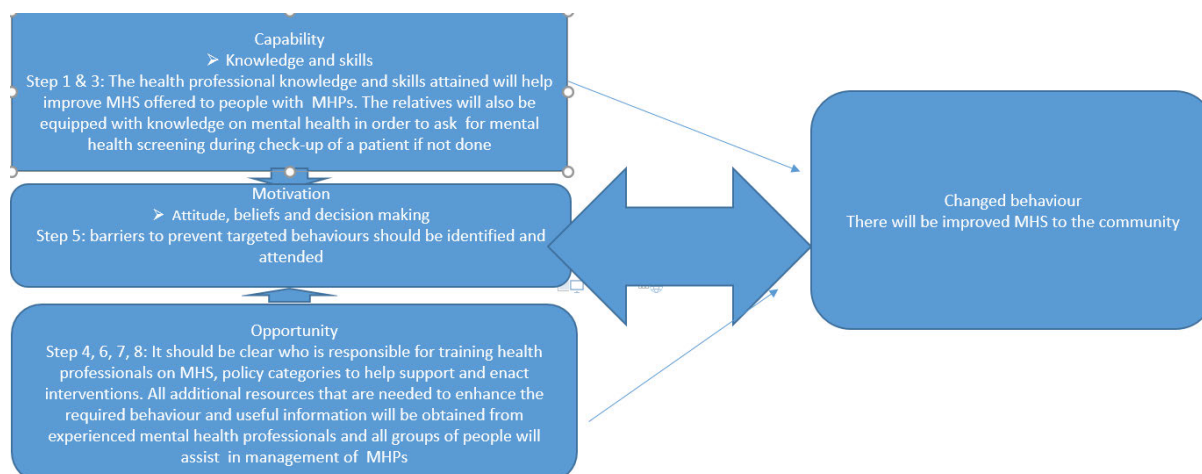
The aim of this study was to explore the factors that can enable the provision of MHS in PLWH at primary health care.

### **Theoretical framework**

The theory of the Behaviour Change Wheel, developed by Michie, Van Stralen and West (2011), was used by the researcher to direct this investigation. Successful behaviour modification interventions are essential for improving the use of evidence-based practice (Michie et al., 2011).

Change in behaviour is necessary for the proper provision of MHS. As a result, behaviour change initiatives are essential for the efficient delivery of MHS. "Behaviour modification interventions" are a coordinated series of actions intended to change a certain pattern of behaviour (Michie et al., 2011).

In this 'behaviour system,' capability, opportunity, and motivation interrelate to produce performance that in turn affects these components as presented in Figure 1, The Capability, Opportunity and Motivation Behavioural System.



**Figure 3. 1: The Capability, Opportunity and Motivation Behavioural System: a framework influencing health behaviour**

## Method

This study used one of the most popular mixed methods designs in educational research: sequential explanatory mixed methods design, consisting of two distinct phases (Creswell, 2014). In the first phase, the quantitative, numeric, data was collected first, via hand delivered questionnaire and the data was subjected to a discriminant function analysis. The goal of the quantitative phase was to identify potential predictive power of selected variables on the distributed participant's knowledge regarding factors enabling provision of MHS in people presenting with MHPs and Human immunodeficiency virus in primary health care in Lesotho and to allow for purposefully selecting informants for the second phase. In the second phase, a qualitative multiple case study approach was used to collect text data through individual semi-structured interviews, to help explain why certain external and internal factors, tested in the first phase, may be significant predictors of poor management of MHPs and Human immunodeficiency virus in Lesotho. This method was used to obtain a clearer picture from the quantitative data, and then to use the qualitative data to provide better understanding and explanation of the study in question.

The rationale for mixing was that neither quantitative nor qualitative methods are sufficient in themselves to capture the trends and details of the situation, such as the complex issue of factors enabling provision of MHS in people presenting with MHPs and Human immunodeficiency virus. When used in combination, quantitative and qualitative methods complement each other and allow for a more complete analysis.

The other rationale for this approach was that the quantitative data results provide a general picture of the research problem. The qualitative data and its analysis refined and explained those statistical results by exploring participants' views in more depth (Botma et al., 2010, Creswell, 2014).

The priority in this design is given to the qualitative method, because the qualitative research represented the major aspect of data collection and analysis in the study, focusing on in-depth explanations of quantitative results by exploring objective of the study. A smaller quantitative component goes first in the sequence and is used to reveal the predicting power of the selected factors that enable provision of MHS in people presenting with MHPs and Humanimmunodeficiency virus in primary health care. The quantitative and qualitative methods were integrated at the beginning of the qualitative phase while selecting the participants for case study analysis and developing the interview questions based on the results of the statistical tests. The results of the two phases were also integrated during the discussion of the outcomes of the whole study (Bryman, 2006, Creswell, 2014).

In order to be able to explore in depth the quantitative data, the researcher gathered qualitative data from participants who could assist explain these results. The explanatory sequential design is therefore recognized as the easiest and straightforward of the mixed method designs (Creswell and Clark, 2017).

### **Setting**

This study was conducted in five primary health care in the city of Maseru in Lesotho. The primary health cares were Clinic A, B, C, D and E. All the primary health cares offer Human immunodeficiency virus services but did not offer MHS. The clinic A was located on the west site of Maseru city and it was 10 km from the city. The clinic B was located on the north part of the city and it was about 12 km from the city. Clinic C was located in the south west of Maseru city and it was approximately 15 km from the city. Clinic D located in the south part of the city and was 6 km from the city. Maseru was the capital and biggest city of Lesotho. It was also the capital of the Maseru district. The place was found near the Caledon river, which was the border between Lesotho and South Africa.

### **Study participants**

The target population was healthcare professionals in five primary health care in the city of Maseru. The participants included registered nurses, nursing assistants, pharmacists and medical officers working in primary health care, for a minimum of two years in quantitative study but only registered nurses and medical officers were included in the qualitative study. During quantitative data collection all participants were informed that only registered nurses and medical officers will be included in the qualitative study as they were believed to have better knowledge on mental health.

### **Sample size**

Each clinic had around 21 Health professionals eligible to participate in the study therefore 105 health professional were eligible to participate as the primary health cares were five. The sample size was determined by using  $n = z^2 p(1-p) / d^2$  where  $n$  = sample size,  $p$  = assumed proportion (50%),  $z$  = z-value at 95% confidence (=1.96),  $d$  = desired level of absolute precision (=10%), yielded a total of 96 Health professionals. All 88 recruited participants entered in the study. 50 health professionals that included registered nurses and medical officers were interviewed. The participants were interviewed until saturation point was reached.

### **Sampling**

All-inclusive sampling was used to select 88 participants who responded to the questionnaire as the sample size was small (Grove, Gray and Burns, 2015).

For the purpose of the second qualitative phase, purposeful sampling was also used (Grove et al., 2015). The idea was to purposefully select informants who will best answer the research questions and who were “information rich” (Potton, 2002). In the survey, the participants were informed that all registered nurses and medical officers will be selected for the follow-up of voluntary individual interviews. 50 interviews were done. The most frequently used criterion for determining an adequate sample size was based on the saturation point (Speziale et al., 2011). A purposive sample is based on the judgment of the researcher regarding participants who are knowledgeable about the topic (Creswell, 2014, De Vos, Delpont, Fouché and Strydom, 2011, Grove et al., 2015)

Due to the nature of the sequential design of this study, the selection of the participants for the second qualitative phase depended on the results from the first quantitative phase. Based on these results, maximal variation sampling, in which a researcher sampled cases or individuals differing in some characteristic, was used. This allowed the researcher to present the multiple perspectives of individuals to “represent the complexity of our world” (Creswell, 2014). For this study, the participants were selected based on the statistically significant difference results from the discriminant function analysis.

### **Research tool**

As the researcher used a mixed method study, a questionnaire was used in the first stage of data collection. The questionnaire method was an easier method as it does not require techniques or knowledge. The questionnaire also covers a wide range of the population, and the response may be received very quickly. In the second stage of data collection the researcher used semi structured interviews, following a pre-constructed interview schedule.

### **Data collection**

After ethical approval was obtained from the Ethics Committee of the School of Nursing and Public Health, approval to collect data was sought from ministry of health and management of primary health care. A list of the health professionals was obtained from each primary health care manager. Respondents were invited to a meeting, at which researcher informed them about the study and extended an invitation to participate. The respondents were informed about the voluntary participation and their right to withdraw at any time during the study. Data collection commenced after the respondents agreed to participate and signed the written informed concern. Data was structured in such a way that it provided information and answers to the research questions posed.

For collecting the quantitative data, a self-developed questionnaire with a 5-point Likert scale was used. The questionnaire was organized in two sections.

Demographic questions constituted the first section of the questionnaire, and included age, gender and occupational position years of working in primary health care, and the qualification of a participant.

The second section focused on the level of knowledge of the health professional regarding MHS to people presenting with MHPs at primary health care, the perceptions and attitude of the health professional regarding the integration of mental health into Human immunodeficiency virus services at primary health care and their perceptions regarding the availability of a competence-based framework regarding provision of MHS in people presenting with MHPs and Human immunodeficiency virus in primary health care.

The questionnaire and self-developed interview schedule were used to gather data from the participants. The questionnaire was designed to explore the enabling factors for the provision of MHS in people presenting with MHPs and Human immunodeficiency virus. The interview schedule was also designed to explore the factors that can enable the provision of MHS in people presenting with MHPs in PLWH at primary health care. The participants were requested to sign a written informed consent form if they agreed to participate in the study. The researcher explained the process of completing the questionnaire to avoid their wastage. The researcher also explained the title of the study, significance of the study and the reason why the study is conducted to improve the participants understanding of the need to be honest while responding to the questions. All recruited participants participated in the study. The findings would inform the stakeholders about the current status of mental healthcare in Lesotho and therefore improve MHS for people presenting with MHPs and Human immunodeficiency virus. The participants were not coerced to participate. Confidentiality was maintained throughout the study.

The questionnaires were hand delivered to the participants. Clear and concise instructions on how to complete the questionnaire were given. The participants were asked to complete the questionnaire within 48 hours and to place their sealed responses in a designated box that was made available by the researcher. In the questionnaire, question asked were demanding the respondents to grade their knowledge concerning mental health, their attitude and perception regarding mental health on a 5 point Likert scale.

Data was collected from registered nurses, nursing assistants, pharmacists and medical officers. During quantitative data collection all the participants were informed that only registered nurses and medical officers will be included in the qualitative data collection as they were believed to have better knowledge on mental health and Human immunodeficiency virus.

In the second phase of data collection, a semi-structured interview schedule was used to explore the enabling factors for the provision of MHS to people presenting with MHPs in PLWH at primary health care. Participants were asked to describe factors that can enable provision of MHS in people presenting with MHPs and Human immunodeficiency virus. A semi-structured interview schedule was used to explore the knowledge, attitude and perceptions of health professionals regarding factors that enables provision of MHS in people presenting with MHPs. The interviews took 45-60 minutes each and the participants were asked to sign a written informed consent form before participating in the interviews. The aims and objectives of the interview were explained. A list of the health professionals was obtained from each primary health care manager. Participants were invited to a meeting, at which researcher informed them about the study and extended an invitation to participate. The participants were informed about the voluntary participation and their right to withdraw at any time during the study. Data collection commenced after the participants agreed to participate and signed the written informed concern. Open-ended questions were asked and participants were encouraged to discuss them with the researcher. All recruited participants were interviewed. Audio recorder was turned on during interviews after the participants allowed to be recorded. Data collection to both registered nurses and medical officers continued until no new information could be found. Data was collected from December 2022 to January 2023

### **Measurements**

The participants were asked to agree or disagree with a list of statements related to their level of knowledge, attitudes and perceptions on a five-point Likert scale (strongly disagree, disagree, neutral, agree and strongly agree).

### **Quantitative data analysis**

The data was captured on spread sheets and examined for completeness. The surveys were coded, computed and analysed using the Statistical Package for Social Sciences (SPSS), Version 26.0. Descriptive statistics were used to summarise and analyse the data, using frequency tables, as this provided an accurate and clearer picture of the results for easy understanding (Grove et al., 2015). Frequency and percentage was used to summarize the categorical variables. The frequency distribution of the numeric data was examined for normality and mean, or median used appropriately. To account for possible factors, comparisons were made using a Chi-square statistical test for the categorical data and a t-test/Wilcoxon rank-sum test for the

numeric data. All analyses were performed using SPSS version 26, and a p-value < 0.05 was considered statistically significant.

It was crucial to ensure that both the qualitative and quantitative data were compared and integrated to achieve a comprehensive story, rather than two parallel stories.

Bivariate and multivariate analyses were performed to identify comparisons between the attitude, knowledge and perceptions scores of health professionals regarding MHS for people presenting with MHPs and Human immunodeficiency virus. When performing the ANOVA test the p-values were not significant as p-value of the attitude score was 0.138 and the p-value of the perception score was 0.869. The cut-off value for significance level in multivariate analysis was set at  $p < 0.05$ .

### **Qualitative analysis**

The transcripts were analysed by the researcher and reviewed by the research supervisor to ensure trustworthiness. Nvivo was used to analyse data. The data was analysed using the thematic framework analysis method. Data analysis was initially approached through reading each interview as a whole and thereafter question by question to ensure that a response to a specific question, which may have bearing on another question, is not missed. In this process the researcher was guided by the aim of the study (Bengtsson, 2016).

### **Trustworthiness**

The trustworthiness of this study was ensured by following the principles identified by De Vos et al. (2011) and includes the strategies for credibility (showing the accurateness of the findings), transferability (confirming applicability of the findings), dependability (confirming uniformity of the findings) and conformability (using the criterion of neutrality or freedom from bias) (Polit et al., 2012).

### **Credibility**

The following discussed issues supported the participants of this study in gaining the feeling of trust:

Prolonged engagement: The researcher conducted the interviews to provide the participants with an extended opportunity to explore and express their experiences regarding the events, actions, activities, and all the issues related to the inquiry under investigation (Stringer, 2013).

Persistent observation: The researcher consciously observed events, actions, activities, and context over a period of time to ensure credibility. The participants were consciously observed and notes were taken of events, expressing what was actually happening rather than describing it from their memory or from an interpretation of what people thought had happened (Stringer, 2013).

Triangulation: The researcher achieved credibility by using different primary health cares to collect data (Stringer, 2013).

Participant debriefing: The researcher focused on the feelings and responses of the participants rather than the information provided by the participants to ensure debriefing.

Diverse case analysis: The researcher incorporated all the perspectives of all the participants into the study to ensure credibility (Stringer, 2013).

### **Transferability**

The study was presented in research conference at Mozambique where other researchers were able to make judgements about the study concerning their own situations. This study made it possible for other researchers, who were not part of the study, to make judgements about whether the situation or inquiry was similar to their own in terms of their outcomes. The judgements in this study indicated the degree of trust in people that the research outcomes may be transferred to their own situation (Stringer, 2013).

### **Dependability**

In this study, the researcher conducted an inquiry audit to provide a detailed description of the procedures that had been followed and that provided the basis for judging the extent to which they were dependable (Stringer, 2013).

### Conformity

The researcher provided an audit trail that enabled an observer to view the data collected, instruments used, voice recordings, and the journals related to the study, to ensure the veracity of the study (Grove et al., 2015).

### Authenticity

The researcher conducted a thorough and systematic literature review showing how it relates to research questions, objectives and methods (Grove et al., 2015).

### Reliability

The stability or test-retest reliability of the survey instrument was achieved through the pilot testing of the instrument. Test-retest reliability showed if the same results are obtained with repeated administering of the same survey to the similar study participants. Results of the actual survey were then compared and correlated with the initial results in the pilot study and expressed by the “Pearson r coefficient (Grove et al., 2015).

### Validity

Content, criterion-related, and construct validity of the survey instrument was established. Content validity showed the extent to which the survey items and the scores from these questions were representative of all the possible questions about provision of MHS in PLWH. The wording of the survey was examined by the supervisor, and somebody very knowledgeable on mixed methods. This helped assess whether the questionnaires were applicable to the subject it was aimed to measure, if it was a reasonable way to gain the needed information, and if it was well-designed (Grove et al., 2015).

### Results (Quantitative)

**Table 3. 1: The demographic details of the health professionals who participated in the study**

Characteristic	Category	Percent	N
Age (years)	<30	34.8	31
	30-39	40.4	36
	≥40	20.2	18
	No response	4.5	4
	<5	45.3	39

Length of time working at PHC (years)			
	5-9	27.9	24
	≥10	19.8	17
	No response	7.0	6
Gender	Male	16.9	15
	Female	83.1	74
Occupation	Medical Doctor	10.1	9
	Nursing Assistant	67.4	60
	Nurse	7.9	7
	Pharmacist	11.2	10
	No response	3.4	3
Length of time working at PHC	<5	43.8	39
	5-9	29.2	26
	≥10	20.2	18
	No response	6.7	6

### Demographic details

A third of the participants (34.8%, N=31) were less than 30 years, 40.4% (N=36) were from 30-39 years, the group older than 40 years (40.4%, N=18), and no response occurred in 4.2% (N=4). Based on the years of work experience, the results show that 7.7% (N=3) of the doctors, 76% (N=30) Nurses, 10.3% (N=4) pharmacists and 11.1% Nursing assistants had less than 5 years' experience. A small proportion (15.5%, N=4) of the medical officers, 69.2% (N=18) of the registered nurses, 11.1% (N=2) of the pharmacist and 16.7% (N=3) of the nursing assistant had 5-9 years' experience in PHC. Similarly, 11.1% (N=1) of the medical officers, 61% (N=11) of the registered nurses, 11.1% (N=2) of the pharmacists and 16.7% of the nursing assistants had more than 10 years' experience.

The majority of participants were females (83.1%, N=74) and the males were 16.9% (N=15). The majority (67%, N=60) of the participants were registered nurses, 11.2% (N=10) were pharmacists, 10% (N=9) medical officers, 7.9% (N=3) nursing assistants and no occupation indicated (3.4%, N=3) The average for age was 28 and average in length of time working in primary health care is 27.6.

**Table 3. 2: Respondents' responses regarding the perceptions (all participants)**

Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ± SD
I can comfortably identify signs and symptoms of a patient who has mental health problems and Human immune deficiency virus	10(11.2)	18(20.2)	26(29.2)	29(32.6)	6(6.7)	3.0±1.1
I can comfortably manage people with mental health problems	2(2.3)	22(25.3)	33(37.9)	28(32.2)	2(2.3)	3.0±0.9
I feel that I know enough about the factors that put people at risk of mental health problems to carry out my role when working with this client in a group	11(12.4)	28(31.5)	25(28.1)	22(24.7)	3(3.4)	2.8±1.1
I feel I know how to treat people with Human immunodeficiency virus and mental health problems	6(6.7)	20(22.5)	29(32.6)	31(34.8)	3(3.4)	3.1±1.0
I feel that I can appropriately advise my patient about mental health problems	3(3.4)	9(10.1)	27(30.3)	41(46.1)	9(10.1)	3.5±0.9
I feel that I have a clear idea of my responsibilities in helping patients with mental health problems and Humanimmuno deficiency	4(4.5)	15(17.0)	22(25.0)	31(35.2)	16(18.2)	3.5±1.1
I feel that I have the right to ask patients about their mental health status when necessary	4(4.5)	4(4.5)	11(12.4)	40(44.9)	30(33.7)	4.0±1.0
I feel that my patients believe I have the right to ask them questions about mental health problems when necessary	4(4.5)	13(14.8)	17(19.3)	37(42.0)	17(19.3)	3.6±1.1
I feel that I have the right to ask a patient for any information that is relevant to their mental health problems	5(5.6)	4(4.5)	11(12.4)	39(43.8)	30(33.7)	4.0±1.1
If I felt the need when working with patients with mental health problems, I could easily find someone with whom I could discuss any personal difficulties I might encounter	6(6.9)	13(14.9)	20(23.0)	24(27.6)	24(27.6)	3.5±1.2
If I felt the need when working with someone with mental health problems, I could easily find somebody who would help me clarify my professional difficulties	7(8.0)	11(12.6)	24(27.6)	25(28.7)	20(23.0)	3.5±1.2
If I felt the need I could easily find someone who would be able to help me formulate the best approach to a patient with mental health problems	3(3.4)	12(13.5)	20(22.5)	30(33.7)	24(27.0)	3.7±1.1
I am interested in the nature of mental health problems and the treatment of them	3(3.4)	6(6.7)	13(14.6)	37(41.6)	30(33.7)	4.0±1.0

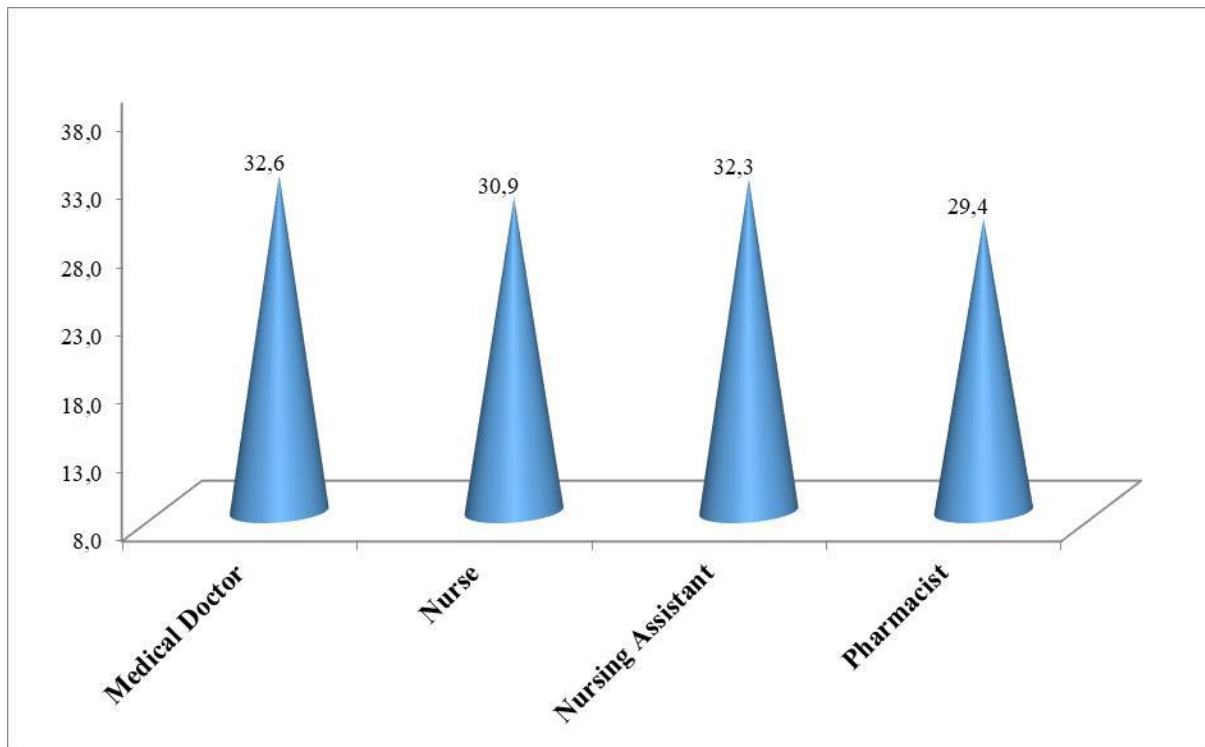
I feel that I am able to work with patients with mental health problems as effectively as with other patients who do not have mental health problems	4(4.5)	23(25.8)	25(28.1)	31(34.8)	6(6.7)	3.1±1.0
I want to work with patient with mental health problems	9(10.1)	18(20.2)	27(30.3)	26(29.2)	9(10.1)	3.1±1.1
I feel that I have a number of good qualities to work with patients with mental health problems and Human immune deficiency virus	8(9.1)	17(19.3)	28(31.8)	27(30.7)	8(9.1)	3.1±1.1
I have the skills to work with patients with mental health problems	15(17.0)	21(23.9)	30(34.1)	21(23.9)	1(1.1)	2.7±1.1
I want to work with patient with mental health problems	13(14.6)	25(28.1)	22(24.7)	24(27.0)	5(5.6)	2.8±1.2
I feel that I can assess and identify the medical/psychiatric/psychological/occupational therapy/nursing problems of patients with mental health problems	10(11.2)	15(16.9)	37(41.6)	25(28.1)	2(2.2)	2.9±1.0
I feel that there is nothing I can do to help patients with mental health problems	24(27.0)	27(30.3)	17(19.1)	16(18.0)	5 (5.6)	2.5±1.2
I feel that I have something to offer patients with mental health problems	9(10.2)	4(4.5)	25(28.4)	39(44.3)	11(12.5)	3.4±1.1
I feel that I have much to be proud of when working with patients with mental health problems and Human immunodeficiency virus	4 (4.5)	13(14.6)	34(38.2)	20(22.5)	18(20.2)	3.4±1.1
Caring for people with mental health problems and Human immunodeficiency virus is an important part of a health professional role	1(1.1)	1(1.1)	9(10.1)	28(31.5)	50(56.2)	4.4±0.8
In general, one can get satisfaction from working with patients with mental health problems	4(4.5)	8(9.0)	27(30.3)	30(33.7)	20(22.5)	3.6±1.1
In general, it is rewarding to work with patients with mental health problems	5(5.7)	9(10.2)	34(38.6)	27(30.7)	13(14.8)	3.4±1.0
In general, I feel that I can understand patients with mental health problems and Human immune deficiency virus	3(3.4)	7(8.0)	18(20.5)	49(55.7)	11(12.5)	3.7±0.9
I am satisfied with the way I work with patients with mental health problems	10(11.4)	22(25.0)	26(29.5)	24(27.3)	6(6.8)	2.9±1.1
When working with patients with mental health problems I receive adequate supervision from a more experienced person	25(28.1)	22(24.7)	18(20.2)	13(14.6)	11(12.4)	2.6±1.4
When working with patients with mental health problems I receive adequate on-going support from colleagues	17(19.1)	17(19.1)	26(29.2)	17(19.1)	12(13.5)	2.9±1.3
I feel that I have a need to have competence-based framework that can help guide me in management of mental health problems in people living with Human immune deficiency virus	3(3.4)	9(10.1)	9(10.1)	17(19.1)	51(57.3)	4.1±1.2

Developing competence-based framework to assist health professional to successfully manage people living with Human immunodeficiency virus and mental health problems is important	2(2.2)	3(3.4)	5(5.6)	18(20.2)	61(68.5)	4.5±0.9
Competence-based framework for integration of mental health services and Human immunodeficiency virus services will help me successfully manage mental health problems in people living with Human immune deficiency virus.	2(2.3)	1(1.1)	6(6.8)	17(19.3)	62(70.5)	4.6±0.9
Availability of competence-based framework will facilitate successful integration of management of mental health problems and Human immunodeficiency virus.	2(2.3)	1(1.1)	4(4.5)	15(17.0)	66(75.0)	4.6±0.8
Educating the stake holders about mental health problems and Human immune deficiency virus will facilitate improved integration of mental health care and Human immunodeficiency virus care.	2(2.3)	0(0.0)	0(0.0)	1(1.2)	83(96.5)	4.9±0.6

SD=Strongly Disagree D = Disagree N = Not Sure A = Agree SA = Strongly Agree SD = Standard Deviation

***The respondents' responses regarding the perceptions (all participants)***

Less than half (43.7%) of the respondents felt that they advise their patients appropriately about MHPs. More than half (56.3%) disagreed with the statement. The majority (64%) of the respondents' perceptions was that they cannot identify people with MHPs, though 46% agreed that they can identify the signs and symptoms of MHPs. In addition, 65.5% agreed that they cannot manage people with MHPs, with 34.5% disagreeing. Regarding the perception that I feel I know how to treat people with Human immunodeficiency virus and MHPs, 61.8% disagreed and 38.2% agreed with the statement. In addition, 72% of respondents perceived that they know enough about the factors that increase the risk of MHPs, but 38% of the participants disagreed. The majority (76.4%) of the respondents stated that they need a competence-based framework that can guide them in the management of MHPs in PLWH, with 23.6% not requiring a competence-based framework to support them in the management of MHPs. The majority (88.7%) of the respondents agreed that developing competence-based framework will support them to successfully manage mental health problems in people who also have HIV, and 11.2% disagreed with the statement. Almost all (92%) agreed that the availability of a competence-based framework will support the management of patients with mental health problems and HIV. Similarly, almost all (97.7) of the respondents agreed that educating stakeholders about MHPs and Human immunodeficiency virus will facilitate the improved integration of Human immunodeficiency virus services and MHS, with only 2.3% disagreeing with the statement.

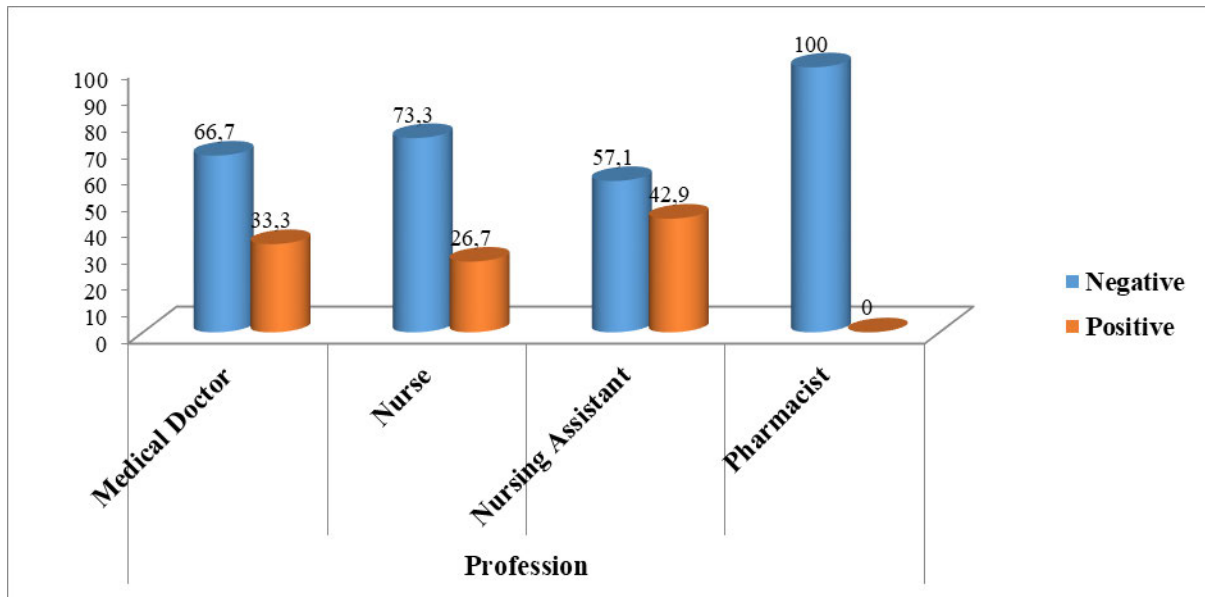


**Figure3. 2: Mean knowledge score by profession**

***Mean knowledge by profession***

According to figure 3 nursing assistants had mean knowledge of 32.3 followed by medical officers with mean knowledge of 32.6 which is followed by registered nurses with the mean knowledge of 30.9 and lastly the mean knowledge of pharmacist with 29.4. However, the differences were only marginal. This has been confirmed by ANOVA test for multiple comparisons. Overall mean knowledge of health professionals regarding integrating mental health with Human immunodeficiency virus services at primary health care was 31. Cronbach's Alpha statistic was used to check reliability of the instrument. With Cronbach's Alpha of 0.832 the instrument was taken to be measuring what is intended to measure.

**Figure 3. 3: Nature of the attitude (negative or positive) by profession**



***Overall perception (summary measure)***

The pharmacist had a high negative attitude towards mental health (100%), followed by the registered nurses (73.3%), the medical officers (66.7%), and lastly the nursing assistants with 57.1%. Just more than half (52.7%) of the participants reported they can comfortably identify signs and symptoms of MHPs in PLWH, with 36.3% indicating they cannot identify the signs and symptoms of MHPs comfortably.

**Table 3. 3: Overall Knowledge of respondents on Mental Health problems**

Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ± sd
My knowledge on mental health problems is adequate	6(6.7)	12(13.5)	29(32.6)	32(36.0)	10(11.2)	3.3±1.1
I can comfortably identify signs and symptoms of a patient with mental health problems	3(3.4)	9(10.2)	20(22.7)	46(52.3)	10(11.4)	3.7 ±0.9
I can comfortably manage people with mental health problems	7(7.9)	22(24.7)	33(37.1)	24(27.0)	3(3.4)	2.9±1.0
The care and support of family and friends can help people with Mental health problems to get rehabilitated	2(2.3)	2(2.3)	2(2.3)	24(27.3)	58(65.9)	4.5±0.8
Corporations and the community (including the government) should offer jobs to people with mental health problems	4(4.7)	2(2.3)	14(16.3)	29(33.7)	37(43.0)	4.1±1.1
After a person is treated for mental health problems they can return to their former job position	4(4.6)	1(1.1)	11(12.6)	31(35.6)	40(46.0)	4.2±1.0
The best way to help people with mental health problems and Human immunodeficiency virus is to assess them for MHPs in every visit to antiretroviral treatment.	3(3.4)	2(2.3)	3(3.4)	17(19.3)	63(71.6)	4.5±0.9
The counselling services is necessary for every client living with Human immunodeficiency virus on every visit to the antiretroviral clinic	5(5.7)	2(2.3)	2(2.3)	17(19.3)	62(70.5)	4.7±1.1

In total, 52.8% of the participants reported to have inadequate knowledge regarding mental health, yet this is a factor that can enable the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus, with 47.2% indicating an adequate level of knowledge related to mental health. Half (52.7%) of the participants reported they can comfortably identify the signs and symptoms of MHPs in PLWH, though 36.3% reported they cannot identify the signs and symptoms of MHPs

The majority (69.7%, N=62) of the participants reported they do not have knowledge regarding the management of MHPs in people presenting with MHPs and Human immunodeficiency virus, and 30.3% (N=38) reported that they have adequate knowledge related to the management of MHPs in PLWH. Regarding statement that said “I feel that I know enough about the factors that put people at risk of MHPs to carry out my role when working with this client in a group” 72.1% (N= 64) of the participants reported that they do not have enough knowledge about the factors that put people at risk of MHPs, and 36% (N=36) indicated they know enough about the factors that put people at risk of MHPs. All most all (97.7%) of the participants acknowledged that educating the stakeholders about MHPs and Human immunodeficiency virus will facilitate the improved integration of MHPs and Human immunodeficiency virus, though 2.3% disagreed

Almost all (92%) of the participants reported that the availability of a competence-based framework will facilitate the successful integration of the management of MHPs and Human immunodeficiency virus and only 8% did not believe that the availability of competence-based framework would facilitate successful integration of management of MHPs and Human immunodeficiency virus.

Regarding the statement indicated “I feel I know how to treat MHPs in PLWH”, 61.8% (N=55) disagreed that they can treat people with MHPs and HIV, and 39.2% (N= 34) reported that they can treat people with MHPs and also having Human immunodeficiency virus.

## Qualitative findings

One theme emerged from the analysis of the data namely improving of the MHS.

**Table 3. 35: Themes and subthemes**

Themes	Subthemes
Improving mental health services	<ul style="list-style-type: none"> <li>• Need to hire qualified personnel in mental health</li> <li>• Need for in-service training or workshops on mental health</li>   <li>• Need for screening all patients with Human immune deficiency virus for MHPs</li> <li>• Need for integrating mental health services into Human immune deficiency virus services</li>   <li>• Need for competency-based framework that will help health professionals to successfully manage MHPs.</li> </ul>

### ***Theme 1: Improving mental health services***

Five subthemes emerged from this theme: the need to hire qualified personnel in mental health, need for in-service training or workshops related to mental health, the need for screening all the patients with Human immunodeficiency virus for MHPs and the need for integrating MHS with Human immunodeficiency virus services and need for a guiding framework that will help successfully manage MHPs. Majority of the health professionals needed a competence-based framework to enable them to successfully manage patients presenting with MHPs. Participant 37 said *“The framework should involve the training of stakeholders so that MHS can get support from higher people”*.

Another participant said *“If we can have this framework, we believe there will be easy implementation of MHS for people presenting with MHPs and also having Human immunodeficiency virus (Participant 24). “In addition, they also reported that there should be screening tools to assist them to identify MHPs and provide the appropriate treatment”*. Participant 5 said *“If we can have some screening tools, they shall help us to see patients with MHPs and refer them accordingly to the right places”*.

*“Screening tools would make a great change on MHS so we desperately need them”* [Participant 8]. Most participants were also of the view that hiring a mental health specialist would improve MHS. Participant 1 said *“If the mental health specialist can be hired, MHS will be better provided as they will also train us in order to identify people with MHPs and refer to them”*. Participant 2 also said *“We must at least have one psychiatric nurse in every primary*

*health care so that MHS can be improved in primary health cares*". All the study participants were of the view that there should be in-service training or workshops in mental health to improve MHS.

As the findings identified that the health professionals need the competency-based framework to successfully manage people presenting with MHPs and Human immunodeficiency virus, the researcher planned to develop a competence-based framework. The participants reported that they currently do not have anything to guide the implementation of MHS in PLWH. This deficit is a barrier to the provision of mental health care to assist people presenting with MHPs and also living with Human immunodeficiency virus. Participants 35 said *"I believe if there was any tool to guide the MHS, we would be providing services and we desperately need assistance to provide the services as currently we are doing nothing on mental health"*.

### ***Discussion***

The majority of the participants reported they needed training on mental health in order to offer these services. Knowledge related to mental health is lacking globally, which causes many people with MHPs to remain undiagnosed and not treated. The documented global burden of disease associated with MHPs is caused by a huge "mental health treatment gap" where, globally more than 70% of people who need MHS lack access to care (Henderson, Evans-Lacko & Thornicroft, 2013, Skuse, 2008, Wainberg, Scorza, Shultz, Helpman, Mootz, Johnson et al., 2017). PLWH are twice as likely to have depression compared to those who are not infected with Human immune deficiency virus (Dube & Uys, 2016, Duko, Toma, Asnake & Abraham, 2019, Yehia, Stephens-Shield, Momplaisir, Taylor, Gross, Dubé et al., 2015, Yeneabat, Bedaso & Amare, 2017).

92% of the participants indicated that they need competence-based framework to help guide them in management of MHPs. In the qualitative study all participants indicated they need training on mental health as they never provided MHS since their training so many years' back. Mental health policies emphasize the concept of integrated mental healthcare with other general health services, but despite the significant roles played by health professionals in most settings, the knowledge, beliefs and attitudes of health professional regarding the integration of MHS into Human immunodeficiency virus services is still a problem causing a huge treatment gap (Dube & Uys, 2016). Even though in high income countries mental health is given

a better priority, MHS are still not adequate due to poor knowledge, not having adequate mental health professionals and the bad attitudes of the health professionals towards MHPs. In Lower-middle income countries 90% of the persons with severe MHPs are not treated compared to less than 50% in high-income countries (Lake & Turner, 2017, Wakida et al., 2017). Mental healthcare has been integrated into Human immunodeficiency virus programs in rich countries for many years as a result of substantial evidence of the linkages between mental health and Human immunodeficiency virus, however treatment gap still exists (Ayano, Assefa, Haile, Chaka, Haile, Solomon et al., 2017, Remien et al., 2019).

Currently, mental health policies emphasize the concept of integrated care with other health services, especially at the level of primary health care. The identification of MHPs in primary healthcare has been inefficient and is lacking, mainly regarding interventions. Major reforms in this level of care must integrate mental health care, eliminate treatment gaps, and ensure that people receive the care they need. It is essential that primary care professionals are adequately prepared and encouraged to have attitudes, skills and competencies to assess, diagnose, treat, support and refer, if necessary, people with MHPs to specialized services (Cele, 2014, Fernandes, Santos, Moreira, Vargas & Nóbrega, 2019, Wainberg et al., 2017). The World Health Organization has called for the integration of primary health care and MHS, but according to the study done in Ethiopia there is still large treatment gap in MHS for PLWH as there is still lack of knowledge concerning mental health and poor attitude of health professionals in regard to mental ill people (Dube & Uys, 2016).

Most health professionals were also of the view that there should be training for the present health professionals regarding mental health to support the provision of MHS. Research has shown that the implementation of mental healthcare into Human immunodeficiency virus services at the level of primary healthcare can be achieved by employing in-service training (Liu et al., 2016, Maconick et al., 2018). A study in 2018 found that engaging the staff of a primary health care in long-term workshops and in-service training programs have tremendous benefits for the integration of mental healthcare into services at a primary healthcare level (Maconick et al., 2018). The majority of the participants stated that there should be qualified professionals in mental health, a competence-based framework for the provision of MHS, the current staff should be trained regarding mental health and there should be screening tools to help enable the provision of MHS in people presenting with MHPs and Human immunodeficiency virus.

### **Insights gained through employing mixed method design**

Comprehensive data was obtained as the design used pragmatist paradigm

### **Ethical consideration**

The approval of this study was obtained from of the ethical review committee: Biomedical Research Ethics Committee of University of Kwazulu –Natal. Study Approval number: BREC/00004710/2022. The rights to informed consent, privacy, and confidentiality were observed included in this principle. Written informed consent was obtained from participants. The questionnaire included a statement about the informed consent attached, and that participation was involuntary. The participants were provided with an information sheet that included pertinent information about the research's purpose and how respondents might choose to participate or exercise their right to withdraw from the study. The audio recordings were kept secure and without participant names. The participants' private information was handled with confidentiality. The recordings in the audio recorder were kept safe and participant name were not labelled on the recording. Number coding was used to ensure the confidentiality of the participants' responses. No names or personal identifiers appeared on any data sheet

### **Limitations (General)**

This study was conducted in five primary health cares in Maseru in Lesotho, hence the need for a broader study to be done to obtain a bigger picture of the problem in question.

### **Quantitative data: Limitations**

The most junior health professionals who were nursing assistants reported to have greater knowledge regarding mental health and this affected the research findings as the researcher believed they are the most unknowledgeable considering their level of study.

### **Qualitative data: Limitations**

During interviews, due to unavailability of MHS in primary health care in Lesotho some participants were reluctant to express their genuine views regarding mental health as they believed they are shaming their primary health care and therefore this had a potential to affect the findings of the study.

### **Implications for future research**

A study focusing on healthcare stakeholders' opinions of the factors that will enable provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus and the implementation of a competence-based framework for the provision of MHPs in PLWH. This will support an appropriate understanding and establish the readiness of all the stakeholders to integrate MHS into Human immunodeficiency virus services at a primary health care level.

### **Recommendations**

The need for examining and evaluating the mental health conditions of PLWH with should be made clear to healthcare providers through education and training programs. Due to the significant benefits it offers, the stakeholders in charge of implementing a competence-based framework should accelerate the process.

### **Conclusion**

This study aimed at exploring the factors that enable the provision of MHS in people presenting with MHPs and also Human immunodeficiency virus at primary health care. Most of the participants had limited knowledge about MHPs and Human immunodeficiency virus services; however, they were able to identify the factors that can enable the provision of MHS.

### **Synopsis for the article**

This article reports on the objective: factors that can enable the provision of mental health care in PLWH at primary health care.

To have more understanding about factors that can enable the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus, a quantitative design was used which entailed administering a research developed structured survey. The surveys made use of a five point likert scale ranging from agree to disagree. The survey composed of three sections which are demographic data, structured questions related to knowledge and attitude of health professionals regarding provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus. Qualitative design was also used whereby the semi structured interviews were done. Each interview lasted at least 45-60 min. The inter-

view schedule comprised of demographic data and also structured question related to perception of health professionals regarding provision of MHS for people presenting with MHPs and also having Human immunodeficiency virus.

Findings revealed that 92% of the study participants needed competence-based framework to enable them to provide MHS. All participants in qualitative study indicated that they needed some training on mental health and that specialist on mental health should be hired.

The findings of the study were used to develop a competence -based framework for provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus. Even though the participants in this study showed a negative attitude towards mental health but they reported they definitely need competence-based framework for integration of MHS into Human immunodeficiency virus services they can address the needs of the nation. The findings of this study are also supported by (Dube and Uys, 2016) where he stated that “Despite the high number of people with MHPs, mental health has a low priority in South Africa and people with MHPs do not receive the care they require in primary health care. The nurses ‘s attitudes towards people with MHPs are often negative, and provision and identification of MHPs by primary health care nurses has been shown to be poor because their knowledge to deal with mental health conditions is inadequate.

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**Title: Factors that can enable the provision of mental health services in people presenting with mental health problems and also having HIV at primary health care. (Considered for publication in Curationis Journal)**

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Ethics approval and consent to participate.

- Ethics approval was received from University of KwaZulu-Natal, BREC and approval to conduct the study was sought from the Ministry of Health Lesotho and the clinics' management.
- Informed consent to participate in the study was obtained from the participants of the study.

#### **Consent for publication**

- Not applicable.

#### **Competing interests**

- The author declares that she has no competing interest.

#### **Funding**

- The study did not have any funding

#### **Acknowledgements**

- The author would like to acknowledge the supervisor of the study, DR Winnie Baphumelele Ngcobo for her outstanding supervision throughout the study

Keywords: Primary health care, Mental health services, HIV

Total words count: 6000

## CHAPTER FOUR

### MANUSCRIPT TWO

**Barriers that hinder delivery of mental health services in people presenting with mental health problems and Human immunodeficiency virus at primary health care. (Considered for publication in International journal of nursing sciences),**

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#### **Abstract**

**Background:** Mental health problems are prevalent in people living with Human immunodeficiency virus; however, inadequate mental health service utilization is a major problem in many countries. The identification of mental health problems in primary healthcare has been inefficient and is lacking, mainly in terms of interventions.

**Objectives:** The aim of this study was to determine the barriers that hinder the delivery of mental health services in people presenting with mental health problems and Human immunodeficiency virus at primary health care.

**Method:** This study was a qualitative descriptive study, designed to identify the barriers that hinder delivery of mental healthcare to persons who present with mental health problems and

Human immunodeficiency virus at primary health care. A purposive sampling method was employed to elect 50 healthcare professionals who participated in this study.

**Findings:** All the participants reported the unavailability of staff qualified in mental health in primary health care, a lack of knowledge regarding mental health problems in health professionals, time constraints, the focus of the country, culture, the structure of the clinics, stigma and discrimination present on the side of the health professionals and families were the barriers that hinder the delivery of mental health services in people presenting with mental health problems and Human immunodeficiency virus. .

**Conclusion:** The barriers to mental health services are a serious issue in this era where mental health problems have increased significantly.

### **Contribution**

The study highlights an urgent need to address the barriers to the delivery of mental health services in people presenting with mental health problems and Human immunodeficiency.

**Keywords:** Barriers, Mental health problems, Mental health services, Human deficiency virus, Primary health care

### **Background of the study**

PLWH are more likely than the general public to develop MHPs, including depression, anxiety, suicidality, psychosis, and substance abuse (Cele and Mhlongo, 2020). Human immunodeficiency virus is still a significant issue that can lead to stress and sadness. According to a study presented at the 2012 Bethesda, Maryland, Second International Workshop on Human immunodeficiency virus & Women, people with Human immunodeficiency virus were more likely to experience depression (Bernard et al., 2017). The highest MHPs in PLWH were anxiety and depression. Studies conducted in the Western nations found that PLWH have approximately twice the rate of anxiety and depression (Bernard et al., 2017).

According to the short form of the Composite International Diagnostic Interview, MHPs in PLWH were two to three times more prevalent than in the general population in the United States of America (Bernard et al., 2017). There are many causes for this increased risk of

MHPs, including adverse effects of antiretroviral, inflammatory processes, Human immunodeficiency virus -related stigma and prejudice, and dread of an early death. It has been demonstrated that depression raises the death risk of PLWH. For instance, the mortality rate was 6.6% in 1487 women monitored for 24 months in Tanzania, compared to 3.7% in women without depressive symptoms. Women with chronic depressive symptoms were part of the 765 Human immunodeficiency virus-positive women at four United States sites who were monitored for up to 7 years. However, a study conducted in Cameroon in 2020 reported that using antidepressant medication for at least four months can minimize or eliminate Human immunodeficiency virus clinical symptoms (Ezeanolue et al., 2020).

Studies focusing on the prevalence of depression in Human immunodeficiency virus patients conducted in various nations, indicated a prevalence of 58.75% in Delhi (India), 29.4% in Brazil, 54.4% in Italy, 37% in the United States, 43.9% in Mekele, 45.8% in Harar, and 38.94% in Debrebirhan (Duko et al., 2018). People who are mentally ill have poor treatment outcomes, decreased CD4 counts, and increased viral loads, in addition to poor adherence to highly active antiretroviral treatment. Additionally, depression has been linked to risky behaviors, such as having unsanitary sex (Beyene Gebrezgiabher et al., 2019). Mental health issues and Human immunodeficiency virus risk behaviors are specifically associated with men who have sex with men, drug injection users, female sex workers, immigrants, transgender women, and the general population. This suggests that people with MHPs are more vulnerable to Human immunodeficiency virus risk behaviors (Fang et al., 2019).

There are only a few healthcare services in the world that meet the mental health needs of people infected with Human immunodeficiency virus; thus, there is a need to change this narrative (Niu et al., 2010). Strong healthcare delivery systems that address the multifaceted medical needs of Human immunodeficiency virus-infected people, from psychological to social needs, must be implemented. This is best accomplished through the implementation of integrated programs (Niu et al., 2010).

Although MHPs are widespread in PLWH, inadequate MHS usage is a significant issue in many nations. Lack of knowledge about MHPs, mental health stigma, and particular cultural norms have all been found to be significant obstacles to obtaining MHS in Nepal. Other obstacles to receiving mental healthcare include a lack of financial resources, a fear of looking weak or crazy, and a belief that one is too sick to ask for assistance. Making and implementing health

decisions as well as gaining access to and involvement with health services are all significantly hampered by inadequate health literacy. There are a number of issues that affect the demand and access to mental healthcare at the health facility level, including the absence of senior staff members, such as senior Community Medicine Assistants, a lack of qualified mental health professionals, and abuse within rural health centers. Additionally, hurdles to the integration of mental health treatment into standard primary healthcare include limited authority for the prescription of psychotropic medicines, inaccessible MHS, and knowledge and competence gaps in primary healthcare workers (Cele, 2014, Fernandes et al., 2019, Wainberg et al., 2017).

MHPs can present a substantial barrier to adequate engagement and retention in Human immunodeficiency primary care. Research has established links between the presence of MHPs and poor rates of Human immunodeficiency virus care linkage and retention. In an Alabama study, missed Human immunodeficiency virus primary care visits during the first year of care were more frequent in patients who had substance abuse disorders (Remien et al., 2019). For example, it has been shown that depressed patients are three times more likely not to comply with medical regimens than non-depressed patients. There is also evidence that depression predicts the incidence of heart disease. In the case of infectious diseases, non-adherence can lead to drug resistance, and this has profound public health implications concerning resistant infectious agents. Illness-associated depression impairs the quality of life and several aspects of the functioning of patients with chronic diseases. It also results in higher healthcare utilization and costs as patients are likely to have several medical conditions due to depression (Hare et al., 2014).

Some localities are moving toward even more ambitious goals of ‘95–95–95’ and ultimately ‘getting to zero’ Human immunodeficiency virus new infections. Although these goals are very good and aspiring but it will be very difficult to attain zero infection in Human immunodeficiency virus as the diagnosis and treatment gap still exist in mental health (Remien et al., 2019, UNAIDS and Update, 2019).

### **Aims and objectives**

The aim of this study was to determine the barriers that hinder delivery of MHS in people presenting with MHPs and Human immunodeficiency virus at primary health care.

## **Method**

A qualitative descriptive design was employed to determine the barriers that hinder the delivery of MHS in people presenting with MHPS and Human immunodeficiency virus at primary healthcare (Grove, Gray & Burns, 2015). This research was based on constructivist/phenomenological orientation. Constructivist sees knowledge as personal, subjective and unique. This approach rejects the methods of natural science and requires the researcher to become involved with their subjects. It underlies what are called qualitative methods. Constructivism paradigm is a method that states that people create their own comprehension and information of the world through experiencing things and reflecting on those experiences. It is based on the fact or foundation that people create or build much of what they learn through experience (Cohen et al., 2013, Tashakkori and Teddlie, 2009).

### **Study participants and setting**

The target population was healthcare professionals at five primary healthcare in the city of Maseru. The participants included 43 registered nurses, and 7 medical doctors working in primary Healthcare, for a minimum of two years. The purposive sampling method was used to elect 50 healthcare professionals who participated in this study.

### **Sampling and sample size**

Purposive sampling was used (Grove et al., 2015). The idea was to purposefully select informants who will best answer the research questions and who are “information rich” (Potton, 2002). 50 participants were interviewed until saturation point was reached. In a qualitative study, small purposive samples are acceptable. A purposive sample is based on the judgment of the researcher regarding participants who are knowledgeable about the topic (Creswell, 2014, De Vos, Delpont, Fouché and Strydom, 2011, Grove et al., 2015)

### **Inclusion criteria and exclusion criteria**

#### **Inclusion criteria**

The inclusion criteria were as follows:

- Participants were registered nurses and medical officers
- Participants were permanent employee of the primary health care at least for two years and those hired under contract should also have worked for two years in primary health care.

- Participants who would best answer research question and who were information rich
- Participants who were willing to be interviewed and audio recorded

#### Exclusion criteria

- Health professionals hired for less than two years.
- Health professional who were not willing to be interviewed and audio recorded

#### ***Research tool***

The researcher used semi-structured interviews, following a pre-constructed interview schedule. The interview schedule was designed to explore more on the the barriers that hinder delivery of MHS in people presenting with MHPs and Human immunodeficiency virus at primary health care (Grove et al., 2015; Devos et al., 2011).

#### **Data collection**

After ethics approval has been obtained from the Ethics Committee of the School of nursing and public health, University of KwaZulu-Natal, protocol number BREC00002710/2022 and approval to collect data was sought from management of the primary health cares. A list of the health professionals was obtained from each primary health care manager. Participants were invited to a meeting, at which researcher informed them about the study and extended an invitation to participate. The participants were informed about the voluntary participation and their right to withdraw at any time during the study. Data collection commenced after the participants agreed to participate and signed the written informed concern (Grove et al., 2015; Devos et al., 2011).

During data collection semi-structured interview schedule was used to explore barriers that hinder delivery of MHS in people presenting with MHPs and Human immunodeficiency virus at primary health care. The interviews took 45-60 minutes each and the participants were asked to sign a written informed consent form before participating in the interviews. The aims and objectives of the interview was explained. Open-ended questions were asked and participants were encouraged to discuss them with the researcher. Data was collected from December 2022 to January 2023 (Grove et al., 2015; Devos et al., 2011). All recruited participants were interviewed. Interview continued until saturation point was reached. Audio recording was done after

attaining consent form from the participants that they can be audio recorded. Data was collected from December 2022 to January 2023

### **Data analysis**

The researcher analysed the transcripts and reviewed by the research supervisor to ensure trustworthiness. Software called Nvivo and thematic framework analysis were used to analyse the data (Bengtsson, 2016).

### **Trustworthiness**

Trustworthiness of this study was ensured by following the principles identified by Devos et al. (2011) and includes the strategies for credibility, transferability, dependability and conformability. Credibility was maintained by the following: During data collection the researcher fully observed and took notes of nonverbal communication to confirm what actually transpired. The researcher used the interviews and also used several primary health cares for data collection to establish credibility. The researcher increased the study's credibility by listening to the participants fully and making sure that all participants' viewpoints were taken into account. The researcher presented in one conference and other researchers who were not involved in the study were able to determine whether or not the circumstance or investigation's results were comparable to their own. The conclusions of this study revealed the level of confidence that respondents had in the applicability of the research findings to their personal circumstances. In this study, the researcher carried out an inquiry audit to offer a thorough explanation of the processes that had been followed and that served as the foundation for determining how reliable they were (Stringer, 2013). In order to verify the study's validity, the researcher offered an audit trail that allowed access to data gathered, tools utilized, voice recordings, and journals associated with the study. This provided another method for confirming the study's reliability. In order to ensure the accuracy and scrutiny of the study's findings, a thorough explanation of the methodology was completed (Malterud, 2001; Shenton, 2004).

### **Findings**

This section displays the demographic details for participants engaged in this study (Table 1).

**Table 4. 1: Participant demographic information**

<b>Interview ID</b>	<b>Gender</b>	<b>Period of work in PHC</b>	<b>Age (years)</b>	<b>Occupational position</b>
01	F	3 years	29	Registered nurse midwife
02	F	12 years	35	Registered Nurse Midwife
03	M	6 years	36	Medical officer
04	F	5 years	29	Registered Nurse Midwife
05	M	2 years	26	Registered Nurse Midwife
06	F	12 years	45	Medical officer
07	F	2 years 9 months	28	Registered nurse midwife
08	F	3 years	34	Registered Nurse Midwife
09	M	2 years	27	Registered Nurse Midwife
10	F	4 years	28	Registered Nurse Midwife
11	F	11 years	38	Registered Nurse Midwife
12	F	11 years	39	Registered nurse midwife
13	F	2 years 9 months	24	Registered nurse mid wife
14	F	9 years	33	Registered nurse midwife
15	F	8 years	34	Registered Nurse Midwife
16	M	7 years	43	Registered nurse midwife
17	M	2 years	29	Medical officer
18	M	9 years	45	Medical officer
19	F	10 years	38	Registered Ophthalmic Nurse
20	F	18 years	46	Registered ophthalmic nurse
21	F	2 years	29	Registered ophthalmic nurse
22	M	2 years 1 month	25	Registered Nurse midwife
23	F	6 years	39	Registered ophthalmic nurse
24	F	7 years	41	Nursing officer
25	F	11 years	35	Registered nurse midwife
26	F	2 years	24	Registered nurse midwife
27	M	2 years	30	Registered Nurse midwife
28	F	6 years	31	Registered Nurse clinician
29	F	2 years 8 months	29	Registered nurse midwife
30	M	2 years	26	Registered nurse Midwife
31	F	2 years 9 months	26	Registered nurse Midwife
32	F	9 years	33	Registered nurse Midwife

33	M	4 years	36	Registered nurse Midwife
34	F	12 years to	52	Registered nurse Midwife
35	F	5 years	41	Registered nurse Midwife
36	F	7 years	45	Registered nurse Midwife
37	M	5 years	33	Medical officer
38	F	9 years	36	Registered nurse Midwife
39	F	7 years	33	Registered nurse Midwife
40	F`	14 years	40	Registered nurse Midwife
41	F	6 years	37	Registered nurse Midwife
42	F	10 years	38	Registered nurse Midwife
43	F	2 years	27	Registered nurse Midwife
44	F	5 years	40	Registered nurse Midwife
45	F	3 years	31	Medical officer
46	F	16 years	46	Nursing Officer
47	F	8 years	35	Registered nurse Midwife
48	M	4 years	36	Medical officer
49	M	7 years	31	Registered Nurse
50	M	3years	26	Registered Nurse

**Table 4. 2: Themes and subthemes**

Themes	Subthemes
Knowledge of MHPs	<ul style="list-style-type: none"> <li>• Limited knowledge on signs and symptoms of MHPs</li> <li>• Limited knowledge on diagnosis of MHPs</li> <li>• Limited knowledge on management of MHPs;</li> </ul>
Management of MHPs in people presenting with MHPs and Human immunodeficiency virus	<ul style="list-style-type: none"> <li>• No availability of psychiatric medication</li> <li>• No mental health professional who visits the facility</li> <li>• No hired mental health professional like psychologist, psychiatric nurse and psychiatrist</li> <li>• No Counselling services offered for HIV positive patients to prevent MHPs.</li> <li>• No Mental Health Department in PHC therefore MHS are not offered</li> <li>• Inadequate continuity of care for clients with MHS at the PHC</li> <li>• No preventive health services concerning mental health problems offered</li> <li>• Few mental health conditions are identified and referred to Mohlomi Hospital</li> </ul>
Barriers to accessing mental health services	<ul style="list-style-type: none"> <li>• Unavailability of staff qualified in mental health in PHC</li> <li>• Lack of knowledge regarding mental health problems in health professionals</li> <li>• Time constraints</li> <li>• Focus of the country</li> <li>• Culture</li> <li>• Structure of clinics</li> <li>• Stigma and discrimination from the health professionals and families</li> </ul>

### **Themes**

Three themes emerged from the analysis of the data, namely knowledge of MHPs, management of MHPs in people presenting with MHPs and Human immunodeficiency virus and barriers to accessing MHS.

#### ***Theme 1: Knowledge of MHPs***

Three subthemes informed this theme: limited knowledge of signs and symptoms of MHPs, limited knowledge of the diagnosis of MHPs and limited knowledge regarding management of MHPs.

#### ***Theme 2: Management of MHPs in people presenting with MHPs and Human immunodeficiency virus***

Six subthemes informed this theme: no availability of psychiatric medication, no mental health professional who consults at the facility, no hired mental health professional such as a psychologist, psychiatric nurse and psychiatrist, no counselling services offered to Human immunodeficiency virus positive patients to prevent MHPs, no mental health department in primary

health care consequently MHS are not offered and no counselling services offered to patients with Human immunodeficiency virus to prevent MHPs.

### ***Theme 1: Knowledge of MHPs***

The majority of the participants reported that they are not knowledgeable regarding the management of MHPs. In addition, most participants reported that they have limited knowledge regarding the signs and symptoms of MHPs and the diagnosis of MHPs. However, a few medical officers indicated that they are knowledgeable about mental health, but they are not offering such services due to time constraints. A participant 16 said *“I did not know that MHPs and Human immunodeficiency virus are closely related so it is very important that the health professionals receive training regarding mental health to address this gap of unavailability of MHS in people presenting with MHPs and Human immunodeficiency virus. “These services are not offered mainly due to lack of knowledge concerning mental health”.*

Participant 43 said *“We last did mental health at the college, so we are out of information concerning psychiatric so it’s better that we are trained on mental health so that these services can be provided”.*

Participant 34 said *“You know I think we meet so many psychiatric patients that we fail to address because sometimes I suspect that this might be anxiety but because I have forgotten almost everything about psychiatric, I fail to make informed decision then leave the patient without assisting the patient regarding her problem because I did not have information to say this might be a certain condition in psychiatric so I can refer this patient to a doctor”.* *“I think we need capacitation on mental health as staff”.*

Participant 9 *“Hmmm we are out of knowledge concerning mental health. “We just need the screening tools to help us identify MHPs because currently we are not doing anything regarding mental health in this facility because of lack of knowledge regarding mental health. The training will also help because once we are trained after identifying them; we shall know what to do after realizing what the problem the patient is having.”*

Participant 33 said that *“I can’t remember anything on mental health. Because we last did it at the college so I cannot be able to help patients with MHPs”.*

## ***Theme 2: Barriers to accessing MHS***

All the participants reported the unavailability of staff qualified in mental health in primary health care. The majority of the participants were of the view that the absence of specialists, such as a psychiatric nurse or psychologist hinders the delivery of MHS to people presenting with MHPs and also having Human immunodeficiency virus as the current health professionals do not have knowledge on MHPs.

The lack of knowledge regarding MHPs was a general concern as most participants reported that they did not retain any knowledge related to mental health, because their last exposure was at school so many years back. Participant 39 said “I don’t have any information on mental health; we desperately need training in order to offer these services. Participant 37 also said “I don’t have any knowledge on mental health as a result we desperately need training in order to offer these services”.

A few participants who were medical officers reported that they have time constraints that do not allow them to assist these patients as full psychiatric assessment requires more time, which they did not have. She further said “if I take a longer time with one patient in here you will see other patients knocking at the door to show you that I have delayed”. Most participants also raised the issue that mental health is not a priority in the country, which is the reason why they do not have any guidelines or screening tools to assess patients at primary health care. A few participants said some patients fear to seek medical help concerning MHPs because they have a belief that they have been bewitched. Participant 19 said “We still have lack of knowledge as the general population outside there because so many people that still regard MHPs as witchcraft”. A few nurses said the way the clinic infrastructure is, does not allow comprehensive services. Participant 21 said “You know even if we like to provide these services, we don’t have space where we can be saying this is a place where people with MHPs can be helped because the space it’s just too small”. A few of the participants also said there must be serious stigma to health professionals concerning MHPs. One participant (37) said what is surprising is that, the Director for Nursing in Lesotho is a psychiatric nurse, but MHS are not improving.

### ***Theme 3: Management of MHPs in people presenting with MHPs and Human immunodeficiency virus***

The shortage of psychiatric professionals was a general concern as most participants reported that they need a mental health specialist, because the availability of such personnel would support MHS. At least one clinic should have a psychiatric nurse who could train all health professionals regarding mental health. *According to participant 28 “shortage of specialist on mental Health is a main problem as we are not specialist on mental health and we cannot fully know about mental health”.*

*Participant 16 said “I think it’s better that psychiatric nurses are present in primary health cares as their shortage have made a great treatment gap on mental health”. “It’s very crucial that we have specialist on mental health at the PHCs” [Participant 21]*

The findings of this study confirmed that there were no preventive MHS in these facilities. In addition, their health education did not include topics relating to mental health. Participant 23 *“I have never heard anyone health educating patients about mental health topics in this facility for that matter I cannot say we offer preventive MHS in this facility”.* Participant 26 indicated that *“Preventive MHS are not offered in this facility as I believe if these services were offered we would be including them in our daily health education that are done in the morning”* A few participants said they have very limited psychiatric medication, and as a result, continuity of care is inadequate as the patients who require psychiatric treatment still need to go to Mophemi hospital for their checkups. Participant 26 said *“I only saw few drugs of psychiatric here and they are rarely prescribed to patients”.* Most participants were of the view that the counselling services that are offered to clients with Human immunodeficiency virus is mainly adherence counselling about antiretroviral drugs, mainly because of lack of training in mental health not counselling to assist patients to accept their status to prevent MHPs”. Participant 28 said *“there is counselling services offered by social workers in the facility, but what I realised is that the counselling is mainly on drug adherence”.* The counselling services in this facility are offered by social workers, so I don’t think they are very skilled to provide a thorough counselling when looking at their level of knowledge [Participant 15]. Participant 24 said *“I believe counselling services regarding prevention of MHPs are very minimal in this facility as most counselling that is done by social workers is mainly on adherence”.*

**Objectives:** Determine barriers that hinder the delivery of mental health services in people presenting with mental health problems and Human immunodeficiency virus at primary health care.

## **Discussion of theme**

### ***Knowledge of mental health problems***

Most of the study participants had inadequate knowledge related to MHPs. The findings of this study are confirmed by a study indicating that the level of knowledge regarding mental health is lacking globally, resulting in many people's MHPs being undiagnosed and untreated. Although health professionals play key roles in most contexts, the integration MHS into Human immunodeficiency virus services remains a problem, leading to a considerable treatment gap, though the mental health policies place a strong emphasis on this idea (Dube & Uys, 2016). Even though mental healthcare is given a higher priority in high-income nations, MHS are still insufficient due to a lack of trained mental health staff, inadequate knowledge, and the unfavorable attitudes of medical professionals regarding mental health issues. In Low-middle income countries, up to 90% of persons with severe MHPs are not treated, compared to less than 50% in high-income countries (Lake and Turner, 2017, Wakida et al., 2017). The documented global burden of disease associated with MHPs caused by a significant "mental health treatment gap" as globally, more than 70% of the people who need MHS, lack access to care (Henderson, Evans-Lacko and Thornicroft, 2013, Skuse, 2008, Wainberg et al., 2017). Compared to individuals who are not infected with the human immunodeficiency virus, the group living with Human immunodeficiency is twice as likely to experience MHPs (Dube and Uys, 2016, Duko et al., 2019, Yehia et al., 2015, Yeneabat, Bedaso and Amare, 2017).

Mental healthcare has been integrated into Human immunodeficiency virus programs in high income countries for many years as a result of substantial evidence of the link between mental health and Human immunodeficiency virus; however, the treatment gap still exist mainly due to a lack of knowledge in health professionals (Ayano et al., 2017, Remien et al., 2019). Major changes in this level of care are required to integrate MHS, close the treatment gap, and guarantee that patients get the care they require. Primary care providers must get enough training and encouragement to develop the attitudes, abilities, and competences necessary to evaluate, identify, treat, assist, and, if necessary, refer patients with MHPs to specialist services (Fernandes et al., 2019).

### ***Barriers to accessing MHS***

All the participants reported that the unavailability of staff qualified in mental healthcare in primary health care. The majority of the participants were of the view that the absence of specialists, such as a psychiatric nurse or a psychologist hinders the delivery of MHS in people presenting with MHPs and Human immunodeficiency virus. The current health professionals have inadequate knowledge related to MHPs. In Sub-Saharan Africa, MHS are of a low standard. The number of mental health specialists per patient in Human immunodeficiency virus care is quite low, and there are only a few mental health treatments available. In Africa, there is one specialist for every 100,000 clients (Atindanbila and Thompson, 2011). The difficulties experienced in responding to the shortage of educated mental health professionals have been noted by a recent systematic analysis that examined the training of mental health workers in Africa over time. There is a significant difference between people with MHPs and people who are receiving care globally. (Reynolds 3rd and Patel, 2017). Studies conducted in low- and middle-income nations show that the treatment disparity is severely detrimental. Compared to 45% in Europe, the treatment gap for depression is 67% in Africa (Walker et al., 2014). There are limited MHS available in sub-Saharan Africa. A recent systematic analysis that examined the training of mental health workers in Africa over time noted the difficulties in finding qualified mental health practitioners to fill the gap in care.

These findings are confirmed by studies reporting that although many countries in sub-Saharan Africa are moving towards the incorporation of mental health into primary care, the primary care workers do not have the ability to identify MHPs and the treatment given is sometimes inadequate (Nalukenge, 2017). Mental health is not a priority area for policy makers even today (Yerramilli & Bipeta, 2012).

A 2016 study by Dube and Uys in South Africa reported that 23% of the patients at primary healthcare facilities have MHPs. Despite the high prevalence of MHPs, South Africa places little emphasis on mental health, and primary health cares do not provide the care the patients require. A few of the participants also reported that time constraints are a barrier to the delivery of MHS because there is limited time to assess and provide counseling to the client with MHPs during a consultation.

Some participants indicated culture as a barrier. People fail to access MHS because they believe they have been bewitched. Some of the participants also reported that stigma and discrimination on the side of the family and also the health professionals serve as barriers to the utilization of MHS in PLWH. Stigma about MHPs is extensively practiced by the general public in the Western world. Studies propose that most of the inhabitants in the United States and many Western European nations have denouncing attitudes about MHPs. Stigmatizing views about MHPs are not only practiced by the public, but also health professionals trained in terms of mental health issues. Most people with MHPs suffer psychologically due to stigma attached to their MHPs. Many people with serious MHPs are challenged doubly. On the one hand, they suffer because of the symptoms and incapacities that result from the MHPs, and on the other, they are challenged by the stereotypes and preconception that result from misconceptions about MHPs. As a result of both, people with MHPs are denied the opportunities that define a quality life, including good jobs, safe housing, satisfactory healthcare, and affiliation with a diverse group of people (Ahmed et al., 2019; Gibbs et al., 2006, Gureje & Alem, 2000, Scior, 2013).

Several studies confirm that the majority of nations allow their traditional beliefs to impact how they perceive MHPs. These ideas frequently have a negative impact on mental healthcare because they prevent those who are affected from seeking mental health services. As a result, policymakers frequently hold the assumption that MHPs are mainly incurable or, at the very least, unresponsive to medical therapy. Such attitudes have an impact on the provision of MHS for the underserved (Corrigan Druss & Perlick, 2014). The literature is also confirmed by the current study findings indicating that stigma and discrimination are a barrier to accessing MHS.

### **Management of MHPs in people presenting with MHPs and Human immunodeficiency virus**

Majority of health professional reported shortage of psychiatric personnel, shortage of psychiatric medication. According to estimates, one in four persons have MHPs at some point in their lives, and MHPs are the primary cause of disability (Dube and Uys, 2016). According to Altevogt et al. (2010) it is confirmed that there is increased numbers of people in Sub-Saharan countries with MHPs but there is shortage of psychiatric doctors and a low level of knowledge in health personnel resulting in a shortage of MHS. The study findings also indicated that there are no preventive mental health services in the primary health care facilities, no continuity of MHS as the psychiatric drugs are lacking and absence of trained health professionals on mental health and no counselling services in order to help people with Human immunodeficiency virus

to accept their status. Most participants also stated that the counselling services provided are mainly on HIV drug adherence, not the prevention of MHPs.

About 23% of people attending primary health care suffer from MHPs. Despite the significant prevalence of MHPs, mental health is not given the attention it deserves in South Africa, and the people who suffer from these diseases are not given the treatment they require in primary health care (Dube and Uys, 2016, Modula and Ramukumba, 2018). In a study done by Sexena et al. (2013), WHO has engaged the use of Mental Health Gap Action Programme and policies related to mental health services to close the gap due to a lack of knowledge; however, a study done by Mthiyane et al. (2021) in South Africa reported that there is an increased number of PLWH and MHPs, but who are not on treatment because of a lack of knowledge concerning MHS in primary health cares and shortage of psychiatric personnel.

### **Insights gained through employing mixed method design**

The true picture of the participant's experience was gained as the design used constructivism paradigm. (Cohen et al., 2013, Tashakkori and Teddlie, 2009).

### **Ethical consideration**

The approval of this study was obtained from of the ethical review committee: Biomedical Research Ethics Committee of University of Kwazulu –Natal. Study Approval number: BREC/00004710/2022. Written informed consent was obtained from participants. The participants were provided with an information sheet that included pertinent information about the research's purpose and how participants might choose to participate or exercise their right to withdraw from the study. The audio recordings were kept secure and without participant names. The participants' private information was handled with confidentiality. The recordings in the audio recorder were kept safe and participant names were not labelled on the recording. Number coding was used to ensure the confidentiality of the participants' responses. No names or personal identifiers appeared on any data sheet.

### **Limitations**

This study was conducted in five primary health cares in Maseru district, which mandates a broader study to obtain a more comprehensive picture of the problem in question.

## **Implications for future research**

A study regarding healthcare policymakers and administrators' opinions on the development of policy guidelines to successfully manage patients presenting with MHPs and also having Human immunodeficiency virus.

## **Recommendations**

The need for assessing and evaluating the mental health conditions of PLWH should be made clear to healthcare providers through education and training programs. Due to the significant advantages, it offers, the administrators in charge of the competence-based framework should accelerate its implementation.

## **Conclusion**

This study aimed at exploring the barriers for people presenting with MHPs and Human immunodeficiency virus to receive mental healthcare in primary health care. There are many barriers that need to be addressed, however the lack of knowledge regarding MHS for health professionals was a major barrier to MHS.

## **Consent for publication**

- Not applicable.

## **Competing interests**

- The author declares that she has no competing interest.

## **Funding**

- The study did not have any funding.

## **Availability of data**

- Data is available to the researcher upon reasonable request by the researcher.

## **Author contribution statement**

- The first author wrote the manuscripts, and the second author reviewed the manuscripts.

Keywords: Primary health care, Mental health services, Human immunodeficiency virus

## **Acknowledgements**

The authors would like to thank the participants who participated in this study

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## CHAPTER FIVE

### MANUSCRIPT THREE

**Title of the journal: Health professionals' level of knowledge regarding integrating mental health services into Human immunodeficiency services at primary health care (*In review in African journal of primary health care and family medicine*)**

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#### **Abstract**

#### **Background**

Patients with Human immunodeficiency virus are more likely to experience mental health problems, which has an adverse effect on how well they respond to highly active antiretroviral treatment. Increased mental health problems that are not treated have caused increased prevalence of mental health problems, increased prevalence of medical conditions and very poor economy but mental health services are lacking.

#### **Aim**

The aim of the study was to describe health professionals' level of knowledge regarding integration of mental health services into Human immunodeficiency virus services at primary health care.

#### **Setting**

The study was conducted in five primary health cares in Maseru district, Lesotho.

## **Methods**

This study employed mixed methods, and made use of quantitative (self-administered questionnaire) and qualitative (in-depth interviews).

## **Results**

69.7% of respondents reported that they do not have knowledge to manage mental health problems in people living with Human immunodeficiency virus.

The qualitative findings also showed that majority of health professionals did not have enough knowledge to identify signs and symptoms of mental health problems in people living with Human immunodeficiency virus, no adequate knowledge to diagnose and manage all people presenting with mental health problems and also living with Human immunodeficiency virus.

## **Conclusion**

Health professionals were not providing mental health services in people presenting with mental health problems and Human immunodeficiency virus mainly because of lack of knowledge to identify signs and symptoms, diagnose and manage people presenting with mental health problems in people living with Human immunodeficiency virus.

## **Contribution**

The study confirmed lack of knowledge regarding mental health in health professionals and therefore there is an urgent need to act on this matter as this large treatment gap cause so many complications.

**Keywords:** Health professionals, knowledge, mental health services, integration, Human immunodeficiency virus services, primary health care,

## **Introduction**

Due to having to cope with not just the diagnosis but also living with a chronic infectious disease, PLWH are significantly more likely to have MHPs like depression and anxiety. Similarly, those who have MHPs may also have a higher chance of contracting Human immunodeficiency virus. MHPs can influence quality of life of PLWH and prevent them from seeking medical attention, following their treatment plan, or completing their care. According to research conducted in 38 countries, 15% of adults and 25% of teenagers with Human immunodeficiency virus reported experiencing depression or feeling overwhelmed, which may make it difficult for them to adhere to antiretroviral therapy [HIV/AIDS,<sup>1</sup> 2010, Vermeulen,<sup>2</sup> 2011]. The Human immunodeficiency virus-related requirements of people with MHPs are currently being addressed by very few health services. This circumstance needs to be altered. According to a number of international studies, the Human immunodeficiency virus prevalence among people with serious MHPs could range from 1.5% in Asia to up to 19% in Africa (HIV/AIDS,<sup>1</sup> 2010, Kulshreshtha,<sup>3</sup> 2022).

Despite a tremendous rise in the amount of literature on the mental health needs of PLWH over the last two decades, the integration of mental health care into Human immunodeficiency virus services is still non-existent in Sub-Saharan Africa. The lack of focus on mental health of PLWH in the region contradicts the current data, which shows that, first, MHPs are a major cause of disease burdens (Mayston Kinyanda Chishinga,<sup>4</sup> 2022).

It is crucial to recognize MHPs in PLWH, but many go undiagnosed and untreated. This is due to a variety of factors, all of which must be addressed. People may be reluctant to disclose their psychological status to healthcare professionals out of fear of discrimination and stigma, and healthcare professionals may lack the knowledge or training necessary to recognize psychiatric symptoms or may fail to take the appropriate steps for further assessment, management, and referral if symptoms are found. PLWH experience greater psychological distress than the general population. Evidence from high-income countries suggests that psychological interventions for PLWH can improve mental health symptoms, quality of life, and Human immunodeficiency virus care engagement. However, little is known about the effectiveness of mental health interventions for PLWH in low- and middle-income countries, where the large majority of PLWH reside (Du Zeyang et al.,<sup>5</sup> 2022, Asrat et al.,<sup>6</sup> 2020). Despite the fact that mental health is given a higher priority in high-income countries, MHS are still insufficient due to

lack of knowledge, inadequate staffing, and unfavorable attitudes among health professionals concerning MHPs. Up to 90% of people with severe MHPs in Low-middle income countries do not receive treatment, compared to fewer than 50% in high-income nations (Lake and Turner,<sup>7</sup> 2017, Corrigan et al.,<sup>8</sup> 2014). Due to strong evidence linking mental health and Human immunodeficiency virus, MHS have long been included in Human immunodeficiency virus programs in wealthy nations; yet, there is still a treatment gap (Ayano et al.,<sup>9</sup> 2017, Remien et al., 2019).

Common MHPs are a significant contributor to Human immunodeficiency virus disease progression among PLWH, especially in low-middle income countries with inadequate Human immunodeficiency virus diagnosis and care (Remien et al.,<sup>10</sup> 2019, Burgess,<sup>11</sup> 2015).

There is evidence to suggest that depression increases PLWH death risk. For instance, mortality was 6.6% for women with depressed symptoms compared to 3.7% for women without depressive symptoms among 1487 women observed for 24 months in Tanzania. Additionally, even after adjusting for predictors of mortality (such as CD4 cell count, anti-retro-viral treatment, duration, and age), women with chronic depressive symptoms were twice as likely to die from the disease as women with minimal or no symptoms over the course of up to 7 years among 765 women living with Human immunodeficiency virus at four United States sites. When compared to women on antiretroviral who did not have depression, women with chronic depressive symptoms had a mortality risk that was over three times higher in women taking antiretroviral (Remien et al.,<sup>11</sup> 2019).

Even in the present, policymakers do not prioritize mental health (Yerramilli and Bipeta,<sup>12</sup> 2012). The lack of understanding of MHS, the unfavourable attitudes of health professionals about MHPs, and the lack of knowledge of health professionals with mental health are major contributors to the failed integration of mental health into primary health care (Ahmed et al., 2019). It was found in a 2016 study by (Dube and Uys,<sup>14</sup> 2016) in South Africa that 23% of patients at primary health care facilities have MHP (Dube and Uys,<sup>14</sup> 2016). Despite the high prevalence of MHPs, South Africa places little emphasis on mental health, and primary health cares do not provide people with MHPs with the necessary care. The nurses' attitudes towards patients with MHPs are frequently unfavourable, and it has been demonstrated that primary

health care nurses' ability to identify and treat MHPs is subpar due to a lack of training in this area (Dube and Uys, <sup>14</sup> 2016).

According to a study by Ayano et al. <sup>9</sup> (2019) conducted in Ethiopia, one of the main obstacles to the successful integration of mental health into primary health care, is the lack of adequate knowledge, a supportive attitude, and skills for MHS among primary health care professionals involved in patient care and treatment at primary health care levels.

### **Problem statement**

In most contexts, the prevalence of MHPs in PLWH is over 78% (Beyene Gebrezgiabher, <sup>15</sup> 2019). Given that anxiety, depression, and Human immunodeficiency virus are frequently co-occurring disorders, integrated intervention measures (prevention, treatment, and health promotion) may be required. The elimination of treatment gaps and ensuring that the patients receive the care they need, are the main goals of this level of care improvement (Dube and Uy, <sup>14</sup> 2016). Concomitant MHPs can significantly lower adherence to highly active antiretroviral treatment. Undiagnosed and untreated MHPs may result in actions that increase the risk of contracting and spreading Human immunodeficiency virus (Naylor <sup>17</sup> 2012). Severely mentally ill, sexually active individuals engage in riskier sexual activity, such as poor use of condoms, having several sexual partners, trading partners, and drinking alcohol prior to sex. Additionally, the severity of MHPs may raise the chance of Human immunodeficiency virus infection (Collins, <sup>18</sup> 2006, Remien, <sup>19</sup> 2015). Although health professionals play a crucial role in providing integrated care, MHS in people with MHPs are still inadequate because of a lack of knowledge on this concept globally (Dube and Uys, 14 2016). World health organization has emphasised on integrated care in order to improve MHS but regardless of all the measures taken by World health organization to integrate mental health into other general health services, MHS delivery is still a problem in Lesotho and most African countries because of health professionals 'poor knowledge on mental health.

### **Theoretical framework**

The researcher employed the Behaviour Change Wheel hypothesis to guide this inquiry. Effective behaviour change programs are crucial for enhancing the use of evidence-based practice (Michie, <sup>20</sup> 2011).

A behavioural shift is required for the efficient delivery of MHS. Initiatives to alter behaviour are therefore crucial for the effective provision of MHS. A coordinated set of acts called "behaviour modification interventions" aims to alter a certain pattern of behaviour (Michie, <sup>20</sup> 2011). This theory is appropriate for this study since it emphasizes altering behaviour to attain certain objectives.

### **Literature review**

792 million individuals worldwide have MHPs in 2017 (Ritchie and Roser, <sup>18</sup> 2018). About 7.4% of the world's diseases are caused by mental and behavioural problems, which are also the main cause of disability globally (Whiteford et al, <sup>22</sup> 2016). Today's health problems are a result of mental and drug use illnesses (Van Coppenhagen and Duvenage, <sup>23</sup> 2019). More than 70% of individuals worldwide who require MHS do not have access to care, which is the root of the established global burden of disease linked with MHPs (Henderson et al., <sup>24</sup> 2013, Skuse, <sup>23</sup> 2008, Wainberg, <sup>26</sup> 2017). PLWH are twice as likely to experience depression as people without the virus (Dube and Uys, <sup>14</sup> 2016, Duko et al., <sup>27</sup> 2019, Yehia et al., <sup>28</sup> 2015, Yeneabat et al., <sup>29</sup> 2017) Sub-Saharan Africa (SSA) is found to be the highest in Human immunodeficiency virus. 25.8 million PLWH are in SSA while 36.9 million is found globally (Duko et al., <sup>27</sup> 2019, Levi et al., 2015). It is estimated that 80% of PLWH live in 20 countries of which 12 of these countries namely: South Africa, Nigeria, Zimbabwe, Mozambique, United Republic of Tanzania, Kenya, Zambia, Malawi, Ethiopia, Cameroon, Cote d'Ivoire, Democratic Republic of the Congo are in Sub-Saharan Africa (Levi et al., <sup>30</sup> 2015). There is huge reduction of mortality in PLWH after introduction of antiretroviral treatment however because these people live with a chronic condition their mental health is highly affected (Nalukenge,<sup>31</sup>2017).

Patients with Human immunodeficiency virus are more likely to experience mental health issues, which has an adverse effect on how well they respond to therapy. MHPs in PLWH may have an impact on public health because they raise the likelihood of risky sexual conduct, which aids in the transmission of Human immunodeficiency virus. Depression and substance misuse can encourage infidelity, which helps the Human immunodeficiency virus spread (Hayes et al., <sup>32</sup> 2017).

MHP-related illnesses are becoming more prevalent globally, but they haven't really been on the global health agenda (Baigana et al., <sup>33</sup> 2015, Gonzalez, <sup>34</sup> 2010). Despite the present focus

on mental health on a global scale, the burden of MHPs, particularly depression, was emphasized as the primary cause of illness in the modern world (Whiteford et al.,<sup>22</sup> 2016, Pike et al.,<sup>35</sup> 2020). In the world, 350 million people experience depression, and 800,000 commit suicide every year as a result of their depression (Duko et al.,<sup>27</sup> 2019). PLWH encounter a variety of difficulties, such as Human immunodeficiency virus -related perceived stigma, a lack of social support, and depression in western nations, but are overlooked in sub-Saharan Africa (Duko et al.,<sup>27</sup> 2019).

Depression is one of the most common psychiatric disorders in PLWH but is neglected in Sub-Saharan Africa. Depression is one of the most prevalent MHPs in PLWH but is undertreated in Sub-Saharan Africa. Depressive symptoms in PLWH (adult) on antiretroviral ranged from 13% to 78% globally (Beyene Gebrezgiabher et al.,<sup>15</sup> 2019). Although health professionals play key roles in most contexts, integration of MHS into Human immunodeficiency virus services remains a difficulty because of lack of knowledge attitude and beliefs of health professionals, leading to a considerable treatment gap. Mental health policies place a strong emphasis on this idea (Dube and Uys,<sup>14</sup> 2016).

People with MHPs are sexually active and exhibit dangerous sexual conduct, such as unsafe sex, several sexual partners, selling their bodies, and drinking before sex. Moreover, the degree of psychiatric disease may raise the chance of Human immunodeficiency virus infection (Remien et al.,<sup>10</sup> 2015, Van Coppahagen and Duvenge,<sup>23</sup> 2019, Hendeson et al.,<sup>24</sup> 2013). Notwithstanding the issues with Human immunodeficiency virus and MHPs, the World health organization continues to claim that the global health system has not sufficiently addressed needs in mental health (Saxena et al.,<sup>39</sup> 2013).

It is corroborated by Remien (2019) that there are more persons in Sub-Saharan African nations with MHPs, but there is a dearth of psychiatrists and a lack of training among medical workers. Primary health care in South Africa offer services for mental health promotion, MHPs prevention, and fundamental mental health care. According to estimates, one in four persons have mental health issues at some point in their lives, and mental health issues are the primary cause of disability (Dube and Uys,<sup>14</sup> 2016). Around 23% of patients in primary care have MHPs. Despite the high incidence of MHPs in South Africa, the lack of focus given to mental health in South African prevents patients from receiving the treatment they need at primary health

care (Dube and Uys, 2016 Modula and Ramukumba, <sup>41</sup> 2018). According to Saxena. <sup>39</sup> (2013) World health organization has implemented MHGAP and policies on MHS to close the knowledge gap, but a study conducted in South Africa by Mthiyane et al. <sup>42</sup> (2021) still found that there are an increasing number of PLWH with MHPs who are not receiving treatment because of a lack of awareness regarding MHS in primary health cares.

## **Method**

A qualitative and quantitative descriptive design was employed to describe Health professionals' level of knowledge regarding integration of MHS into Human immunodeficiency virus services at primary health care. The pragmatist paradigm, which the study's researcher employed, suggests that what is true is effective. The researcher used the pragmatism paradigm in this study, which contends that truth is what works.

This study employed the sequential explanatory design, which includes two separate stages and is one of the most often used mixed methods designs in educational research (Creswell, 2014). The first part involved gathering quantitative, numerical data via a hand-delivered questionnaire, which was then assessed using a discriminant function. In addition to enabling the purposeful selection of informants for the second phase, the quantitative phase sought to ascertain the potential predictive power of specific variables on the knowledge of health professionals regarding the integration of MHS and Human immunodeficiency virus in primary health care in Lesotho.

This study employed the sequential explanatory design, which includes two separate stages and is one of the most often used mixed methods designs in educational research (Creswell, 2014). The first part involved gathering quantitative, numerical data via a hand-delivered questionnaire, which was then assessed using a discriminant function. The quantitative phase aimed to determine the possible predictive value of specific factors on health professionals' knowledge of MHS integration with Human immunodeficiency virus services in Lesotho primary healthcare. This allowed for the deliberate selection of informants for the second phase. In order to collect text data that would help in the explanation of why particular internal and external factors that were tested in the first phase might be significant indicators of poor management of MHPs and Human immunodeficiency virus in Lesotho, individual semi-structured

interviews were conducted in the second phase using a qualitative multiple case study approach. This method was utilised to obtain a clearer image from the quantitative data, which was then used to use the qualitative data to fully understand and explain the research at hand.

Combining quantitative and qualitative techniques was justified by the fact that neither approach is sufficient to fully capture the trends and details of the situation, such as the complex issue of health professional's knowledge regarding integration of MHS and Human immunodeficiency virus. Since quantitative and qualitative approaches complement each other effectively, combining the results in a more thorough analysis was crucial.

However, by delving further into the opinions of participants, the qualitative data and its analysis improved and clarified those statistical results (Botma et al., 2010, Bryman, 2006, Creswell, 2014). By going further into the viewpoints of the participants, the qualitative data and its analysis improved and clarified those statistical results (Botma et al., 2010, Bryman, 2006, Creswell, 2014). Since the qualitative method is responsible for the majority of the study's data collection and analysis, it is given priority in this design. By looking at the study's goal, the qualitative research focuses on offering thorough justifications for the quantitative findings.

The first part of the sequence is a smaller quantitative component that reveals the predictive capacity of health professionals' understanding of the combination of MHS and Human immunodeficiency virus. At the start of the qualitative phase, the quantitative and qualitative approaches were combined when choosing the participants for the case study analysis and creating the interview questions according to the outcomes of the statistical tests. In order to demonstrate how well health professionals, understand the combination of MHS and the human immunodeficiency virus, the sequence begins with a small quantitative component (Bryman, 2006, Creswell, 2014).

When discussing the findings of the entire study, the outcomes of the two stages were also taken into consideration. To gain a deeper understanding of the quantitative data, the researcher collected qualitative data from volunteers who provided insight into these findings. Thus, among the mixed method designs, the explanatory sequential design is acknowledged as the simplest and most direct (Creswell and Clark, 2017).

## **Study participants**

Healthcare professionals working in Maseru's five primary health care facilities were the target group. In the quantitative study, participants comprised registered nurses, medical officers, pharmacists and nursing assistants who had worked in primary health care for at least two years. In the qualitative study only forty three registered nurses and 7 doctors were included in the study. All participants were notified during the quantitative data collecting process that only medical officers and registered nurses would be included in the qualitative study since it was thought that they had superior knowledge of mental health (Grove et al.,<sup>43</sup> 2015).

## **Setting**

Five primary health cares in Maseru Lesotho were the sites of this investigation. These included the clinic A, B, C, D and E. Although MHS were not provided, all clinics provided Human immunodeficiency virus care. Clinic A was situated 10 kilometres from Maseru city on the west side of the city while clinic B was situated around 12 kilometres from the city centre in the northern region of the city. About 15 km to the southwest of Maseru City Clinic C was found. The clinic D was also located in the south part of the city and was 6 km from the city. Maseru was the capital and biggest city of Lesotho. It was also the capital of the Maseru district. The place was found near the Caledon river, which was the border between Lesotho and South Africa.

## **Sample size**

Each clinic had around 21 Health professionals eligible to participate in the study therefore 105 health professional were eligible to participate as the clinics were five. The sample size was determined by using  $n = z^2 p(1-p) / d^2$  where  $n$  = sample size,  $p$  = assumed proportion (50%),  $z$  =  $z$ -value at 95% confidence (=1.96),  $d$  = desired level of absolute precision (=10%), yielded a total of 96 Health professionals. All 88 recruited participants entered in the study. 50 health professionals that included registered nurses and medical officers were interviewed. The participants were interviewed until saturation point was reached (Grove et al.,<sup>43</sup> 2015).

## **Sampling**

For the purpose of the first quantitative phase of the study, all-inclusive sampling was used as sample size was small (Grove et al., 2015). In the study, 105 health professionals were eligible

to participate. Five managers from each profession were included in the pilot study. 88 participants were eligible to participate as other health professionals were on leave. The researcher invited the 88 health professionals who participated in the study (Grove et al., 2015).

Purposeful sampling was employed during the second qualitative phase (Grove et al., <sup>43</sup> 2015). The goal was to carefully choose informants who were "knowledge rich" and would provide the best answers to the study questions (Patton, <sup>44</sup> 2002). All registered nurses and medical officers were chosen for the follow-up voluntary individual interviews. 50 people were interviewed. The saturation point was the most often used criterion for establishing an appropriate sample size (Speziale et al., <sup>45</sup> 2011). A purposive sampling was chosen based on the researcher's assessment of the subject matter expertise of the participants (Grove et al., <sup>43</sup> 2015, Cresswell, <sup>46</sup> 2014, De vos et al., <sup>47</sup> 2011). The choice of participants for the second qualitative phase was based on the findings from the first quantitative phase due to the sequential nature of this study's design. Based on these findings, maximal variation sampling where a researcher selected people based on how they differ from one another was employed. This gave the researcher the opportunity to exhibit the many viewpoints of people in order to "reflect the complexity of our environment" (Cresswell, <sup>46</sup> 2014). For this study, the participants were selected based on the statistically significant difference results from the discriminant function analysis.

### **Research tool**

A questionnaire was employed in the initial step of data collection because the study was a mixed method study. The questionnaire approach was simpler because it doesn't call for special skills or expertise. Also, a vast variety of the population is covered by the questionnaire, and responses might come in relatively rapidly way. The researcher utilized semi-structured interviews throughout the second round of data collection, adhering to an established interview schedule (De Vos et al., <sup>47</sup> 2011).

### **Data collection**

The survey and self-developed interview schedule were used to attain data from the participants. The survey and interview schedule were designed to describe health professionals' level of knowledge regarding integration of MHS into Human immunodeficiency virus services at primary health care. Data was collected from registered nurses, nursing assistants, pharmacists and medical officers. During quantitative data collection all the participants were informed

that only registered nurses and medical officers will be included in the qualitative data collection as they are believed to have better knowledge on mental health and Human immunodeficiency virus.

The researcher obtained permission to conduct the study, prior to data collection, and written informed consent was obtained from the participants as soon as they agreed to participate in the study. The researcher explained the process of completing the survey in order to avoid their wastage. The researcher also explained to them the title of the study, significance of the study and the reason the study is conducted in order to make participants understand the need to be honest while answering the question in order for the findings to inform stakeholders about the current status of mental health care in Lesotho and therefore improve MHS for PLWH. The participants were not coerced to participate. Confidentiality was maintained throughout the study.

Questionnaires were delivered by hand to the participants. Clear and concise instructions on how to complete the questionnaire were given. Participants were asked to complete the questionnaire within 48 hours and to place their sealed responses into a designated box that was made available by the researcher.

In the second phase of data collection, a semi-structured interview schedule was used to describe health professionals' level of knowledge regarding integrating mental health into Human immunodeficiency virus services at primary health care. Interviews took 45-60 minutes each and participants were asked to sign a consent form to participate in the interviews. The aims and objectives of the interview were explained. Open ended questions were asked and participants were encouraged to discuss them with the researcher. Data collection to both registered nurses and doctors continued until no new information could be found

### **Measurements**

The participants were asked to agree or disagree with a list of statements that related to their knowledge concerning integration of MHS and Human immunodeficiency virus services on a five Likert scale (strongly disagree, disagree, neutral, agree and strongly agree). The participants were asked to describe health professionals' level of knowledge regarding integration of MHS into Human immunodeficiency virus services at primary health care.

## **Data analysis**

### ***Quantitative data analysis***

Spread sheets were used to record the data, and its accuracy was checked. With the help of the Statistical Program for Social Sciences (SPSS), Version 26.0, the surveys were coded, calculated, and analysed. Frequency tables were used to summarize and analyse the data using descriptive statistics since they gave a more precise and understandable picture of the outcomes. Frequency and percentage was used to summarize the categorical variables. The frequency distribution of the numeric data was examined for normality and mean, or median used appropriately. To account for possible factors, comparisons were made using a Chi-square statistical test for the categorical data and a t-test/Wilcoxon rank-sum test for the numeric data. All analyses were performed using SPSS version 26, and a p-value < 0.05 was considered statistically significant.

In order to produce a full tale rather than two parallel storylines, it was essential to make sure that both the qualitative and quantitative data were compared and merged. The investigation took into consideration the project's journals and other artefacts.

To compare the attitude, knowledge, and perception ratings of health professionals about MHS for people with MHPs and Human immunodeficiency virus, bivariate and multivariate analyses were conducted. The attitude score had a p-value of 0.138 and the perception score had a p-value of 0.869 when the ANOVA test was run. These p-values were not statistically different as they were more than 0.05. In a multivariate analysis, the significance level cut-off value was chosen at 0.05.

### ***Qualitative analysis***

Nvivo was used to analyse data. The data were analysed using a thematic framework analysis. Data analysis was initially undertaken by reading each interview in its entirety before reading question by question to prevent missing an answer to a specific issue that could have an effect on another question. The purpose of the study guided the researcher throughout this process (Bengtsson, <sup>49</sup> 2016).

## **Trustworthiness**

The trustworthiness of this study was ensured by following the principles identified by De Vos et al., 2011 and included the strategies for credibility (showing the accurateness of the findings), transferability (confirming applicability of the findings), dependability (confirming uniformity of the findings) and conformability (using the criterion of neutrality or freedom from bias) (Polit et al.,<sup>50</sup> 2012). The use of many primary healthcare facilities for data gathering and the application of a quantitative data design followed by a qualitative data design helped to build credibility. When researchers who were not directly involved in the study were able to ascertain whether the situation or investigation's findings were comparable to their own, transferability was verified. The study's outcomes demonstrated the respondents' degree of confidence in the research findings' relevance to their own situations (Stringer,<sup>51</sup> 2013). This study's reliability was further validated by conducting an inquiry audit. When the investigator verified that every one of the above described protocols was adhered to throughout the investigation or data gathering, conformity was deemed verified. The researcher provided an audit trail so that a third party could examine the data acquired, tools used, voice recordings, and journals related to the study in order to confirm the authenticity of the findings, explanation of the processes that had been followed and that served as the foundation for determining how reliable they were (Stringer,<sup>51</sup> 2013).

## **Authenticity:**

A comprehensive and methodical evaluation of the literature was undertaken by the researcher, demonstrating its relevance to the study's goals, questions, and techniques (Grove et al., 2015).

## **Reliability**

Pilot testing of the survey instrument was necessary to obtain stability or test-retest dependability. Test-retest reliability demonstrated whether same outcomes are attained when the same survey is given to research participants who are comparable on several occasions. The "Pearson r coefficient" was used to express the differences and correlations between the pilot study's initial findings and the survey's actual results (Grove et al., 2015).

## **Validity**

Content, criterion-related, and construct validity of the survey instrument was established. Content validity showed the extent to which the survey items and the scores from these questions

were representative of all the possible questions about provision of mental health care in Human immunodeficiency virus-positive clients. The wording of the survey was examined by the supervisor, and somebody very knowledgeable on mixed methods. This helped assess whether the questionnaires were applicable to the subject it is aimed to measure, if it was a reasonable way to gain the needed information, and if it was well-designed (Grove et al., 2015).

### **Ethical consideration**

The approval of this study was obtained from of the ethical review committee: Biomedical Research Ethics Committee of University of Kwazulu –Natal. Study Approval number: BREC/00004710/2022. Written informed consent was obtained from participants. The questionnaire included a statement about the informed consent attached, and that participation was voluntary. The participants were provided with an information sheet that included pertinent information about the research's purpose and how respondents might choose to participate or exercise their right to withdraw from the study. The audio recordings were kept secure and without participant names. The participants' private information was handled with confidentiality. The recordings in the audio recorder were kept safe and participant name were not labelled on the recording. Number coding was used to ensure the confidentiality of the participants' responses. No names or personal identifiers appeared on any data sheet.

## Findings

### Quantitative findings

**Table5. 1: Overall Knowledge of respondents on Mental Health problems**

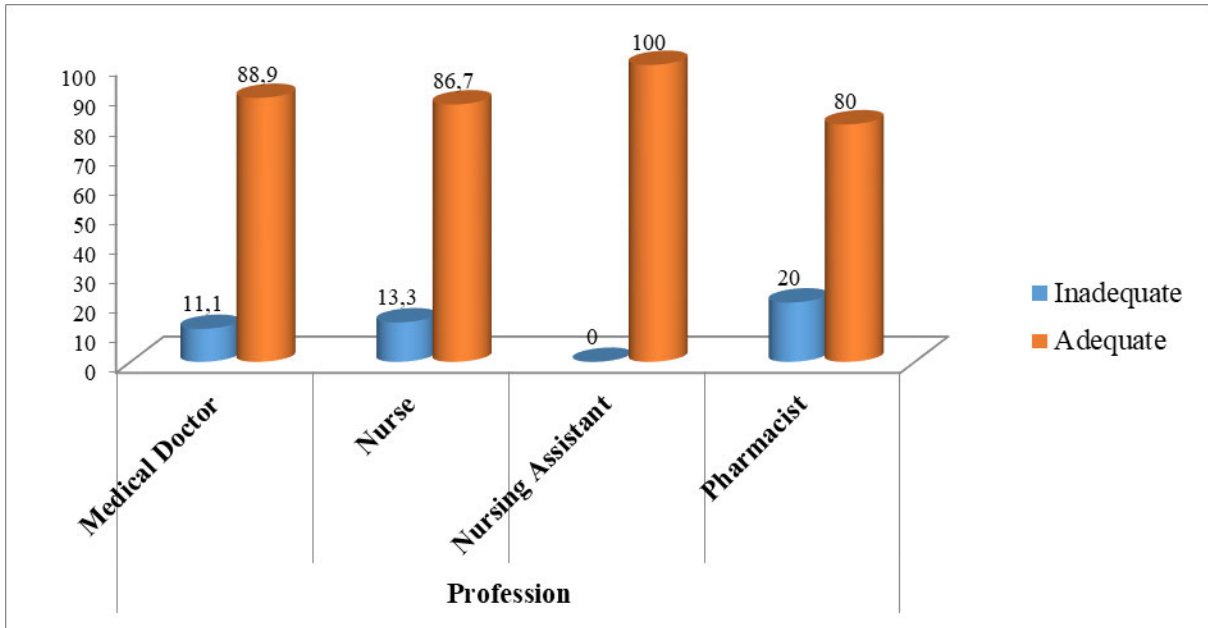
Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ± sd
My knowledge on mental health problems is adequate	6(6.7)	12(13.5)	29(32.6)	32(36.0)	10(11.2)	3.3±1.1
I can comfortably identify signs and symptoms of a patient with Mental health problems	3(3.4)	9(10.2)	20(22.7)	46(52.3)	10(11.4)	3.7 ±0.9
I can comfortably manage people with mental health problems	7(7.9)	22(24.7)	33(37.1)	24(27.0)	3(3.4)	2.9±1.0
The care and support of family and friends can help people with Mental health problems to get rehabilitated	2(2.3)	2(2.3)	2(2.3)	24(27.3)	58(65.9)	4.5±0.8
Corporations and the community (including the government) should offer jobs to people with mental health problems	4(4.7)	2(2.3)	14(16.3)	29(33.7)	37(43.0)	4.1±1.1
After a person is treated for mental health problems they can return to their former job position	4(4.6)	1(1.1)	11(12.6)	31(35.6)	40(46.0)	4.2±1.0
The best way to help people with mental health problems and Human immunodeficiency virus is to assess them for mental health problems in every visit to antiretroviral clinic	3(3.4)	2(2.3)	3(3.4)	17(19.3)	63(71.6)	4.5±0.9

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The counselling services is necessary for every client living with Human immunodeficiency virus on every visit to the antiretroviral clinic	5(5.7)	2(2.3)	2(2.3)	17(19.3)	62(70.5)	4.7±1.1
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52.8% of the participants reported to have no adequate knowledge on mental health yet this is a factor that can enable provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus while 47.2% of participants seemed to be having adequate knowledge on mental health. Furthermore 52.7% of participants reported they can comfortably identify signs and symptoms of MHPs in PLWH while 36.3% reported they cannot identify signs and symptoms of MHPs comfortably. 69.7% of the participants reported they do not have knowledge in management of MHPs in people presenting with MHPs and also having Human immunodeficiency virus while 30.3% reported that they have adequate knowledge on management of MHPs in PLWH. The care and support of family and friends was found to help people with MHPs to get rehabilitated as 93.2% of the respondents agreed to the statement but 6.9% disagreed to the statement. Majority (76.7%) of the respondents were of the view that corporations and the community (including the government) should offer jobs to people with MHPs while 23.3% of the respondents disagreed that they should be offered jobs and this showed a negative attitude of respondents to mental health clients. Majority (90.9%) of respondents were of the view that the best way to help people with Human immunodeficiency virus and MHPs is to assess them for MHPs in every visit to antiretroviral clinic, while 9.1% of the respondents disagreed that they should be assessed in every visit to antiretroviral clinic. 89. % of the respondents said that counselling services are necessary for every client living with Human immunodeficiency virus on every visit to the antiretroviral clinic, while 10.3% said counselling services are not necessary.

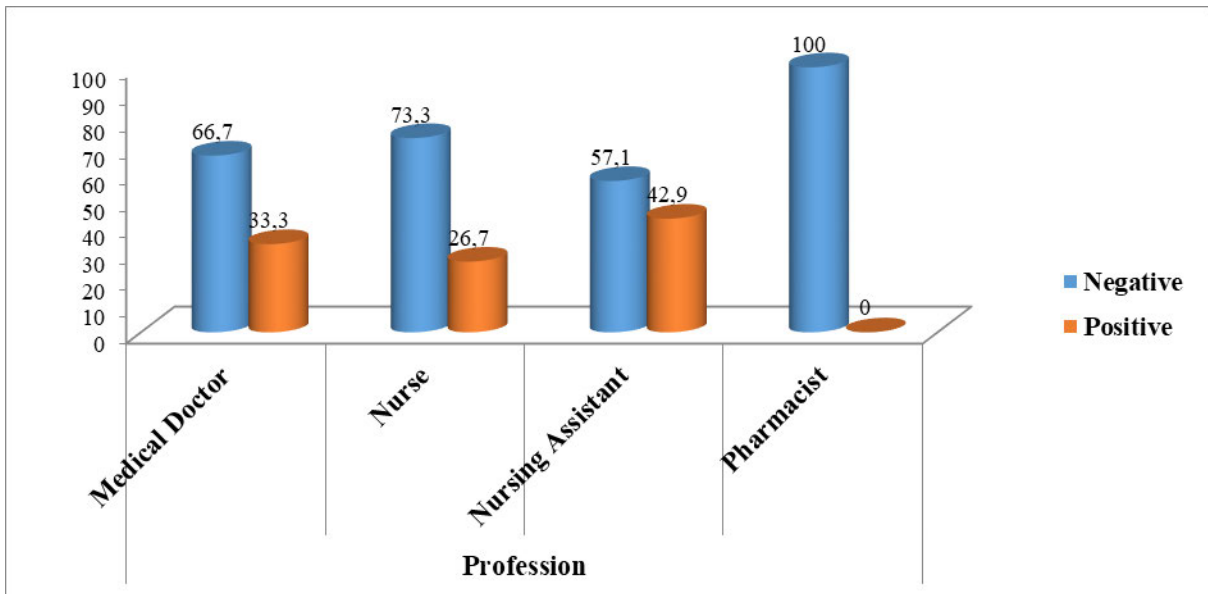
97.7% of the participants acknowledged that educating the stake holders about MHPs and Human immunodeficiency virus will facilitate improved integration of MHP and Human immunodeficiency virus while 2.3 disagreed that educating the stakeholders about MHPs will facilitate improved integration of MHPs and Human immunodeficiency virus.



**Figure5. 1: Knowledge adequacy by profession**

***Knowledge adequacy by profession***

With respect to adequacy of the knowledge, Figure 5.1 presents the comparisons. Nursing assistants had 100% knowledge followed by medical doctors at 89% while 86.2% of nurses had adequate knowledge. 80% of pharmacists had adequate knowledge. Overall, with the grand mean knowledge of 87.8%, respondents were quite knowledgeable. Based on the chi square there was no significant association between profession and level of knowledge.



**Figure5. 2: Nature of the attitude (negative or positive) by profession**

### ***Overall perception (summary measure)***

Pharmacist had high negative attitude towards mental health with 100% score followed by registered nurses with a score of 73.3%, followed by Medical officers with 66.7% and lastly nursing assistants with 57.1% negative attitude.

### **Qualitative findings**

One theme emerged from the analysis of the data, namely knowledge of MHPs.

#### **Theme 1: Knowledge of mental health problems**

Three subthemes informed this theme: limited knowledge of signs and symptoms of MHPs, limited knowledge of the diagnosis of MHPs and limited knowledge regarding management of MHPs.

The majority of the participants reported that they are not knowledgeable regarding the management of MHPs. In addition, most participants reported that they have limited knowledge regarding the signs and symptoms of MHPs and their diagnosis. However, a few medical officers indicated that they are knowledgeable about mental health, but they are not offering such services due to time constraints. A participant 16 said *“I did not know that MHPs and Human immunodeficiency virus are closely related so it is very important that the health professionals receive training regarding mental health to address this gap of unavailability of MHS in people presenting with MHPs and Human immunodeficiency virus. These services are not offered mainly due to lack of knowledge concerning mental health”*.

Participant 43 said *“We last did mental health at the college, so we are out of information concerning psychiatric so it's better that we are trained on mental health so that these services can be provided”*.

Participant 34 said *“You know I think we meet so many psychiatric patients that we fail to address because sometimes I suspect that this might be anxiety but because I have forgotten almost everything about psychiatric, I fail to make informed decision then leave the patient without assisting the patient regarding her problem because I didn't have information to say this might be a certain condition in psychiatric so I can refer this patient to a doctor. I think we need capacitation on mental health as staff”*.

Participant 6 said *“I don’t have knowledge on mental health as a result training staff on mental health will help us to provide these services”*

Participant 3 *“Our knowledge to provide MHS is very limited as we never worked with these patients” She further said that currently we are not doing anything regarding MHS for people presenting with MHPs as we did not even think they are related.”*

Participant 9 *“Hmmm we do not have knowledge on mental health”. “We just need the screening tools to help us identify MHPs because currently we are not doing anything regarding mental in this facility because of lack of knowledge regarding mental health”. “The training will also help because once we are trained after identifying them; we shall know what to do after realizing what the problem the patient is having.”*

Participant 33 said *“I can’t remember anything on mental health. Because we last did it at the college so I cannot be able to help patients with MHPs”.*

The qualitative findings indicated that the majority of the health professionals did not have enough knowledge to identify the signs and symptoms of MHPs in PLWH, no adequate knowledge to diagnose and manage the people presenting with MHPs and Human immunodeficiency virus. However, a few said they have enough knowledge to identify, diagnose and manage people presenting with MHPs, but there are time constraints that prevented them to provide these services. People with MHPs need more time to assess them fully and provide counselling. Lack of knowledge regarding MHPs was a general concern as most participants reported that they are no longer knowledgeable about mental health as they last did it at school so many years ago. Participant 39 said *“I don’t have any information on mental health; we desperately need training in order to offer these services”.*

Participant 33 said *“I can’t remember anything on mental health. Because we last did it at the college so I cannot be able to help patients with MHPs due to lack of knowledge”.*

According to Participant 9 *“It is clear that health professionals do not have knowledge on MHPs as we never offered MHS after training, unless a health professional worked in mental health institution”*

The findings of this study confirmed that there are no preventive MHS in this facility as health professionals lack knowledge on mental health. In addition, the health education does not include topics relating to mental health. Participant 23 *“I have never heard anyone health educating patients about mental health topics in this facility for that matter I cannot say we offer preventive MHS in this facility”*. Participant 26 indicated that *“Preventive mental health services are not offered in this facility as I believe if these services were offered we would be including them in our daily health education that are done in the morning”*. Most participants were of the view that the counselling services that are offered to clients with Human immunodeficiency virus is mainly adherence counselling about antiretroviral drugs, not counselling to assist patients to accept their status to prevent MHPs due to poor knowledge in counselling. Participant 28 said *“there is counselling services offered by social workers in the facility, but what I realised is that the counselling is mainly on drug adherence”*. *“The counselling services in this facility are offered by social workers, so I don’t think they are very skilled to provide a thorough counselling when looking at their level of knowledge”* [Participant 15].

Participant 24 said *“I believe counselling services regarding prevention of MHPs are very minimal in this facility as most counselling that is done by social workers is mainly on adherence”*. *“We desperately need training in order to offer these services”*. Participant 37 also said *“I don’t have any knowledge on mental health as a result we desperately need training in order to offer these services”*.

A few participants who were medical officers reported that they were knowledgeable about mental health but there were time constraints that did not allow them to assist these patients as full psychiatric assessment requires more time, which they did not have. She further said *“if I take a longer time with one patient in here you will see other patients knocking at the door to show you that I have delayed”*. Most participants also raised the issue that mental health is not a priority in the country, which is the reason why they do not have any guidelines or screening tools to assess patients at primary health care.

## **Discussion**

69.7% of the respondents reported they did not have knowledge in management of MHPs in people presenting with MHPs and also having Human immunodeficiency virus while 30.3% reported that they had adequate knowledge on management of MHPs in PLWH. In a study that

was done by Ayano. (2017) in Ethiopia it was also indicated that one of the major challenges of successful integration of mental health into primary health care is the lack of adequate knowledge, positive attitude, and skills for MHS of primary health care professionals participating in care and treatment of people at primary health care levels. Mental health is not a priority area for policy makers even today (Yerramilli and Bipeta, 2012). Educating stakeholders about MHS will facilitate improved care to patients with MHPs and also having Human immunodeficiency virus.

The qualitative findings showed that majority of Health professionals did not have enough knowledge to identify signs and symptoms of MHPs in PLWH, no adequate knowledge to diagnose and manage all people presenting with MHPs and also living with Human immunodeficiency virus however, few said they had enough knowledge to identify, diagnose and manage people presenting with MHPs but there was time constraints that hinder them to provide these services as people with mental health problems need more time to assess them fully and provide counselling. The above findings are supported by many authors where it was said, Major contributing factors to unsuccessful integration of mental health into primary health care is the poor knowledge concerning MHS, poor attitude of health personnel towards MHPs and experience of health professionals on mental health (Ayano et al.,<sup>9</sup> 2017, Ahmed et al.,<sup>13</sup> 2019).

In a study that was done Dube and Uys.<sup>14</sup> (2016) in South Africa in 2016, it was indicated that about 23% of people attending primary health care suffer from MHPs. Despite the high number of people with MHPs, mental health has a low priority in South Africa and people with MHPs do not receive the care they require in primary health care. The nurses 's attitudes towards people with MHPs are often negative, and provision and identification of mental health problems by primary health care nurses has been shown to be poor because their knowledge to deal with mental health conditions is inadequate (Dube and Uys,<sup>14</sup> 2016, Van Copenhagen and Duvenage,<sup>23</sup> 2019, Hoppe,<sup>52</sup> 2022).

All participants showed that they had negative attitude towards MHPs which leads to poor acquisition of knowledge on mental health. In a study that was done by author (Ayano,<sup>9</sup> 2017) in Ethiopia it was also indicated that one of the major challenges of successful integration of mental health into primary health care is the lack of adequate knowledge, positive attitude, and

skills for MHS of primary health care professionals participating in care and treatment of people at primary health care levels.

The findings of the study were used to develop a competence-based framework for provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus. The findings of this study were also supported by Ayano.<sup>9</sup> (2017) where he found that engaging the staff of a clinic in long-term workshops and in-service training programs have tremendous benefits for the integration of mental healthcare into services at a primary healthcare level. Most health professionals were also of the view that there should be training for the present health professionals regarding mental health to support the provision of MHS. Research has shown that the implementation of mental healthcare into Human immunodeficiency virus services at the level of primary health care can be achieved by employing in-service training (Maconick et al.,<sup>53</sup> 2018, Liu et al.,<sup>54</sup> 2018).

### **Limitations**

This study was conducted in five primary health cares in Maseru district hence the need for a broader study to be done in order to obtain a bigger picture of the problem in question.

### **Implications for future research**

A study on healthcare policymakers and administrators' opinions on the development of policy guidelines in order to successfully manage patients presenting with MHPs and Human immunodeficiency virus.

### **Recommendations**

The need for examining and evaluating the mental health conditions of PLWH should be made clear to healthcare providers through education and training programs. Due to the significant advantages it offers, the administrators in charge of implementing the competence-based framework should speed up the process

### **Conclusion**

Lack of knowledge regarding mental health was a major concern in health professional. It was therefore a need that stakeholders must focus in addressing the knowledge in mental health hence improve the health of the nation

## **Synopsis of the article**

This article reports on the objective: to describe Health professionals' level of knowledge regarding integration of MHS into Human immunodeficiency virus services at primary health care.

In gaining more understanding of Health professionals' level of knowledge regarding integration of MHS into Human immunodeficiency virus services at primary health care a quantitative design was used which entailed administering a research developed structured survey. The surveys made use of a five point likert scale ranging from agree to disagree. The survey composed of three sections which are demographic data, structured questions related to knowledge, attitude and perceptions of health professionals regarding provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus. Qualitative design was also used whereby the semi structured interviews were done. Each interview lasted at least 45-60 min. The interview schedule comprised of demographic data and also structured question related to knowledge of health professionals regarding provision of MHS for people presenting with MHPs and also having Human immunodeficiency virus.

Findings revealed that 67.9 % of participants had limited knowledge on mental health and Pharmacist had high negative attitude towards mental health with 100% score followed by registered nurses with a score of 73.3%, followed by medical officers with 66.7% and lastly nursing assistants with 57.1% negative attitude.

The findings of this study were also supported by one study by Maconick 2018 found that knowledge of mental health problems is lacking in primary health care but engaging the staff of a clinic in long-term workshops and in-service training programs have tremendous benefits for the integration of mental healthcare into services at a primary healthcare level (Maconick et al., 2018).

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## CHAPTER SIX

### MANUSCRIPT FOUR

**Title of the journal: Perceptions of health professionals regarding availability of competence based frame-work for provision of mental health services (*In review in African journal of primary health care and family medicine*)**

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#### **Abstract**

##### **Background**

Mental health problems are on the increase yet mental health services are lacking globally. PLWH are substantially more likely to have mental health problems like depression and anxiety. Having MHPs contributes to poor adherence of anti-retroviral therapy in people living with Human immunodeficiency virus.

##### **Aim**

The aim of the study was to explore the health professionals' perceptions regarding the availability of a competence-based framework for the provision of mental health services to people presenting with mental health problems and Human immunodeficiency virus.

##### **Method**

The study employed a mixed method design and made use of a quantitative (self-administered questionnaire) and qualitative (semi-structured interviews) as data gathering tools.

## **Results**

The majority (92%) of the participants reported that the availability of a competence-based framework will facilitate the successful integration of the management of mental health problems and Human immunodeficiency virus. In the qualitative findings, all the participants indicated that the availability of a competence-based framework will assist them to successfully manage mental health problems in people presenting with mental health problems and Human immunodeficiency virus by enhancing training of health professional on mental health.

## **Conclusion**

Majority of health professionals showed a great need to have a competence-based framework which will support them to successfully manage mental health problems in people presenting with mental health problems and Human immunodeficiency virus as the framework will emphasis more on training of Health professionals regarding mental health services.

## **Contribution**

The study highlighted an urgent need to integrate mental health services into Human immunodeficiency virus services in Lesotho as mental health services seem to be increasing but there is a great treatment gap.

Keywords: Perceptions, Health professionals, Competence-based framework, Mental health services, Primary health care

## **Introduction and background**

It has been demonstrated that depression raises the death risk in PLWH (Krankowska <sup>1</sup> et al., 2022; Remien <sup>2</sup> et al., 2019). MHPs and their consequence have very negative impact to the population but even in the present, policymakers do not prioritize mental health (Grover <sup>3</sup> et al., 2020; Abi Hana <sup>4</sup> et al., 2022; Yerramilli <sup>5</sup> et al., 2012). The lack of understanding of MHS, the unfavourable attitudes of health professionals about MHPs, and the lack of knowledge of health professionals with mental health are major contributors to the failed integration of mental health into primary health care (Monteiro <sup>6</sup> et al., Ahmed <sup>7</sup> et al., Ayano<sup>8</sup> et al., Wu et al., <sup>9</sup>). It was found in a 2016 study by Dube and Uys in South Africa that 23% of patients at primary healthcare facilities have MHPs. Despite the high prevalence of MHPs, South Africa places little emphasis on mental health, and primary health care do not provide mental health patients with the necessary care. The nurses' attitudes toward patients with MHPs are frequently unfavourable, and it has been demonstrated that primary health care nurses' ability to identify and treat mental health disorders is subpar due to a lack of training in this area (Kaminer <sup>10</sup> et al., 2018; Jackson <sup>11</sup> et al., 2010 Dube et al., <sup>12</sup> 2016). According to a study by Ayano <sup>8</sup> et al. (2017) conducted in Ethiopia, one of the main obstacles to the successful integration of mental health into primary health care is the lack of adequate knowledge, a supportive attitude, and skills for MHS among primary health care professionals involved in patient care and treatment at primary healthcare levels.

At the moment, mental health policies place a strong emphasis on the idea of integrated care with other healthcare services, particularly at the primary healthcare level. Primarily in terms of interventions, the identification of mental health issues in primary health care are still ineffective and deficient. Major changes at this level of care are required to integrate MHS, close treatment gaps, and guarantee that patients get the care they require. Primary care providers must receive adequate training to develop the attitudes, abilities, and competences necessary to evaluate, identify, treat, assist, and, if necessary, refer patients with MHPs to specialized services (Baker <sup>13</sup> et al., 2021; Van Ginneken <sup>14</sup> et al., 2014; Fernandes <sup>15</sup> et al., 2019). The World Health Organization has called for the integration of primary health care services and MHS, but a study by Ayano <sup>8</sup> et al. (2017) in Ethiopia found that there is still a significant treatment gap for PLWH to receive MHS due to a lack of knowledge about mental health and a poor attitude of medical staff toward those who are mentally ill.

## **Problem statement**

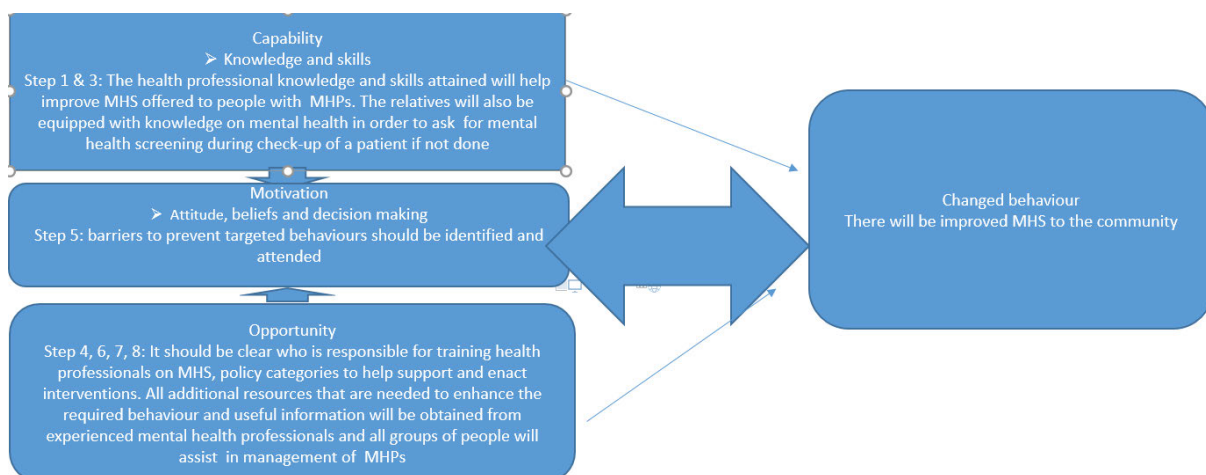
In most contexts, the prevalence of MHPs in PLWH is over 78% (Gebrezgiabher <sup>16</sup> et al., 2019). Given that anxiety, depression, and Human immunodeficiency virus are frequently co-occurring disorders, integrated intervention measures (prevention, treatment, and health promotion) may be required. The elimination of treatment gaps and ensuring that the patients receive the care they need, are the main goals of this level of care improvement (Fernandes <sup>15</sup> et al., 2016; Dube et al., <sup>12</sup> 2016). According to Naylor et al. <sup>17</sup> (2012), concomitant MHPs can significantly lower adherence to highly active anti-retroviral treatment. Undiagnosed and untreated MHPs may result in actions that increase the risk of contracting and spreading Human immunodeficiency virus. Severely mentally ill, sexually active individuals engage in riskier sexual activity, such as poor use of condoms, having several sexual partners, trading partners, and drinking alcohol prior to sex. Additionally, the severity of MHPs may raise the chance of Human immunodeficiency virus infection (Collins <sup>18</sup> et al., 2006, Remien <sup>2</sup> et al., 2019). Although health professionals play a crucial role in providing integrated care, MHS in people with MHPs are still inadequate because of a lack of understanding of this concept globally (Dube et al., <sup>12</sup> 2016). World health organization has emphasised on integrated care in order to improve MHS but regardless of all the measures taken by World health organization to integrate mental health into other general health services MHS delivery is still a problem in Lesotho and most African countries.

## **Theoretical framework**

The theory of the Behaviour Change Wheel, developed by Michie <sup>19</sup> et al. (2011), was used by the researcher to direct this investigation. Successful behaviour modification interventions are essential for improving the use of evidence-based practice (Michie <sup>19</sup> et al., 2011). Change in behaviour is necessary for the proper provision of MHS. As a result, behaviour change initiatives are essential for the efficient delivery of mental health services. "Behaviour modification interventions" are a coordinated series of actions intended to change a certain pattern of behaviour (Michie <sup>19</sup> et al., 2011).

In this 'behaviour system,' capability, opportunity, and motivation interrelate to produce performance that in turn affects these components as presented in Figure 1, the Capability, Opportunity and Motivation Behavioural System. To enhance the mental health care offered to individuals with MHPS and Human immunodeficiency virus, capacity has to be assessed. It is

determined whether health professionals are capable of treating individuals who have both MHPs and Human immunodeficiency virus. Health professionals have to assess to see if they have enough resources, such as access to drugs and frequent trainings on mental health, to treat patients with MHPs and Human immunodeficiency virus. Motivation has to be assessed as the third component. The drive behind health professionals' decision to give MHS to people with MHPs and Human immunodeficiency virus has to be assessed. They will be graded on how, when, and how often they deliver MHS as well as when to give follow-up care. Their opinions on providing MHS to PLWH have to be evaluated. All these behaviours if changed they will improve delivery of MHS. Currently delivery of MHS is a problem globally. This theory fits well in this study as it emphasis on changing of behaviour to achieve certain goals



**Figure6. 1: The COM-B system: a framework for understanding behaviour (Michie, 2011)**

### Literature review

Prevalence of MHPs has increased globally. Around 950 million individuals globally reported having a MHP in 2016, and more than 162 million reported having a drug or alcohol use problem. This equates to a total of more than 1 billion people, or 16% of the world's population. Although the WHO's mental action plan from 2013 to 2020 intended to provide comprehensive, integrated, and responsive treatment in community-based settings, one in four individuals may have mental or neurological illnesses at some point in their life (WHO, 2001<sup>20</sup>, Saxena<sup>21</sup> et al., 2013). The World health organization's mental health action plan has six guiding principles, one of which is to provide universal health coverage, integrated care, and responsive care so that people with MHPs have access to vital medical and social services to recover and achieve the highest level of health. However, in the general population, mental and substance

use disorders are the leading causes of years lived with disability, having a greater impact than other communicable diseases (Chibanda<sup>22</sup> et al., 2016, Evenson<sup>23</sup> et al., 1982, Whiteford<sup>24</sup> et al., 2013, Saxena<sup>21</sup> et al., 2013). Excess mortality in persons with mental, neurological, and substance use disorders is evident, with a shortened life span of approximately 15–20 years. The global burden of these disorders rises in late adolescence and peaks in young adulthood, which emulates the global Human immunodeficiency virus burden (Remien<sup>2</sup> et al., 2019). MHPs are a significant contributor to Human immunodeficiency virus disease progression in PLWH, especially in low- and middle-income countries with inadequate Human immunodeficiency virus diagnosis and care (Burgess<sup>25</sup>, 2015, Remien<sup>2</sup> et al., 2019). PLWH are twice as likely to experience depression as people without HIV infection (Dube et al.,<sup>12</sup>, 2016, Duko<sup>26</sup> et al., 2019, Yehia<sup>27</sup> et al., 2015, Yeneabat<sup>28</sup> et al., 2017). PLWH are more likely to experience MHPs, which has an adverse effect on how well they respond to highly active antiretroviral treatment. MHPs in PLWH have an impact on public health because they raise the likelihood of risky sexual conduct, which supports the transmission of HIV (Dube et al.,<sup>12</sup> 2016)

According to the National Antiretroviral Treatment Guidelines published by the South African Department of Health in 2004, individuals should not be starting antiretroviral treatment if they have untreated active depression or active alcohol or other substance addiction." To encourage adherence, the 2010 recommendations advise performing a psychosocial assessment or mental health screen during the initial visit. Thus, it is still necessary in South Africa for all PLWH to undergo some sort of evaluation for depression and substance misuse prior to starting antiretrovirals. Unfortunately, there is still a sizable mental health treatment gap in South Africa due to the rising burden of MHPs, particularly in PLWH (Van Coppenhagen<sup>29</sup> et al., 2019). Nurses are among the health professionals that provide immediate care to patients with MHPs; as a result, they need to be aware of their attitudes since they can have a substantial impact on the level of care given. The enhancement of MHP therapy and recovery will be aided by nurses' favourable attitudes toward patients with MHPs (Fernandes<sup>15</sup> et al., 2019).

According to World health organization, PLWH's psychosocial needs should be taken into account when providing Human immunodeficiency virus care (Kanwugu<sup>30</sup> et al., 2021; Vance<sup>31</sup> et al., 2021; Elkington<sup>32</sup>, 2010). As the many facets of mental healthcare in Africa call for the community's active participation and public education must be prioritized in the creation of mental health policies. An important example is the rehabilitation of mentally ill people in

the community. There are no standard guidelines of training procedures and evaluation of the outcomes. The main focus has been placed on improving of knowledge and attitudes of the mental health workers with no procedures for evaluating skills gained by the mental health workers, and this may partly account for on-going issues with mental healthcare service delivery (Liu <sup>33</sup> et al., 2016). In a study done by Markussen and his colleagues in 2020 it was indicated that availability of competence based framework will improve MHS (Markussen <sup>34</sup> et al., 2020). In order to reduce stigma and discrimination, community knowledge is also crucial. The family is still a valuable source of support and treatment for persons with mental problems in the majority of the continent. In order to avoid societal rejection and a lack of understanding, families of people with MHPs must be reinforced in this capacity (Corrigan <sup>35</sup> et al., 2014, Krueger <sup>36</sup> et al., 2014; Ahsan Ullah <sup>37</sup>, 2011).

## **Method**

A qualitative and quantitative descriptive design was employed to describe Health professionals' level of knowledge regarding availability of competence-based framework for provision OF MHS for people presenting with MHPs and Human immunodeficiency virus at primary health care. The researcher in this study used pragmatism paradigm which indicated that truth is what works. In this study, the researcher employed the pragmatism paradigm, which suggests that truth is what functions.

Sequential explanatory mixed methods design, which consisted of two distinct phases, is one of the most popular mixed methods designs in educational research which was used in this study (Creswell, 2014). The primary objective of the quantitative phase was to identify potential predictive power of selected variables on the distributed participant's knowledge regarding perception of health professionals regarding availability of competence based framework for provision of MHS for people presenting with MHPs and Human immunodeficiency virus in primary health care in Lesotho and to allow for the deliberate selection of informants for the second phase. The quantitative phase began with the collection of quantitative, numeric data via a hand-delivered questionnaire and was followed by a discriminant function analysis.

This study used one of the most popular mixed methods designs in educational research: sequential explanatory mixed methods design, consisting of two distinct phases (Creswell, 2014). In the first phase, the quantitative, numeric, data was collected first, via hand delivered ques-

tionnaire and the data was subjected to a discriminant function analysis. The goal of the quantitative phase was to identify potential predictive power of selected variables on the distributed participant's perceptions of health professionals regarding availability of competence-based framework for people presenting with MHPs and Human immunodeficiency virus in primary health care in Lesotho and to allow for purposefully selecting informants for the second phase. In the second phase, a qualitative multiple case study approach was used to collect text data through individual semi-structured interviews, to help explain why certain external and internal factors, tested in the first phase, may be significant predictors of poor management of MHPs and Human immunodeficiency virus in Lesotho. This method was used to obtain a clearer picture from the quantitative data, and then to use the qualitative data to provide better understanding and explanation of the study in question.

The rationale for mixing was that neither quantitative nor qualitative methods were sufficient in themselves to capture the trends and details of the situation, such as the complex issue of perceptions of Health professional regarding availability of competence-based frame work for provision of MHS for people presenting with MHPs and Human immunodeficiency virus. When used in combination, quantitative and qualitative methods complemented each other and allowed for a more complete analysis.

The other rationale for this approach was that the quantitative data results provided a general picture of the research problem. What internal and external barriers that contributed to and/or impeded health professional management of MHPS and Human immune deficiency virus while the qualitative data and its analysis refined and explained those statistical results by exploring participants' views in more depth (Botma et al., 2010, Bryman, 2006, Creswell, 2014).

The priority in this design was given to the qualitative method, because the qualitative research represented the major aspect of data collection and analysis in the study, focusing on in-depth explanations of quantitative results by exploring the objective of the study. A smaller quantitative component goes first in the sequence and is used to reveal the predicting power of the selected barriers to integrating Human immunodeficiency virus services into MHS in primary health care. The quantitative and qualitative methods were integrated at the beginning of the qualitative phase while selecting the participants for case study analysis and developing the interview questions based on the results of the statistical tests. The results of the two phases

were also be integrated during the discussion of the outcomes of the whole study (Bryman, 2006, Creswell, 2014).

In order to be able to explore in depth the quantitative data, the researcher gathered qualitative data from participants who could assist explain these results. The explanatory sequential design is therefore recognized as the easiest and straightforward of the mixed method designs (Creswell and Clark, 2017).

### **Study participants**

The target population was healthcare professionals at five primary health cares in the city of Maseru. The participants included registered nurse, nurse assistants, pharmacists and medical doctors working in primary health care, for a minimum of two years in quantitative study. 88 participants were included in quantitative data collection. 43 registered nurses and 7 medical officers were included in the qualitative study. During quantitative data collection participants were informed that only registered nurses and medical officers will be included in the qualitative study as they were believed to have better knowledge on mental health (Grove et al.,<sup>43</sup> 2015).

### **Setting**

This study was conducted in five primary health cares in the city of Maseru in Lesotho. These primary health cares were clinic A, B, C, D and E. All the primary health care offers Human immunodeficiency virus services but did not offer MHS. The clinic A was located on the west site of Maseru city and it was 10 km from the city. The clinic B was located on the north part of the city and it was about 12 km from the city. Clinic C was located in the south west of Maseru city and it is approximately 15 km from the city. The clinic D was also located in the south part of the city and is 6 km from the city. Maseru is the capital and biggest city of Lesotho. It was also the capital of the Maseru district. The place was found near the Caledon River, which was the border between Lesotho and South Africa.

### **Sample size**

Each primary health care had around 21 Health professionals eligible to participate in the study therefore 105 health professional were eligible to participate as the primary health cares were five. The sample size was determined by using  $n = z^2 p(1-p)/d^2$  where  $n$  = sample size,  $p$  = assumed proportion (50%),  $z$  = z-value at 95% confidence (=1.96),  $d$  = desired level of absolute

precision (=10%), yielded a total of 96 Health professionals. All 88 recruited participants entered in the study. 50 health professionals that included registered nurses and medical officers were interviewed. The participants were interviewed until saturation point was reached.

### **Sampling**

For the purpose of the first quantitative phase of the study, the all-inclusive sampling was used as the sample size was small (Grove<sup>38</sup> et al., 2015). In the study, 105 health professionals were eligible to participate. Managers from all the health professions included in the study were included in the pilot study. 88 participants were eligible to participate as other health professionals were on leave. The researcher invited the 88 health professionals who participated in the study (Grove<sup>38</sup> et al., 2015).

For the purpose of the second qualitative phase, purposeful sampling was used (Grove<sup>38</sup> et al., 2015). The idea was to purposefully select informants who would best answer the research questions and who were “information rich” (Potton<sup>39</sup>, 2002). In the survey, the participants were informed that all registered nurses and medical officers will be selected for the follow-up of voluntary individual interviews. 50 interviews were done. The most frequently used criterion for determining an adequate sample size was based on the saturation point (Speziale<sup>40</sup> et al., 2011). A purposive sample was based on the judgment of the researcher regarding participants who are knowledgeable about the topic (Creswell<sup>41</sup>, 2014, De Vos<sup>42</sup> et al., 2011, Grove<sup>43</sup> et al., 2015).

Due to the nature of the sequential design of this study, the selection of the participants for the second qualitative phase depended on the results from the first quantitative phase. Based on these results, maximal variation sampling, in which a researcher samples cases or individuals differing in some characteristic, was used. This allowed the researcher to present the multiple perspectives of individuals to “represent the complexity of our world” (Creswell<sup>41</sup>, 2014). For this study, the participants were selected based on the statistically significant difference results from the discriminant function analysis.

### **Research tool**

As the researcher used a mixed method study, a questionnaire was used in the first stage of data collection. The questionnaire method was an easier method as it does not require techniques or knowledge. In the second stage of data collection the researcher used semi-structured interviews, following a pre-constructed interview schedule.

### **Data collection**

After ethical approval was obtained from the Ethics Committee of the School of Nursing and Public Health, approval to collect data was sought from ministry of health and management of primary health cares. A list of the health professionals was obtained from each primary health care manager. Respondents were invited to a meeting, at which researcher informed them about the study and extended an invitation to participate. The respondents were informed about the voluntary participation and their right to withdraw at any time during the study. Data collection commenced after the respondents agreed to participate and signed the written informed concern. Data was structured in such a way that it provided information and answers to the research questions posed.

For collecting the quantitative data, a self-developed questionnaire with a 5-point Likert scale was used. The questionnaire was organized in two sections.

Demographic questions constituted the first section of the questionnaire, and included age, gender and occupational position years of working in primary health care, and the qualification of a participant.

The second section focused on, the perceptions and attitude of the health professional regarding the integration of mental health into Human immunodeficiency virus services at primary healthcare and their perceptions regarding the availability of a competence-based framework regarding provision of MHS in PLWH in primary health care.

The questionnaire and self-developed interview schedule were used to gather data from the participants. The questionnaire was designed to explore the perceptions of Health professionals regarding availability of competence based framework for people presenting with MHPs in PLWH at primary health care. The interview schedule was also designed to explore the

perceptions of Health professionals regarding availability of competence based framework for people presenting with MHPs in PLWH at primary health care. The participants were requested to sign a written informed consent form if they agreed to participate in the study. All recruited participants participated in the study. The findings would inform the stakeholders about the current status of mental healthcare in Lesotho and therefore improve MHS for PLWH.

In quantitative data collection, the questionnaires were hand delivered to the participants. Clear and concise instructions on how to complete the questionnaire were given. The participants were asked to complete the questionnaire within 48 hours and to place their sealed responses in a designated box that was made available by the researcher. In the questionnaire, questions asked were demanding the respondents to grade their knowledge concerning mental health, their attitude and perception regarding mental health on a 5 point Likert scale. Data was collected from registered nurses, nursing assistants, pharmacists and doctors. During quantitative data collection all the participants were informed that only registered nurses and medical officers will be included in the qualitative data collection as they were believed to have better knowledge on mental health and Human immunodeficiency virus.

In qualitative data collection, a semi-structured interview schedule was used to explore the perceptions of Health professionals regarding availability of competence based framework for provision of MHS in people presenting with MHPs and PLWH at primary health care. Participants were asked to describe the perceptions of health professionals regarding availability of competence-based framework for provision of MHS in presenting with MHPs and Human immunodeficiency virus at primary health care. A semi structured interview schedule was used to explore the perceptions of Health professionals regarding availability of competence-based framework for provision of MHS in people presenting with MHPs. The interviews took 45-60 minutes each and the participants were asked to sign a written informed consent form before participating in the interviews. The aims and objectives of the interview were explained. A list of the health professionals was obtained from each primary health care manager. Participants were invited to a meeting, at which researcher informed them about the study and extended an invitation to participate. The participants were informed about the voluntary participation and their right to withdraw at any time during the study. Data collection commenced after the participants agreed to participate and signed the written informed concern. Open-ended questions were asked and participants were encouraged to discuss them with the researcher. Data

collection to both registered nurses and medical officers continued until no new information could be obtained. All recruited participants were interviewed. Data was collected from December 2022 to January 2023

### **Phase one**

In the first phase, the data was collected in the five primary health care rendering Human immunodeficiency virus services and primary healthcare using a quantitative approach.

### **Phase two**

In the second phase, the data was collected from the five primary health cares using a qualitative approach. A semi-structured interview schedule was used to explore the knowledge, attitude and perceptions regarding MHS in people presenting with MHPs and Human immunodeficiency virus.

### **Phase three**

In this phase, the researcher used the information gathered through phase one and two to describe the health professionals' views about offering MHS to people presenting with MHPs and Human immunodeficiency virus in primary health care.

### **Phase four: Framework development process**

In the fourth phase, the findings from the first, second, and third phase that were identified and were used to develop a framework that facilitated the provision of MHS in people presenting with MHPs and Human immunodeficiency virus.

### **Measurements**

The participants were asked to describe the health professionals' perceptions regarding the availability of a competence-based framework for the provision of MHS in people presenting with MHPs and Human immunodeficiency virus.

### **Data analysis**

#### ***Quantitative data analysis***

The data was captured on spread sheets and examined for completeness. The surveys were coded, computed and analysed using the Statistical Package for Social Sciences Version 26.0.

Descriptive statistics were used to summarise and analyse the data, using frequency tables, as this provided an accurate and clearer picture of the results for easy understanding (Osborne<sup>43</sup> et al, 2009 et al). Frequency and percentage was used to summarize the categorical variables. The frequency distribution of the numeric data was examined for normality and mean, or median used appropriately. To account for possible factors, comparisons were made using a Chi-square statistical test for the categorical data and a test/Wilcoxon rank-sum test for the numeric data. All analyses were performed using Statistical Package for Social Sciences version 26, and a p-value < 0.05 was considered statistically significant.

It was crucial to ensure that both the qualitative and quantitative data were compared and integrated to achieve a comprehensive story, rather than two parallel stories. The diaries and other artefacts associated with the project were incorporated into the analysis. Bivariate and multivariate analyses were performed to identify comparisons between the attitude, knowledge and perceptions scores of health professionals regarding MHS for people with MHPs and Human immunodeficiency virus. When performing the ANOVA test the p-value of the attitude score was 0.138 and the p-value of the perception score was 0.869 which meant they were not statistically different as the cut-off value for significance level in multivariate analysis was set at  $p < 0.05$ .

### ***Qualitative analysis***

The researcher analysed the transcripts and reviewed by the research supervisor to ensure trustworthiness. Thematic framework analysis was used to analyse the data. To avoid missing an answer to a particular topic that could have an impact on another question, data analysis was first conducted by reading each interview in its entirety before proceeding question by question.

The study's objective served as the researcher's guidance throughout this procedure (Bengtsson<sup>44</sup>, 2016).

### **Trustworthiness**

The trustworthiness of this study was ensured by following the principles identified by (Grove et al., 47). The researcher provided an audit trail so that a third party could examine the data acquired, tools used, voice recordings, and journals related to the study in order to confirm the authenticity of the findings explanation of the processes that had been followed and that served

as the foundation for determining how reliable they were (Stringer, <sup>46</sup>2013). The utilization of many primary health cares for data collecting and the implementation of a quantitative data design followed by a qualitative data design helped to develop credibility. Transferability was established when independent researchers were able to judge whether or not the situation or investigation's findings were comparable to their own. The outcomes of this study demonstrated the degree of assurance that respondents had regarding the relevance of the research findings to their own situations (Stringer, <sup>46</sup>2013). Through the execution of an audit of the inquiry process to provide a thorough, dependability was also proven in this investigation. Conformity was also established when the researcher attested that all of the aforementioned steps were carried out throughout the study or data collection.

### **Authenticity**

The investigator carried out an exhaustive and methodical examination of the literature, demonstrating its correlation with the study questions, aims, and techniques (Grove et al., <sup>48</sup>2015).

### **Reliability**

The stability or test-retest reliability of the survey instrument was achieved through the pilot testing of the instrument. Test-retest reliability showed if the same results were obtained with repeated administering of the same survey to the similar study participants. Results of the actual survey were then compared and correlated with the initial results in the pilot study and expressed by the "Pearson r coefficient (Grove et al., <sup>48</sup>2015).

### **Validity**

Content, criterion-related, and construct validity of the survey instrument was established. Content validity showed the extent to which the survey items and the scores from these questions were representative of all the possible questions about provision of mental health care in PLWH. The wording of the survey was examined by the supervisor, and somebody very knowledgeable on mixed methods. This helped assess whether the questionnaires were applicable to the subject it was aimed to measure, if it is a reasonable way to gain the needed information, and if it is well-designed (Grove et al., <sup>48</sup>2015).

**Ethical consideration**

The approval of this study was obtained from of the ethical review committee: Biomedical Research Ethics Committee of University of Kwazulu –Natal. Study Approval number: BREC/00004710/2022. Written informed consent was obtained from participants. The questionnaire included a statement about the informed consent attached, and that participation indicated compliance. The participants were provided with an information sheet that included pertinent information about the research's purpose and how respondents might choose to participate or exercise their right to withdraw from the study. The audio recordings were kept secure and without participant names. The participants' private information was handled with confidentiality. The recordings in the audio recorder were kept safe and participant name were not labelled on the recording. Number coding was used to ensure the confidentiality of the participants' responses. No names or personal identifiers appeared on any data sheet

## Findings

### *Quantitative Findings*

**Table6. 1: The respondents' responses related to the perceptions regarding MHPs (all participants)**

Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean ± SD
I can comfortably identify signs and symptoms of a patient who has mental health problems and Human immunodeficiency virus	10(11.2)	18(20.2)	26(29.2)	29(32.6)	6(6.7)	3.0±1.1
I can comfortably manage people with mental health problems	2(2.3)	22(25.3)	33(37.9)	28(32.2)	2(2.3)	3.0±0.9
I feel that I know enough about the factors that put people at risk of mental health problems to carry out my role when working with this client in a group	11(12.4)	28(31.5)	25(28.1)	22(24.7)	3(3.4)	2.8±1.1
I feel I know how to treat people with Human immunodeficiency virus and mental health problems	6(6.7)	20(22.5)	29(32.6)	31(34.8)	3(3.4)	3.1±1.0
I feel that I can appropriately advise my patient about mental health problems	3(3.4)	9(10.1)	27(30.3)	41(46.1)	9(10.1)	3.5±0.9
I feel that I have a clear idea of my responsibilities in helping patients with mental health problems and Human immunodeficiency virus	4(4.5)	15(17.0)	22(25.0)	31(35.2)	16(18.2)	3.5±1.1
I feel that I have the right to ask patients about their mental health status when necessary	4(4.5)	4(4.5)	11(12.4)	40(44.9)	30(33.7)	4.0±1.0
I feel that my patients believe I have the right to ask them questions about mental health problems when necessary	4(4.5)	13(14.8)	17(19.3)	37(42.0)	17(19.3)	3.6±1.1
I feel that I have the right to ask a patient for any information that is relevant to their mental health problems	5(5.6)	4(4.5)	11(12.4)	39(43.8)	30(33.7)	4.0±1.1
If I felt the need when working with patients with mental health problems, I could easily find someone with whom I could discuss any personal difficulties I might encounter	6(6.9)	13(14.9)	20(23.0)	24(27.6)	24(27.6)	3.5±1.2
If I felt the need when working with someone with mental health problems, I could easily find somebody who would help me clarify my professional difficulties	7(8.0)	11(12.6)	24(27.6)	25(28.7)	20(23.0)	3.5±1.2
If I felt the need I could easily find someone who would be able to help me formulate the best approach to a patient with mental health problems	3(3.4)	12(13.5)	20(22.5)	30(33.7)	24(27.0)	3.7±1.1

I am interested in the nature of mental health problems and the treatment of them	3(3.4)	6(6.7)	13(14.6)	37(41.6)	30(33.7)	4.0±1.0
I feel that I am able to work with patients with mental health problems as effectively as with other patients who do not have mental health problems	4(4.5)	23(25.8)	25(28.1)	31(34.8)	6(6.7)	3.1±1.0
I want to work with patient with mental health problems	9(10.1)	18(20.2)	27(30.3)	26(29.2)	9(10.1)	3.1±1.1
I feel that I have a number of good qualities to work with patients with mental health problems and Human immunodeficiency virus	8(9.1)	17(19.3)	28(31.8)	27(30.7)	8(9.1)	3.1±1.1
I have the skills to work with patients with mental health problems	15(17.0)	21(23.9)	30(34.1)	21(23.9)	1(1.1)	2.7±1.1
I want to work with patient with mental health problems	13(14.6)	25(28.1)	22(24.7)	24(27.0)	5(5.6)	2.8±1.2
I feel that I can assess and identify the medical/psychiatric/psychological/occupational therapy/nursing problems of patients with mental health problems	10(11.2)	15(16.9)	37(41.6)	25(28.1)	2(2.2)	2.9±1.0
I feel that there is nothing I can do to help patients with mental health problems	24(27.0)	27(30.3)	17(19.1)	16(18.0)	5 (5.6)	2.5±1.2
I feel that I have something to offer patients with mental health problems	9(10.2)	4(4.5)	25(28.4)	39(44.3)	11(12.5)	3.4±1.1
I feel that I have much to be proud of when working with patients with mental health problems and Human immunodeficiency virus	4 (4.5)	13(14.6)	34(38.2)	20(22.5)	18(20.2)	3.4±1.1
Caring for people with mental health problems and Human immunodeficiency virus is an important part of a Health professional role	1(1.1)	1(1.1)	9(10.1)	28(31.5)	50(56.2)	4.4±0.8
In general, one can get satisfaction from working with patients with mental health problems	4(4.5)	8(9.0)	27(30.3)	30(33.7)	20(22.5)	3.6±1.1
In general, it is rewarding to work with patients with mental health problems	5(5.7)	9(10.2)	34(38.6)	27(30.7)	13(14.8)	3.4±1.0
In general, I feel that I can understand patients with mental health problems and Human immunodeficiency virus	3(3.4)	7(8.0)	18(20.5)	49(55.7)	11(12.5)	3.7±0.9
I am satisfied with the way I work with patients with mental health problems	10(11.4)	22(25.0)	26(29.5)	24(27.3)	6(6.8)	2.9±1.1
When working with patients with mental health problems I receive adequate supervision from a more experienced person	25(28.1)	22(24.7)	18(20.2)	13(14.6)	11(12.4)	2.6±1.4
When working with patients with MHP I receive adequate ongoing support from colleagues	17(19.1)	17(19.1)	26(29.2)	17(19.1)	12(13.5)	2.9±1.3

I feel that I have a need to have competence-based framework that can help guide me in management of mental health problems in PLWH	3(3.4)	9(10.1)	9(10.1)	17(19.1)	51(57.3)	4.1±1.2
Developing competence-based framework to assist health professional to successfully manage PLWH and mental health problems is important	2(2.2)	3(3.4)	5(5.6)	18(20.2)	61(68.5)	4.5±0.9
Competence-based framework for integration of mental health services and HIV services will help me successfully manage mental health problems in PLWH	2(2.3)	1(1.1)	6(6.8)	17(19.3)	62(70.5)	4.6±0.9
Availability of competence-based framework will facilitate successful integration of management of mental health problems and Human immunodeficiency virus	2(2.3)	1(1.1)	4(4.5)	15(17.0)	66(75.0)	4.6±0.8
Educating the stake holders about mental health problems and HIV will facilitate improved integration of MHP and HIV	2(2.3)	0(0.0)	0(0.0)	1(1.2)	83(96.5)	4.9±0.6

SD= Strongly Disagree D = Disagree N = Not Sure A = Agree SA = Strongly Agree sd = Standard Deviation

### **Respondents' responses related to perceptions regarding MHPs (all participants)**

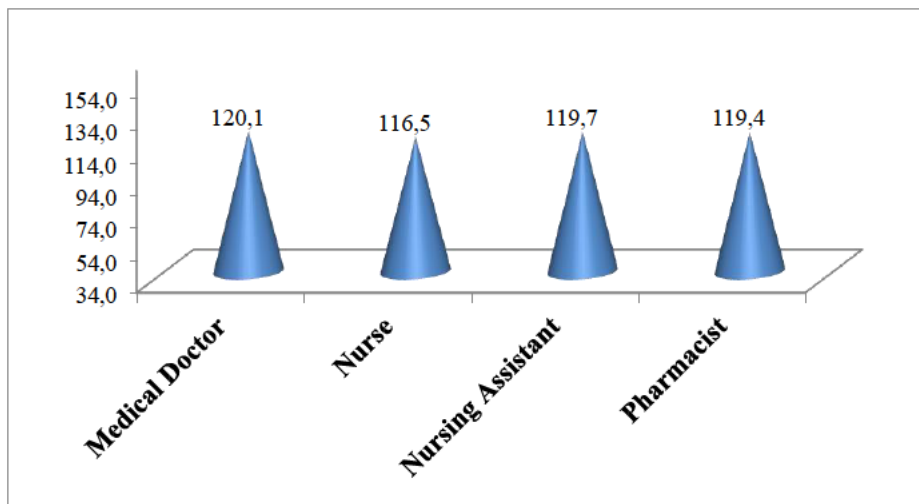
The majority (76.4%) of the respondents stated that they needed a competence-based framework that can help guide them in the management of mental health problems in PLWH, and 23.6% did not agree with the statement. Similarly, 88.7% of the participants agreed that developing a competence-based framework will assist them to successfully manage mental health problems in people who presents with MHPs and also having Human immunodeficiency virus, and a small proportion (11.2%) disagreed with the statement. The majority (92%) of the respondents also agreed that the availability of a competence-based framework will support them to successfully manage mental health problems in people presenting with MHPs and Human immunodeficiency virus, while 8% disagreed with the statement. Similarly, 97.7% of the respondents agreed that educating the stakeholders about MHPs and Human immunodeficiency virus will facilitate the improved integration of Human immunodeficiency virus services and MHS, and only 2.3% disagreed with the statement. In addition, 61.8% disagreed that they can treat people with MHPs and also having Human immunodeficiency virus. Less than half (39.2%) felt confident that they could treat people with MHPs and also having Human immunodeficiency virus.

The majority (69.7%) of the participants reported they did not have sufficient knowledge regarding the management of MHPs in people presenting with MHPs and also having Human immunodeficiency, and a smaller proportion (30.3%) reported that they had adequate knowledge to manage MHPs in PLWH. Similarly, 64% disagreed that they can comfortably identify the signs and symptoms of patients with MHPs, and a third (36%) agreed that they can comfortably identify signs and symptoms of patients with MHPs. In addition, 65.5% of participants disagreed that they can manage patients with MHPs, and a third (34.5%) indicated that they could manage patients with MHPs. The majority (61.8%) of the respondents reported an inadequate level of knowledge related to treating patients with MHPs and also having Human immune deficiency virus, and 38.2% of the respondents disagreed to the statements.

The majority (72.1%) of the respondents reported that they did not have enough knowledge about the factors that put people at risk of MHPs, and 36% indicated an adequate level of knowledge. Regarding the statement that "I feel that I have a clear idea of my responsibilities in helping patients with MHPs and Human immunodeficiency virus" 53.5% of the respondents reported that they were clear about their responsibilities in helping patients with MHPs, though

46.5% disagreed with the statement. The majority (75%) of the participants reported that they do not have the skills to work with patients with MHPs, only 25% agreed with the statement.

Regarding the statement that said “I feel that I am able to work with patients with MHPs as effectively as with other patients who do not have MHPs” 58.5% were not able to work with patients that have MHPs as effectively as other patients who did not have MHPs, and 41.5% felt they were able to manage such patients. Similarly, 76.4% felt they needed a competence-based framework to support them in the management of MHPs in PLWH, and 23.6% disagreed to the statement. A few participants (43,7%) indicated that they can appropriately advise their patients about MHPs, but the majority (56.3%) disagreed to the statement. Moreover, 64% of the participant’s perceptions were that they cannot identify people with MHPs, and 46% agreed that they could identify people with signs and symptoms of MHPs. In addition, 65.5% agreed that they cannot manage people with MHPs, though 34.5% agreed with the statement. Regarding the perception that “I feel I know how to treat people with Human immunodeficiency virus and MHPs” 61.8% of the participants disagreed with the statement, and only 38.2% agreed with the statement. The majority (72%) perceived that they know enough about the factors that put people at risk of MHPs to accomplish their roles, and 38% disagreed to the statement.



**Figure6. 2: Mean perception score by profession**

### **The mean perception score by profession**

The overall attitude and perceptions of the respondents regarding a competence-based framework for the integration of MHS with Human immunodeficiency virus services is presented. This sub-section presents the overall results of the respondents regarding the availability of a

competence-based framework regarding the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus.

The mean perception score of the medical officers was higher at 120.1, followed by the nursing assistants at 119.7, and the pharmacists at 119.4, which was closely related to mean perception score of nursing assistants and the lowest mean perception score was achieved by the registered nurses at 116.5

### ***Qualitative findings***

One theme emerged from the analysis of the data, namely improving of MHS.

#### ***Theme 4: Improving mental health services***

Five subthemes emerged from this theme: the need to hire qualified personnel in mental health, need for in-service training or workshops related to mental health, the need for screening all the patients with Human immunodeficiency virus for MHPs and the need for integrating MHS with Human immunodeficiency virus services and need for a guiding framework that will help successfully manage MHPs. Majority of the health professionals needed a competence-based framework to enable them to successfully manage patients presenting with MHPs. Participant 37 said “The framework should involve the training of stakeholders so that MHS can get support from higher people.

Another participant said “If we can have this framework, we believe there will be easy implementation of MHS for people presenting with MHPs and also having Human immunodeficiency virus” (Participant 24). In addition, they also reported that there should be screening tools to assist them to identify MHPs and provide the appropriate treatment. Participant 5 said “If we can have some screening tools, they help us to see patients with MHPs and refer them accordingly to the right places”. “Screening tools would make a great change on MHS so we desperately need them” [Participant 8].

As the findings of the study identified that the health professionals need the competency-based framework to successfully manage people presenting with MHPs and Human immunodeficiency virus, the researcher planned to develop a competence-based framework. The participants reported that they currently did not have anything to guide the implementation of MHS

in PLWH. This deficit is a barrier to the provision of mental health care to assist people presenting with MHPs and also living with Human immunodeficiency virus. Participants 35 said “I believe if there was any tool to guide the MHS, we would be providing services and we desperately need assistance to provide the services as currently we are doing nothing on mental health.”

## **Discussion**

Most of the study participants confirmed that they required a competence-based framework that can assist and guide them in the management of mental health problems in PLWH, with a small proportion disagreeing with the statement. Most study participants were of the view that developing a competence-based framework will support them to successfully manage mental health problems in people who presents with MHPs and also having Human immunodeficiency virus. Only a few participants disagreed that developing competence-based framework will support them. The findings are confirmed by the World Health Organization stating that a competence-based framework is necessary to improve the integration of MHS into Human immunodeficiency virus services. Most study participants agreed that educating the stakeholders about MHPs and Human immunodeficiency virus will facilitate the improved integration of Human immunodeficiency virus services and MHS. Only 2.3% disagreed that educating stakeholders about MHPs and in persons with Human immunodeficiency virus will facilitate improved integration of MHS and Human immunodeficiency virus services. The statement was confirmed by author (Yerramilli <sup>5</sup> et al., 2012) who reported that mental health is not a priority for policy makers; therefore, improved integration needs stakeholders to be trained on MHPs.

The availability of the framework will emphasize more training of the health professionals regarding MHS to facilitate a smooth integration. The findings were confirmed by (Maconick <sup>49</sup> et al., 2018) who found that engaging the staff of primary health care in long-term workshops and in-service training programs have substantial benefits for the integration of MHS into services at a primary healthcare level (Maconick <sup>49</sup> et al., 2018).

Insufficient focus has been placed on mental health conditions concomitant with the noncommunicable diseases observed in PLWH on antiretroviral therapy, especially in SSA, where the majority of PLWH reside and are treated. Although it is disregarded in SSA, one of the most

prevalent MHPs in PLWH is depression (Bernard <sup>50</sup>, 2017, Skuse <sup>51</sup>, 2008). An editorial published recently in the AIDS journal detailed evidence of the impairment connected to Human immunodeficiency virus related melancholy and emphasized the need for taking Action (Nglazi <sup>52</sup> et al., 2016.). It is corroborated by Altevogt <sup>53</sup> et al. (2010) stating that there are more persons with MHPs in Sub-Saharan African countries, but there is a paucity of psychiatrists and a lack of training for health professionals. The findings of this study also confirmed the above information where the study findings indicated that health professionals do not have knowledge on mental health and there is lack of specialist in mental health causing more treatment gap in mental health. \

### ***Limitations***

This study was conducted in five primary health care in Maseru district, hence the need for a broader study to be done in order to obtain a more comprehensive picture of the problem in question.

### ***Implications for future research***

A study focussing on healthcare policymakers and administrators' opinions regarding the development of policy guidelines to successfully manage patients presenting with MHPs and also having Human immunodeficiency virus is required.

### ***Recommendations***

The need for assessing and evaluating the mental health conditions in PLWH should be made clear to healthcare providers through education and training programs to address the huge treatment gap in MHS. Due to the significant advantages, the stakeholders in charge of implementing the competence-based framework should accelerate that process.

### ***Conclusion***

Health professionals were not providing MHS to people presenting with MHPs and living with Human immunodeficiency virus, mainly due to a lack of knowledge to identify the signs and symptoms, diagnose and manage people presenting with MHPs in PLWH. As a result, they emphasised that the availability of a competence-based framework will support them to successfully manage MHPs in people presenting with MHPs and Human immunodeficiency virus.

In addition, the framework will emphasize the need for training of the health professionals regarding MHPs.

### ***Synopsis of the article***

This article reports on the objective: to describe Health professionals' perceptions regarding availability of competence-based framework for provision of MHS in people presenting with MHPs and Human immunodeficiency virus.

In gaining more understanding of Health professionals' perceptions regarding availability of competence-based framework for provision of MHS in people presenting with MHPs and Human immunodeficiency virus in a quantitative design was used which entailed administering a research developed structured survey. The surveys made use of a five point likert scale ranging from agree to disagree. The survey composed of three sections which were demographic data, structured questions related to knowledge and attitude of health professionals regarding provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus. Qualitative design was also used whereby the semi structured interviews were done. Each interview lasted at least 45-60 min. The interview schedule comprised of demographic data and also structured question related to perception of health professionals regarding availability of competence-based framework for people presenting with MHPs and Human immunodeficiency virus.

Participants (92%) reported that availability of competence based framework will facilitate successful integration of management of MHPs and Human immunodeficiency virus while 8% did not believe that the availability of competence based framework would facilitate successful integration of management of MHPs and Human immunodeficiency virus.

Participants (97.7%) acknowledged that educating the stakeholders about MHPs and Human immunodeficiency virus will facilitate improved integration of MHP and Human immunodeficiency virus while 2.3% disagreed that educating the stakeholders about MHPs will facilitate improved integration of MHP and Human immunodeficiency virus. The findings of the study were used to develop a competence based framework for provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus. The findings of this study are also supported by Yerramilli and Bipeta<sup>5</sup>. (2012) where he said mental health is not a priority area for policy makers.

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**Perceptions of health professionals regarding availability of competence-based framework for provision of mental health services in people presenting with mental health problems and HIV ((*In review in African journal of primary health care and family medicine*))**

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Ethics approval and consent to participate.

- Ethics approval was received from University of Kwazulu-Natal, BREC and approval to conduct the study was sought from the Ministry of Health Lesotho and the clinics' management.
- Informed consent to participate in the study was obtained from the participants of the study.

**Consent for publication**

- Not applicable.

**Competing interests**

- The author declares that she has no competing interest.

**Funding**

- The study did not have any funding

**Acknowledgements**

- The author would like to acknowledge the supervisor of the study DR Winnie Baphumelele Ngcobo for her outstanding supervision throughout the study
- **Keywords:** Health professionals, perceptions, competence-based framework, HIV services, primary health care,
- **Total words: 7000**

## CHAPTER SEVEN

### MANUSCRIPT FIVE

**Developing a Competence-based Framework for the Provision of MHS in People Presenting with MHPs and also having Human immunodeficiency virus (*In review to American Journal of Psychiatric*)**

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#### *Abstract*

##### **Background**

People living with Human immunodeficiency virus are at a notably increased risk of developing mental health problems, such as depression and anxiety. The conditions develop from having to adjust, not only to the diagnosis, but coming to terms with living with a chronic, infectious illness. However mental health services are lacking globally.

##### **Aim**

The aim of the study was to develop a competence-based framework for the provision of mental health services in people presenting with mental health problems and Human immunodeficiency virus.

##### **Setting**

The study was conducted in five primary health cares in Maseru district, Lesotho.

## **Methods**

This study employed a mixed method design, and made use of both quantitative (self-administered questionnaire) and qualitative (semi-structured interviews) components.

## **Results**

The findings indicated that all the health professionals required a competency-based framework to successfully manage people presenting with mental health problems and also living with Human immunodeficiency virus. They reported that during the time of the study they did not have a guideline to help in the implementation of mental health services for people presenting with mental health problems and Human immunodeficiency virus.

## **Conclusion**

Health professionals were not providing MHS in people presenting with mental health problems and Human immunodeficiency virus due to the absence of a guiding framework to successfully manage people with mental health problems.

## **Contribution**

The study highlights an urgent need to put into action the developed framework

**Keywords:** Mental health services; Framework; Human immunodeficiency virus; primary health care

## ***Introduction***

PLWH are at a remarkably increased risk of developing MHPs, such as depression and anxiety, which arise from having to adjust not only to the diagnosis, but coming to terms with living with a chronic infectious illness (Vreeman et al., 2017). Similarly, people living with MHPs can also be at a higher risk for Human immunodeficiency virus. PLWH can experience MHPs that can affect their quality of life and create a barrier for them to seek health care, adhere to treatment and continuing care. Studies in 38 countries highlighted that 15% of adults and 25% of adolescents living with Human immunodeficiency virus reported having depression or feeling overwhelmed, which could be a barrier to adherence to antiretroviral therapy (Bernard, 2017). Currently, very few health services are addressing the Human immunodeficiency virus

-related needs of people presenting with MHPs. This situation needs to change. Various studies conducted globally have estimated Human immune deficiency virus prevalence in people living with severe MHPs could be between 1.5% in Asia and up to 19% in Africa (Brown et al., 2018).

Despite a substantial increase in the amount of literature related to the mental health needs of PLWH over the last two decades, the integration of mental healthcare into Human immunodeficiency virus services is still non-existent in Sub-Saharan Africa. The lack of focus on the mental health of PLWH in the region contradicts the current data, which shows that MHPs are a major cause of the disease burden (Mayston et al., 2012).

It is crucial to recognize MHPs in PLWH, but many go undiagnosed and untreated. This is due to a variety of factors, all of which must be addressed (Heywood and Lyons, 2016). People may be reluctant to disclose their psychological status to healthcare professionals out of fear of discrimination and stigma, and healthcare professionals may lack the knowledge or expertise to recognize psychological symptoms or may fail to take the necessary steps to advance the patient's condition (Thornicroft et al., 2016). According to research conducted in low middle-income countries, there are more PLWH with MHPs than before. In a study that was conducted in Kampala, Uganda, it was discovered that 82.6% of PLWH participating had MHPs, as well as 63% in Yaounde, Cameroon, 38% in Nigeria, and 11.2% in the south of Ethiopia (Mathai et al., 2018). According to a recent global study, 14% of 1099 Ugandans using antiretrovirals had serious depression. In South Africa, MHPs are expected to affect 26-38% of PLWH, compared to 13% of the overall population (Mathai et al., 2018). Insufficient focus has been placed on mental health conditions among the non-communicable diseases seen in PLWH on antiretroviral therapy, especially in Sub-Saharan Africa, where the majority of PLWH reside and are treated. Although it is disregarded in Sub-Saharan Africa, one of the most prevalent MHPs in PLWH is depression (Remien et al., 2019; Bernard et al., 2017). An editorial published recently in the AIDS journal detailed evidence of the impairment connected to Human immunodeficiency virus-related melancholy and emphasized the need of taking action (Skuse, 2008). This is corroborated by Nglazi et al. (2016) stating that there are more persons with MHPs in Sub-Saharan African countries, but there is a paucity of psychiatrists and a lack of training for health professionals.

## **Problem statement**

In most contexts, the prevalence of MHPs in PLWH is over 78% (Beyene Gebrezgiabher et al., 2019). Given that anxiety, depression, and Human immunodeficiency virus are frequently co-occurring disorders, integrated intervention measures (prevention, treatment, and health promotion) may be required. The elimination of treatment gaps and ensuring that the patients receive the care they need, are the main goals of this level of care improvement (Fernandes et al., 2016; Dube and Uys, 2016). (2019). The most frequent psychiatric side effect of Human immunodeficiency virus is a mood illness, mainly depression. According to Duko et al. (2018), anxiety and depression are two of the MHPs that are most frequently identified in PLWH. These can make treating Human immunodeficiency virus more difficult and confront the practitioner with many diagnostic and therapeutic hurdles (Schadé et al., 2013). According to Naylor et al. (2012), concomitant MHPs can significantly lower adherence to highly active antiretroviral treatment. Undiagnosed and untreated MHPs may result in actions that increase the risk of contracting and spreading Human immunodeficiency virus. Severely mentally ill, sexually active individuals engage in riskier sexual activity, such as poor use of condoms, having several sexual partners, trading partners, and drinking alcohol prior to sex. Additionally, the severity of MHPs may raise the chance of Human immunodeficiency infection (Collins et al., 2006, Remien et al., 2019). Although health professionals play a crucial role in providing integrated care, MHS in people with MHPs are still inadequate because of a lack of understanding of this concept (Dube and Uys, 2016). MHPs are responsible for 14% of the global burden of disease, yet Lesotho, like most African nations, views it as a unique issue (Murray and Lopez, 1996, Wakida et al., 2017, World health organization, 2011). Similar to how the rise in MHPs has an impact on the nation's economy, the rise in Human immune deficiency infection in Lesotho has forced the country to address the pandemic as a national disaster. Due to the stigma associated with MHPs, the majority of persons with MHPs are unemployed. Statistics for all MHPs in Lesotho are not available, but globally, neuropsychiatric diseases account for 4.8% of the disease burden (WHO, 2011).

In Lesotho, there is no study focusing on these issues, subsequently little is known about the knowledge, attitudes and beliefs of health professionals regarding assessing and managing of MHPs in PLWH. Despite the fact that there is a global shortage of MHS for PLWH, numerous studies have shown an increase in MHPs in PLWH (Bernard et al., 2017, Duko et al., 2018). According to the 2010 global burden of diseases Study, depression is the second-leading cause

of disability globally and a significant risk factor for suicide, ischemic heart disease, and other health problems (Whiteford et al., 2013). This study will support the development of a competence-based framework for mental care provision in PLWH at primary healthcare in Lesotho. World health organization has emphasised on integrated care in order to improve MHS but regardless of all the measures taken by World health organization to integrate mental health into other general health services MHS delivery is still a problem in Lesotho and most African Countries.

### **Theoretical framework**

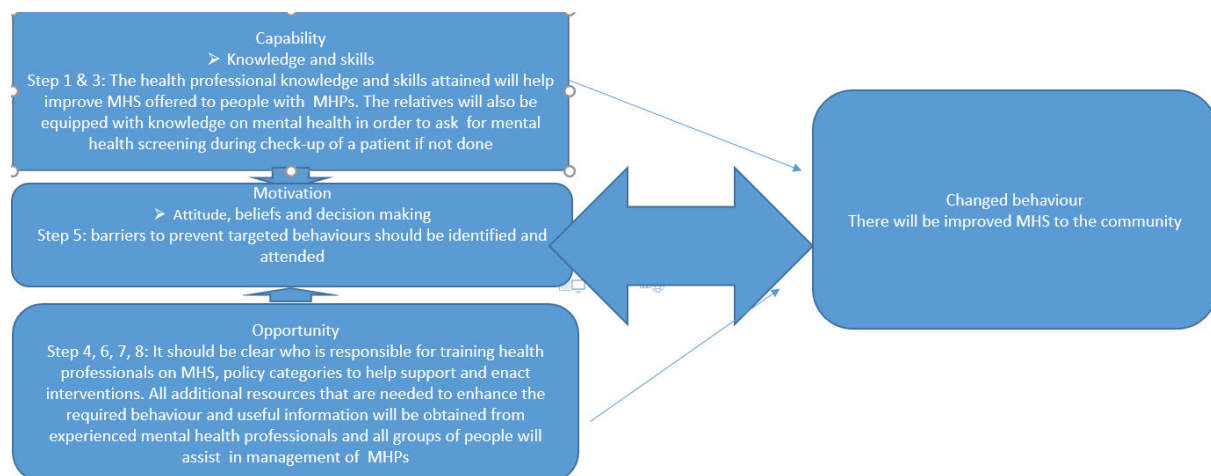
The theory of the Behaviour Change Wheel, developed by Michie, Van Stralen and West (2011), was used by the researcher to direct this investigation. Successful behaviour modification interventions are essential for improving the use of evidence-based practice (Michie et al., 2011).

Change in behaviour is necessary for the proper provision of MHS. As a result, behaviour change initiatives are essential for the efficient delivery of MHS. "Behaviour modification interventions" are a coordinated series of actions intended to change a certain pattern of behaviour (Michie et al., 2011).

In this 'behaviour system,' capability, opportunity, and motivation interrelate to produce performance that in turn affects these components as presented in Figure 1, the Capability, Opportunity and Motivation Behavioural System.

Capacity has to be evaluated to improve the MHS provided to clients with MHPs and Human immunodeficiency virus. The ability of health practitioner to treat patients who have both MHPs and Human immunodeficiency virus will be evaluated. To manage patients with MHPs and Human immunodeficiency virus, health professionals has to be evaluated to determine whether they have enough resources and assistance, such as access to medications and regular trainings on mental health. Motivation has to be evaluated as the third factor. The motivation of the healthcare providers to offer MHS to PLWH has to be evaluated. They have to be graded on how, when, and how often they deliver medical services as well as when to give follow-up

care. Their opinions on providing MHS to PLWH have to be evaluated. All these behaviours if changed they will improve delivery of MHS.



**Figure7. 1: The capacity, opportunity and motivation behavioral system: a framework for understanding behaviour (Michie, 2011)**

### Conceptual framework

A paradigm for performance excellence is an organisational competency framework. Different occupational duties within an organisation can make use of a range of skills that are usually covered by such a framework. Every competency establishes the benchmark for staff members' assessments. It does this by defining excellence in work conduct broadly. Using a competence framework, organisations may communicate which behaviours are required for, highly valued for, recognised as, and rewarded for in connection to certain professional duties. It guarantees that each employee understands the principles of the company and the conduct expected of them in order to do quality work. The competency framework includes core values, and core competencies and functional competencies (Altevogt et al., 2010).

A person's actions and decisions are influenced by their core values. All employees are expected to uphold these moral standards, which are based on the standards of conduct for the global civil service. It is necessary that all healthcare professionals uphold the following ethical principles: accountability, fairness, nonmaleficence, autonomy, beneficence, faithfulness, and honesty (Brown et al., 2018).

The framework's core competences serve as its cornerstone, outlining the conduct expected of every employee. They are described by the job-specific occupational functions. In this framework, lay personnel, employees and other stakeholders in healthcare will each have a part to play in managing MHPs in patients who present with both HIV and MHPs, so that services are integrated to support comprehensive care. Functional competences are determined by the tasks and commitments employees make to a certain position. The framework will outline each healthcare provider's responsibility to deliver MHS in PLWH (Altevogt et al., 2010).

The following categories of people should be available to promote successful provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus:

The provision of MHS in primary health care is regulated by the Ministry of health. The stakeholders will pay for mental health workshops and ensure that all health professionals receive mental health training. The Senior Manager is a member of staff at the Directorate or DDG level who is in charge of fostering an environment that is conducive to decision-making and has an impact on the entire program or functional area. This position will be filled by the nursing service manager of the hospital that is responsible for the primary health care. The senior manager will facilitate that the health professionals are attending the workshop, address any complaints the primary health care may have regarding the provision of MHS, and discuss them with the hospital's specialist in mental health, or with the Ministry of Health if the issue requires their attention (Altevogt et al., 2010).

The term "specialist" refers to a senior General Service employee (at the G6 or G7 level) or a medium or senior level professional specialist (at the P3 to P5 level), who has extensive knowledge in his or her area of expertise and works independently. Any medical specialist with a focus on MHPs or Human immunodeficiency virus will be in this position. The specialist will ensure that MHPs are carried out properly at the primary health care for patients who present with MHPs and Human immunodeficiency virus. Additionally, he or she will communicate with the primary health care manager regarding any challenge that arises in primary health care regarding MHS (Altevogt et al., 2010).

The Manager is a middle- or senior-level employee (P4 or P5) who is in charge of managing human and/or financial resources and is in charge of monitoring the execution of programmatic

results. Typically, these roles include those of section head, unit head, and team leader. In this role, the primary health care manager will be in charge of supervising the primary health care's plans, particularly those pertaining to MHS. The primary health care manager will ensure that MHS are provided to patients who present with MHPs and Human immunodeficiency virus. She or he shall inform the hospital's top manager of any obstacles to this integration (Altevogt et al., 2010).

The Individual contributor is a team member who is responsible for his or her own performance and contribution to the team's outputs, but often has no supervisory responsibilities. All members of the health profession who provide MHS for patients who present with MHPs and Human immunodeficiency virus will be in this position (Altevogt et al., 2010).

In the community there shall be support people, such as village health workers, the chiefs and the pastors who shall identify people with MHPs and refer them accordingly. These people will also be trained regarding mental health. They will communicate with the primary health care if such patients are identified in the village.

## **Methods and design**

### ***Study design***

A qualitative and quantitative descriptive design was employed to describe perceptions of health professionals regarding developing of competence-based frame work for provision of MHS for people presenting with MHPS and Human immunodeficiency virus at primary health care. The researcher in this study used pragmatism paradigm which indicated that truth is what works. In this study, the researcher employed the pragmatism paradigm, which suggests that truth is what functions.

One of the most popular mixed methods designs in educational research, the sequential explanatory design, had two distinct stages and was used in this study (Creswell, 2014). A hand-delivered questionnaire was utilised in the first phase to collect quantitative, numerical data, which was subsequently evaluated with the use of a discriminant function. The goals of the quantitative phase were to enable the intentional selection of informants for the second phase

and to ascertain the potential predictive power of specific variables on the knowledge of distributed participants regarding the perceptions of health professionals regarding the availability of competence-based framework for the provision of MHS in people presenting with MHPs and Human immunodeficiency virus in Lesotho.

In the second phase, text data was collected through individual semi-structured interviews using a qualitative multiple case study technique, which helped to better comprehend the research under consideration. This strategy aimed to provide some insight into the reasons for the potential significance of certain internal and external characteristics that were examined during the first phase as predictors of subpar MHP and Human immunodeficiency virus care in Lesotho.

The justification for combining methodologies was that neither quantitative nor qualitative approaches alone can fully represent the situation's patterns and specifics, such as the nuanced question of perception of health professionals regarding availability of competence-based framework for provision of MHS in people presenting with MHPs and Human immunodeficiency virus. Combining quantitative and qualitative approaches makes a more thorough examination since they enhance one another.

The other rationale for this approach is that the quantitative data results provide a general picture of the research problem. What internal and external barriers that contributed to and/or impeded health professional management of MHPS and Human immunodeficiency virus while the qualitative data and its analysis refined and explained those statistical results by exploring participants' views in more depth (Botma et al., 2010, Bryman, 2006, Creswell, 2014). The qualitative method was prioritised in this design because it accounted for the majority of data collection and analysis in the study, focusing on detailed explanations of quantitative results by examining the study objective; a smaller quantitative component was used first in the sequence to reveal the predictive power of the chosen perceptions of health professionals regarding availability of competence-based framework in people presenting with MHPs and Human immunodeficiency virus. The quantitative and qualitative methods were integrated at the outset of the qualitative phase when choosing participants for the case study analysis and creating interview questions based on the findings of the statistical tests; the results of the two phases were also integrated during the discussion of the study's overall outcomes. (Bryman, 2006, Creswell, 2014).

In order to be able to explore in depth the quantitative data, the researcher gathered qualitative data from participants who could assist explain these results. The explanatory sequential design was therefore recognized as the easiest and straightforward of the mixed method designs (Cresswell and Clark, 2017).

### **Study participants**

The target population was healthcare professionals at five primary health cares in Maseru, the study included pharmacists, medical doctors, registered nurses, and nurse assistants who had worked in primary health care for at least two years. A total of 88 participants completed the questionnaire, but only 43 registered nurses and 7 doctors were included in the qualitative analysis.

### **Setting**

Five primary health cares in Maseru, Lesotho, served as the study's sites. They were clinic A, B, C, D and E. The clinics did not provide MHS, but they provided Human immunodeficiency virus care. Clinic A was situated 10 km from the city centre, on Maseru's western site. Approximately 12 kilometres to the north of the city was clinic B. At a distance of around 15 kilometres, clinic C was situated southwest of Maseru City. The clinic D was also located in the south part of the city and is 6 km from the city. Maseru was the capital and biggest city of Lesotho. It was also the capital of the Maseru district. The place is found near the Caledon River, which was the border between Lesotho and South Africa.

### **Sample size**

Each primary health care had around 21 Health professionals eligible to participate in the study therefore 105 health professional are eligible to participate as the primary health care are five. The sample size was determined by using  $n = z^2 p(1-p) / d^2$  where  $n$  = sample size,  $p$  = assumed proportion (50%),  $z$  = z-value at 95% confidence (=1.96),  $d$  = desired level of absolute precision (=10%), yielded a total of 96 Health professionals. All recruited participants entered in the study. 50 health professionals that included registered nurses and medical officers were interviewed. The participants were interviewed until saturation point was reached.

## **Sampling**

Purposive sampling, which means intentionally choosing people who are knowledgeable about the subject of study, was used for the first quantitative phase of the study (Grove et al., 2015). A total of 105 health professionals were eligible to participate in the study; five nurse managers from all the health professions invited were included in the pilot study; 88 participants were eligible to participate because other health professionals were on leave; the researcher invited the 88 health professionals who took part in the study (Grove et al., 2015).

Purposeful sampling was also employed for the second qualitative phase (Grove et al., 2015). The plan was to deliberately choose informants who were both “information rich” and most suited to respond to the study questions (Potton, 2002). Participants in the survey were notified that all medical officers and registered nurses would be chosen for voluntary follow-up individual interviews. Fifty people were questioned. Saturation point analysis was the most often applied criterion for establishing an appropriate sample size (Speziale et al., 2011).

Purposive sampling is based on the researcher's assessment of participants who possess knowledge of the subject (Creswell 2014, De Vos et al., 2011, Grove et al., 2015). Data collection continued until no additional information could be found. Because this study was designed sequentially, participants were chosen for the second qualitative phase based on the findings of the first quantitative phase. Based on these findings the researcher used maximal variation sampling, which involved selecting cases or individuals that differ in some way. This allowed the researcher to present the various perspectives of individuals to "represent the complexity of our world" (Creswell 2014). For this study, the participants were selected based on the statistically significant difference results from the discriminant function analysis.

## **Research tool**

As the researcher used a mixed method study, a questionnaire was used in the first stage of data collection. The questionnaire method was an easier method as it does not require techniques or knowledge. The questionnaire also covers a wide range of the population, and the response may be received very quickly. In the second stage of data collection the researcher used semi structured interviews, following a pre-constructed interview schedule (Creswell, 2014).

## **Data collection**

The process of collecting data for developing a framework was conducted in four phases, and made use of both qualitative and quantitative data collection techniques. The data was collected in five facilities rendering primary health care services.

In the first phase of data collection, a structured questionnaire was developed and used to determine the knowledge, attitude and perceptions of health professionals regarding provision of MHS in people presenting with MHPs and Human immunodeficiency virus at primary health care. The developed questionnaire had two sections; section A focused on demographic data, and section B consisted of structured questions related to the knowledge, attitude and perceptions of the health professionals regarding the provision of MHS in people presenting with MHPs and Human immunodeficiency virus. The questionnaire made use of a five-point Likert response scales, ranging from strongly agree to strongly disagree.

The participants received hand-delivered questionnaires. The questionnaire's completion instructions were supplied in a clear and concise manner. The participants were asked to complete the questionnaire within 48 hours and to submit their sealed answers into a special box that the researcher had made available.

Data was collected from registered nurses, nursing assistants, pharmacists and medical officers. During quantitative data collection all the participants were informed that only registered nurses and medical officers will be included in the qualitative data collection as they are believed to have better knowledge on mental health and Human immunodeficiency virus.

In second phase of data collection, a semi-structured interview schedule was used to explore the knowledge, attitudes and perceptions of the healthcare professionals regarding the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus at primary health care. The interviews took 45-60 minutes each and the participants were asked to sign a consent form to participate in the interviews. The aims and objectives of the interview were explained. Open-ended questions were asked and participants were encouraged to discuss them with the researcher. Data collection was collected from registered nurses and medical officers until no new information could be found.

In phase three, the researcher used the data collected in phase one and two to describe the health professional's perceptions regarding the developing of competence-based framework for provision of MHS in people presenting with MHPs and Human immunodeficiency virus at selected primary health cares. To analyse, identify the gaps, diagnose issues, and plan how to successfully construct a competence-based framework that will enhance the delivery of MHS in PLWH, the data analysis and a literature study were done. A competence-based framework was developed in phase four using the findings from the first, second, and third phases that were identified as being useful.

## **Data analysis**

### **Quantitative data analysis**

The data was captured on spread sheets and examined for completeness. The surveys were coded, computed and analysed using the Statistical Package for Social Sciences, Version 26.0. Descriptive statistics were used to summarise and analyse the data, using frequency tables, as this provided an accurate and clearer picture of the results for easy understanding (Osborne et al, 2009). Frequency and percentage was used to summarize the categorical variables. The frequency distribution of the numeric data was examined for normality and mean, or median used appropriately. To account for possible factors, comparisons were made using a Chi-square statistical test for the categorical data and a ttest/Wilcoxon rank-sum test for the numeric data. All analyses were performed using SPSS version 26, and a p-value < 0.05 was considered statistically significant.

It was crucial to ensure that both the qualitative and quantitative data were compared and integrated to achieve a comprehensive story, rather than two parallel stories. The diaries and other artefacts associated with the project were incorporated into the analysis.

Bivariate and multivariate analyses were performed to identify comparisons between the attitude, knowledge and perceptions scores of health professionals regarding MHS for people with MHPs and Human immunodeficiency virus. When performing the ANOVA test the p-value of the attitude score was 0.138 and the p-value of the perception score was 0.869. The cut-off value for significance level in multivariate analysis was set at  $p < 0.05$ . The Cronbach' alpha was 0.832 and it indicated that the instrument was reliable.

## **Qualitative analysis**

The researcher analysed the transcripts and reviewed by the research supervisor to ensure trustworthiness. Nvivo and thematic framework analysis was used to analyse the data. To avoid missing an answer to a particular topic that could have an impact on another question, data analysis was first conducted by reading each interview in its entirety before proceeding question by question. The study's objective served as the researcher's guidance throughout this procedure (Bengtsson, 2016).

## **Trustworthiness**

The trustworthiness of this study was ensured by following the principles identified by De Vos et al. (2011) and includes the strategies for credibility (showing the accurateness of the findings), transferability (confirming applicability of the findings), dependability (confirming uniformity of the findings) and conformability (using the criterion of neutrality or freedom from bias) (Polit et al., 2012). Credibility was maintained by the following: Prolonged engagement: The interviews were conducted in order to provide the participants more time to reflect on and share their experiences with relation to the incidents, deeds, activities, and any other matters connected to the subject of the investigation (Stringer, 2013).

**Persistent observation:** In order to communicate what was actually happening as opposed to recalling it from memory or interpreting what individuals believed had occurred, the researcher observed participants deliberately and notes were taken of what transpired (Stringer, 2013).

**Triangulation:** Using several primary health care for data collection and adopting quantitative data design followed by qualitative data design helped establish credibility (Stringer, 2013). Diverse case analysis: The researcher increased the study's credibility by making sure that all participants' viewpoints were taken into account (Stringer, 2013).

**Transferability:** Other researchers who were not involved in the study were able to determine whether or not the circumstance or investigation's results were comparable to their own. The conclusions of this study revealed the level of confidence that respondents had in the applicability of the research findings to their personal circumstances (Stringer, 2013).

### **Dependability**

In this study, an inquiry audit was carried out to offer a thorough explanation of the processes that had been followed and that served as the foundation for determining how reliable they were (Stringer, 2013).

### **Conformity**

In order to verify the study's validity, the researcher offered an audit trail that allowed a third party to access the data gathered, tools utilized, voice recordings, and journals associated with the study. This provided another method for confirming the study's reliability (Stringer, 2013). In order to ensure the accuracy and scrutiny of the study's findings, a thorough explanation of the methodology was completed (Grove et al., 2015).

### ***Authenticity***

The researcher conducted a thorough and systematic literature review showing how it relates to research questions, objectives and methods (Grove et al., 2015).

### ***Reliability***

Through pilot testing, the survey instrument's stability and test-retest dependability were attained. Test-retest reliability demonstrated if repeating the same survey administration to similar research participants yields the same findings. The Pearson r coefficient was utilised to indicate the difference between the actual survey results and the preliminary findings from the pilot research.

### ***Validity***

The survey instrument was found to have established content, criteria-related validity, and construct validity. The level of representativeness of the survey items and their scores with regard to the provision of mental health treatment to clients living with Human immune deficiency virus was indicated by the content validity of the survey. The supervisor and a highly qualified individual with experience in mixed techniques reviewed the survey's language. This will assist in evaluating the questionnaires' applicability to the topic they are intended to evaluate, their reasonableness as a means of gathering the necessary data, and their design.

### **Insights gained through employing mixed method design**

Comprehensive data was obtained as the design used pragmatist paradigm.

### **Ethical consideration**

The approval of this study was obtained from the ethical review committee: Biomedical Research Ethics Committee of University of Kwazulu –Natal. Study Approval number: BREC/00004710/2022. The rights to informed consent, privacy, and confidentiality were observed. Written informed consent was obtained from participants. The questionnaire included a statement about the informed consent attached, and that participation indicated compliance. The participants were provided with an information sheet that included pertinent information about the research's purpose and how respondents might choose to participate or exercise their right to withdraw from the study. The audio recordings were kept secure and without participant names. The participants' private information was handled with confidentiality. The recordings in the audio recorder were kept safe and participant names were not labelled on the recording. Number coding was used to ensure the confidentiality of the participants' responses. No names or personal identifiers appeared on any data sheet.

### **Framework development**

*According to the findings of the study, the majority of the participants reported that they needed the competence-based framework as they perceived that its availability will improve MHS that are not offered currently in the primary health care. Participant 16 reported that “Availability of the framework will improve MHS, the trainings will be done on mental health and they will guide us on what to do when we have a patient with MHPs”. Having the framework will help us promote MHS in the facility because I believe things like screening tools will be available to help screen all people with Human immunodeficiency virus for MHPs”. Another participant said “I wonder why MHS are ignored like this yet our top manager currently is a psychiatric nurse.” She further said that “availability of the framework will change poor services in mental health”. “You know sometimes we suspect this must be a MHP but because of lack of knowledge I end up not knowing which condition it is and therefore fail to refer the patient to the doctor because I don’t even know what I can say the patient has when I refer her to the doctor as a result, we need the framework to guide us” [Participant 25].*

The general feeling from the participants and the researcher was that the framework was a major need. *“Having the competence-based framework will change health professional’s perception in mental health”* [Participant 37]. The majority of the health professionals showed a great interest in a competence-based framework. They said its availability is going to improve MHS

delivery; however, the majority also said that the framework should inform the stakeholders who acknowledge being ignorant regarding mental health. The findings of this study have been confirmed by Onwuegbuzie et al. (2012) who indicated that a mental health framework improves the integration of MHS into the general health services in hospitals and primary health care.

### **Process of generating the framework**

In the process of generating the model, the research started by describing the framework, and then analysed it in relation to the phenomenon of interest. The research deliberated on what could generate a positive result to develop a competence-based framework for provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus. The procedure that was adopted was recommended by Bright (2018). The researcher discussed the framework's graphic depiction. The study's results were reviewed many times by the researcher to ensure that the participants' needs were met. The researcher was directed by the study's objectives during this phase, taking one goal at a time and going over the results to determine exactly what the participant's need for each goal.

The first objective talked about factors that can enable provision of MHS for people presenting with MHPs and Human immunodeficiency virus. The researcher compiled all of the data related to this objective and examined additional variables that participants said may facilitate the delivery of MHS. The similar method was used to evaluate the second goal as well.

The second objective was also analysed the same way. The second objective was barriers that hinder delivery of MHS. The most aspects that participants believed could be used to overcome this problem of poor MHS for people presenting with MHPs were incorporated into the framework in this step, which also focused on all aspects that were mostly indicated by most participants and examined in depth by the researcher on how participants indicated how these barriers can be overcome. The third objective talked about describing knowledge of health professionals in regard to MHS. Then the researcher looked again on what the participant indicated with regard to their knowledge level and what they thought could be done as they reported poor knowledge on mental health.

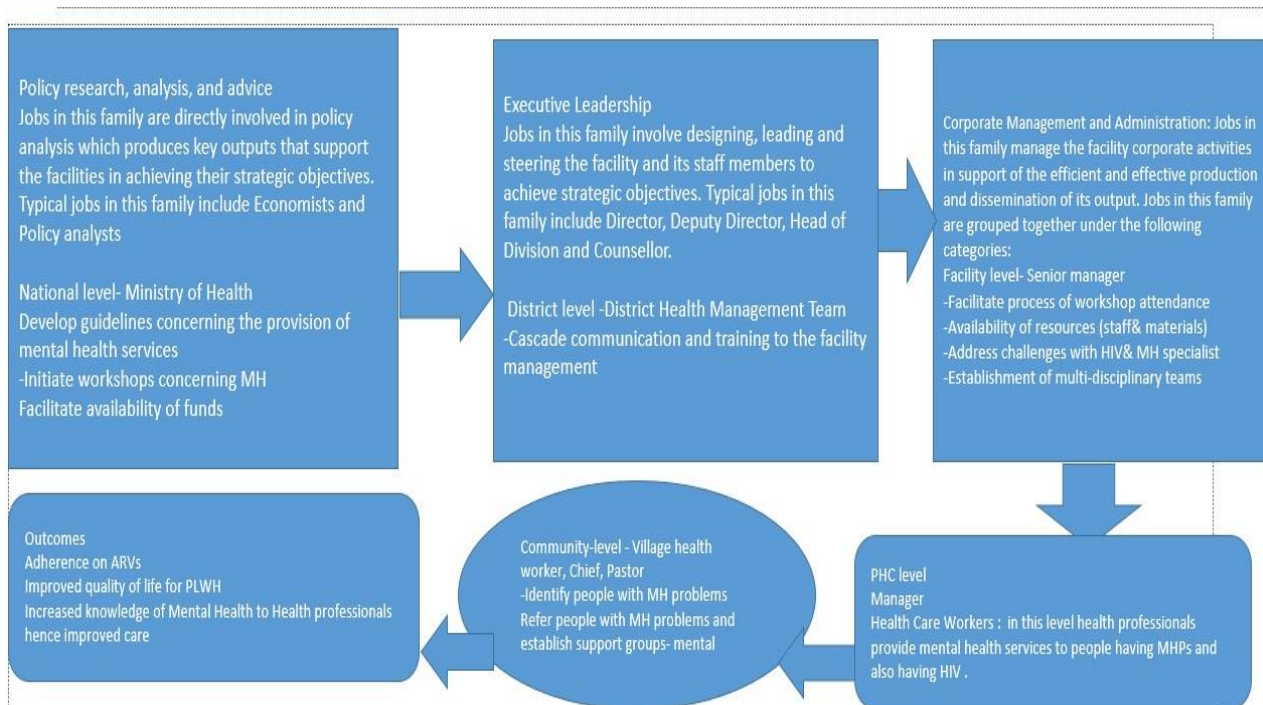
The fourth objective indicated perception of health professionals regarding availability of the competence-based framework. In this objective almost all participants felt the need for competence-based framework as result the researcher felt it as major need to develop the competence-based framework.

The framework was modified multiple times before the researcher confirms that the framework was developed and it was good framework that could be used for the successful and active provision of MHS in people presenting with MHPs and Human immunodeficiency virus. The researcher read literature and conducted searches. The researcher discussed how to best capture the elements they had determined were most important to the idea of developing a framework that was realistic and practical, as well as easily understood by everyone, after reflecting on the proposed components of the various adapted frameworks.

The supervisor offered both oral and written constructive comments regarding the framework's general applicability. Later versions of the framework that were created were also provided to the research supervisor once the constructive feedback had been incorporated. The researcher considered the most effective ways to summarize the key ideas from the literature and the results from quantitative and qualitative studies (Schallehn et al., 2014).

A draft framework that contained the elements that laid the groundwork for the concepts to be included in the developed framework to aid in the provision of MHS to people who present with MHPs and Human immunodeficiency virus in primary health care was produced as a result of this on-going process of refining and working with findings. The researcher involved the research supervisor in the critical process of discussing and debating the newly developed framework to clarify the specific concepts of the framework and to make sure that the concepts were theoretically exclusive in a way that would make them clinically effective.

The researcher assessed the prospective ideas for inclusion in the framework development process. Each idea was assessed to see if it made sense for the delivery of mental healthcare to those who presented with MHPs and Human immunodeficiency virus. The researcher and the research supervisor agreed that the framework devised was appropriate. The developed framework was also given to five managers of the primary health care to assess its applicability in their context. The developed framework is diagrammatically presented in Figure 7.2.



**Figure7. 2: Competence-based frame work (Bright, 2018)**

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## CHAPTER EIGHT

### SYNTHESIS OF DATA, CONCLUSIONS AND RECOMMENDATIONS

#### 8.1 Overview of the study

Chapter eight aims to answer the research questions and objectives set out in the study. The research questions indicate the extent to which the aim was achieved. The chapter outlines the synthesis of data, study limitations as well as providing recommendations and the significance of the study.

Globally, the rates of depressive symptoms in adults living with HIV on ARVs ranged from 13% to 78% (Beyene Gebrezgiabher, Huluf Abraha, Hailu, Siyum, Mebrahtu, Gidey et al., 2019). Mental health policies emphasize the concept of integrated mental healthcare with other general health services. However, despite the significant roles played by health professionals in most settings, the knowledge, perceptions and attitudes of health professional regarding the integration of mental health services (MHS) into HIV services is still a problem causing a huge treatment gap (Dube and Uys, 2016).

#### 8.2 Synthesis of qualitative and quantitative data

##### 8.2.1. *The availability of MHS in PHCs in Lesotho*

Only a few of the health professionals in Lesotho indicated being knowledgeable; however, more of the health professionals reported a lack of knowledge as they had never practiced MHS since working. During the time of study MHS were not offered to the patients in primary health cares in Lesotho.

All participants were of the view that MHS are not available in primary health care. One participant said *“I last did mental health at the college so many years back. Ever since I started working, I never assisted any patient with MHS”*. *“Most of the time patients who are psychotic are referred to Mohlomi Hospital when they are identified. I believe the other conditions in MH are not well identified due to lack of knowledge in mental health”* [Participant 44].

Most medical officers reported that they were knowledgeable about mental health, but follow-up care for these patients is not continuous as they are treated once and they do not know what happens with patients concerning continuity of care. Objectives of the study were all achieved as the participants indicated clearly the factors that can enable provision of MHS like training of health professionals. They also indicated clearly that barriers like poor knowledge are a major hindrance towards provision of MHS. They also claimed that developing competence based frame work will help guide MHS.

### **8.2.2. Resources**

MHS were not provided fully in primary health cares because there was no qualified staff for mental healthcare and there was also a lack of knowledge in the current health professionals. Participant 20 said *“at least one psychiatric nurse should be hired so that MHS can improve as the current staff does not have knowledge on mental health”*. Participant 18 also said *“we need health professionals trained on mental health in order to offer MHS”*.

### **8.2.3. Satisfaction with the procedure**

Most participants were not satisfied about the services that were offered to people presenting with MHPs and Human immunodeficiency virus. Participant 4 said *“I was not aware that MHS and Human immunodeficiency virus are related. This says we have been neglecting many patients because of lack of knowledge.”* Participants 17 said *“MHS are offered in primary health care”*.

### **8.2.4. Suggestion to improve the procedure**

#### **8.2.4.1. Expansion of training to all cadres**

There is need to train all the health professionals working in primary health cares to improve the identification and management of people with MHPs. All participants emphasized that there should be training of health professionals regarding MHS. Participant 23 *“said all health professional working in primary health care need to be trained on mental health.”* Participant 16 also *“indicated that if health professionals are trained there will be proper diagnosis and management”*.

#### **8.2.4.2. Training and employment of more staff**

All participants emphasised the need for availability of psychiatric nurses in the primary health care. One participant said *“A specialist in mental health should also be hired in the primary health care so that they can train all health professionals on mental health.”* *“At least one psychiatric nurse can be hired per primary health care so that he or she can see to it that MHS are being done properly”* (Participant 03). Participant 04 also said *“we definitely need at least one psychiatric nurse per primary health care to improve MHS.”*

#### **8.2.4.3. Integration of mental healthcare into Human immunodeficiency virus services**

Most participants indicated that it is crucial that MHS and Human immunodeficiency virus services are integrated and it should be done as soon as possible, because they know they have been neglecting so many patients because of a lack of knowledge regarding mental health. The majority (83.7%) of the participants reported that they desperately need MHS to be integrated with Human immunodeficiency virus services.

Participant 09 said *“I wish this study impacts on MHS and cause Human immunodeficiency virus and MHS to be integrated because I belief so many people with MHPs have been neglected.”* Just less than half (47%) of the participants have reported that they do not have enough knowledge to identify signs and symptoms of MHPs. Regarding the statement that *“I have the skills to work with patients with MHPs”* 75% of the participants reported that they do not have the skills to work with patients with MHPs, and only 25% said they have the skills to work with people presenting with MHPs and also having Human immunodeficiency virus. The majority of the participants reported not to have enough knowledge nor skills to adequately assist patients with mental health problems and also having Human immunodeficiency virus.

Regarding the statement *“I feel that I am able to work with patients with MHPs as effectively as with other patients who do not have MHPs”* 58.5% reported that they feel they are not able to work with patients that have MHPs as effectively as other patients who do not have MHPs, though 41.5% agreed with the statement. Regarding the statement *“I feel that I know enough about the factors that put people at risk of MHPs to carry out my role when working with this client in a group”*, 72.1% (N=64) of the participants reported that they do not have enough knowledge about the factors, and 36% (N=36) said they know enough about factors that put people at risk MHPs.

Almost 9 in 10 medical doctors (88.9%), nurses (85.0%) and nursing assistants (85.7) reported a positive perception regarding availability of a competence-based framework regarding the integration of mental health with HIV services. Of the pharmacists, 7 in 10 (70.0%) reported a positive perception. This was a reinforcement of the findings presented in Figure 6. Overall, 83.7% of the health professionals reported a positive perception to the availability of a competence-based framework regarding the integration of mental health with Human immunodeficiency virus services. The participants were asked about their perceptions regarding implementing integrated care and 72, 5% indicated a negative perception in relation to implementing integrated care. A third (35%) felt that people with MHPs were dangerous due to their illness, that integration of mental healthcare into Human immunodeficiency virus services can pose a danger to themselves as a healthcare provider and that people with mental health problems should be treated separately to the other healthcare services.

#### ***8.2.4.4 How the aim and objectives of the study were achieved through different phases***

In the first phase of data collection Data was collected from registered nurses, nursing assistants, pharmacists and medical officers. Participants were to explore the objectives of the study which were to describe factors that enable delivery of MHS in people presenting with MHPs and Human immunodeficiency virus, determine barriers that hinder delivery of MHS for people presenting with MHPs and Human immunodeficiency virus, describe health professional knowledge regarding integration of MHS and Human immunodeficiency virus and describe health professionals' perceptions regarding availability of competence-based frame work for provision of MHS.

In second phase of data collection, a semi-structured interview schedule was used to explore the knowledge, attitudes and perceptions of the healthcare professionals regarding the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus at primary health care.

Using the information gathered from phases one and two, the researcher conducted a third phase in which the health professionals' perspectives on the creation of a competency-based framework for the provision of MHS to patients presenting with MHPs and Human immuno deficiency virus at certain primary health care facilities were described. Data analysis and a literature review were conducted in order to assess, pinpoint the gaps, diagnose problems, and devise

a plan for effectively building a competence-based framework that would improve the provision of MHS in PLWH. Using the findings from the first, second, and third phases that were deemed beneficial, a competence-based framework was created in phase four.

#### **8.2.4.5 Addressing the self reporting bias**

The researcher bracketed her own knowledge to avoid self-reporting bias (Grove et al., 2015).

### **8.3 Strengths of study**

The study presented a number of strengths;

- The study's pragmatic approach allowed the researcher to conduct research in a real-world setting.
- A mixed method approach to data collection allowed the researcher to investigate phenomena in different ways which enabled triangulated data sources. The data collected from the quantitative likert scales was integrated with the lived experience data from the participants.
- Other similar studies exploring the integration of MHS into Human immunodeficiency virus can benefit from the study's findings.
- The study not only explored the process of integrating mental health into primary health care, but offers recommendations towards the successful development of a competence-based framework for the provision of MHS in people presenting with MHPs and also having Human immunodeficiency virus.

### **8.4 Limitations of study**

The data for the study was collected in defined sites. Additional investigation is required. Some participants who were regarded as having insufficient knowledge concerning mental health because of their training period, for example nursing assistants showed to be more knowledgeable regarding mental health and most participants with a few years of experience were indicating they have more knowledge on mental health, yet they have never practiced it since they finished the college, which may have affected the findings of the study. Most participants confirmed that their last exposure to mental health was during their training, but at the same time reported to be knowledgeable in the identification of the signs and symptoms of MHPs.

## **8.5 Recommendations from the study**

### **Practice**

- The training needs to all the health professionals should be addressed to respond to the deficit of MHS in primary health care.
- Mental health should be become a priority in the country as in other countries. Policy developers should also be trained regarding MHPs to enable them to consider MHPs as major needs.
- At least one psychiatric nurse should be hired at one primary health care to improve MHS in primary health cares.
- The general population should also be educated regarding MHPs to prevent stigma.

### **Research**

- There should be more research on mental health in Lesotho in order to give current evidence of MHS in Lesotho.
- Numerous studies regarding MHS and Human immunodeficiency are needed.

### **Education**

- Mental health and Human immunodeficiency virus integration should be incorporated in the curriculum for health professional's education.

## **8.6. Conclusion**

During the study mental health was not integrated into general health services at all level of healthcare in Lesotho. It was confirmed by study findings that MHS for PLWH are lacking in the country. As a result, there was a need to upgrade MHS for PLWH to enhance quality of life in PLWH. The objectives of the study were therefore achieved as level of health professional' knowledge concerning mental health was identified, their perceptions concerning integration of MHS and Human immunodeficiency virus, their perception concerning the avallability of competence-based frame, barriers to accessing MHS were also identified and therefore the aim of the study was finally achieved as competence-based frame work was therefore developed to address the prevailing unavailability of MHPs for people presenting with MHPs and Human immunodeficiency virus in Lesotho.

# APPENDICES

## ANNEXURE 1

### ETHICS APPROVAL FROM BREC UNIVERSITY OF KWAZULUNATAL



15 December 2022

Mrs Malerotholi Thabida Posholi (220110246)  
School of Nurs & Public Health  
(College of Hs)

Dear Mrs Posholi,

Protocol reference number: BREC/00004710/2022

Project title: Developing competence-based framework for mental health care provision in patients with HIV at primary healthcare in Maseru, Lesotho

Degree: PHD

#### EXPEDITED APPLICATION: APPROVAL LETTER

A sub-committee of the Biomedical Research Ethics Committee has considered and noted your application.

The conditions have been met and the study is given full ethics approval and may begin as from 15 December 2022. Please ensure that any outstanding site permissions are obtained and forwarded to BREC for approval before commencing research at a site.

This approval is valid for one year from 15 December 2022. To ensure uninterrupted approval of this study beyond the approval expiry date, an application for recertification must be submitted to BREC on RIG on the appropriate BREC form 2-3 months before the expiry date.

Any amendments to this study, unless urgently required to ensure safety of participants, must be approved by BREC prior to implementation.

Your acceptance of this approval denotes your compliance with South African National Research Ethics Guidelines (2015), South African National Good Clinical Practice Guidelines (2020) (if applicable) and with UKZN BREC ethics requirements as contained in the UKZN BREC Terms of Reference and Standard Operating Procedures, all available at <http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx>.

BREC is registered with the South African National Health Research Ethics Council (REC-290408-009). BREC has US Office for Human Research Protections (OHRP) Federal-wide Assurance (FWA 678).

The sub-committee's decision will be noted by a full Committee at its next meeting taking place on 14 February 2023.

Yours sincerely,



Prof D Wassenaar  
Chair: Biomedical Research Ethics Committee


Biomedical Research Ethics Committee  
Chair: Professor D R Wassenaar  
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building  
Postal Address: Private Bag X54001, Durban 4000  
Email: [IRB-C@ukzn.ac.za](mailto:IRB-C@ukzn.ac.za)  
Website: <http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx>

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

INSPIRING GREATNESS

## ANNEXURE 2

### ETHICS APPROVAL FROM MIISTRY OF HEALTH LESOTHO

  
LESOTHO

Ministry of Health  
P.O. Box 514  
Maseru 100

**REF: ID 208-2022**  
Date: November 03, 2022  
To  
**Malerotholi Posholi-Mokokolisi (Mrs.)**  
Student Number: 220110246  
University of Kwazulu- Natal.

<b>Category of Review:</b> <input checked="" type="checkbox"/> Initial Review <input type="checkbox"/> Continuing Annual Review <input type="checkbox"/> Amendment/Modification <input type="checkbox"/> Reactivation <input type="checkbox"/> Serious Adverse Event <input type="checkbox"/> Other _____
---

Dear Mrs. Posholi-Mokokolisi

**RE: Developing Competence Based Framework for Mental Health Care Provision in Patients with HIV at Primary Healthcare in Maseru, Lesotho**

This is to inform you that the Ministry of Health Research and Ethics Committee reviewed and **APPROVED** the named protocol and hereby authorizes you to conduct the study according to the activities and population specified in the protocol. Departure from the approved protocol will constitute a breach of this permission.

This approval includes review of the following attachments:


- Protocol
- Informed Consent Forms (*English*):
- Data Collection Tool: *Questionnaire, Structured interview schedule*
- Participants Materials; *Participants information sheet.*
- Other materials: Letter of permission to conduct a study, CVs\_ (Malerotholi Posholi-Mokokolisi)


This approval is **VALID** until November 03, 2023.

Please note that an annual report and request for renewal, if applicable, must be submitted at least 6 weeks before the date. All serious adverse events associated with this study must be reported promptly to the MOH Research and Ethics Committee. Any modifications to the approved protocol or consent forms must be submitted to the committee for implementation of any changes.

We look forward to receiving your progress reports and a final report at the end of the study. If you have any queries please contact the Research and Ethics Committee at [rcumoh@gmail.com](mailto:rcumoh@gmail.com) (or) 59037919/58800246.

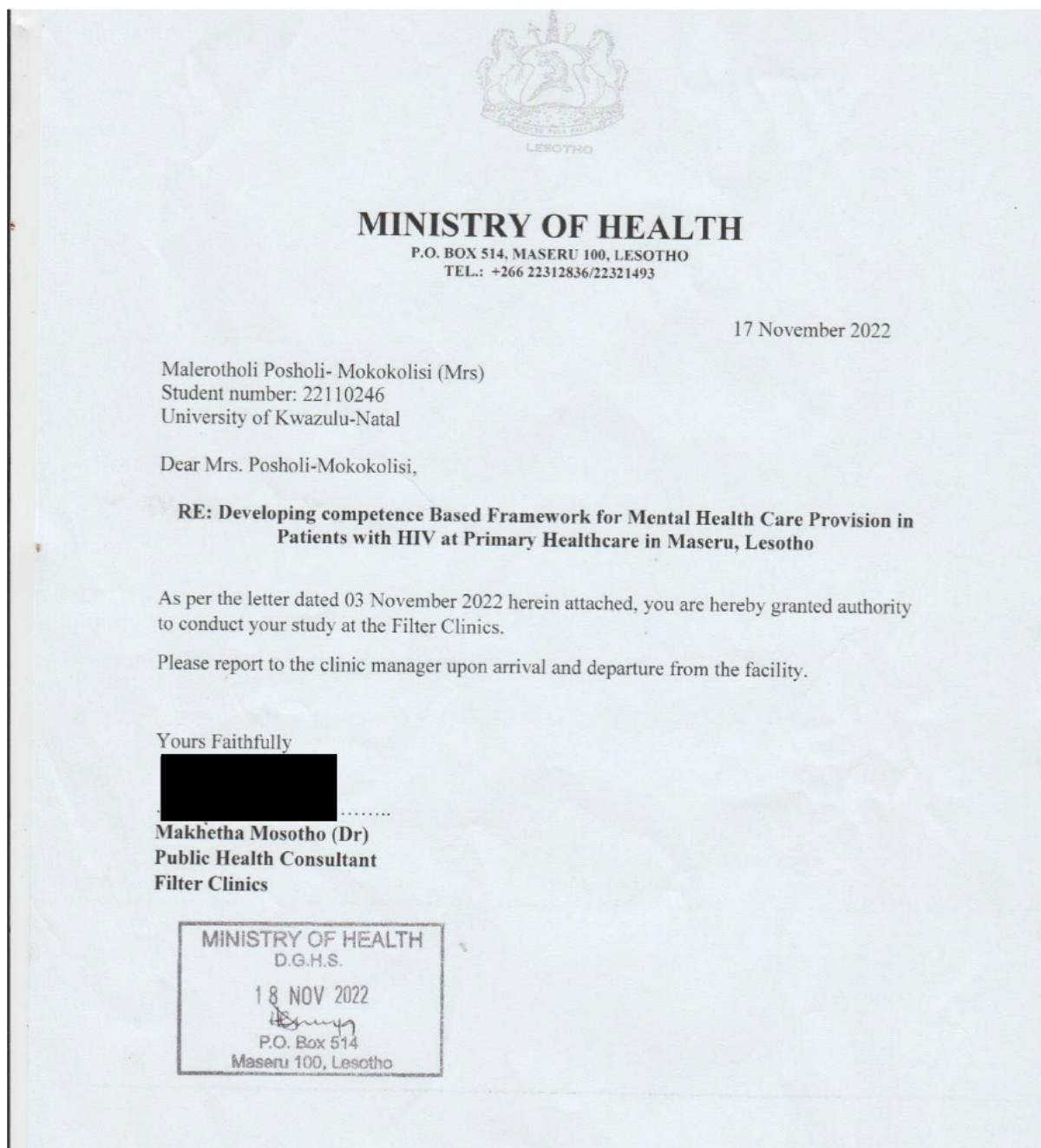
Sincerely,

  
**DR. NYANE LETSIE**  
Director General Health Services

  
**DR. LESITHO MALE**  
Member of National Health Research  
Ethics Committee (NH-REC)

**ANNEXURE 3:**

**GATE KEEPER PERMISSION FROM DIRECTOR OF FILTER CLINICS**



## ANNEXURE 4

*Dr S Wright*

*Editor*

*Proofreading & Language Editing Services*

Farm Buffelsfontein 367KR, 1512, Alma, Limpopo

Cell: 074 819 7150 E-mail: [scdwright@gmail.com](mailto:scdwright@gmail.com)

### Work Certificate

To	Mr.
Address	University of Kwa-Zulu Natal
Date	20 February 2023
Subject	Developing a competence-based framework for the provision of mental healthcare in patients with HIV in primary healthcare in Maseru, Lesotho
Ref	Feb 23/2

I, Susanna Wright, certify that I have proofed the following for language, grammar and style, and made recommendations, **Developing a competence-based framework for the provision of mental healthcare in patients with HIV in primary healthcare in Maseru, Lesotho** to the standard as required by the University of Kwa-Zulu Natal.



## ANNEXURE 5

### INFORMATION SHEET AND CONSCENT

Date:

Greeting: Good Day Health Professionals

My name is Malerotholi Posholi Mokokolisi. I am currently enrolled for PhD in Nursing at the School of Nursing and Public Health, Howard College, University of Kwazulu-Natal, South Africa. My contact details are as follows: Email address: malerotholiposh@gmail.com.

Cell: +26651865820.

You are being invited to consider participating in a study that involves: Developing competence-based framework for mental healthcare provision in patients with HIV at primary healthcare in Maseru, Lesotho. The study is expected to enrol 105 participants. Each clinic has around 21 health professionals and therefore 105 in total as there are five clinics altogether. You are expected to feel the questionnaires in your own time; however, you are asked to bring them after 48 hours. The process of qualitative data collection will take 45 to 60 min in an area that has privacy.

The study will not involve any risks and/or discomforts to any participants.

This research will not involve any risk to all the participants since there are no harmful objects that will be used during data collection period.

We hope that the study will benefit Nurses including other Health professionals to acquire knowledge and hence improve the services offered to mentally ill people with positive HIV status as the framework will be emphasizing on training of health professionals on mental health services

This study has been ethically reviewed and approved by the UKZN Humanities and social Science Research Ethics Committee (approval number-----)

In the event of any problems or concerns/questions you may contact the researcher Cell: +26651865821, Email address: [malerotholiposh@gmail.com](mailto:malerotholiposh@gmail.com) or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows: Biomedical Research Ethics Committee ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private  
Durban  
4000

BagX54001

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 260 2486 - Fax: +27 31 260 4609

Email: [BREC@ukzn.ac.za](mailto:BREC@ukzn.ac.za)

Biomedical Research Ethics Committee ADMINISTRATION

Research Office, Westville Campus

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54001

Durban

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KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 260 2486 - Fax: +27 31 260 4609

Email: [BREC@ukzn.ac.za](mailto:BREC@ukzn.ac.za)

Please note that participation in this study is voluntary and no monetary benefit will be offered for participation. No costs that will be incurred by respondents in the cause of participation in the study. Kindly note that all the information given will be kept confidential and only used for the sole purpose of the research. Your identity will not appear in any report of the research. You are free to decline, at any time without penalty. However, it is significant to note that the findings of this study will be used to improve mental health services of clients living with HIV. There will be no risks involved during participation

Please note that you are free to ask question about the research at any given moment. You are free to decline, at any time without penalty.

CONSENT

I (Names of participant) ..... have been informed about the study entitled: Developing competence-based framework for mental healthcare provision in patients with HIV at primary healthcare in Maseru, Lesotho: Mixed method study by Mrs. Malerotholi Posholi Mokokolisi.

I understand the purpose and procedures of the study. I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I am entitled to.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at +26651865821, Email address: [malerotholiposh@gmail.com](mailto:malerotholiposh@gmail.com) If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

Biomedical Research Ethics Committee ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 260 2486 - Fax: +27 31 260 4609

Email: [BREC@ukzn.ac.za](mailto:BREC@ukzn.ac.za)

Additional consent, where applicable I hereby provide consent

to:

Audio-record my interview YES / NO

Video-record my interview YES/NO

Use of my photographs for research purpose YES/NO

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

-----  
Signature of the witness

-----  
Date

## Survey

Thank you for being willing to participate in this study.

The title of this study is: Developing competence-based framework for mental healthcare provision in patients with HIV at primary healthcare in Maseru, Lesotho. The aim of this study is to develop competence-based framework for mental health provision in HIV positive clients in PHC in Lesotho. All information provided by you will be treated confidentially. You are free to answer the questionnaire in your own time. Please relax and answer the questions in the way you feel comfortable to do so.

## RESEARCH INSTRUMENT: QUESTIONNAIRES

### ANNEXURE 6: RESEARCH QUESTIONNAIRE

#### Section A: Demographic Data

##### A1. Gender

Male	Female

##### A2. Age groups of the participants

25 years and less	26 -35 years	36-45 years	46 -55 years	56 -65 years

##### A3. Number of service as a mental healthcare professional

2- 5 years	6-10 year	11-15 years	16 -20 years	20 years and above

##### A4. Number of service as a healthcare professional working in HIV services

2 -5 years	6 -10 years	11 -15 years	16 -20 years	20 years and above

**A5. Number of years of service working as a primary healthcare professional at primary healthcare settings**

2 -5 years	6 -10 years	11 -15 years	16 – 20 years	20 and year s above

**A6. Qualification of a participant**

Medical doctor	HIV/ Professional worker	PHC	Pharmacist/Pharmacy Technician

**A7. Marital status**

Single	Married	Divorced	Widowed

**Attitude and knowledge of Health professionals regarding provision of mental health services in people presenting with MHPs and also living HIV**

**The numbers from 1-5 indicate 1- strongly disagree, 2 disagree, 3 neither agree nor disagree 4 agree and 5 strongly agree**

Attitude	1	2	3	4	5
1. My knowledge on MHPs is adequate					
2. I can comfortably identify signs and symptoms of a patient with MHPs					
3. I can comfortably manage people with MHPs					
4. The care and support of family and friends can help people with MHPs to get rehabilitated.					
5. Corporations and the community (including the government) should offer jobs to people with MHPs					
6. After a person is treated for MHPs they can return to their former job position					
7. The best way to help people with MHPs and HIV is to assess them for MHPs in every visit to ART clinic					
8. The counselling services is necessary for every client living with HIV on every visit to the ART clinic					
9. After people with MHPs are treated and rehabilitated, we still should not make friends with them					
10. After people with MHPs are treated, they are still more dangerous than normal people					
11. It is possible for everyone to have MHPs					
12. We should not laugh at the people with MHPs even though they act strangely.					
13. It is harder for those who have MHPs to receive the same pay for the same job					
14. After treatment it will be difficult for People with MHPs to return to the community					
15. People are prejudiced towards those with MHPs					
16. It is seldom for people who are successful at work to have MHPs					
17. It is shameful to have MHPs					
18. MHP is a punishment for doing some bad things					
19. I suggest that those who have a MHP do not tell anyone about their illness					

**Perceptions of Health professionals regarding provision of MHS in patients presenting with MHPs and also having HIV**

**Mental Health Problems Perception Questionnaire (MHPPQ)**

Perceptions	1	2	3	4	5
20. I can comfortably identify signs and symptoms of a patient who has MHPs and HIV					
21. I can comfortably manage people with MHPs					
22. I feel that I know enough about the factors that put people at risk of MHPs to carry out my role when working with this client in a group.					

23. I feel I know how to treat people with HIV and MHPs					
24. I feel that I can appropriately advise my patient about MHPs					
25. I feel that I have a clear idea of my responsibilities in helping patients with MHPs and HIV					
26. I feel that I have the right to ask patients about their mental health status when necessary					
27. I feel that my patients believe I have the right to ask them questions about MHPs when necessary					
28. I feel that I have the right to ask a patient for any information that is relevant to their MHPs					
29. If I felt the need when working with patients with MHPs, I could easily find someone with whom I could discuss any personal difficulties I might encounter					
25. If I felt the need when working with someone with MHPs, I could easily find somebody who would help me clarify my professional difficulties					
26. If I felt the need I could easily find someone who would be able to help me formulate the best approach to a patient with MHPs					
27. I am interested in the nature of MHPs and the treatment of them					
28. I feel that I am able to work with patients with MHPs as effectively as with other patients who do not have mental health problems					
29. I want to work with patient with MHPs.					

30. I feel that I have a number of good qualities to work with patients with MHPs and HIV					
31. I have the skills to work with patients with MHPs.					
32. I want to work with patient with mental health problems					

33. I feel that I can assess and identify the medical/psychiatric/psychological/occupational therapy/nursing problems of patients with MHPs					
34. I feel that there is nothing I can do to help patients with MHPs.					
35. I feel that I have something to offer patients with MHPs.					
36. I feel that I have much to be proud of when working with patients with MHPs and HIV					
37. Caring for people with MHPs and HIV is an important part of a Health professional role					
38. In general, one can get satisfaction from working with patients with MHPs					
39. In general, it is rewarding to work with patients with MHPs					
40. In general, I feel that I can understand patients with MHPs and HIV					
41. I am satisfied with the way I work with patients with MHPs					
42. When working with patients with MHPs I receive adequate supervision from a more experienced person					
43. When working with patients with MHP I receive adequate on-going support from colleagues					
44. I feel that I have a need to have competence-based framework that can help guide me in management of MHPs in PLWH					
45. Developing competence-based framework to assist health professional to successfully manage PLWH and MHPs is important					
46. Competence-based framework for integration of mental health services and HIV services will help me successfully manage MHPs in PLWH.					
47. Availability of competence-based framework will facilitate successful integration of management of MHPs and HIV					
48. Educating the stake holders about MHPs and HIV will facilitate improved integration of MHP and HIV					

## ANNEXURE 7

### INTERVIEW SCHEDULE

#### Preamble:

Thank you for being willing to participate in this study.

The title of this study is: Developing competence-based framework for mental healthcare provision in patients with HIV at primary healthcare in Maseru, Lesotho. The aim of this study is to develop competence-based framework for mental health provision in HIV positive clients in PHC in Lesotho. All information provided by you will be treated confidentially. It will take approximately 1 hour to complete this interview. Please relax and answer the questions in the way you feel comfortable to do so. I will ask you questions relating to the study and if necessary I will ask for clarification.

As explained to you, the interview will be recorded.

RESEARCH INSTRUMENT: Semi structured interview

#### Section A. Demographic data

Date: \_\_\_\_\_

Interviewee Study ID: \_\_\_\_\_

Participant name	
Gender.....M.....F	Age
Occupation	
Occupational position	
Length of time working at the PHC	

#### Interview schedule

Competencies required for Staff Working within

Mental health services

Mental Health Services for people living with HIV seemed to be ignored therefore training needs and competencies for PLWH should be identified. This is in order to equip staff with the necessary knowledge and skills so that they are able to ensure PLWH and also having MHPs receive the highest possible care. We are currently undertaking a short survey of staff working with the division.

Please complete the questions below based on your own understanding of the role of staff working with PLWH.

Please explain what treatment options are available for people who come here presenting with MHPs and also leaving with HIV.

Q 1: Please tell me about the services available for the treatment and management of PLWH with a mental disorder.

[Prompts: - visit of a psychologist, psychiatrist, medications etc.]

Q 2: State your views concerning effectiveness of mental health services for people presenting with MHPs and also leaving with HIV.

Q 3: In your own view or opinion what can be done to enhance MHS for people who present with MHPs and also having HIV.

Q 4: What are your views concerning the preventive health services in MHPs for PLWH offered by health professionals?

Q5: What do you think can be done to prevent development of MHPs in PLWH?

Q 6: In your opinion do you think health professionals in PHC have enough knowledge to recognise signs and symptoms of MHPs among PLWH?

If no, what do you think should be instituted to support the health professional who have to deal with patients who present with MHPs and also leaving with HIV.

Q 7: In your opinion which are the main barriers for people presenting with MHPs and also leaving with HIV to receive mental healthcare in your PHC?

Q 7: Is there any special training offered for health professionals with regard to the recognition and management of MHPs?

If no, could you elaborate on what training you believe is required

Q 8. Please identify 3 common/generic competencies and/or skills which you feel are important for staff working PLWH and their families.

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Q9. (The term “Generic” is used to define competencies and skills that all staff Working with people who have HIV and MHPs should have).

- 1) .....
- 2) .....

3) .....

Q 10. Please identify 3 specialist competencies and/or skills which you feel are important for staff working with PLWH and MHPs?

1) .....

2) .....

3) .....

Q 11. What makes my practice different from somebody working with people who do not have HIV and MHPs?

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## ANNEXURE 8

### COPY OF INTERVIEW TRANSCRIPT

Name of study: Developing competence-based framework for mental healthcare provision in patients with HIV at primary healthcare in Maseru, Lesotho

Study Component: Key Informant

Participant initials /code: 24

Interviewer initials: MT

Age of participant: 41 years

Ethnicity: African

Religion: Christian

Gender: Female

Marital Status: Married

Educational level: Graduate

Working status: Employed

Contact with patients: 5-7 days a week

Interview began: 9:00 am

Interview ended: 09: 45am

Duration: 45 minutes

Date of interview: 19/12/2022

Interviewer

Good morning SR

Interviewee

Morning

Interviewer

How are you doing this afternoon?

Interviewee

I am doing well it's just that we are overloaded with the work. I think more staff needs to be hired

Interviewer

OK I understand your view

Interviewee

Yes Sr

Interviewer

My name is Malerotholi Posholi Mokokolisi. I am currently enrolled for PHD in Nursing at the School of Nursing and Public Health, Howard College, University of Kwazulu-Natal, South Africa.

You are being invited to consider participating in a study that involves: Developing competence-based framework for mental healthcare provision in patients with HIV at primary healthcare in Maseru, Lesotho.

It will take approximately 1 hour to complete this interview. Please relax and answer the questions in the way you feel comfortable to do so. I will ask you questions relating to the study and if necessary I will ask for clarification.

As explained to you, the interview will be recorded.

Do you allow me to ask the questions?

Interviewee

Yes, I allow you to ask questions

Interviewer

OK thank you. Kindly sign this consent form to show that you agree to participate in the study

Interviewee

Ok let me sign it.

Interviewer

Q 1: Please tell me about the services available for the treatment and management of PLWH with a mental disorder.

[Prompts: - visit of a psychologist, psychiatrist, medications etc]

Interviewee

Ahh the services available for the treatment and management of PLWH and also having MHP?

Interviewer

Yes SR

Interviewee

We do not have such services in this facility because we do not have the psychologist, psychiatrist nurse nor psychiatrist. We are also not equipped to conduct such services in the absence of people who are trained to do them. I last did mental health at the college so many years back. We have few medications for psychiatric in this facility however I rarely see those drugs being prescribed for patients in this facility

Interviewer

Q 2: State your views concerning effectiveness of mental health services for people presenting with MHPs and also living with HIV.

Interviewee

Hey SR, I can say the services are not bad

Interviewer

Kindly describe more on your answer that you just said.

Interviewee

I would say MHS are not too bad in this facility

Interviewer

OK SR basing yourself on the first answer on this question your answer was, there is no mental health specialist in this facility and the staffs is also not trained on mental health so MHS are offered in this facility

Interviewee

Hmmm it's clear SR that these services are not effective in this facility

Interviewer

OK SR thanks

Interviewer

Q 3: In your own view or opinion what can be done to enhance MHS for people who present with MHPS and also having HIV.

Interviewee

I think if the in-service training can be held for general staff in order to remind us about MHPs that will help us identify people with this problem. Because as for now MHPs that we can be able to identify is mainly psychosis but other conditions of MHPs it will be difficult as we last did mental health at the college.

The mental health specialist can be hired in order help these patients better.

Interviewer

Q 4: What are your views concerning the preventive health services in MHPs for PLWH offered by health professionals?

Interviewee

My views concerning.....

Interviewer

Yes your views concerning preventive health services in mental health for PLWH offered by Health professionals. That is are there any preventive health services on mental health in this facility? If so what can you say about them?

Interviewee

Hmmm preventive health services on mental health. I don't think we offer services like that in this facility because if we offer them, I believe we would be providing some health education about mental health topics so that people would be aware of those mental health problems and how to avoid them.

For people who have just tested positive they go to counselling room to see a social worker or professional counsellor but counselling that they get is mainly on adherence or compliance of medications

Interviewer

OK thanks SR. Let me continue with the other question

Interviewee

Ok you can continue

Interviewer

Q5: What do you think can be done to prevent development of MHPs in PLWH?

Interviewee

People who have their new positive HIV test should receive the thorough counselling on how to accept their status and this counselling should be on going until patient is now strong to cope with the situation.

Interviewer

Q 6: In your opinion do you think health professionals in PHC have enough knowledge to recognise signs and symptoms of MHPs among PLWH?

Interviewee

No like I said previously MHS are not offered in this facility, we have forgotten everything about mental health as we last did it at school.

Interviewer

If no, what do you think should be instituted to support the health professional who have to deal with patients who present with MHPs and also living with HIV.

Interviewee

There should be a department where mental health services are offered in this facility, we should also be trained on mental health because we cannot offer the services while we do not know them.

Interviewer

Q 7: In your opinions which are the main barriers for people presenting with MHPs and also living with HIV to receive mental healthcare in your PHC?

Interviewee

Lack of knowledge regarding MHPs to Health professionals

Interviewer

Q 7: Is there any special training offered for health professionals with regard to the recognition and management of MHPs?

Interviewee

Hmmm not to my knowledge. I have worked here for five years but I have never received any training on mental health and I have never heard any one saying she went for mental health training. Interviewer

If no, could you elaborate on what training you believe is required?

Interviewee

The training should be on identification of signs and symptoms of MHPs, diagnosing and management.

Interviewer

Q 8. Please identify 3 common/generic competencies and/or skills which you feel are important for staff working PLWH and their families.

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.....  
.....

Interviewee

Hm the competencies or skills. Kindly elaborate further what actually you want me to say.

Interviewer

When working with people presenting with MHPs and also having HIV what kind of skills do you think you need in order to help these people?

Interviewee

Ok. I think I need communication skill in order address them well. I have realised people on ARVs are very sensitive so I think I should know how to talk to the them in a right manner so that they don't default treatment because the now fear to come to the facility. The other thing is I should be knowledgeable on screening MHPs

Interviewer

Q 09. Please identify 3 specialist competencies and/or skills which you feel are important for staff working with PLWH and MHPs?

- 1) .....
- 2) .....
- 3) .....

Interviewee

Hmm specialist competencies or skills.....

Interviewer

Yes sr. If you have specialist for mental health what kind of skills does he or she need to answer the current problem regarding MHPs in PLWH.

Interviewee

Ok sr. he or she should be able to fully assess people presenting with MHPs and also having HIV . He should also be able to diagnose and manage MHPs in PLWH

Interviewer

Q 11. What makes my practice different from somebody working with people who do not have HIV and MHPs?

Interviewee

Working with people living with HIV is very demanding and challenging. These people cause you have stress also. People working with this people should also be stable mentally, otherwise they are going to cause you more ill. They sometime decide to stop treatment when there is no reason to do that and when you ask such a patient she or he acts as if these medications are for you not hers.

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Thank you for this questions that you asked, I was not aware that HIV and MHPs are related. Hope this study makes a change on mental health

Interviewer

Thank you very much for your time. I hope the study will make a change

**ANNEXURE 9: THEMES AND SUBTHEMES**

Themes	Subthemes
Knowledge of MHPs	<ul style="list-style-type: none"> <li>☐ Limited knowledge on signs and symptoms of mental illness</li> <li>☐ Limited knowledge on diagnosis on MHPs</li> <li>☐ Limited knowledge on management on MHPs</li> </ul>
Management of people leaving with MHPs and HIV	<ul style="list-style-type: none"> <li>☐ No availability of psychiatric medication</li> <li>☐ No mental health professional who visits the facility No hired mental health professional like psychologist, psychiatric nurse and psychiatrist</li> <li>☐ No counselling services offered for HIV positive patients to prevent MHPs</li> <li>☐ No mental health department in PHC therefore these MHS are not offered</li> <li>☐ No adequate continuity of care for clients on MHS at the PHC</li> <li>☐ No preventive health services concerning mental health problems are offered</li> </ul>

	<ul style="list-style-type: none"> <li>☐ Few mental health conditions are identified and are referred to Mohlomi Hospital</li> </ul>
Barriers to accessing mental health services	<ul style="list-style-type: none"> <li>☐ Unavailability of staff qualified in mental health in PHC</li> <li>☐ Lack of knowledge regarding mental Health problems in health professionals</li> <li>☐ Time constraints</li> <li>☐ Focus of the country</li> <li>☐ Culture</li> <li>☐ Structure of clinics</li> <li>☐ Stigma and discrimination present on the side of Health professionals and families</li> </ul>

ANNEXURE 10: RESPONSE FROM PHCFM

PHCFM Submission 4121 – Suitable for Review

Inbox



**aosis@phcfm.org**

Tue, 2  
May, 13:56

to me

\*\*\*\*\*

Ref. No.: 4121

Manuscript title: Health professionals' level of knowledge regarding integrating mental health services into HIV services at primary health care  
Journal: African Journal of Primary Health Care & Family Medicine

\*\*\*\*\*

Dear Mrs Posholi

Thank you for submitting your manuscript to the journal. All new manuscripts are given a preliminary inspection by the editorial office to assess whether the submission is complete. We are grateful for your efforts to adhere to the author guidelines of African Journal of Primary Health Care & Family Medicine.

Your manuscript will now proceed to our blinded peer review process to undergo an assessment by our expert independent reviewers. Read our peer review process [https://aosis.co.za/policies#peer\\_review](https://aosis.co.za/policies#peer_review).

Editor remarks:

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Kind regards, From editor  
Ms Singapi  
AOSIS Pty Ltd

**ANNEXURE 11: RESPONSE FROM PHCFM**

**aosis@phcfm.org**

9 May  
2023,  
08

:56 to me

\*\*\*\*\*

Ref. No.: 4131

Manuscript title: Perceptions of health professionals regarding availability of competence based frame-work for provision of MHS at primary health care

Journal: African Journal of Primary Health Care & Family Medicine

\*\*\*\*\*

Dear Mrs Posholi

Thank you for submitting your manuscript to the journal. All new manuscripts are given a preliminary inspection by the editorial office to assess whether the submission is complete. We are grateful for your efforts to adhere to the author guidelines of African Journal of Primary Health Care & Family Medicine.

Your manuscript will now proceed to our blinded peer review process to undergo an assessment by our expert independent reviewers. Read our peer review process [https://aosis.co.za/policies#peer\\_review](https://aosis.co.za/policies#peer_review).

Editor remarks:

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Kind regards,  
Ms Singapi  
AOSIS Pty Ltd

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African Journal of Primary Health Care & Family Medicine |  
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