KNOWLEDGE AND ATTITUDES TOWARDS MENTAL HEALTH ILLNESS AND INTEGRATION OF MENTAL HEALTH SERVICES INTO PRIMARY HEALTH CARE (PHC) CLINICS: A CROSS-SECTIONAL SURVEY AMONG HEALTH-CARE WORKERS IN THE SHISELWENI REGION, NHLANGANO ZONE, ESWATINI.

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Keywords: Mental health, mental health disorders, mental health integration, health care workers, mental health attitudes and knowledge, mental illness, primary healthcare

DECLARATION

I, Sifiso Manana, declare that "**Knowledge and attitudes towards mental health illness and Integration of mental health services into primary health care (PHC) clinics: a cross-sectional survey among health-care workers in the Shiselweni region, Nhlangano zone, Eswatini**" is my own work, and it has not been submitted for any degree or examination in any other university. All the sources I have used or quoted have been indicated and acknowledged by complete references.

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Researchers Signature

21 March 2023

Date

ACKNOWLEDGEMENTS

ABBREVIATIONS

CHW	Community Health Workers
HCW	Health care workers
LMIC	Low- and Middle-Income Countries
NPRH	The National Psychiatric Referral Hospital
SPSS	Statistical Package for the Social Sciences
PHC	Primary health care
WHO	World Health Organization

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Definitions of key terms

Mental Health is not simply the absence of a mental disorder, it relates to an individual's subjectively experienced state of well-being in which an individual realizes their goals, can cope with normal and expected stresses in life and can live, work and study productively and can make meaningful contributions to their communities (WHO, 2013).

Mental illness is having the presence of a psychological disease. It is having a mental disorder that can be identified by collectively decided upon signs and symptoms defined by a recognized psychiatric classification system (WHO, 2013).

Mental Disorders are a wide range of behavioral and emotional disorders that are defined in the International Statistical Classification of Diseases (ICD) and the Diagnostic Statistical Manual (DSM 5). These include but are not limited to neurodevelopmental disorders, psychotic disorders, bipolar spectrum disorders, depressive disorders, anxiety disorders, trauma and stressor related disorders and substance-related and addictive disorders (WHO, 2013).

Mental Health Integration is when patients receive mental healthcare treatment at clinics in their residential areas these services are made to be part of the health package provided in Primary Health clinics by PHC health care workers (Hlongwa & Sibiya, 2019).

Primary health care is usually the first point of contact people have with the healthcare system that provides essential health services accessible to individuals, families and community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development (WHO, 2018:1).

Abstract

It is estimated that one in eight people globally suffers from mental health conditions during their lifespan. In Sub-Saharan Africa (SSA), mental health disorder sufferers are exposed to abuse and economic impoverishment. In Eswatini, mental health care is still not decentralized to primary health clinics (level 1), only health centers (level 2) and hospitals (level 3) offer mental health services daily. This causes a treatment gap. The study aimed to determine the knowledge and attitudes of primary health care workers towards mental health illness and their willingness to provide mental health services in primary healthcare clinics so that opportunities and challenges surrounding the integration of mental healthcare services can be identified in the Shiselweni region, Nhlangano zone, Eswatini. This study used a quantitative research method, a cross-sectional survey design was used to collect data using a structured self-reporting questionnaire. The population for this study was all health care workers working in primary health care clinics in the Nhlangano zone, Shiselweni region. These included nurses, pharmacy assistants, phlebotomists, HTS counsellors, and community mentor mothers. The study used a total sampling strategy. The sample size was n= 100. Data analysis was performed using the software tool STATA version |17. Socio-demographic data, knowledge regarding mental illness, attitudes towards mental illness, and mental health integration into PHC were analyzed. The *p*-value was first set at <0.25 for the univariate and set at $p < 0.05$ for the multivariate analysis where a manual forward selection was used on the remaining variables. The results revealed that the Primary healthcare workers had a basic knowledge of mental illness. They also displayed positive attitudes towards mentally ill patients. Furthermore, the results showed that they were willing to have mental health care integrated into their Primary health clinics. Age (30-39yrs) and receiving some training in mental health care was statistically significantly associated with

knowledge regarding mental illness, and only receiving some mental health training was statistically associated with willingness to provide mental health care services in their Primary health clinic.

The study received ethics approval from the University of the Western Cape Biomedical Research Ethics Committee (ref: BM 21/7/17) and the Eswatini Health and Human Review Board (ref: EHHRRB081/2021) before conducting this study. Information sheets and consent forms were made available to respondents.

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CHAPTER 1: **INTRODUCTION**

1.1 Background

It is estimated that one in eight people globally suffers from mental health conditions during their lifespan and mental disorders are the leading cause of years lived with disability (YLDs), accounting for one in every six YLDs globally (WHO, 2022). Pre-pandemic, in 2019, an estimated 970 million people in the world were living with a mental disorder, 82% of whom were in low- and middle-income countries (LMICs) (WHO, 2022). The World Mental Health Surveys conducted by the World Health Organization (WHO) suggested that the treatment gap for severe mental disorders in LMICs can be as large as 75 % (Sawodogo et al., 2020). About 23% of people attending primary health care suffer from mental health disorders (Dube & Uys, 2016). At the same time, the services, skills, and funding available for mental health remain in short supply, and fall far below what is needed, especially in LMICs (WHO, 2022). In Sub-Saharan Africa (SSA), the added social alienation that results from the stigmatization of mental, neurological and substance use (MNS) disorders exposes the sufferers to abuse and economic impoverishment (Gureje et al., 2015).

Mental health care needs are amplified in the context of coronavirus disease-2019 (COVID-19) – the rising deaths, social gathering restrictions, school closures, economic downturn, and uncertainties of resolution have contributed to increased prevalence of depression and anxiety (Pfefferbaum & North, 2020). In 2020, the number of people living with anxiety and depressive disorders rose significantly because of the COVID-19 pandemic and initial estimates show a 26% and 28% increase respectively for anxiety and major depressive disorders in just one year (WHO, 2022).

In South Africa, it is estimated that the prevalence of common mental disorders (anxiety, mood, and substance use disorders) is about 16.5% with almost a third (30.3%) of the population have experienced a common mental disorder in their lifespan (Petersen et al., 2016). Like internationally, the treatment gap in South Africa is also high, with only one in four people with a common mental disorder receiving treatment of any kind (Petersen et al., 2016).

1.1. 1 Mental health situation in Eswatini

In Eswatini, a cross-sectional, population-based household telephone survey conducted in all four administrative regions of Eswatini showed that the weighted prevalence of moderate and severe psychological distress were 41.7% (95% confidence interval (CI): 37.7%, 45.8%) and 5.4% (95% CI: 3.9%, 7.5%), respectively (Shongwe & Haung, 2021). The country has an Age-standardized suicide mortality rate of 40.5 per 100 000 population (Mental health atlas, 2020). A study on Suicidal Ideation and Predictors of Psychological Distress during the COVID-19 Pandemic in Eswatini, in a Population-Based Household Telephone Survey, indicated that 1.5% of the participants (95% CI: 0.8%, 2.7%) reported thoughts of committing suicide during the first wave of the pandemic in Eswatini (Shongwe & Haung, 2021).

The National Psychiatric Referral Hospital (NPRH) in Eswatini inpatient admissions was 84 per 100 000 population in 2017, and 125.6 per 100 000 population in 2020 (Mental health atlas, 2020). In 2014, there were 1608 admissions of which 1 054 (66.5%) of these were readmissions (National Psychiatric Referral Hospital (NPRH), 2015). This was a notable increase from the previous years, wherein 2013, there were 951 (61.6%) readmissions out of 1 540 total admissions (NPRH, 2015), and 663 (52.8%) out of 1 256 total admissions in 2012 (NPRH, 2013). Leading conditions for both admissions and readmissions in Eswatini include epilepsy

without psychosis, schizophrenia, bipolar affective disorder, depression, and substance-induced psychosis.

1.1.2 Mental health services in Eswatini

The Kingdom of Eswatini, formerly known as Swaziland, has only one psychiatric hospital and one psychiatrist serving the mental health needs of the entire population of about 1,148,133 million with a burden of mental disorders disability-adjusted life years of 23.5 per 100,000 population (Mental health atlas, 2020). About sixty mental health professionals are working for the ministry of health and non-governmental organizations (Psychiatrists, mental health nurses, psychologists, social workers, and other specialized mental health workers (e.g. Occupational Therapists) in the country, 5.23 per 100 000 population (Mental health atlas, 2020). Eswatini is without a mental health policy, and mental health services remain largely centered at the only psychiatric hospital in the country (Dlamini, Mahanya, Dlamini, & Shongwe, 2019), even though there is a 1978 mental health Law that is in line with human rights covenants (self-rated 5-points checklist score; 5 = fully in line) (Mental health atlas, 2020). Integration of mental health into primary care is considered not functional in Eswatini, this is because the country is rated at three points in a self-rated 5 points checklist score, to be considered functional in integrating mental health the country must score four or more points (Mental health atlas, 2020). The NPRH has community outreach services in the Manzini region; this is not consistently done because of a lack of fuel and not enough cars (NPRH, 2019). Mental health care is still not decentralized to primary health clinics with only health centers (level 2) and hospitals (level 3) offering mental services daily. Some primary health clinics (level 1) are only reached once a month through outreach services. This causes a treatment gap. To reduce this gap mental health treatment should be decentralized and integrated into primary health clinics.

1.2   Problem Statement

It is important to determine Primary health care workers' knowledge and attitudes towards mental illness as this is likely to directly impact the quality of care that they provide. Little is known on this subject given the paucity of literature on mental health in the country, there is only one published research article on mental health and 2.13% of mental health research output within Eswatini (Mental health atlas, 2020). In Eswatini, between 76% and 85% of the people with severe mental disorders do not receive treatment compared to 35% and 50% in high-income countries (WHO, 2013). To reduce this treatment gap, understanding primary health workers' knowledge and attitudes are paramount as they are the first line of contact with mental health sufferers, hence this study.

The WHO's mental health Gap Action Programme 2013-2030 seeks to narrow the treatment gap for mental disorders by advocating the integration of mental health into primary health care (PHC). With only one psychiatric hospital in Eswatini, 0.09 per 100 000 population (Mental health atlas, 2020) and only a few primary health facilities visited once per month, access to mental health treatment is reduced in the country. This exposes people with mental disorders to higher rates of disability and mortality, for example, persons with major depression and schizophrenia have a 40% to 60% greater chance of prematurely death than the general population, owing to physical health problems that are often left unattended (such as cancers, cardiovascular diseases, diabetes, and HIV infection) and suicide (WHO,2021). Suicide is the second most common cause of death among young people worldwide, and 40.5 per 100 000 population in Eswatini (Mental health atlas, 2020). Mental health integration into primary health clinics is needed to close the treatment gap associated with centralized mental health care.

1.3 Rationale

According to the Comprehensive mental health action plan 2013–2030 mental disorders usually lead individuals and families into poverty, stigmatization, and discrimination, homelessness, inappropriate incarceration, increased marginalization and vulnerability, human rights violation, subjected to unhygienic and inhuman living conditions, physical and sexual abuse, neglect, and harmful and degrading treatment practices in health facilities (WHO, 2021).

The purpose of the study was to determine the knowledge and attitudes of healthcare workers towards mental illness and the need for integration of mental health care into Primary health clinics which will help in assessing the readiness of integrating mental health services at the Primary health clinics. The study also sought to determine whether there can be support and/or resistance to the integration of mental health into PHC by healthcare workers. Furthermore, these findings will add to the body of mental health knowledge in Eswatini and inform the ministry of health on the need and timing of integration of mental health services into primary health care clinics.
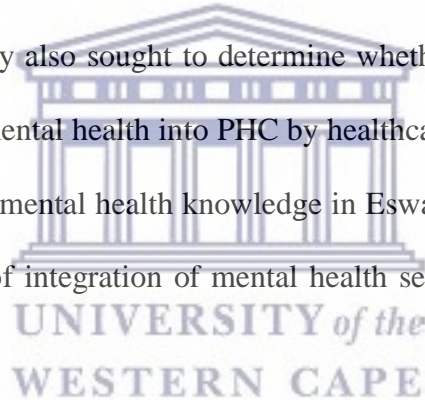
1.4 Aims and Objectives

1.4.1. Aim

The study aimed to determine the knowledge and attitudes of primary health care workers towards mental health illness and their willingness to provide mental health services in primary health care clinics so that opportunities and challenges surrounding the integration of mental health care services can be identified in the Shiselweni region, in the kingdom of Eswatini.

1.4.2. Objectives

The study had three objectives which included:

●   To assess the knowledge of HCW regarding mental health illness in the Shiselweni region, Nhlangano zone PHC clinics in the kingdom of Eswatini

●   To assess the attitudes of HCWs towards mental health illness in the Shiselweni region, Nhlangano zone PHC clinics in the kingdom of Eswatini

●   To assess the willingness of HCW to provide mental health services in the Shiselweni region, Nhlangano zone PHC clinics in the kingdom of Eswatini

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CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Mental health is defined as "*a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to contribute to his or her community*" (Canadian Mental Health Association, 2009: 9). When people fail to attain the above-mentioned abilities, dysfunctions occur and instabilities in families and communities are the order of the day. Wakida et al. (2018) add that when one is unable to function to their full life in society, because of conditions that affect cognition, emotion, and behavior, they are said to have a mental illness.

This chapter presents the literature review surrounding knowledge and attitudes toward mental illness and the integration of mental health services into primary health care (PHC). Topics covered in this literature review are as follows: burden of mental health disorders, the impact of Covid-19 on mental health, treatment for mental health disorders, knowledge among healthcare providers on mental health, attitudes of healthcare providers towards mental health patients, Integration of mental health services into Primary Health Care, and challenges to proving mental health services.

2.2 Burden of mental health disorders

Mental disorders include but are not limited to neurodevelopmental disorders, psychotic disorders, bipolar spectrum, depressive, anxiety, trauma, and stressor related-disorders, and substance-related and addictive disorders (WHO, 2013). The Global burden of disease study attributes nearly 15% of years of life lost to mental disorders, making mental illnesses one of the largest causes of disability worldwide (Arias, Saxena, & Verguet, 2022). Mental, neurological

and substance use (MNS) disorders are a global problem, affecting 450 million people with 80% of those found in Lower Middle-Income Countries (LMICs) and the treatment gap between 75–90% (Alfredsson, Sebastian & Jeghannathan, 2017). About 1 million people commit suicide every year due to mental disorders and the situation is very high in low-income countries (Yitbarek et al., 2021). According to the World Bank Group and WHO, low and middle-income countries contribute about 80% of people who have experienced a mental disorder in their lifetime (World Bank Group, 2016, WHO, 2016).

The Global Burden of Disease (GBD) 2020 estimated that the COVID-19 pandemic has led to a 27.6% increase in cases of major depressive disorder (MDD) and a 25.6% increase in cases of anxiety disorders (AD) worldwide in 2020 (WHO, 2022). Overall, the pandemic was estimated to have caused 137.1 (95% uncertainty interval (UI): 92.5–190.6) additional disability-adjusted life years (DALYs) per 100 000 population for MDD and 116.1 per 100 000 population (95% UI: 79.3–163.80) for AD (WHO, 2022). The greatest increases in MDD and AD were found in places highly affected by COVID-19, as indicated by decreased human mobility and daily COVID-19 infection rates with females more affected than males and those aged 20–24 years, were more affected than older adults. Many low- and middle-income countries (LMICs) were also the most affected (WHO, 2022).

Over 85% of the world's population lives in 153 LMICs and over 80% of the people who have mental health disorders are living in LMICs (Rathod et al., 2017). Depression alone is expected to be the third leading cause of disease burden in low-income countries and the second highest cause of disease burden in middle-income countries by 2030, predicts experts (Rathod et al., 2017).

Mental health disorders account for 5% of the total burden of disease (Disability Adjusted Life Years, DALYs) and 19% of all disabilities in Africa, yet the mental health workforce in Africa is lower than in any other WHO region, at a median rate of 0.9 per 100,000 people while in the United Kingdom, the rate is between 12-14 per 100,000 (Qureshi & Eaton, 2020). Almost 10% of the overall disease burden in Sub-Saharan Africa (SSA) can be traced to neuropsychiatric disorders (Fekadu et al., 2017). There is a paucity of literature on depression and other mental disorders epidemiology, research, and management in SSA (Gbadamosi et al., 2022). Mental health publications make up just 3–4% of the overall health literature, and only 6% of mental health publications originate from LMICs (Akiba, 2019). In some key populations, like children, adolescents, and those people living with HIV, the burden of depressive disorders is two to five times higher in sub-Saharan Africa compared to those in high-income countries (HICs) (Akiba, 2019). This burden is likely worsened by the lack of research, further research is needed to understand the effects of depression on children's and adolescent's lives, as well as risk factors associated with negative consequences. New findings help in targeting evidence-based interventions to prevent and mitigate the negative effects of depression on the health of children and adolescents also lack of well-trained human resources, and government leaders regarding mental health worsens the burden of depression on children and adolescents.

Eswatini has a burden of mental health disorders DALYs of 2934/100 000 population (Mental health Atlas, 2014) and only one psychiatric hospital and one psychiatrist. South Africa's burden of mental health disorders per 100,000 population is 3191.01, with 61 Mental health outpatient facilities attached to a hospital and psychiatrist availability at a rate of 1.52/100 000 population (Mental health Atlas, 2017). According to the National Psychiatrist, Dr. Violet Mwanjali (quoted

in Apanews.net 2017), 125 people committed suicide in the past 12 months, and most of the cases were a result of depression. The report showed that 102 of the suicides were committed by men while 23 of the victims were females and most of these suicides are committed by people between the age of 13 and 32. Both Eswatini and South Africa have higher DALYs than the Sub-Saharan region which has All-age DALYs per 100000 population at 1321.5 (Gouda et al., 2019).

2.3. Impact of Covid-19 on mental health

The COVID-19 pandemic came with a lot of sudden changes to our lives that were unprecedented like the sudden loss of employment, limited social interaction, remote work or schooling, and 'lockdowns' which had the potential to cause mental health problems in people's lives. According to the National Mental Health Commission (NMHC)(2020) fears of contracting the covid-19 virus, some of the measures to prevent its spread, like restrictions of movement, social distancing measures, and physical isolation, or 'lockdowns' were also likely to negatively impact mental health. The COVID-19 pandemic had the potential to contribute to or increase long-term mental illness including anxiety, depression, Post-traumatic stress disorder (PTSD), and substance misuse (WHO 2020b). Savage (2020: 1) sums it up by stating that *"COVID-19 has increased anxiety for many of us, and experts warn a sizable minority could be left with mental health problems that outlast the pandemic"*. Research has shown that the pandemic has led to a marked increase in substance and drug abuse as a way of coping during the pandemic which came with a swift increase in anxiety and depression from March 2020 onwards (Dlamini, 2021).

WHO (2020) reported that the COVID-19 pandemic has disrupted critical mental health services in 93% of countries worldwide while the demand for mental health is increasing, this is

according to a new WHO survey of 130 countries which provided the first global data showing the devastating impact of COVID-19 on access to mental health services. For many countries, especially low-income countries, the pandemic worsened and even halted mental health care services as the focus became COVID-19 (Dlamini, 2021). This was also the case for Eswatini, whereby patients with mental illness in primary care clinics were no longer being attended to by the team from the National psychiatric hospital on monthly basis due to high COVID-19 cases, lockdown regulations, and lack of transport which was diverted to COVID department thus preventing outreach services.

2.4. Treatment for mental health disorders

Mental health has continued to receive lesser attention, mostly in low and middle-income countries, even though it is important in achieving optimum health and or wellbeing (Barry et al., 2013). It is estimated that approximately 13% of the global population experiences a diagnosable mental health condition in their lifetime yet the majority do not receive proper treatment, and this is estimated to cost the world approximately US$2.5 trillion per year, and only a fraction of this amount is invested in addressing the causes and consequences of this issue (Qureshi & Eaton, 2020). The situation is even worse in LMICs, specifically in the African region due to limited resources for mental health and health systems that are not equipped to address this need, with over three-quarters of people lacking access to the mental health services they need (Qureshi & Eaton, 2020). Both Malawi and Tanzania allocate relatively small percentages of their healthcare budgets to mental health, just 2% and 2.4% respectively (Kutcher et al., 2019). South Africa allocates around 5% of its health budget to mental health and only 15% of South Africans with mental health conditions receive treatment (Freeman, 2022). In Ghana and Ethiopia, the estimates are less than 10% (Weobong, Lund, & Nonyognon, 2020).

The National Health Service (NHS) in England spent £14.3 billion on mental health services in 2020/21, which is 14.8% of local NHS funding allocations (Baker, 2021). The treatment rates for mental disorders are globally low and reveal a worrisome picture where treatment rates range from 13% to 33% in high-income countries and from 5% to 13% in low- and middle-income countries (WHO, 2014).

Access to mental health care is even more challenging for vulnerable groups of people like people with low socio-economic status, women, people residing in rural areas, minority ethnic groups, immigrants, and other excluded populations (Qureshi & Eaton, 2020). These same groups are often those most affected by mental health problems while being least likely to receive care (Qureshi & Eaton, 2020).

Eswatini has a mental health legislation in place that was last amended in 1978, it has neither an officially approved mental health policy nor a mental health plan, and the general health policy does not mention mental health (MHSW, 2006; WHO, 2014) and limited documentation of the strategies set for mental healthcare to achieve the objectives of PHC in the country which a contributed to the highlighted treatment gap. Lack of adequate knowledge and skills in mental health is another problem that has created a gap in treatment in PHC in Eswatini. A study conducted by Dlamini (2019) titled: Mental health, where are we now? a sociological analysis of the integration of mental health into primary healthcare in the kingdom of Eswatini, found that of all the participants in the study only one was a trained mental health nurse, and the majority of the nurses were unaware of what primary mental health services are.

The primary strategy to narrow this treatment gap is integrating mental health care into primary

healthcare (PHC). An essential first step in delivering integrated care is to evaluate the community healthcare workers' mental health knowledge and attitude, hence this study. According to Tesfaye et al. (2022) integrating mental health care into community care is a vital process that allows the largest number of people to gain faster and easier access to mental healthcare services.

2.5 Knowledge among healthcare providers on mental health

The availability of health resources for mental illness interventions alone does not benefit a mentally ill patient but the level of knowledge and beliefs about mental illness within a community goes a long way (Minty, Moosa, & Jeenah, 2021). Several studies have attempted to assess the mental health knowledge of healthcare workers and have found these to be poor or inadequate (Wu et al., 2017, Dube & Uys, 2016, Madlala, Miya, Zuma, 2020). Inadequate mental illness knowledge contributes to stigmatizing attitudes. Therefore, poor knowledge of mental illnesses may contribute to not only poorer treatment but also the perpetuation of stigma and hence reduced access to care, creating a vicious cycle of despair for the mental illness sufferer (Minty, Moosa, & Jeenah, 2021).

A study by Tesfaye et al. (2022) on the knowledge and attitude of health extension workers regarding mental health problems in Jimma Zone, Ethiopia showed a significant proportion of the study respondents had poor knowledge. More than half of the respondents reported psychiatric disorders are not medical disorders (139, 53.7%). Similarly, most (158, 61.0%) described contact with psychiatric patients leads to strange behavior. More than two-thirds of the participants (174, 67.2%) reported that children do not suffer from psychiatric problems. Likewise, over three-quarters (78.8%) of the respondents described women as less prone to

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psychiatric disorders. A low level of mental health literacy was suspected as one of the causes of inadequate mental health knowledge (Tesfaye et al., 2022).

On the contrary, a study among nursing staff in Jimma Zone, southwest Ethiopia, revealed about 89% of the respondents were knowledgeable about mental health problems (Amare, 2005). Similarly, a cross-sectional descriptive study conducted among 126 randomly selected nurses working under the District Mental Health program in Karnataka, India to assess nurses' knowledge and perceptions towards mental illness showed adequate knowledge of mental illness among nurses however these nurses had negative attitudes towards mental illness (Gandhi et al., 2019).

2.6. Attitudes of healthcare providers towards mental health patients

The United Nations Convention on the Rights of Persons with Disabilities defines stigma as the process of social oppression barring persons with mental illness from enjoying social interaction through discrimination, exclusion, and denial of human and social rights (Cremonini et al., 2017). Stigma and discrimination have been reported to cause unnecessary delays in patients with mental illness to seek help, which adversely affects a patient's health outcome (Al-Awadhi et al., 2017). Stigmatizing attitudes towards people with mental illness are often held by the general public (Zolezzi et al., 2018), however, healthcare professionals' attitude has been described as being, even more, negative than that of the general public, which worsens the prognosis for patients with a mental illness (Al-Awadhi et al., 2017). In other words, discriminating attitudes or behaviors by healthcare workers have the potential to lead to a lack of attention to clients' medical needs, poor management of patients with mental illness, and even social marginalization (Knaak, Mantler & Szeto, 2017).

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Health Care Workers were rated higher for negative attitudes towards mental health than the public when attitudes of mental health professionals toward people with schizophrenia and major depression were studied (Dube & Uys, 2016). Sahile et al. (2019) studied 610 nurses working in PHC in Addis Ababa, Ethiopia, and found that 294 (48.2%) nurses had negative attitudes toward people with mental illness. Arbanas, Rožman & Bagariü, (2018) found that healthcare providers in Croatia had stigma towards mental health patients with medical doctors (p<0.001) showing less stigma compared to nurses (p=0.006), a higher theoretical knowledge by medical doctors not hours of contact with mentally ill clients was cited as the reason for the possible difference. Sobekwa & Arunachallam (2015) reported a lack of support from authorities, physical assault by patients, shortage of staff, increased workload, and burnout as negative experiences that can lead to healthcare workers having negative attitudes toward patients with mental health illness.

A study in the United States that compared the attitude of mental health professionals and the public showed more positive attitudes toward mental health professionals compared to the public. (Stuber et al., 2014). Another study of nurses' attitudes toward mental illness in Finland also showed positive attitudes (Ihalainen-Tamlander et al., 2016). Another study also found that Health care students in a Canadian University showed well-rounded mental health knowledge and mostly positive behaviors toward individuals with mental illnesses (Riffel & Chen, 2020). As evidence has shown that healthcare workers' attitudes have an important effect on both the process and outcome of mental health care mental ill patients get, rolling out mental health training programs to raise awareness on the importance of mental health as an essential component of wellbeing will improve knowledge of HCWs on mental illness which without may lead the HCWs to have negative attitudes towards mental illness.

2.7. Integration of Mental Health services into Primary Health Car

Mental Health Integration is when patients receive mental healthcare in their local clinic (Hlongwa & Sibiya, 2019). The WHO World Report 2001, the WHO Mental Health Action Plan 2013–2020, and the WHO's mental health Gap Action Programme called for the integration of mental health into primary care, acknowledging the burden of MNS disorders globally (WHO, 2008). In 2008 WHO and the World Organization of Family Doctors (WONCA) report on Integrating Mental Health in Primary Care, the integration of mental health into primary care was associated with four key benefits: (i) it enhances access, (ii) promotes respect for human rights, (iii) is affordable and (iv) cost-effective, and generates good health outcomes (Dowrick et al., 2020). The Alma-Ata model of mental health integration recommended that countries build or transform their mental health services to (1) promote self-care, (2) build informal community care services, (3) build community mental health services, (4) develop mental health services in general hospitals, and (5) limit reliance on psychiatric hospitals (WHO, 2009).

Primary healthcare "*is the first point of contact people have with the healthcare system....",* (WHO, 2018:1). It is well established that effective primary care services, including primary mental health care, are associated with more equitable distribution of health within populations and reductions in the adverse effects of income inequality on health (Dowrick et al., 2020).

A systematic review of 21 qualitative studies found that shifting mental health care to non-specialist health care workers in LMICs is feasible (Padmanathan & DeSilva, 2013)**.** This shows that mental health services can be integrated into primary health clinics even without mental health specialists. In South Africa, mental health provision is provided in primary healthcare

clinics by nurses (Dube & Uys, 2016). A study in Guinea, where access to specialized mental health care is very limited, showed that patients with mental illness, even with severe medical conditions, can be followed up in the health centers by non-specialized but trained mental health professionals (Sow et al., 2020).

The current focus of the mental health program in Eswatini is on the development of standardized guidelines for the diagnosis and management of common mental health disorders (Dlamini, Mohaya & Shongwe, 2019). Mental health is part of the primary health care system; however, mental health services are not integrated into PHC. In expanding mental health care in the Kingdom of Eswatini, in 2017, the Eswatini Ministry of Health in collaboration with the National Psychiatric Hospital and other regional stakeholders, and COMDIS-HSD developed a brief policy on psychological intervention for people living with depression to be delivered by nurses in selected primary health care clinics in Eswatini (Communicable Diseases Health Service Delivery (COMDIS-HSD), 2018). The aim was to improve the accessibility of support for depression for all those in need living in Eswatini. This was just a one-year program in a few health facilities, and with still so much primary health clinics to cover, the country has a long way to go before mental health services are fully integrated into PHC clinics.

Ventevogel (2014) suggests seven elements that may be important to integrate mental health into non-specialized health care: (1) using task-shifting approaches, (2) ensuring that primary mental healthcare includes brief psychotherapeutic interventions, (3) promoting community-based recovery-oriented interventions for people with severely disabling, chronic mental disorders, (4) conceptualizing and investing in training as a continuous process of strengthening clinical competencies through supervision, (5) engaging communities to be partners in psychosocial

interventions, (6) embedding shifts to primary mental health within wider policy reforms for mental health care, and (7) ensuring a balance between curative interventions and preventative actions to address the social determinants of mental health problems.

According to the Mental Health Atlas (2020), the integration of mental health into primary health care is considered to be functional only if at least four of the following five criteria are fulfilled: 1) guidelines for mental health integration into primary health care are available and adopted at the national level; 2) pharmacological interventions for mental health conditions are available and provided at the primary care level; 3) psychosocial interventions for mental health conditions are available and provided at the primary care level; 4) health workers at primary care level receive training on the management of mental health conditions; 5) mental health specialists are involved in the training and supervision of primary care professionals.

It is very clear from the presented evidence that mental health integration into PHC clinics is important, however, it is not cheap and a quick solution. It requires policymakers, primary health workers, the community, and all relevant stakeholders to achieve full mental health integration.

2.8. Challenges to providing mental health services

A qualitative exploratory descriptive design was used to determine the challenges affecting the implementation of the Policy on Integration of Mental Health Care into PHC in KwaZulu Natal (KZN), South Africa. The sample consisted of 42 participants of whom 4 were PHC managers, 6 were operational managers and 22 were professional nurses who were directly involved in implementing the policy at the operational level. The results showed the following challenges: lack of training in mental healthcare services for staff working in PHC, unavailability of mental

https://etd.uwc.ac.za/

health policies, inadequate resources, poor communication between management and staff, lack of skills among PHC nurses in identifying signs of mental illness and misdiagnosis of patients (Hlongwa & Sibiya, 2019).

Health care providers' knowledge and attitudes towards mental disorders have not been adequately assessed even though adequate knowledge regarding mental health by primary health care providers (PHCPs) is important for the provision and integration of mental health services into PHC clinics (Mulango et al., 2018). This is important as primary healthcare workers are usually the first to encounter patients. When they lack knowledge and have poor attitudes towards mental illness this affects the quality of mental health services provided and makes mental health integration into primary health clinics a challenge. Mulango et al. (2018) recommended the implementation of educational intervention programs in areas of mental health to improve the knowledge, attitudes, and practices of PHCPs toward mental disorders. If this is implemented, PHCPs will be more confident in dealing with mental health cases.

Lack of mental health training among PHC workers affects mental health service integration. A study done in Uganda showed that health workers who reported they had not received in-service training in mental health felt that mental health was not as important as other diseases like tuberculosis, HIV/AIDS, cancer, and other diseases that got a lot of attention and resources directed to them which created an impression to them that mental health care is neglected and considered unnecessary (Yitbarek et al., 2021).

In addition to some attitudinal and behavioral issues in the community and among health care providers that affect the implementation of mental health services in the primary health service (Yitbarek et al., 2021), the same author also identified other barriers like lack of knowledge of

community members, not reporting due to lack of indicators in the reporting system, lack of students inspired to join mental health professions.

2.9. Conclusion

This chapter presented a review of literature on the burden of mental health disorders globally, in the LMICs, Sub-Saharan Africa and in Eswatini and how the burden has been affected by the impact of Covid-19. The treatment gap for mental health disorders is marked in the LMICs, Sub-Saharan Africa and Eswatini. Knowledge and attitudes of healthcare providers towards mental health patients have not been adequately studied, hence the need for this study. The literature shows that integration of mental health services into Primary Health Care is feasible, and the challenges to providing mental health services highlight the knowledge and attitudes of primary health care workers which are not studied enough hence the departure point for this study.

CHAPTER 3: METHODOLOGY

3.1. Introduction

The purpose of the methodology is to answer the "how" question of a study and it is the roadmap of how the study was conducted (UWC, 2021). This chapter outlines how the study was conducted through a discussion of the study design, population, sampling, data collection, reliability and validity, generalizability, data analysis, and ethical consideration.

3.2. Study design

This study used a cross-sectional quantitative research method. A cross-sectional survey design is used to collect data at one point in time using a structured self-reporting questionnaire. This study design was appropriate because it is easy to manage, cheaper than longitudinal studies, and large amounts of data are collected at once and at one point which makes the results easily available (Brink, Walt & Rensburg, 2012). A quantitative research method is often theory-driven, variables to be studied are known in advance and they are controlled and measured in form of numbers (Hassan, 2014). This study used a fixed study design. A fixed study design **is** theory-driven, with pre-specified variables to be controlled and measured, mostly measured quantitatively (Hassan, 2014).

3.3. Study setting

The study was conducted in Eswatini, in all ten primary health clinics in the Shiselweni region, Nhlangano zone. The Shiselweni region is located on the southern part of Eswatini and covers an area of about 3,790km. The region has a de jure population of about 204 111 people which is made up of 108 111 females and 96 000 males (Population and housing census preliminary results report, 2017). Shiselweni is mostly rural with many people working in the forestry

industry and factories. This setting was suitable because community outreach services from the NPRH do not reach this region and mental health treatment is only found in health centers, not Primary Health Clinics.

3.4. Population and Sampling.

The population for this study was all healthcare workers working in primary health care clinics in the Nhlangano zone, Shiselweni region. The health workers included nurses, pharmacy assistants, TB screening officers, phlebotomists, HTS counsellors, and community mentor mothers. There are ten PHC clinics in Nhlangano zone and they are currently serviced by 100 healthcare workers in total.

The study used a total sampling strategy because the calculated sample size included 80% of the population. Total population sampling is a type of purposive sampling technique where one chooses to study the entire population with a set of characteristics (Glen, 2018). Total sampling was chosen because it reduces the risk of missing potential views from members that are not sampled and makes it possible to make analytical generalizations about the population being studied because of its wide coverage.
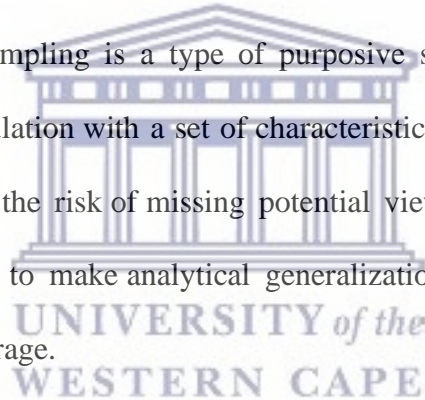
3.5. Sample size calculation

The sample size for this study was calculated using the Raosoft® online sample size calculator of 2004, assuming the following parameters: a margin of error of 5%, a confidence level of 95%, a population size of 100, a response distribution of 50% gave a sample size of n=80 when fed into Raosoft. The researcher used total sampling to select research respondents. Total sampling is a sampling technique where the population and sample used in the study are equal (Glen, 2018). Thus, all Primary healthcare workers in the Nhlangano zone, Shiselweni region became the sample of this study. Therefore, the actual sample size for this study was n= 100, the response

rate was 76% after 100 questionnaires were sent out to participants.

3.6. Data collection

Data collection commenced after receiving permission to conduct the study from the University of the Western Cape Biomedical Research Ethics Committee and other relevant authorities. A self-reporting questionnaire was used to allow for anonymity, reduce socially desirable answers and allow participants to describe their own experiences. No incentive was used to motivate participants into participating in the study.

A previously developed questionnaire was adapted and used to measure HCWs' knowledge, attitudes, and willingness to provide mental health services after seeking permission from the researcher who initially developed the tool. The tool was used in the study on Attitudes of primary health care providers towards people with mental illness: evidence from two districts in Zambia (Kapungwe et al., 2011). It used a Likert scale with five points (strongly agree, agree, strongly disagree, disagree, and undecided) (see Appendix H). The study was conducted in English only even though questionnaires were translated into Siswati and made available. Respondents chose to fill in the English language ones. The questions included socio-demographic characteristics: Age, Sex, Marital status, Religion, Educational level, Profession, and Work experience. Statements regarding participants' knowledge about people with mental illnesses, attitudes of HCWs towards mental illness, and their willingness to provide mental health services were also investigated.

The questionnaires were first pretested among five healthcare workers in another region with participants that are not part of the study to identify problems with the data collection instrument and find possible solutions. Thereafter a discussion with the participants was held and changes

were made as per need. This helped to adapt the questionnaire to fit the local context and ensured that the formulation of the questions was adapted to the education level of the healthcare workers. The internal consistency of the scale after the pilot study was, $\alpha = 0.78$. According to Taber (2018), a scale is considered of acceptable reliability when Cronbach's alpha (α) estimate of internal consistency is at least $\alpha = 0.70$. The questionnaires were distributed by the researcher to all the nurse managers in the ten PHC clinics in the zone. The nurse managers were asked about the number of staff in their facilities and the questionnaires were distributed according to the number of staff in the health facility. The aim of the survey was communicated to the participants through an information sheet and a consent form that was given to the participants to read and sign if they want to continue answering the questionnaire. The healthcare workers were given three days to complete the questionnaire. Three days were appropriate to allow the healthcare workers time from their busy schedules to fully complete the questionnaire without discussing answers with each other before completing it. The questionnaire required only about 15 minutes to complete. The researcher kept in contact with the nurse managers to remind their teams to complete the questionnaire without assistance before the researcher personally collected the questionnaires after three days. However, some questionnaires were returned because some participants had not filled them within three days, and they were allowed three more days to complete them before the researcher collected them.

3.7. Statistical Analyses

Data analysis was performed using the software tool STATA 17 (StataCorp LLC, College Station, TX, United State of America, 2019). The software tool was chosen because it allows one to study relationships of variables through simple, multiple, and multivariable logistic regression. Data was first entered into epi info 7 forms then exported to Microsoft Excel and then further

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exported into STATA for easy analysis. Data were first analyzed descriptively. Descriptive statistics (frequencies, percentages, cross-tabulations) were used to summarize the socio-demographic and other preliminary data. The first variable described was attitudes towards mental illness, a summary of six statements, and the second variable described was knowledge of HCWs regarding mental health illness, a summary of six statements. The third variable was the willingness of HCWs to provide mental health care in PHC, including six statements. Under attitude: each answer to a statement that indicated a positive attitude was coded as 1; while an answer indicating a negative attitude was coded as 0 as well as undecided. Under knowledge; an answer indicating knowledge was coded as 1 while lack of knowledge and undecided was coded as 0. Under willingness: an answer showing willingness was coded as 1 while unwillingness and undecidedness were coded as 0. The values of each statement were then added, if a participant scored 3 out of the 6 statements was marked as having a positive attitude towards mental illness, knowledgeable, and being willing to provide mental health care in their PHC clinics.

The next level of analysis involved a multivariate logistic regression model to determine whether Primary health workers' socio-demographic characteristics were associated with their attitudes, knowledge towards mental illness, and willingness to integrate mental health care in their Primary health clinics. Eight socio-demographic variables (age(groups), gender, marital status, religion, profession, educational level, years of clinical experience, and training in mental health) were each tested separately with the outcome variables which were attitude, knowledge, and willingness to integrate mental health services on univariate analysis. The p-value was first set at p< 0.25 for the univariate and set at p < 0.05 for the multivariate analysis where a manual forward selection was used on the remaining variables. A cut-off p-value of < 0.25 is supported in the literature by Mickey & Greenland (1989). A variable must have a p-value below 0.25 in

the univariate analysis to be a candidate for multivariate analysis. The p-value is first set at < 0.25 for univariate analysis to ensure maximum identification of predictor variables as recommended by prior research that reported that p<0.05 failed to identify variables known to be significant in multivariate models (Hoare et al., 2016). Collinearity and goodness of fit of the model were done using Pearson's goodness of fit model.

3.8. Validity and Reliability

To ensure *validity*: the questionnaire was first pretested among five healthcare workers in the region who were not part of the study after which there was a discussion with them so that changes were made where necessary thus minimizing information bias. Participants saw the questionnaire for the first time and no prior information was given to them concerning the questionnaire. In designing the data collection tool, the Likert scale was introduced in the attitude variables, to minimize measurement error. To minimize interviewer bias, a self-administered questionnaire was employed to enable participants to provide answers based on their assessment of the questions.

Reliability was ensured by avoiding selection bias; a total sampling method was used thus giving all the participants a chance of being included in the study. All the participants were asked the same questions to reduce measurement bias. Appropriate data checking was undertaken before data analysis. The internal consistency of the data collecting instrument used in this study from the Zambian (Kapungwe et al., 2011) study was not stated: however, it was pre-tested in 15 PHC HCWs, adapted and revised before use in the main study. To address the internal consistency of the data instrument for this study the researcher pre-tested the tool with five PHC HCWs outside the study region and used the responses to determine the inter-correlation of the items of the

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questionnaire using Cronbach Alpha coefficient (α). The researcher aimed for 0.70 or higher to indicate desirable internal consistency (Taber, 2018). Reliability analysis was carried out on the questionnaire responses comprising 18 items on SPSS@ Copyright Corporation IBM and others, 1989, 2019. Cronbach's alpha showed the questionnaire to reach acceptable reliability, α = 0.78. Most items appeared to be worthy of retention, resulting in a decrease in the alpha if deleted, hence all items were retained.

Data collected on all variables with yes or no options were checked for missing data and implausible observations. Participants were informed that they were not forced to participate in the study. This was done to ensure that only participants who were genuinely prepared to take part in the study would provide data freely.

3.9. Generalizability

Generalizability can be defined as the use of study findings and conclusions from a study conducted on a specific study sample to the population at large (Lesko et al., 2017). Therefore, study findings may be generalizable to one specific target population but not another. Results that were generated through this study can only be generalizable to the PHC HCWs that operate in the Nhlangano Zone in which the study was conducted. However, these results cannot be generalizable to the whole population of PHC HCWs in other regions of the country, as the sample that was used in the study was not representative of the general population of PHC HCWs in the Eswatini Kingdom.

4.0. Ethics Consideration

The study was granted ethical clearance from the University of the Western Cape Biomedical Research Ethics Committee (ref: BM 21/7/17) (See Appendix A) and the Eswatini Health and

Human Review Board (ref: EHHRRB081/2021) (See Appendix B) before conducting the study. The researcher also requested permission from the Shiselweni Regional Management Team (RHMT) (See Appendix C) and Facility Managers to conduct the study.

Four basic ethical principles that are applicable to research: Autonomy, Non- maleficence, Beneficence and Justice (SOPH, 2019). Autonomy is when people can make their choices after being informed of everything. To ensure, this the researcher explained the research process, benefits, and risks of taking part in the research through the information sheet. Non- maleficence is doing no harm to the participants. Participants were protected from any form of risk coming from being part of the research. Beneficence is the duty to do good all the time. The primary benefit of this research was to advance knowledge in mental health and thus helping society in some way. Justice is being fair. Here a selection of participants was by total population sampling which allowed one to study the entire population with a set of characteristics (Glen, 2018). To ensure confidentiality, right to privacy and anonymity of the participants, codes were used during data collection and reporting instead of names. Informed consent is based on the principle of respect for persons where people can make their own choices whether to participate or not (WHO, 2011). Written consent forms were used for study participants to sign if they choose to participate. An information sheet was given to the participants, this provided information on the study purpose, the duration of filling in the questionnaire, and any risk, and benefits associated with participation in the study. There were no benefits or risks to participating in the study. However, in case of participants experienced any emotional discomfort; a contact number for the Nhlangano zone Psychologist working under the Ministry of Health in the Shiselweni region employed by Medecins Sans Frontieres' was shared. Participation in the study was voluntary and participants could withdraw from the study at any time (Desmond Tutu HIV Centre, ICAP &

UCT, 2016). A safe place for storing the data was located, and a lockable cabinet in the office of the researcher was used in which only the researcher could access the data. Electronic data was stored in a password-protected folder to ensure privacy and confidentiality. The data will be stored for five years before it is destroyed.

COVID-19 adherence protocol was ensured by keeping a social distance of 1.5-2m, wearing face masks, sanitization of hands, and surfaces and cough etiquette was encouraged.

CHAPTER 4: RESULTS

4.1. Introduction

This chapter presents the findings of the study on attitudes, and knowledge of primary health workers towards mental illness, and their willingness to provide mental health care services in their PHC clinics in the Nhlangano zone, Shiselweni region, Eswatini. These findings include sociodemographic characteristics of participants, attitudes of primary health workers towards mental health illness, their knowledge regarding mental illness, and their willingness to provide mental health care. Also, the demographic factors associated with attitude, knowledge regarding mental illness, and willingness to provide mental health services in Primary health clinics are presented.

4.2. Socio-Demographic Data Characteristics

A total of 100 questionnaires were distributed to all the primary healthcare workers in the Nhlangano zone and 76 participants filled in the questionnaire, giving a response rate of 76%. Sex distribution in the sample was 74% (n=56) female and 26% (n=20) males (see Table 1). Most participants' ages ranged between (30-39yrs) (n=28) 37%. Most of the participants were married 54%(n=41), 42% (n=32) were single and 4% (n=3) were either divorced or widowed. All the participants indicated Christianity as their religion (n=76) 100%. Participants' educational level showed that 20% (n=15) had O'level certificates, 25% (n=19) had certificates, diplomas, and a degree and only 5% (n=4) had a master's degree and above. Seven different professions of primary health workers were identified; most of the staff complement in these facilities are staff nurses 43%(n=33), 11% (n=8) were Nursing Sisters/Managers, community mentor mothers, and phlebotomists, 5% (n=4) were nursing assistants, pharmacy assistants were

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7%(n=5), HTS counsellors were 13.16% (n=10). Only 46% (n=35) had more than ten years of clinical experience while the least experienced 1-2 years were 14% (n=11), 37% (n=28) answered yes to having received mental health training while 63%(n=48) said they had no training in mental health care.

Table 1: Socio-demographic data characteristics of participants (n=76)

Factors		Frequency (n=76)	Percentage (%)
Gender	Female	56	74%
	Male	20	26%
Age groups	18-29	15	20%
	30-39	28	37%
	40-49	20	26%
	50-59	13	17%
Marital status	Single	32	42%
	Married	41	54%
	Divorced/Widowed	3	4%
Religion	Christian	76	100%
Educational Level	O'Level certificate	15	20%
	Certificate	19	25%
	Diploma	19	25%
	Degree	19	25%
	Master's degree or above	4	5%
Profession	Nursing sister	8	11%
	Staff Nurse	33	43%
	Nursing assistant	4	5%

	Pharmacy assistant	5	7%
	Phlebotomist	8	11%
	TB Screening officer	0	0%
	Community mentor mother	8	11%
	HTS counsellor	10	13%
Year of experience	1 - 2 Years	11	14%
	3 - 5 Years	16	21%
	5 - 10 Years	14	18%
	> 10 Years	35	46%
Training in Mental care	Yes	28	37%
	No	48	63%
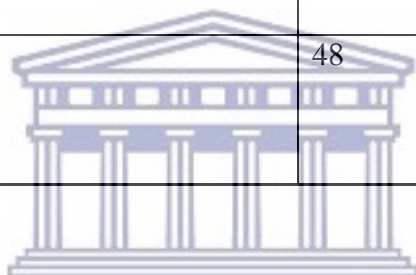
4.3. attitudes of Primary health care workers towards mental illness

The overall results showed that the Primary health care workers displayed positive attitudes towards mentally ill patients 79%(n=60) and only 21%(n=16) had negative attitudes (see Table 2. Most of the participants 88%(n=69) agreed that people with mental illness have unpredictable behavior, 8%(n=6) disagreed and 1% (n=1) were undecided. To the statement, people with mental illness are dangerous 48%(n=37) agreed while 39%(n=30) disagreed, and 9%(n=7) chose undecided. To the statement that they find it hard to talk to someone with mental health problems; 46%(n=35) agreed and more than half of the participants 52%(n=38) disagreed while 3%(n=2) were undecided. Most participants 77%(n=58) disagreed that people with mental illness

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should not be allowed to work while only 16%(n=12) agreed and (8%, n=6) were undecided. A majority of the participants 87%(n=59) showed positive attitudes towards mental illness by disagreeing with the statement that the political and individual rights of mentally ill persons should be suspended while on treatment to help them while 8% were undecided, only 12%(n=9) agreed to show negative attitudes to mental illness. Positive attitudes towards mental illness were seen in 79%(n=60) disagreeing with the statement that those with mental illness should not have children while 8%(n=6) were undecided and negative attitudes were only seen in 13%(n=10) participants who agreed to the above statement (see table 2 below).

Table 2: Primary health care workers attitudes towards mental illness

Statements	Strongly disagree N%	Disagree N%	Agree N%	Strongly agree N%	Undecided N%
People with mental illness have unpredictable behavior	4(5%)	2(3%)	43(54%)	26(34%)	1(1%)
People with mental illness are dangerous	4(6%)	26(34%)	28(37%)	11(14%)	7(9%)
Find it hard to talk to someone with mental health problems	8(11%)	31(41%)	28(37%)	7(9%)	2(3%)
People with mental illness should not be allowed to work	28(37%)	30(39%)	10(13%)	2(3%)	6(8%)
Political and individual rights of mentally ill persons should be suspended while on treatment to help them	36(47%)	30(39%)	6(8%)	3(4%)	1(8%)
Those with mental illness should not have children	29(38%)	31(40%)	10(13%)	0(0%)	6(8%)
Overall participants Attitudes					

Positive n/N	Negative n/N
n =60(79%)	n=16(21%)

4.4. Knowledge of Primary health care workers regarding mental illness

The results revealed that the Primary health care workers had basic knowledge about mental illness 54%(n=41) and only 46%(n=35) showed a lack of knowledge with regards to mental health illness (see Table 3). Over half of the participants 59% (n=45) agreed that if people become mentally ill once, they easily become ill again showing good knowledge while 37%(n=28) disagreed. About half of the participants disagreed 52%(n=39) that sedation of mental patients would guarantee safety for other people in all cases showing a lack of knowledge while 44%(n=33) agreed to show knowledge about mental illness and 5%(n=4) were undecided. Violent mental patients should be handcuffed were sentiments of 57%(n= 43) who agreed to show poor knowledge regarding the management of mentally ill patients while only 39%(n=30) disagreed showing good knowledge regarding mental illness and 4%(n=3) were undecided. Most of the participants 69%(n=52) agreed that it is easy to identify a person who has a mental illness by the characteristics of their behavior thus showing good knowledge while only 31%(n=23) disagreed and 1%(n=1) were undecided. Participants were divided in this statement: All people with mental illness have some strange behavior, as half agreed 50% (n=38) showed good knowledge, and the other half 50%(n=38) disagreed showing a lack of knowledge none chose undecided, (see Table 3 below).

TABLE 3: Primary health care workers knowledge regarding mental illness

Statements	Strongly disagree N%	Disagree N%	Agree N%	Strongly agree N%	Undecided N%
If people become mentally ill once, they easily become ill again	5(7%)	23(30%)	38(50%)	7(9%)	3(4%)
Sedation of mental patients would guarantee safety for other people in all cases	11(14%)	28(37%)	27(36%)	6(8%)	4(5%)
Violent mental patients should be handcuffed	10(13%)	20(27%)	34(45%)	9(12%)	3(4%)
Detention in a solitary place should be considered for people with mental illness	7(9%)	34(45%)	25(33%)	4.(5%)	6(8%)
It is easy to identify a person who has a mental illness by the characteristics of their behavior	2(3%)	21(28%)	41(54%)	11(14%)	1(1%)
All people with mental illness have some strange	11(14%)	27(36%)	25(33%)	13(17%)	0(0%)

behavior					
Overall Participants Knowledge					
Good knowledge n/N			Poor knowledge n/N		
n= 41 (54%)			n= 35 (46%)		

4.5. Willingness of Primary health care workers to provide mental health services in PHC

Of the participants who showed a willingness to provide mental health care in their primary health clinics 79%(n=60) and 21%(n=16) were not willing to provide mental health care in their clinics (See table 4). More than half 56%(n=43) of the PHC workers disagreed that the National Psychiatric Referral Hospital is the only place for people with mental illness which shows a positive attitude towards providing mental health in their primary health clinics, while 1%(n=1) were undecided, 42%(n=32) agreed to the above statement which shows an unwillingness to providing mental health in their PHC clinics. Some 61%(n=47) disagreed that they would ask for an exemption to treat those with mental illness with the willingness to provide mental health in PHC clinics while (12%, n=9) were undecided. Only about one-third of the participants showed unwillingness to provide mental health in PHC clinics by agreeing 27%(n=20) to being exempted to treat those with mental illness. A majority of the participants 80%(n=61) said they would be doubtful to be around people who have been treated for mental illness showing unwillingness to provide mental health care in PHC clinics while (4%, n=3) were undecided and only 16%(n=12) agree that they would be doubtful to be around those being treated for mental illness which shows an unwillingness to integrate mental health in PHC clinic. Mentally sick persons are entitled to the same attention in the health center as general patients views of 75%(n=57) PHC workers thus showing willingness to have mental health care integrated in PHC

clinics while only a few 22%(n=17) disagreed respectively thus showing unwillingness to provide mental health in PHC clinics and 2%, (n=2) were undecided.

Mentally-ill patients should not be treated in the same health center with other people were sentiments of 27% (n=21) while 67% (n=51) disagreed which showed willingness from the majority of PHC workers to mental health integration while only 5% (n=4) undecided. A very high percentage 90%(n=67) of participants disagreed that even after treatment, they would be doubtful to be around people who have been treated for mental illness showing a positive attitude towards mental health integration into PHC clinics, while only 5%(n=4) agreed to show negative attitude towards mental health integration in their PHC clinics. Only, 4%(n=3) were undecided (see table 4).

Table 4 Primary health care worker's willingness to provide mental health services in PHC

Statements	Strongly disagree N%	Disagree N%	Agree N%	Strongly agree N%	Undecided N%
National Psychiatric Referral Hospital is the only place for people with mental illness	17(22%)	26(34%)	29(38%)	3(4%)	1(1%)
I would ask for exemption to treat those with mental illness	14(18%)	33(43%)	17(22%)	3(4%)	9(12%)
I would be doubtful to be around people who has been treated for mental illness	22(29%)	39(51%)	11(14%)	1(1%)	3(4%)
Mentally sick persons are entitled to the same attention in the health center as general patients	1(1%)	16(21%)	31(41%)	26(34%)	2(2%)
Mental patients should not be treated in the same	18(24%)	33(43%)	18(24%)	3(4%)	4(5%)

health center with other people			)		
even after treatment, i would be doubtful to be around people who has been treated for mental illness	27(36%)	42(55%)	4(5%)	0(0%)	3(4%)
Overall participants Willingness					
Good willingness n/N n=60(79%)			Poor willingness n/N n= 16(21%)		
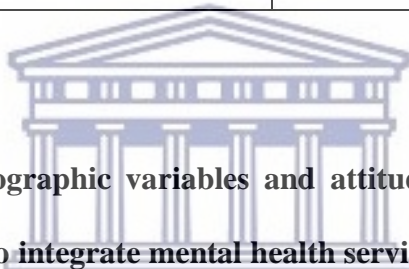
4.6. Association between demographic variables and attitude, and knowledge regarding mental illness and willingness to integrate mental health services

We used STATA 17 (StataCorp LLC, College Station, TX, United State of America, 2019) to run a multivariate logistic regression model to determine whether Primary health worker's socio-demographic characteristics were associated with their attitudes and knowledge towards mental illness and willingness to integrate mental health care in their Primary health clinics. Eight socio-demographic variables: age, gender, marital status, religion, profession, educational level, years of clinical experience, and training in mental health were each tested separately with the outcome variables which were attitude, knowledge, and willingness to integrate mental health services on univariate analysis. The *p*-value was first set at <0.25 for the univariate and set at p < 0.05 for the multivariate analysis where a manual forward selection was used on the remaining variables.

Collinearity and goodness of fit of the model were done using Pearson's goodness of fit model. After adjusting for confounding, the factors associated with good knowledge of mental health were, age (30-39yrs) (aOR 0.17, 95% CI 0.03-0.95, p 0.044) and receiving training in mental health (aOR 0.25, 95% CI 0.09- 0.73, p 0.011). Moreover, only receiving mental health training (aOR 0.19, 95% CI 0.39-0.91, p 0.011) was associated with a willingness to integrate mental health care.

4.6.1. Association between demographic variables and attitude

In a univariate analysis; age group (30-39yrs), educational level (degree), profession (HTS counsellor), and receiving mental health training in-service training, were candidate variables for multivariate logistic regression analysis with p-value < 0.25. Among the variables analyzed for multivariate regression, all four: age group (30-39yrs), educational level (degree), profession (HTS counsellor) and receiving mental health training did not show significant association with attitudes towards mental illness (see appendix J).
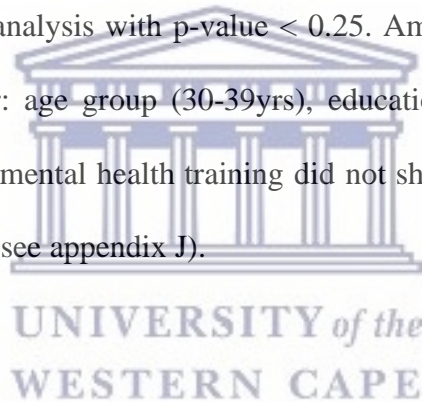
4.6.1.2. Association between demographic variables and knowledge regarding mental illness

In a univariate analysis; age group (30-39yrs), (40-49yrs), (50-59yrs), profession (staff nurse and nursing assistant), years of clinical experience, and receiving mental health training in-service training, were candidate variables for multivariate logistic regression analysis with p-value < 0.25. Among the variables analyzed for multivariate regression, only: the age group (30-39yrs) and receiving mental health training showed significant association with knowledge regarding mental illness (see appendix K).

The age group 30-39yrs showed a positive association (OR 0.27, 95% CI 0.06- 1.19) to knowledge regarding mental illness (OR 0.27, 95% CI 0.06- 1.19), compared to the other age groups in univariate analysis. Also, multivariate analysis showed an association between the age group 30-39yrs and knowledge (aOR 0.17, 95% CI 0.03-0.95, p 0.044) (see appendix K)

Receiving some training in mental health was positively associated with good knowledge regarding mental illness (OR 0.24, 95% CI 0.08-0.67) in univariate analysis. Also, in multivariate analysis receiving mental health training was positively associated with good knowledge (aOR 0.25, 95% CI 0.09- 0.73, p 0.011) (see appendix K).

4.6.2. ASSOCIATION BETWEEN DEMOGRAPHIC VARIABLES AND WILLINGNESS TO PROVIDE MENTAL HEALTH INTEGRATION

In a univariate analysis; educational level (diploma and degree), years of clinical experience (5-10yrs), and receiving mental health training in-service training, were candidate variables for multivariate logistic regression analysis with p-value < 0.25. Among the variables analyzed for multivariate regression, only receiving mental health training showed a significant association with willingness to provide mental health care in their PHC clinics (see appendix L).

Receiving some training in mental health was associated to a willingness to provide mental health care in their Primary health clinics (OR 0.19, 95% CI 0.04-0.91) in univariate analysis, and in multivariate analysis (aOR 0.19, 95% CI 0.39-0.91, p=0.036) (see appendix L). There was no statistically significant difference noted in the other sociodemographic variables with a willingness to provide mental health care in PHC clinics.
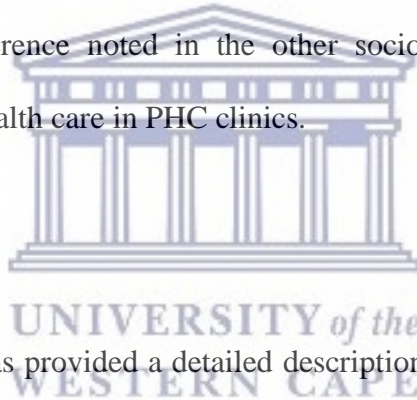
4.7. Conclusion

In this chapter, the researcher has provided a detailed description and presentation of the results of the study. The researcher used descriptive analyses to describe, organize and analyze the data. The descriptive analysis was processed in three phases such as descriptive statistics analysis, univariate analysis, and multivariate analysis. The results of this study indicated that 79% (n=60) of PHC workers have positive attitudes towards mental illness, and 21% (n=16) have negative attitudes. The results also revealed that the PHC workers had basic knowledge about mental illness 54%(n=41) and only 46%(n=35) showed a lack of knowledge with regards to mental health illness. Only 79% (n=60) of PHC workers show willingness while 21% (n=16) of 46% are not willing to provide mental health in primary health clinics. A discussion of these results

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follows in the next chapter, then chapter 6, which presents recommendations and the conclusion of the study.

CHAPTER 5: DISCUSSION

5.1. Introduction

This study investigated Primary health care workers' attitudes, knowledge regarding mental illness, and willingness to provide mental health care in their PHC clinics in Nhlangano Zone, Shiselweni, Eswatini. This chapter discusses the findings of the study in three parts; attitudes, knowledge, and willingness of Primary health workers in relation to relevant literature, and the limitations of the study are also discussed.

The results of this study revealed that the Primary healthcare workers had basic knowledge about mental illness. The findings also revealed that the Primary healthcare worker's displayed positive attitudes towards mentally ill patients. Furthermore, the results show that they are willing to have mental health care integrated into their primary health clinics. This chapter will discuss these results as well as how sociodemographic (age (30-39yrs) and receiving mental health training) variables impact the PHC worker's attitude, knowledge regarding mental illness, and willingness to provide mental health care services in their primary health clinic. Limitations of the study are also discussed in this chapter.
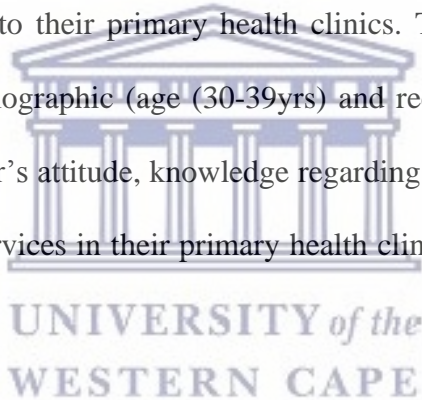
5.2. Attitudes of Primary health workers

The results of this study indicated that 79% of PHC workers had positive attitudes toward mental illness, and 21% had negative attitudes. Most participants 78% showed positive attitudes towards mental illness by disagreeing with the statement that the political and individual rights of mentally ill persons should be suspended while on treatment to help them. A similar study by Alfredsson, Sebastian & Jeghannathan, (2017) on Attitudes towards mental health and the integration of mental health services into primary healthcare among healthcare workers in

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Cambodia also showed that PHC workers had a positive attitude toward mental illness. The responders' index score was between −2 and +8, with the distribution of the scores towards the more positive part of the axis. The mean value for this index was +4.0 (median 4.0; SD 2.2).

Only one (1.4%) participant had a negative value when summarizing the answers (Alfredsson, Sebastian & Jeghannathan, (2017). Similarly, in this study, PHC workers showed less negative attitudes towards mental illness this was seen in their responses to certain statements; political and individual rights of mentally ill persons should be suspended while on treatment to help them, and only 12% agreed thus showing negative attitudes to mental illness. Just as in the Zambian study by Kapungwe et al. (2011) only 49% disagreed with the same statement (political and individual rights of mentally ill persons should be suspended while on treatment to help them) thus showing a negative attitude towards mental illness. This difference is because generally in the Zambian study the PHC workers were more negative towards mental illness than in this study. A negative attitude is also seen in the responses to the statement that people with mental illness are dangerous, 48% agreed showing a negative attitude towards mental illness. Zhenyu Ma et al. (2018) findings in a study: attitude towards Mental Illness among Primary Healthcare Providers: A Community-Based Study in Rural China, suggested that the attitudes of PHC providers were negative towards the mentally ill, no matter whether in hospital-community integrated service model or psychiatric hospital-centric model.

Despite the generally positive attitudes of PHC workers, most of the participants 91% were in agreement that people with mental illness have unpredictable behavior, and is higher than in a similar study (66.7%) in Alfredsson, Sebastian & Jeghannathan, (2017), 48% agreed that people

with mental illness are dangerous showing negative attitude towards mental illness, even though this is lower (66.7%) than in the same study by Alfredsson, Sebastian & Jeghannathan, (2017). However, the reason why the PHC workers had this opinion was not further investigated in this study.

More than half of the participants 52% disagreed with the statement that they find it hard to talk to someone with mental health problems which showed a positive attitude. Also, in the Zambian study on attitudes of primary health care providers towards people with mental illness: evidence from two districts in Zambia (Kapungwe et al, 2011), 41% disagreed with the same statement showing a lower percentage with a positive attitude in this statement.

Most participants disagreed that people with mental illness should not be allowed to work showing a positive attitude towards mental illness which is in keeping with what Alfredsson, Sebastian & Jeghannathan, (2017) found that only a few of the participants 23.3% stated that people with mental illness should not be allowed to work. On the other hand, in the study by (Kapungwe et al., 2011) more than half of the participants agreed that people with mental illness should not be allowed to work showing negative attitudes towards mental illness. The difference might be caused by that a large proportion of healthcare staff exhibited separatist and discriminatory attitudes towards people with mental illness in the two mentioned studies.

In this study, positive attitudes towards mental illness were seen in 79% disagreeing with the statement that those with mental illness should not have children while in Alfredsson, Sebastian & Jeghannathan (2017) 44.6% disagreed and 33.8% agreed to the above statement, even though

those who disagreed showed a lower percentage than this study they still showed positive attitudes.

5.3. Knowledge of mental health illness among HCWs

The study found that 54% of PHC workers were knowledgeable about mental illness. These study results are higher than in the study conducted in Addis Ababa by Ahmed, Merga, and Alemseged (2019) which showed 44.0% of urban health extension professionals (UHEPs) had adequate knowledge. The difference can be due to exposure to information on mental health including through media compared to their rural counter parts.

One of the factors associated with good knowledge regarding mental health was Age (30-39yrs) (aOR 0.17, 95% CI 0.03-0.95, p 0.044). This age group was the most represented in this study 37%(n=28). Significant correlations were also found between the age of the Health Care Providers and The Health Knowledge Schedule (MAKS) (knowledge) in physicians' group in Jordan. A possible explanation might be that young physicians lack mental health training and are also less experienced in mental health care than older ones who are fully trained and experienced in mental health care (Dalky et al., 2020). On the Contrary, Urban Health Extension Providers aged from 30 to 44 years were 45% less likely to know when compared to those whose ages were 20–29 years [OR = 95% CI 0.55 (0.34, 0.90)] (Ahmed et al., 2019). Similarly, the study from Addis Ababa Public Hospital showed nurses whose ages were 23–27 years were two times more knowledgeable than nurses whose age were greater than 37 years (Mariam et al., 2019). Age was not statistically significant with the knowledge of mental illness in the multiple

logistic regression using the chi-square test (95% CI, P > 0.05) in the study by AlSalem et al. (2020) in Makkah, Saudi Arabi.

Receiving training in mental health was also associated with knowledge and was statistically significant (aOR 0.25, 95% CI 0.09- 0.73, p 0.011). This is in alignment with the findings in the WHO report and a study conducted in Sweden which could be explained by the lack of adequate training and less supervision by mental health teams as a cause for the lack of knowledge. Accordingly, it might be argued that training in mental health leads to a decrease in negative attitude among PHC workers regarding to mental illness and this in turn also increase the level of knowledge about mental illness (Sahile et al., 2019). Aruna et al. (2016) found that the level of knowledge in undergraduate medical students increased as they advanced in years of study, such that students in their final years answered more questions correctly than those in their first year of study. This is not an unexpected finding, as students in advanced years of study would have been exposed to more mental health training and teaching than students in earlier years of study.

In the Ethiopian study, nurses who had some training in mental health were two times more likely to be knowledgeable than those who did not receive some mental health training while the study conducted in Fiji showed that there was no difference seen between those who had some training in mental health and those who did not (Mariam et al., 2016). The difference might be due to the quality of training they took, the sample size, and the study technique.

Receiving mental health training in this study is significantly associated with good knowledge and only 37% received training in mental health in this study. This might have impacted

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negatively on the knowledge levels of the participants and hence affected their level of willingness to provide mental health services in PHC clinics. A possible solution to this could be providing in-service training on mental health to all PHC workers working in health facilities.

5.4. Willingness of HCWs to provide mental health services in PHC

The results of this study revealed a high degree of willingness 79% to provide mental health services in primary health care clinics. Also, in the Zambian study by Mwape et al. (2010), 98.2% were of the view that such integration was either extremely important (71.2%) or just important (27.0%). Similar results were observed in the study: Perceived challenges and opportunities arising from the integration of mental health into primary care: a cross-sectional survey of primary health care workers in south-west Ethiopia where they found out that almost all respondents (98.0%) expressed a positive attitude towards mental health and the idea of integration of mental health care into PHC services (Abera et al., 2014). To further show a willingness to integrate mental health care in this study, 67% disagreed 24% strongly disagreed, 43% disagreed to the statement that mental ill patients should not be treated in the same health center as other people showing a good attitude towards mental health integration while the Zambian study by Kapungwe et al. (2011) showed less willingness with only 31.5% who disagreed, 17.1% strongly disagree, 14.4% disagree to the same statement. Less willingness in the Zambian study is associated with negative attitudes and lack of knowledge showing that a large proportion of primary health care providers interviewed endorse negative stereotypes towards mentally sick persons.

WHO has encouraged nations to have a comprehensive policy to integrate mental health into

primary health care since the Alma Ata International Conference on Primary Health Care in 1978. Despite the many reforms in the Ministry of Health that have taken place in Eswatini within a primary health care philosophy, mental health has been largely overlooked in these reforms prioritizing communicable diseases, at the expense of non-communicable diseases.

The results of this study showed that receiving mental health training (aOR 0.19, 95% CI 0.39-0.91, p 0.011) was associated with willingness to integrate mental health care into primary health clinics. This is even though only 37% of the study participants received some form of mental health training which is not good for mental health service provision because lack of capacity in this regard may poorly affect mental health service provision. Similarly, Alfredsson, Sebastian & Jeghannathan (2017), also revealed that healthcare workers of Lvea Em District believed that better knowledge and training of the staff at the healthcare centres are important for scaling up the quality of mental health services. In the same study, receiving some mental health training was significantly associated with attitudes towards mental illness thus leading to positive attitudes which we can argue that they lead to willingness towards mental health integration.

Pre-service training in mental health care was associated with a more favorable attitude towards the integration of mental health care into PHC services; 92.7% of trained PHC workers expressed a positive attitude compared to 78.6% of those without pre-service training ($\chi2 = 8.57$, df = 1, p = 0.003) (Abera et al., 2014). This further emphasizes the importance of mental health training which enhances knowledge among PHC workers to assist them to provide quality mental health care in primary health clinics. With only 37% of the study participants receiving some form of mental health training, improvement in this regard is highly recommended to

achieve full mental health integration into primary health facilities. This is further supported by the Ethiopian study by Abera et al. (2014) which showed almost all 96.7%) reported that in-service training would be needed for health professionals to improve their knowledge sufficiently to be able to deliver mental health care in the PHC setting.

5.5. Limitations

The study does not look at how healthcare workers' attitudes toward people with mental illness affect their professional practice. The study did not look at PHC infrastructure or capacity to provide mental health services, as more than knowledge and attitudes of healthcare workers is required to strengthen mental health care in the study area. The questionnaire used in this study was a previously developed questionnaire then adapted to this study setting based on previous studies which minimize the generalizability of the findings. This is a cross-sectional study, thus change in attitude over time cannot be determined, and neither can the cause of identified attitudes be explained by this method. The study is also limited in scope, covering a very limited area of Eswatini, for improved generalizability, similar studies should be conducted in other regions of the country and results compared so that programs can be designed nationally. Notwithstanding these limitations, this study has very important findings for strengthening mental health service provision in the study area and areas with similar set up.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1. Introduction

This chapter summarizes the main findings of this study and outlines recommendations based on the study findings in terms of policy and practice as well as suggested areas of further research.

6.2. Conclusion

This study investigated attitudes, and knowledge of primary health workers towards mental illness, and their willingness to provide mental health care in their PHC clinics in the Nhlangano zone, Shiselweni region, Eswatini. The results revealed that the Primary health care workers had basic knowledge about mental illness, displayed positive attitudes towards mentally ill patients, and showed a willingness to have mental health care integrated into their Primary health clinics.

This study aimed to determine the knowledge and attitudes of primary health care workers towards mental health illness and their willingness to provide mental health services in primary health care clinics so that opportunities and challenges surrounding the integration of mental health care services can be identified in the Shiselweni region, in the kingdom of Eswatini.

The objectives of this study were to: assess the knowledge of HCWs towards mental health illness, assess the attitudes of HCWs towards mental health illness, describe HCWs attitudes towards the integration of mental health services into primary health care clinics, and assess willingness of HCW to provide mental health services in clinics.

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This study according to the researcher is the first of its kind in the study area and the country at large, its findings contribute to literature, a body of knowledge in mental illness knowledge, attitudes towards mental illness, and the willingness of primary health workers to have mental illness provided in primary health clinics. The major finding is mental health training shows an association with good knowledge and subsequently, positive attitudes toward mental health integration. This work will contribute in a significant way to an understanding of the field of mental health and be a base for other studies that are needed to further review mental illness.

6.3. RECOMMENDATIONS:

6.3.1. Recommendations for future study/research:

● For effective implementation of the WHO recommendation of integration of mental health services in primary care services, similar studies need to be conducted in other regions of Eswatini, to identify determinants of primary health workers' attitudes towards the mentally ill so that a national policy can be formulated based on available data. This study was conducted in selected healthcare facilities in the Shiselweni region, Nhlangano Zone, and Eswatini, hence the need for a broader study to be done to obtain a bigger picture of the problem in question.

● A study on healthcare policymakers and administrators' opinions on the implementation of integrating mental healthcare services into Primary health care services should be conducted. This will help to properly understand and establish the readiness of all stakeholders to integrate mental healthcare services into the primary healthcare level.

● Further studies are needed, particularly in Eswatini, to fill gaps in the literature regarding the best way to minimize negative attitudes among healthcare providers.

● Although healthcare workers showed willingness to integrate mental health into PHC, furthers studies e.g qualitative studies may be needed to explore healthcare providers opinions on the implementation of integrating mental healthcare services into Primary health care services in conjunction with healthcare policymakers and administrators.

6.3.2. Recommendations for practice:

● Primary health care workers need to be retrained with attention given to those attitudes that discriminate against the mentally ill, which has been identified as responsible for the poor integration of mental health services into primary health care services across the country.

● Continuous staff development on mental health through onsite training and workshops is recommended for PHC workers to improve their understanding of the importance of the management of mental illness and enrich PHC providers' professional knowledge about mental illness and gain the necessary knowledge for providing integrated mental health care services.

● Community education on mental health is recommended to help weaken and eliminate discrimination and inappropriate perception against mentally ill patients and mental illness.

● It is recommended that in-service training sessions should be implemented since most of the participants indicated that they never had any formal or informal in-service training with

regard to mental illness. This will update and/or improve the knowledge of the general assistants on pertinent mental health issues that they need to know to effectively carry out their work. In this regard, it is suggested that a basic mental health literacy training course should be included in the induction training of PHC to reduce fears and possible ill-treatment, discrimination, and stigmatization of the mentally ill.

6.3.3. Policy recommendations:

● It is recommended that the Ministry of health's national health policy be reviewed to mention mental health and draft a national mental health policy. In addition, the resources allocated to mental health should be increased along with the creation of more mental health services.

● Adoption of a national mental health policy framework that embraces decentralized care and task sharing, together with mental health gaining ground as a public health priority, bodes well for future scaling up of integrated mental healthcare.

● Educational intervention programs in areas of mental health to improve the knowledge, attitudes, and practices of PHC workers towards mental illness are paramount. If this is implemented, PHC workers will be more confident in dealing with mental illness cases. Previous studies have shown that continued medical education is linked to better diagnosis and management of patients.

● Non-mental healthcare workers in the healthcare setting should be more informed of mental health issues and should develop a more positive attitude. Therefore, there is a need to conduct educational programs for all healthcare professionals for providing basic information

and assess mental illness. A better understanding of mental illness would alleviate fear and mistrust about mentally ill patients in the healthcare setting as well as minimize stigmatization.

● A better monitoring of mental health outcomes and a proper evaluation of mental care interventions can contribute to placing mental health higher on the national agenda.

● There should be a continued focus on mental health care in Eswatini, including improving access to basic management of common mental health conditions in non-specialist primary care, such as counselling and medication, given the significant need counselling should be developed as a first-line option for non-specialist nurse-led primary care for moderate depression.

● Provision of clinical guidelines, availability of medications for MNS disorders, and periodic supportive supervision by a mental health professional would be possible ways to support the integration of mental health care into PHC, supported by evidence from previous studies.

● The researcher also recommends that guidelines with basic information on mental illness should be established and distributed to PHC to inform and educate them regarding basic mental health literacy. This will possibly enhance mental health literacy and possibly reduce negative perceptions and attitudes toward mentally ill patients.

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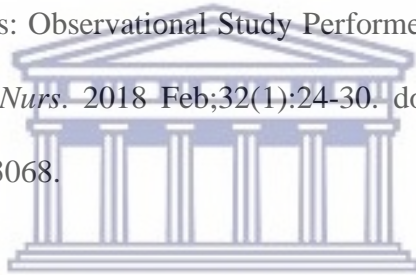
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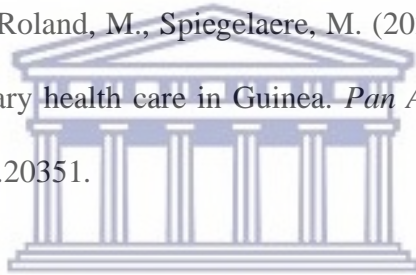
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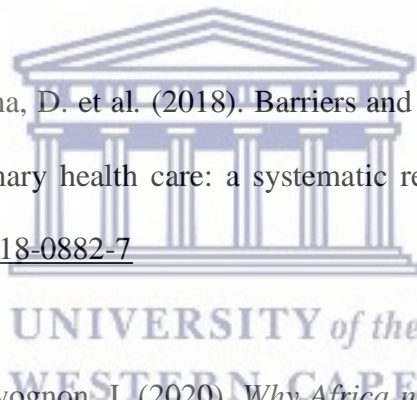
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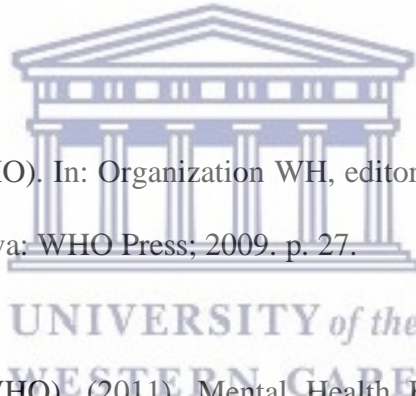
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8. APPENDICES

8.1. APPENDIX A: Mini-thesis UWC Ethics Approval

7 September 2021

Mr S Manana
School of Public Health
Faculty of Community and Health Sciences

Ethics Reference Number: BM21/7/17

Project Title: Knowledge and Attitudes towards mental health illness and
integration of mental health services into primary health care
(PHC) clinics: a cross sectional survey among health-care
workers in the Shiselweni region, Nhlangano zone, Eswatini.

Approval Period:

7 September 2021 – 7 September 2024

I hereby certify that the Biomedical Science Research Ethics Committee of the University of
the Western Cape approved the scientific methodology and ethics of the above mentioned
research project.

Any amendments, extension or other modifications to the protocol must be submitted to the
Ethics Committee for approval.

Please remember to submit a progress report annually by **30 November** for the
duration of the project.

Permission to conduct the study must be submitted to BMREC for record-keeping.

The Committee must be informed of any serious adverse event and/or termination of the
study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

NHREC Registration Number: BMREC-130416-050

8.1.2. APPENDIX B: Eswatini Health and Human Review Board Approval

ESWATINI
HEALTH AND HUMAN
RESEARCH REVIEW BOARD
MBANDZENI HOUSE, 3ᴿᴰ FLOOR, CHURCH STREET
P.O. BOX 5, MBABANE, ESWATINI

ONE YEAR RESEARCH PROTOCOL APPROVAL CERTIFICATE

BOARD REGISTRATION NUMBER	FWA 00026661/IRB 00011253					
PROTOCOL REFERENCE NUMBER	EHHRRB081/2021					
Type of review	Expedited	X			Full Board	
Name of Organization	Master' Student					
Title of study	Knowledge and Attitudes towards mental health illness and integration of mental health services into primary health care (PHC) clinics: a cross-sectional survey among health-care workers in the Shiselweni region, Nhlangano zone, Eswatini.					
Protocol version	1.0					
Nature of application	New X	Amendment		Renewal	Extension	CT updates
List of study sites	Shiselweni region, Nhlangano zone					
Name of Principal Investigator	Mr. Sifiso Manana					
Names of Co- Investigators	N/A					
Names of steering committee members in the case of clinical trials	N/A					
Names of Data and Safety Committee members in the case of clinical trials	N/A					
Level of risk (Tick appropriate box)	Minimal X		More than minimal		High	
Initial study Approval information	Approved	X	Study completion date	31/12/2021	Certificate expiry Date	12/10/2022
	Approval date	12/10/2021				
Study renewal approval information	Renewal date				End date	
Study amendment approval information	Amendment date					
Study extension approval information	Extension date				End date	
Signature of Chairperson						
Signing date	12/10/2021					
Secretariat Contact Details	Name of contact officers		Babazile Shongwe			
	Email address		ehhrrbeswatini@gmail.com			
	Telephone no.		(00268) 2404 7751/6039			

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APPROVAL CONDITIONS

Ref.	Conditions	Indication of conditions (tick appropriate box)				
1	Implementation of approved version of protocol					
2	Provide a specific insurance cover certificate in respect of this particular study within 14 days of receiving this Ethics Clearance certificate					
3	Update information on adverse events both on the addendum and the informed consent form to include measures for addressing life threatening adverse events that occur at home.					
4	Reporting of adverse events within 5 days of occurrence					
5	Submission of progress reporting for multi-year studies	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
6	Submission of end of project report (Hard copy)	✓				
7	Submission of end of project report (Soft copy)	✓				
	Submission of data sets	✓				

List of reviewed documents

Ref.	Documents	Reviewed documents (tick appropriate box)
1	Completed application form	✓
2	Cover letters	✓
3	Evidence of administrative permission to conduct the research by involved institutions/sites (where applicable)	✓
4	Detailed current resume or curriculum vitae of Principal Investigator/s including Principal investigators declaration	✓
5	Summary resume or biography for other investigator(s)	✓
6	Evidence of approval/rejection by other Ethics Committees, including comments and requested alterations to the protocol, where appropriate	✓
7	Research protocol (see outline in Annex I)	✓
8	Questionnaires and interview guides (with back-translated versions where applicable)	✓
9	Case report forms (CRFs), abstraction forms and other data collection tools	
10	Participant/subjects Information Statement/s (where applicable)	✓
11	Informed consent form(s) including photographic and electronic media consent statements.	✓
12	Advertisements relevant to the study (where applicable)	
13	Source of funding and detailed budget breakdown including material and incentives to participants if applicable	✓
14	Notification form for adverse effects/events.	
15	Proof of payment	✓
16	Proof of insurance cover for research subjects in clinical trials or where applicable	
17	Any other special requirements should be stated, if applicable	N/A

8.2. APPENDIX C: RHMT Permission letter

The RHMT

19/10/21

Sifiso Manana

P.O Box 989

NHLANGANO

Dear Sir

Re: Permission to conduct research among health care workers in the Nhlangano zone Primary Health facilities

With reference to letter you submitted in connection to the above-mentioned subject. The RHMT is pleased to inform you that permission has been granted for the research titled **"knowledge and Attitudes towards mental health and the integration of mental health services into primary health care (PHC) clinics: a cross-sectional survey among health-care workers in the Shiselweni region, Nhlangano zone, Eswatini.**

Kindly ensure the following are adhered to:

- Arrangement with facility managers can be made and normal activities of the facility not interrupted.
- Ensure all ethical principles are adhered to throughout the study.
- The findings and recommendations from the proposed research will be shared with the Regional Health Management Team.

Yours Sincerely

Regional Public Health Matron

MINISTRY OF HEALTH
P.O.BOX 53, NHLANGANO

3 0 MAY 2022

REGIONAL PUBLIC
HEALTH MATRON
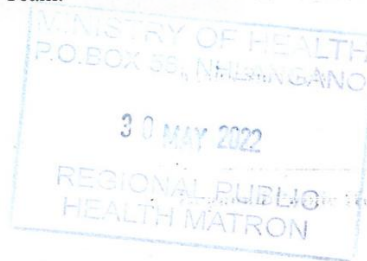
8.3. Consent forms

8.3.1. APPENDIX D: English Consent Form

CONSENT FORM

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel : +27 21-959 2809, Fax : 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

Title of Research Project: Attitudes towards mental health illness and the integration of mental health services into primary health care (PHC) clinics: a cross-sectional survey among health-care workers in the Shiselweni region, Nhlangano zone, Eswatini

The study has been described to me in a language that I understand. My questions about the study have been answered. I understand what my participation will involve, and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

I understand that COVID-19 adherence protocol will be followed by keeping social distance of 1.5-2m, wearing of face masks, sanitization of hands and surfaces and cough etiquette.

Participant's name……………………….

Participant's signature……………………….

Date………………………

Humanities and Social Sciences Research Ethics Committee

University of the Western Cape

Private Bag X17

Bellville, 7535

Tel: 021 959 4111

e-mail: research-ethics@uwc.ac.za

8.3.2. APPENDIX E: Siswati Consent Form

LIFOMU LESIVUMELWANO

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2809, Fax: 27 21-959 2872

E-mail: soph-comm@uwc.ac.za

Sihloko selucwaningo: Lwati nendlela locondza ngayo mayelana nekugula lokuphatselane nengcondvo kanye nekuletfwa kwelusito loluphatselene nekwelashwa kwalabagula ngengcondvo emitfolaphilo   yaseShiselweni region, Nhlangano zone, Eswatini

Lolucwaningo luchaziwe kimi ngelulwimi lengilivako.Imibuto lenginayo ngalelucwaningo seyiphendvulekile. Ngiyacondza kutsi kutimbandzakanya kwami kushoni futsi ngiyavuma kuba yincenye yalo ngekukhululeka. Ngiyacondza kuthi iminingwane yami ngeke inikwe lomunye. Ngiyacondza kutsi ngingaphuma kuloluccwaningo noma nini nginganiki nesizathu futsi ngingasabi nekulahlekelwa ngulutho.

Ngiyacondza kutsi imitsetfo ya COVID-19 itawulandzelwa lefaka phakatsi ku gcina umkhatsi longakangekutsi kuphume inkomo ivundlile kulomunye, kugcoka samfonyo nekugeza tandla ngesibulala magciwane sesanitizer nekukhwehlela lokuphephile.

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Libito lalongenele lucwaningo……………………….

Kusayina longenele lucwaningo……………………………….

Lusuku ………………………

Humanities and Social Sciences Research Ethics Committee

University of the Western Cape

Private Bag X17

Bellville, 7535

Tel: 021 959 4111

e-mail: research-ethics@uwc.ac.za

8.4. Information Sheets

8.4.1. APPENDIX F: English Information Sheet

<u>**INFORMATION SHEET**</u>

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: soph-comm@uwc.ac.za

Project Title: Attitudes towards mental health illness and integration of mental health services into primary health care (PHC) clinics: a cross-sectional survey among health-care workers in the Shiselweni region, Nhlangano zone, Eswatini

What is this study about?

This study is being conducted by Sifiso Manana a registered MPH Student at the University of the Western Cape. I am inviting you to participate in this study because you are a health worker at a primary health care facility in Nhlangano zone. The purpose of this study is to determine the knowledge and attitudes of primary health care workers towards mental health illness and mental health integration into primary health care clinics so that opportunities and challenges surrounding integration of mental health care services can be identified in the Shiselweni region, in the kingdom of Eswatini.

What will I be asked to do if I agree to participate?

You will be asked to fill a questionnaire. The questionnaire will take about 15 minutes to complete and please do not discuss answers with other staff members. The answers need to be confidential. The researcher will personally collect the questionnaire after three days. Socio-demographic characteristics, level of education, professional training, health-care workers'

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clinical experience will be investigated. There will also be statements regarding the participants' stigma and attitudes towards mental illness and attitudes towards integration of mental health services into primary health care, the participants will be asked to state whether they agree with, disagree with or neutral about the statements.

Would my participation in this study be kept confidential?

The researchers will undertake to protect your identity and the nature of your contribution. To ensure your anonymity, the questionnaires are anonymous and will not contain information that may personally identify you. To ensure your confidentiality, lockable filing cabinets and storage areas will be used to store the collected data, using identification codes only on data forms, and using password-protected computer files.

If I write a report or article about this research project, your identity will be protected.

What are the risks of this research?

There may be some risks from participating in this study. All human interactions and talking about self or others carry some amount of risks. I will nevertheless minimize such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to Simphiwe Munyaka in Nhlangano zone for further assistance or intervention found @78174912.

COVID-19 adherence protocol will be ensured by keeping social distance of 1.5-2m, wearing of face masks, sanitization of hands and surfaces and cough etiquette will be encouraged

What are the benefits of this research?

This study is not designed to help you personally, but the results may help the investigator learn more about the knowledge and attitudes of health care workers towards mental health and

integration of mental health services into PHC. I hope that, in the future, other people might benefit from this study through improved understanding of mental health and its integration into PHC.

Do I have to be in this research, and may I stop participating at any time?

Your participation in this study is completely voluntary. You may choose not to take part at all. If you decide to participate in this study, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What if I have questions?

This research is being conducted by Sifiso Manana, faculty of community and health sciences at the University of the Western Cape. If you have any questions about the study itself, please contact Sifiso Manana at: +26876377944, email: sfisomanana@gmail.com

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof U Lehmann

 School of Public Health
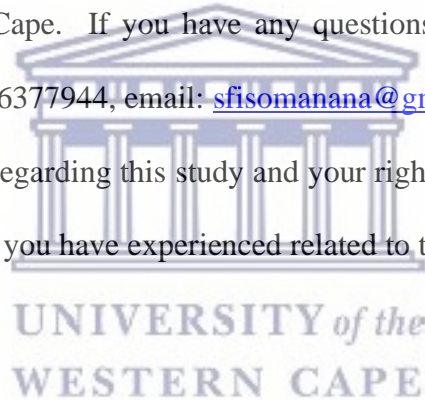
University of the Western Cape

Private Bag X17

Bellville 7535

ulehmann@uwc.ac.za

Prof Anthea Rhoda

Dean: Faculty of Community and Health Sciences

University of the Western Cape

Private Bag X17

Bellville 7535

chs-deansoffice@uwc.ac.za

8.4.2. APPENDIX G: Siswati Information Sheet

<u>LIFOMU LELICHAZA NGALELUCWANINGO</u>

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21 959 2809 Fax: 27 21 959 2872

E-mail: <u>soph-comm@uwc.ac.za</u>

Sihloko selucwaningo: Lwati nendlela locondza ngayo mayelana nekugula lokuphatselene nengcondvo kanye nekuletfwa kwelusito loluphatselene nekwelashwa kwalabagula ngengcondvo emitfolaphilo yaseShiselweni, endzaweni yaseNhlangano, Eswatini

Lungani lolucwaningo?

Lolucwaningo lwentiwa ngu Sifiso Manana umfundzi we MPH enyuvesi yase Shonalanga neliKapa eNingizumu Africa.Ngikumemela kulolucwaningo ngoba usisebenti setemphilo emitfolamphilo lesendzawen yaseNhlangano. sizatfu salolucwaningo kutfola lwati nendlela tisebenti tasemitfolamphilo letibuka ngayo bantfu labagula ngengcondvo nekusitakala kwabo khona emitfolamphilo kute kubonakale ematfuba nebulukhuni bekuletsa kunakekelwa kwalabagula ngengcondvo emitfolamphilo labadvute nayo yase Shiselweni

Ngitawubutwa ini uma ngivuma kuba yincenye yalolucwaningo?

Utawucelwa kutsi ugcwalise imibuto lebhalwe ephepheni. Lemibuto itawutsatsa imizuzu lelishumi nesihlanu futsi uyacelwa kutsi ungabuti kulabanye losebenta nabo. Letimphendvulo kufanele tibe yimfihlo yakho. Lolophetse lolucwaningo utawulandza letimphendvulo takho emuva kwemalanga lamatsatfu. Imininingwane yakho yebulili, iminyaka, imfundvo yakho, umsebenti wakho, nesikhatsi lose usisebentile itawubutwa. Kutawuba nemibuto ngelwati lwakho nendlela lobuka ngayo kugula ngengcondvo nekunakekelwa kwalabagula ngengcondvo

emtfolamphilo lapho usebenta khona nawuphendvula utakusho kutsi uyavumelana, uyaphika noma awusho lutfo ngalobutwa kona.

Kutaba yimfihlo yini kuba yincenye yalolucwaningo?

Lolophetse lolucwaningo utakwenta siciniseko kutsi yonke iminingwane yakho iba yimfinhlo.. Kucinisekisa loku kutsi leliphepha lemibuto lophendvula kulo lite lokusho kutsi takho timphendvulo futsi naletimphendvulo titawugcinwa endzaweni lephephile kumashelufa lakhiywako nakubongcondvomshini labasebentisa imfihlo yekubavula leyatiwa ngulophetse lolucwaningo kuphela.

Yini bungoti balolucwaningo?

Bungaba khona lobuncane bungoti noma bulukhuni usenta lolucwaningo kodwva ke tikhona tindlela letitakwentiwa kwehlisa bungoti lobungavela usengenele lucwaningo. Nakunesidzingo utawendluliselwa kulosisita ngekunakelela ingcondvo Simphiwe Enzo loseNhlangano inombolo yakhe ngu 78174912.

Imigomo yaCOVID-19 itawulandzelwa lefaka ekhatsi kugcina umkhatsi longakangekutsi kuphume inkomo ivundlile kusuka kulomunye, kugcoka samfonyo nekugeza tandla ngesibulala magciwane sesanitiser nekukhwehlela lokuphephile.

Yini inzuzo yalolucwaningo?

Lolucwaningo alukakhelwa kukusita wena kodwa imiphumela yalo itawusita locwaningako ati kabanti ngelwati nendlela tisebenti tasemitfolamphilo letibuka ngayo bantfu labagula ngengcondvo nekusitakala kwabo khona emitfolamphila kute kubonakale ematfuba nebulukhuni bekuletsa kunakekelwa kwalabagula ngengcondvo emitfolamphilo lesedvute nabo. Ngiyetsemba kutsi ngesikhatsi lesitako labanye bantu batawusitakala ngemiphumela yalolucwaningo

ngekucondza kancono tindzaba tekunakekelwa kwengcondvo nekunakekelwa kwengcondvo emitfolampilo losedvute nabo.

Ngingaba yincenye yini kulolucwaningo kantsi futsi ngingaphuma noma kunini ekubeni yincenye?

Kukuwe kukhetsa kutsi uyafisa noma awufisi kuba yincenye yalolucwaningo Ungakhetsa kungalugeneli lolucwaningo kantsi futsi kute tinkinga longabhekana nato ngaloko.

Nangabe nginemibuto ke?

Lolucwaningo lwentiwa ngu Sifiso Manana, Faculty of Community and Health Sciences eNyuvesi yaseNshonalanga neKapa. Nawunemibuto ngalolu cwaningo chumana na Sifiso Manana enombolweni +26876377944, liposi lembane: sfisomanana@gmail.com

Nawufise kubika bulukhuni lohlangabetene nabo kulolucwaningo ungatsintsa naba labalandzelako:

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8.5. Questionnaires

8.5.1. APPENDIX H: English Questionnaire

QUESTIONNAIRE

Knowledge and Attitudes towards mental health illness and integration of mental health services into primary health care (PHC) clinics: a cross-sectional survey among health-care workers in the Shiselweni region, Nhlangano zone, Eswatini

1.   **Characteristics of respondents**

Gender

Female   ☐

Male   ☐

  2. Age (years)

18–29 ☐   30–39 ☐   40–49 ☐

50–59 ☐   60+ ☐

3.   **Marital status**

Single   ☐

Married   ☐

Divorced or widowed   ☐

4.   **Religion**

Buddhist ☐ Christian ☐   Bahai ☐ None ☐

5.   **Educational level**

O'Level certificate   ☐   Certificate   ☐   Diploma   ☐

Degree   ☐   Master's degree and above   ☐

6.   **Profession**

Nursing Sister   ☐ Staff Nurse   ☐   Nursing assistant   ☐

Pharmacy assistant   ☐   Phlebotomist ☐   TB Screening officer   ☐

HTS counsellor   ☐   Community mentor mother   ☐

7. **Years of clinical experience**

1–2   ☐

3–5   ☐

5–10   ☐

> 10   ☐

8. **Training and setting for mental health service**

Have you received training in mental health care?
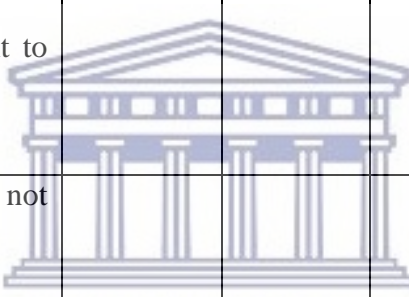
No   ☐

Yes   ☐

9. attitudes statements regarding mental illness					
Attitude	**Strongly Disagree**	**Disagree**	**Agree**	**Strongly agree**	**Undecided**

People with mental illness have unpredictable behavior				
People with mental illness are dangerous				
Find it hard to talk to someone with mental health problems				
People with mental illness should not be allowed to work				
Political and individual rights of mentally ill persons should be suspended while on treatment to help them				
Those with mental illness should not have children				

10. knowledge statements regarding mental illness

Knowledge	Strongly Disagree	Disagree	Agree	Strongly agree	Undecided
If people become mentally ill once, they easily become ill again					

	Strongly Disagree	Disagree	Agree	Strongly agree	Undecided
Sedation of mental patients would guarantee safety for other people in all cases					
Violent mental patients should be handcuffed					
Detention in a solitary place should be considered for people with mental illness					
It is easy to identify a person who has a mental illness by the characteristics of their behavior					
All people with mental illness have some strange behavior					

11. Willingness to provide mental health services in primary health clinic

	Strongly Disagree	Disagree	Agree	Strongly agree	Undecided
National Psychiatric Referral Hospital is the only place for people with mental illness					
I would ask for exemption to treat those with mental illness					

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I would be doubtful to be around people who has been treated for mental illness				
Mentally sick persons are entitled to the same attention in the health center as general patients				
Mental patients should not be treated in the same health center with other people				
Even after treatment, I would be doubtful to be around people who has been treated for mental illness				
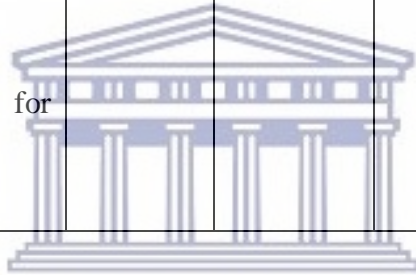
8.5.2. APPENDIX I: Siswati Questionnaire

IMIBUTO

LWATI NENDLELA LOCONDZA NGAYO MAYELANA NEKUGULA LOKUPHATSELANE NENGCONDVO KANYE NEKULETFWA KWELUSITO LOLUPHATSELENE NEKWELASHWA KWALABAGULA NGENGCONDVO EMITFOLAPHILO YASESHISELWENI REGION, NHLANGANO ZONE, ESWATINI

2. **Imininingwane yalophendvula**

Bulili

Lomsikati ☐

Lomdvuna ☐

2. Iminyaka (years)

18–29 ☐   30–39 ☐   40–49 ☐

50–59 ☐   60+ ☐

7. **Simo sakho ngemendvo**

 Angikendzi ☐

Ngendzile ☐

Sehlukana ☐

Ngingufelokati ☐
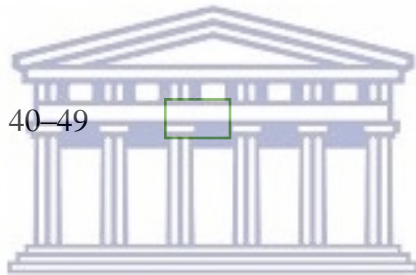
8. **Inkholo yakho**

EmaBuddhist ☐   EmaChrestu ☐   EmaBahai ☐   letinye tinkholo ☐

9. **Imfundvo**

O'Level certificate ☐   Certificate ☐   Diploma ☐

Degree ☐   Master's degree and above ☐

10.   **Umsebenti**

Nursing Sister ☐   Staff Nurse ☐   Nursing assistant ☐

Pharmacy assistant ☐   Phlebotomist ☐   TB Screening officer ☐

HTS counsellor ☐   Community mentor mother ☐

7. **Iminyaka loyisebentile**

1–2 ☐

3–5 ☐

5–10 ☐

> 10 ☐

8. **kuceceshwa ngekunakekela ingcondvo**

wake watitfola tifundvo tekulandzelela?

Cha ☐

Yebo ☐

Attitude/Indlela lobonangayo	Ngiyaphikisisa	Ngiyaphika	Ngiyavuma	Ngiyavumisisa	Angati
9. lokukhuluma ngendlela lobonangayo kugula ngengcondvo					
kutiphatsa kwebantfu labagula ngengcondvo					
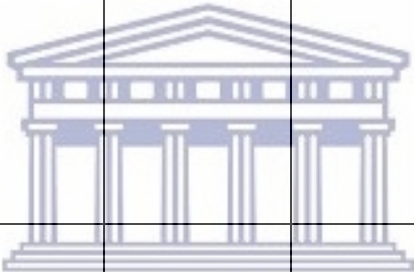
akutsembeki				
bayingoti bantfu lagula ngengcondvo				
kulukhuni kucoca nemuntfu logula ngengcondvo				
bantfu labagula ngengcondvo fanele bangavumeleki kusebenta				
emalungelo alaba gula ngengcondvo fanele emiswe kulabagula ngengcondvo				
kufanele babebete bantwana labo labagula ngengcondvo				
10. lokukhomba lwati mayelana ngekugula ngengcodvo nebanftu labagula ngengcondvo				

lwati	Ngiyaphikisisa	Ngiyaphika	Ngiyavuma	Ngiyavumisisa	Angati
nangabe bantfu bake bagula ngengcondvo bangaphindze bagule					
kwehliswa kwemandla kulabo labagula ngengcondvo ngemjovo kusita kuvikela labanye bantfu					
labagula ngengcondvo labalwako fanele bafaswe tandla					
kuvalelwa bondwa kwebantfu lagula ngengcondo kufanele kubuketwe					
kulula kubona umuntu					

logula ngengcondvo ngekubona tento takhe					
bonkhe bantfu labagula ngengcondvo batiphatsa ngendlela lehlukile naletfusako.					

11. lokukhomba kufisa kunakekela labagula ngengcondvo emitfolamphilo yetfu

	Ngiyaphikisisa	Ngiyaphika	Ngiyavuma	Ngiyavumisisa	Angati
National Psychiatric Referral Hospital nguyona ndzawo kuphela yalaba gula ngengcondvois the only place for people with mental illness					
mine ngitawucela kungabanaki labagula ngegcondvo					

ngitawucela kungabi nebantfu labagula ngengcondvo				
labagula ngengcondvo nabo bafanelwe kunakwa njengawonkhe umuntfu				
labagula ngengcontfo abakafaneli kunakwa emitfolamphilo minye nalabanye bantfu				
noma sebalashiwe labagula nge ngcodvo ngiyangabata kuba nabo				

8.5.3 APPENDIX J: Association between demographic variables and attitudes towards mental illness

	Attitudes		Univariate		Multivariate	
Variable	Positive n/N (%) N=60(79%)	Negative n/N (%) N=16(21%)	OR (95% CI)	*p value	aOR (95% CI)	p value
Age						
18 to 29 years	12/60 (20.0)	2/16 (12.5)	**Ref**	-		
30 to 39 years	19/60 (31.7)	9/16 (56.3)	0.35(0.65-1.91)	**0.227**		
40 to 49 years	18/60 (30.0)	3/16 (18.8)	1.00(0.14-6.91)	1.000		
50 to 59 years	11/60 (18.3)	2/16 (12.5)	0.92(0.11-7.67)	0.936		
Gender						
Female	44/60 (70.7)	12/16 (75.0)	**Ref**	-		
Male	16/60 (29.3)	4/16 (25.0)	1.09(0.31-3.88)	0.893		
Religion						
Christian	60/60 (100)	16/16 (100)	**1**	-		
Education level						
O'Level	10/60 (16.7)	5/16 (31.3)	**Ref**			

certificate						
Certificate	14/60 (23.3)	5/16 (31.3)	1.40(0.32-6.16)	0.656		
Diploma	14/60 (23.3)	4/16 (25.0)	1.75(0.37-8.20)	0.478		
Degree	18/60 (30.0)	2/16 (12.5)	4.50(0.73-27.58)	**0.104**		
Master's degree and above	4/60 (6.7)	0/16 (0.0)	**1**	-		
Profession						
Nursing sister	7/60 (7.3)	1/16 (6.3)	**Ref**	-		
Staff Nurse	29/60 (48.8)	4/16 (25.0)	1.04(0.10-10.77)	0.977		
Nursing Assistant	4/60 (7.3)	0/16 (0.0)	1	-		
Pharmacy Assistant	3/60 (7.3)	2/16 (12.5)	0.21(0.01-3.37)	0.273		
Phlebotomist	5/60 (9.8)	3/16 (18.8)	0.24(0.21-3.01)	0.268		
HTS counsellor	6/60 (12.2)	4/16 (25.0)	0.21(0.02-2.48)	**0.217**		
Community	6 /60 (7.3)	2/16 (12.5)	0.43(0.31-	0.529		

mentor mother			5.98)		
Years of Clinical experience					
1 to 2 years	8/60 (22.0)	3/16 (18.8)	**Ref**	-	
3 to 5 years	14/60 (24.3)	3/16 (18.8)	1.75 (0.28-10.81)	0.547	
5 to 10 years	9/60 (14.6)	5/16 (31.3)	0.68(0.12-3.77)	0.654	
Above 10 years	29/60 (39.0)	5/16 (31.3)	2.18(0.43-11.12)	0.351	
Training in mental health					
No	25/60 (51.2)	3/16 (18.8)	**Ref**	-	
Yes	35/60 (48.8)	13/16 (81.3)	0.32(0.83-1.25)	**0.103**	

Abbreviations: OR, Odds Ratio; AOR, Adjusted odds ratio; CI, confidence interval; *p value, univariate; p value, multivariate

8.5.4. APPENDIX K: Association between demographic variables and knowledge regarding mental illness

Variable	Good Knowledge n/N (%) N=41(54%)	Poor Knowledge n/N (%) N=35(46%)	OR (95% CI)	*p value	aOR (95% CI)	p value
Age						
18 to 29 years	11/41 (26.8)	3/35 (8.6)	**Ref**			
30 to 39 years	14/41 (34.2)	14/35 (40.0)	0.27(0.06-1.19)	**0.084**	0.17(0.03-0.95)	**0.044**
40 to 49 years	9/41 (22.0)	12/35 (34.3)	0.20(0.04-0.96)	**0.044**		
50 to 59 years	7/41 (17.1)	6/35 (17.1)	0.32(0.06-1.71)	**0.181**		
Gender						
Female	29/41 (70.7)	27/35 (77.1)	**Ref**	-		
Male	12/41 (29.3)	8/35 (22.9)	1.40(0.50-3.94)	0.528		
Religion						
Christian	41/41 (100)	35/35 (100)	**1**	-		
Education level						

O'Level certificate	9/41 (22.0)	6/35 (17.1)	**Ref**			
Certificate	9/41 (22.0)	10/35 (28.6)	0.60 (0.15-2.36)	0.465		
Diploma	8/41 (19.5)	10/35 (28.6)	0.53(0.13-2.14)	0.375		
Degree	12/41 (29.3)	8/35 (22.9)	1.00(0.25-3.92)	1.000		
Master's degree and above	3/41 (7.3)	1/35 (2.9)	2.00(0.17-24.07)	0.585		
Profession						
Nursing sister	3/41 (7.3)	5/35 (14.3)	**Ref**	-		
Staff Nurse	20/41 (48.8)	13/35 (37.1)	2.56(0.52-12.61)	**0.247**		
Nursing Assistant	3/41 (7.3)	1/35 (2.9)	5.00(0.34-72.77)	**0.239**		
Pharmacy Assistant	3/41 (7.3)	2/35 (5.7)	2.50(0.25-24.72)	0.433		
Phlebotomist	4/41 (9.8)	4/35 (11.4)	1.70(0.23-12.22)	0.615		
HTS counsellor	5/41 (12.2)	5/35 (14.3)	1.70(0.25-11.07)	0.597		

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Community mentor mother	3 /41 (7.3)	5/35 (14.3)	1.00(0.13-7.57)	1.000		
Years of Clinical experience						
1 to 2 years	9/41 (22.0)	2/35 (5.7)	**Ref**	-		
3 to 5 years	10/41 (24.3)	7/35 (20.0)	0.32(0.05-1.94)	**0.214**		
5 to 10 years	6/41 (14.6)	8/35 (22.9)	0.17(0.26-1.07)	**0.059**		
Above 10 years	16/41 (39.0)	18/35 (51.4)	0.20(0.37-1.05)	**0.058**		
Training in mental health						
No	21/41 (51.2)	7/35 (20.0)	**Ref**	-		
Yes	20/41 (48.8)	28/35 (80.0)	**0.24(0.08-0.67)**	**0.006**	0.25(0.09-0.73)	**0.011**

Abbreviations: OR, Odds Ratio; AOR, Adjusted odds ratio; CI, confidence interval; *p value, univariate; p value, multivariate;

APPENDIX L: Association between demographic variables and willingness to provide mental health care in PHC clinics

	Willingness		Univariate		Multivariate	
Variable	Good Willingness n/N (%) N=60 (79%)	Poor Willingness n/N (%) N=16 (21%)	OR (95% CI)	*p value	aOR (95% CI)	p value
Age						
18 to 29 years	12/60 (20.0)	2/16 (12.5)	**Ref**	-		
30 to 39 years	21/60 (35.0)	7/16 (43.8)	0.50(0.89-2.80)	0.431		
40 to 49 years	18/60 (30.0)	3/16 (18.8)	1.00(0.14-6.91)	1.00		
50 to 59 years	9/60 (15.0)	4/16 (25.0)	0.38(0.56-2.52)	0.313		
Gender						
Female	44/60 (73.3)	12/16 (75.0)	**Ref**	-		
Male	16/60 (26.7)	4/16 (25.0)	1.09(0.31-3.88)	0.893		
Religion						
Christian	60/60 (100)	16/16 (100)	**1**	-		

Education level						
O'Level certificate	12/60 (20.0)	5/16 (18.8)	Ref			
Certificate	14/60 (23.3)	5/16 (31.3)	0.70(0.14-3.56)	0.667		
Diploma	11/60 (18.3)	4/16 (43.8)	0.40(0.81-1.91)	**0.247**		
Degree	19/60 (31.7)	2/16 (6.2)	4.75(0.44-51.11)	**0.199**		
Master's degree and above	4/60 (6.7)	0/16 (0.0)				
Profession						
Nursing sister	6/60 (10.0)	2/16 (12.5)	**Ref**	-		
Staff Nurse	28/60 (46.7)	5/16 (31.3)	1.87(0.29-12.01)	0.511		
Nursing Assistant	4/60 (6.7)	0/16 (0.0)	1	-		
Pharmacy Assistant	4/60 (6.7)	1/16 (6.3)	1.33(0.88-20.11)	0.835		

Phlebotomist	5/60 (8.3)	3/16 (18.8)	0.56(0.06-4.76)	0.592		
HTS counsellor	7/60 (11.6)	3/16 (18.8)	0.78(0.11-6.32)	0.814		
Community mentor mother	6 /60 (10.0)	2/16 (12.5)	1(0.10-9.61)	1.000		
Years of Clinical experience						
1 to 2 years	9/60 (15.0)	2/16 (12.5)	**Ref**	-		
3 to 5 years	15/60 (25.0)	2/16 (12.5)	1.67(0.21-13.98)	0.638		
5 to 10 years	10/60 (16.7)	4/16 (25.0)	0.56(0.08-3.81)	**0.011**		
Above 10 years	26/60 (43.3)	8/16 (50.0)	0.72(0.13-4.05)	0.712		
Training in mental health						
No	26/60 (43.3)	2/16 (12.5)	Ref	-		
Yes	34/60 (56.7)	14/16 (87.5)	**0.19(0.04-**	-	0.19(0.39-	**0.036**

			0.91)		0.91)	

Abbreviations: OR, Odds Ratio; aOR, Adjusted odds ratio; CI, confidence interval; *p value, univariate; p value, multivariate.

LIST OF TABLES

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