

**GUIDELINES TO FACILITATE THE INTEGRATION OF HIV/AIDS SERVICES
INTO PRIMARY HEALTH CARE PROGRAMMES WITHIN VHEMBE DISTRICT
OF LIMPOPO PROVINCE, SOUTH AFRICA**

By

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DECLARATION

I declare that **GUIDELINES TO FACILITATE THE INTEGRATION OF HIV/AIDS SERVICES INTO THE PRIMARY HEALTH CARE PROGRAMME IN VHEMBE DISTRICT OF LIMPOPO PROVINCE, SOUTH AFRICA** is my own work, that all sources used or quoted have been indicated and acknowledged by means of complete references, and that this work has not been submitted for any other degree at this or any other institution.

.....

Signature

.....

Date

DEDICATION

I dedicate this thesis to the Almighty God, my Creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this study and on His wings only have I risen. I also dedicate this work to my husband, Thingozwivha Petrus who has encouraged me all the way and whose encouragement has made sure that I give it all it takes to finish that which I have started. To my children Mpfareleni, Mashudu, Rinae, Nthangephanda and Isaniphanda who have been affected in every way possible by this journey. To my pastor Nemushungwa, TC for support and prayers. Thank you.

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ABSTRACT

The Government of South Africa in response to a prevalent human immunodeficiency virus (HIV) has adopted an approach of integrating HIV/AIDS service into primary health care, as a key to achieving universal access to antiretroviral treatment (ART). Despite the government's efforts of integrating HIV service into Primary Health Care (PHC), insufficient numbers of PHC staff and inadequate infrastructure is challenging when integrating HIV/AIDS service into PHC. This study explored the extent of HIV service integration into PHC and whether the clinic/health centre's environment is enabling to integrate HIV service into PHC. Barriers to HIV/AIDS services integration as well as attitudes of PHC nurses were assessed.

The overall purpose of this study was to develop guidelines to facilitate the integration of HIV/AIDS services into PHC in Vhembe district of Limpopo province, South Africa. An exploratory sequential mixed methods design was used. The qualitative data was collected and analysed before and results for qualitative approach used to build a subsequent quantitative phase.

The current study revealed that HIV/AIDS services are integrated into every existing programme at the PHC clinic and health centres; these include: Immunisation programme, Family planning, PMTCT and ANC programmes, STIs, minor ailments and chronic illness and TB. The study further revealed that the environments at PHC clinics and health centres are not enabling the integration of HIV/AIDS services into PHC due to insufficient staff and inadequate infrastructure. Guidelines to facilitate the integration of HIV/AIDS services based on the findings was developed. The study recommendations comprise; increasing knowledge of HIV serostatus, accelerating HIV prevention, accelerating the scale-up of HIV treatment and care, creating of enabling environment for the integration of HIV/AIDS services into PHC, nursing education and training and nursing education and training.

Keywords: guidelines, facilitate, integration, HIV/AIDS services, Primary Health Care

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List of Annexures

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Annexure B: Informed consent

Annexure C: interview transcript

Annexure D: Self-administered questionnaire

List of acronyms

AIDS	: Acquired Immunodeficiency Syndrome
ART	: Antiretroviral Therapy
ARV	: Antiretroviral
DOH	: Department of Health
HIV	: Human Immunodeficiency Virus
PHC	: Primary Health Care
PLWHIV	: People Living With HIV
PMTCT	: Prevention of mother-to-child transmission
SPSS	: Statistical Package for Social Sciences
SSA	: Sub-Saharan Africa
TB	: Tuberculosis
UNAIDS	: Joint United Nations Programme on HIV/AIDS
WHO	: World Health Organization
NIMART	: Nurse Initiated Management of ART
HCT	: HIV counselling and testing
PICT	: HIV counselling and testing
INH	: Isoniazid
AFB	: Acid-Fast Bacillus Smear
STIs	: Sexually transmitted infections
NSP	: The National Strategic Plan
ANC	: Ante natal care

- HAART** : highly active antiretroviral therapy
- SRH** : Sexual reproductive health
- MDGs** : Millennium Development Goals
- IC** : Infection control
- HCWs** : Healthcare workers
- IMCI** : Integrated Management of Childhood Illness
- NDoH** : National department of health
- GRADE** : Grading of Recommendations, Assessment, Development and Evaluation
- AGREE** : Appraisal of Guidelines for Research and Evaluation

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

The Government of South Africa in response to the prevalent human immunodeficiency virus (HIV) has adopted an approach of integrating HIV services into primary health care (PHC), as a key to achieving universal access to antiretroviral treatment (ART). The aim was to increase life expectancy among people living with HIV (PLWHIV), reducing maternal and child mortality rates, combating HIV and AIDS, and decreasing the burden of diseases from tuberculosis (TB), as well as strengthening health system effectiveness. Down-referral of stable PLWHIV to PHC clinics/health centres and Nurse-initiation and Management of Anti-Retroviral Treatment (NIMART) were used as strategies to enhance HIV services integration. Despite the government efforts of integrating HIV services into PHC, an insufficient number of PHC staff and inadequate infrastructure is problematic when integrating HIV services into PHC. Therefore, the study explored the extent of HIV/AIDS services integration into PHC, whether the clinic/health centre environment is enabling to integrate HIV services into PHC. Barriers of HIV services integration as well as attitudes of PHC nurses were assessed.

This chapter deals with an overview of the study and focused on the following aspects of the study: background, problem statement, research question and purpose of the study as well as the introduction of the conceptual framework that guides the study. Research design and method as well as measures to ensure trustworthiness and ethical issues were discussed.

1.2 BACKGROUND TO THE PROBLEM

Human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) is a global pandemic. According to the World Health Organization WHO (2015:26), approximately 35 million people were living with HIV globally in 2013 and about 12.9 million people were receiving Anti-Retroviral treatment (ART)). In 2010, an estimation of 10 million PLWHIV needed ART but could not access it since ARV programmes were centralised in few health care facilities. Due to the introduction of expanding access to ART to change the global HIV epidemic, AIDS-related mortality rates declined rapidly. The scaling up of ART prevented an estimated 4.2 million deaths in low- and middle-income countries in 2002–2012. In most countries of Sub-Saharan Africa, integration of TB and HIV services saved the lives of more than 400 000 people in 2011. In countries like Ghana, Nigeria, Vietnam, Guyana, Pakistan, West Bank and Zambia, the remarkable increase in access to life-saving ART continued in 2012 where about 1.6 million were receiving ART. That was the largest annual increase with the greatest contribution coming from WHO African Region. In the WHO African Region more than 7.5 million people were receiving treatment at the end of 2012 compared to 50 000 people a year earlier. The number of children younger than 15 years receiving ART in low- and middle-income countries, increased from 566 000 in 2011 to 630 000 in 2012. More than 900 000 pregnant women living with HIV received ARV Prophylaxis or treatment for Mother-To-Child transmission (PMTCT) in 2012 (UNAIDS, 2013:4).

There were an estimated 1.6 million PLWHIV in Latin America in 2013. Latin America continues to be a region with a high antiretroviral coverage. Approximately 45% of the 1.6 million people living with HIV have access to ART. In western and central Europe and North America over 2.3 million people were estimated to be living with HIV. The availability of antiretroviral treatment has become more widespread and the costs more affordable, however, access to comprehensive HIV services remains a challenge (UNAIDS, 2013:100).

A stronger focus on expanding ART for children remains essential, especially countries in Sub-Saharan Africa, Angola, Botswana, Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic

Republic of the Congo, Ethiopia, Ghana, India, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia and Zimbabwe. HIV care and treatment for children was also decentralized to PHC facilities in several countries in the WHO African Region. One recent study reported a three-fold increase between 2008 and 2010 in the number of PHC facilities providing HIV care and treatment for children in Kenya, Lesotho, Mozambique, Rwanda and the United Republic of Tanzania. The Global Plan also includes three targets for ARV prophylaxis and therapy: 90% of pregnant women living with HIV receive perinatal ART or prophylaxis; 90% of pregnant women living with HIV eligible for ART for their own health receive lifelong ART; and 90% of breastfeeding mother–infant pairs receive ART or prophylaxis. The scaling up of services for PMTCT progressed well in 2012, with over 900 000 women in low- and middle-income countries receiving ARV treatments (WHO, 2013:25).

The expansion of access to ART has been particularly impressive in Eastern and Southern Africa, a region that accounts for about 50% of all people living with HIV and where almost 6.4 million people were receiving ART in 2012. An additional 90 000 people in Zimbabwe and 65 000 in Kenya were receiving ART in 2012 compared to 2011. The scaling up of treatment has also expanded significantly in other regions. According to WHO (2013:19), about 938 000 people were receiving ART at the end of 2012 in South-East Asia Region, about 100 000 more than in 2011.

The available data concurred that many countries do screen PLWHIV for TB and data from 62 countries showed that more than 3.5 million people attending HIV care services were screened for TB in 2012. More than 40 countries provided isoniazid preventive therapy to over half a million people living with HIV in 2012. Fourteen of these countries have high TB/HIV burdens, and 11 of them reported providing isoniazid preventive therapy for the first time.

According to the current trends in the scaling up of ART programmes, countries are grouped into three broad categories. The first group are countries with a high burden of HIV infection and they are already providing treatment to at least 80% of the people who are eligible for it;

these include countries such as: Angola, Botswana, Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Uganda Ghana, India, Kenya, Lesotho, Mozambique, Malawi, Namibia, Nigeria, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe. The second group comprises countries that have made considerable progress in scaling up treatment but that need to boost the pace and scope of their efforts significantly if they are to reach the 80% coverage target in 2015. These include Botswana, Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Swaziland, Uganda, Tanzania, Zambia and Zimbabwe. The third group of countries is far short of the global target and is struggling with serious structural weaknesses in health and governance systems, such as: Afghanistan, Gambia, Niger, Benin, Guinea, Rwanda Burkina Faso, Guinea-Bissau, Sierra, Leone, Burundi, Haiti, Somalia Cambodia, South Sudan, Central African Republic, Liberia, Tanzania Chad, Madagascar, Togo, Comoros, Malawi, Uganda, Congo, Mali Zimbabwe, Eritrea Mozambique, Ethiopia and Nepal. These countries need major support to boost their treatment efforts. Substantial additional effort is needed to enable 15 million people to access ART in 2015 (the target agreed to by United Nations Member States in June 2011 at the General Assembly High-Level Meeting on AIDS in New York) (WHO, 2016:30).

The extent of ART provision differs considerably between regions. In 2012, ART continued to be rolled out at a remarkable pace in the African Region, which bears a disproportionately large share of the global HIV burden. The region accounts for 69% of all people living with HIV. In 2011, an estimated 10.9 million people in this region needed ART (according to the 2010 WHO treatment guidelines), of which 6.2 million were receiving it. The number of people on ART increased by one-fifth to more than 7.5 million at the end of 2012 (WHO, 2013:9).

The increase in the number of facilities that provide ART in the WHO African Region has resulted mainly from extensive efforts to improve access to ART beyond cities and referral hospitals by decentralizing ART services to PHC facilities. Efforts were made to achieve the goal of simpler, more affordable, more effective drugs and point-of-care diagnostic and patient monitoring tools. National and community systems were strengthened to deliver treatment, care and support. Furthermore, expansion of community system capacity was done in order to deliver decentralized, integrated services (UNAIDS, 2013:25). According to (UNAIDS,

2013:99), nearly all countries (90%) recognize integration as a core HIV priority, 82% addressed integration in their national strategic plans and 45% reported that HIV has been aligned with other disease specific planning. More than half (53%) of the countries have either fully integrated HIV and tuberculosis services or strengthened joint service provision. Seventy percent of countries have integrated services to prevent mother-to-child HIV transmission in antenatal care, and two-thirds have integrated HIV, sexual and reproductive health services. Nearly one in four (23%) countries have linked HIV and management of chronic non-communicable diseases, and more than half have integrated HIV testing and counselling and/or antiretroviral therapy in general outpatient care. All these were done to strengthen HIV/AIDS services integration.

Many countries have begun to integrate HIV/AIDS services into PHC facilities to increase access to ART, improve coverage of HIV/AIDS services and to de-congest overburdened facilities through down-referral of stable patients. Down-referral to PHC facilities increases the capacity of initiation sites to enrol new people who are eligible for antiretroviral therapy and provide care for people with complicated conditions who require referral. In addition, down-referral reduces travel distances for people living with HIV, lowering costs to access care and facilitating community involvement. Despite decentralisation of service delivery to PHC, expanding coverage is often hindered by the severe lack of human resources in many resource-limited settings, especially in rural areas. Various strategies were introduced in countries with severe human resource shortages and struggling health care systems. These included shifting tasks from highly skilled to lower skilled personnel as well as integrating HIV care into primary care service. Task-shifting involves redistributing selected tasks from physicians to adequately trained nurses and from nurses to adequately trained lower-level health workers or lay providers. Globally, countries agreed that universal access to treatment for PLWHIV in high-burden countries will not be achieved by vertical or single disease approaches of delivering HIV care, but rather by providing HIV care within general health systems. Requests have been made to use international funding and support for HIV care to strengthen general health systems, and to broaden existing vertical HIV programmes so as to provide HIV care within general health systems (Uebel, Joubert, Wouters, Mollentze & Van Rensburg, 2013:1).

Integration of HIV/AIDS services into PHC is a key public health approach of achieving universal access to ART. It requires the expansion of HIV management programmes including ART and PMTCT to a greater scale, with an emphasis on increasing utilization to improve the quality of life for a significant number of people living with HIV (PLWHIV) and HIV-positive pregnant mothers. However, integration of HIV/AIDS services into PHC requires functional health facilities with adequate infrastructure, equipment and human resources capable of providing services such as ART and PMTCT, good medical storage systems and guidelines that ensure quality assurance mechanisms; and functional logistics and supply chain management systems capable of providing an uninterrupted supply of commodities (National HIV/AIDS Division, 2014:5).

Sub-Saharan Africa (SSA) is the region most affected, with an estimation of 24.7 million of PLWHIV at the end of 2013, nearly 71% of the global total. Of the 35 million PLWHIV, 24.7 million are living in SSA. Almost 4.8 million people were living with HIV in Asia and the Pacific. In the Caribbean, 1.1% of adults were living with HIV at the end of 2013. Ten countries, namely Ethiopia, Kenya, Malawi, Mozambique, Nigeria, South Africa, Uganda, the United Republic of Tanzania, Zambia and Zimbabwe account for 81% of all people living with HIV in the region and half of those are in only two countries, namely Nigeria and South Africa (UNAIDS, 2013:105).

South Africa's ART programme is the largest in the world, with about 2.2 million people on HIV treatment in 2012 – almost 450 000 more than in 2011. National Strategic Plan on HIV, STIs and TB 2012-2016 (NSP) was introduced with the aim of reducing new HIV infections by at least 50 per cent using combination prevention approaches and initiating at least 80 per cent of eligible patients on ART, with 70 per cent retained on treatment. Furthermore, South Africa has adopted UNAIDS' 90-90-90 strategy, which calls for 90 per cent of all people living with HIV to be diagnosed, 90 per cent of eligible people diagnosed with HIV to receive ART. South Africa's National Strategic Plan (NSP) 2012-2016, which will soon be replaced by the new NSP 2017-2022, has laid a solid foundation for achieving the 90-90-90 treatment targets and the key elements of 90-90-90 strategy are: A shift to quality and outcomes, Speed,

therapeutic and preventive benefits of HIV treatment and equity (Health Systems Trust, 2016:11).

A shift to quality and outcomes: Rather than focusing on a single programme area, e.g. HIV testing, the 90-90-90 targets enforce the need to address the quality and outcomes of programme scale-up along all points of the HIV cascade or TB cascade. Key to all programme activities is achieving the ultimate goal of viral suppression or, in the case of TB, successful treatment.

Speed: Urgency and speed in scale-up by 2020 will enable the AIDS response to begin to beat the epidemic which is an achievement that is required if we are to achieve the goal of ending the epidemic by 2030.

Therapeutic and preventive benefits of HIV treatment: A shift from focusing on the direct morbidity and mortality targets and the gains from treatment scale-up to the new targets that capture both therapeutic and preventive benefits.

Equity: The 90-90-90 strategy and targets emphasise the need and demand for all affected individuals and communities to have equitable access to prevention and treatment services to achieve the new target within the set time-frames.

The South African public ART programme commenced officially in April 2004 in selected districts and sites. Prior to 2004 ART was available only in the private sector, through private funding, workplace programmes, research projects and medical aid schemes (Venter, 2012/13:38; Davies, Homfray & Venables, 2013:3). The public ART programme was hospital-based. Patients were to be referred from PHC facilities to accredited hospitals for ART programmes and this caused patients to wait a long time; some even died before they could be initiated. In an effort to reduce the burden placed on the hospital systems, many ART programmes were integrated into PHC facilities, the public health policy switched from doctor-based, hospital-centric ART services to decentralised provision of nurse initiated and managed ART (NIMART). Recently, ARVs are initiated daily in the PHC facilities; all patients followed a uniform patient flow, and patient load is evenly spread out among the existing staff. These resulted in a dramatic expansion in the number of people initiating ARTs, with approximately half of individuals in need of ART receiving treatment in 2011. Studies revealed that AIDS

mortality rate was reduced between 2006 and 2011 and life expectancy of PLWHIV increased from 54 years in 2005, to 60 years in 2011 (Mayosi, Lawn, Van Niekerk, Bradshaw, Karim & Coovadia, 2012:5; Lambdin, Micek, Sherr, Gimbel, Karagianis, Lara, Gloyd & Pfeiffer, 2013:46).

PHC services aimed at the provision of the continuity to care for individuals from the point at which they are diagnosed across the continuum. This includes not only voluntary counselling and testing and treatment of opportunistic infections, but also follow-up counselling and support, referral to welfare and other support structures, hospitals and community-based organisations, and palliative care. HIV testing is the first component of the continuum of care approach and offers those that are unaware of their HIV status an opportunity to know their HIV status, or those who are HIV-negative to repeat the HIV test to be able to access appropriate care. These include testing pregnant and breastfeeding women, early infant diagnosis and testing adolescents as well as adults. HIV counselling and testing (HCT) which is currently referred to as HIV testing services (HTS) embrace the full range of services that should be provided together with HIV testing. These include, counselling (pre-test information and post-test counselling), linkage to appropriate HIV prevention, treatment and care services and other clinical and support services and coordination with laboratory services to support quality assurance and the delivery of correct results. HTS is central to every single HIV intervention and among all target populations, and requires close collaboration with other health services. Through linkages with care, treatment and support programmes, HTS is an effective package of services that diminishes the impact of the HIV epidemic in the country. The South African Government has embarked on a deliberate effort to scale up and strengthen the quality of HTS at all public health facilities and non-health sites offering this service (Health Systems Trust, 2016:11).

Despite all the above stated efforts by the government of South Africa, the process of integrating HIV/AIDS services into PHC requires functional health facilities with adequate infrastructure, equipment and human resources capable of providing integrated services and this is not the case in Vhembe district where the research was conducted. Shortage of staff and infrastructure is a challenge in clinics and health centres within Vhembe district; the researcher

therefore explored the extent of integration of HIV/AIDS services into PHC; to determine whether the environments for PHC clinics and health centres are enabling to integrate HIV/AIDS services into PHC in Vhembe district of Limpopo province, South Africa.

1.3 PROBLEM STATEMENT

The National Department of Health in South Africa, in response to the accelerating roll-out of ART, introduced the programme of integrating HIV/AIDS services into PHC. The integration of HIV/AIDS services into PHC programmes is one of the strategies proposed to increase access to treatment for people living with HIV/AIDS in high HIV burdened countries. The programme also anticipated to decrease the burden of providing HIV/AIDS services at existing facilities while making access to care for PLWHIV easier. According to the integrated primary health care model (IPHC) model, the process of integrating HIV/AIDS services into PHC requires functional health facilities with adequate infrastructure, equipment and human resources capable of providing services such as ART and PMTCT. However, Shortage of human and material resources is observed in clinics and health centres in Vhembe district and seemingly the integration of HIV/AIDS services into PHC added the extra workload into the already burdened health facilities and affect quality of patient care. It appears as if the programme of integrating HIV/AIDS services into PHC was introduced without considering whether the clinics and health centre' environments are enabling to integrate HIV/AIDS services into PHC. There is insufficient evidence of whether the integration of HIV services into PHC is effectively implemented with insufficient human/material resources and inadequate infrastructure, particularly in Vhembe district where the study focused. The interest of the researcher emanated from the above deliberation to come up with this study. Being guided by the conceptual framework of the study IPHC model, the researcher explored the extent of integration of HIV/AIDS services into PHC; whether the environments at the PHC clinics and health centres are enabling to deliver the programme. Barriers for HIV/AIDS services integration into PHC as well as the attitudes of PHC nurses towards HIV were assessed.

1.4 PURPOSE OF THE STUDY

The purpose of the study establishes the intent of the entire research study, and it needs to be clear and specific. The purpose statement indicates why the researcher wants to do the study and what the researcher intends to accomplish (Creswell, 2014:123). The overall purpose of this study was to develop guidelines to facilitate the integration of HIV/AIDS services into PHC in Vhembe district of Limpopo province, South Africa.

1.5 OBJECTIVES OF THE STUDY

Based on the purpose of the study, the objectives were divided into three phases as follows:

Phase 1: qualitative study

- To explore the extent of HIV/AIDS services integration into PHC in Vhembe district of Limpopo province, South Africa.
- To determine whether clinics/health centres' environments enabling the integration of HIV/AIDS services into PHC.
- To identify the existing guidelines on integration of HIV/AIDS services into PHC.

Phase 2: quantitative study

- To assess the barriers of HIV/AIDS services integration into PHC in Vhembe District of Limpopo province, South, Africa.
- To explore the attitude of PHC nurses regarding the integration of HIV/AIDS services into PHC.

Phase 3: development of guidelines

- To develop guidelines to facilitate the integration of HIV/AIDS services into PHC in Vhembe District of Limpopo province, South Africa.

1.6 RESEARCH QUESTIONS

According to Creswell (2014:139), research questions narrow the purpose statement to predictions about what will be learned or questions to be answered in the study. Qualitative research questions assume two forms: a central question and associated sub-question. A central question is a broad question that asks for an exploration of the central phenomenon of the study and this is followed by subsequent questions. On the other hand, quantitative research questions inquire about the relationship among variables that the investigator seeks to know. The study attempted to answer the following questions:

Phase 1: qualitative study

- To what extent are HIV/AIDS services integrated into PHC?
- Are clinics/health centre's environment enabling to deliver integrated HIV/AIDS services into PHC?
- Which guidelines are available for integrating HIV/AIDS service into PHC?

Phase 2: quantitative study

- What are the barriers of integrating HIV/AIDS services into PHC?

1.7 What attitudes do nurses have towards the integration of HIV/AIDS services into PHC?

1.8 SIGNIFICANCE OF THE STUDY

The findings of this study helped the researcher to develop guidelines to facilitate the implementation of HIV/AIDS services into PHC. The following benefits were anticipated:

PHC Directorate

The findings of the study may assist the PHC directorate to review HIV/AIDS guidelines and policies on integration of HIV/AIDS services into PHC. PHC directorate may also assist in the development of systems in which support to PHC professional nurses may be provided to aid execution of best practices in the integration of HIV/AIDS services.

Nursing practice

The findings of this study may facilitate the implementation of the existing guidelines in terms of HIV/AIDS services integration. PHC nurses would also benefit from developed guidelines as it may support them in their daily execution of activities.

People Living With HIV

A proper integration of HIV/AIDS services will benefit the PLWHIV by receiving quality HIV services at PHC level. Reduction of stigma is a possibility since the community may not be aware whether the infected person is HIV positive or not, when visiting clinics/health centres which practice service integration.

Research

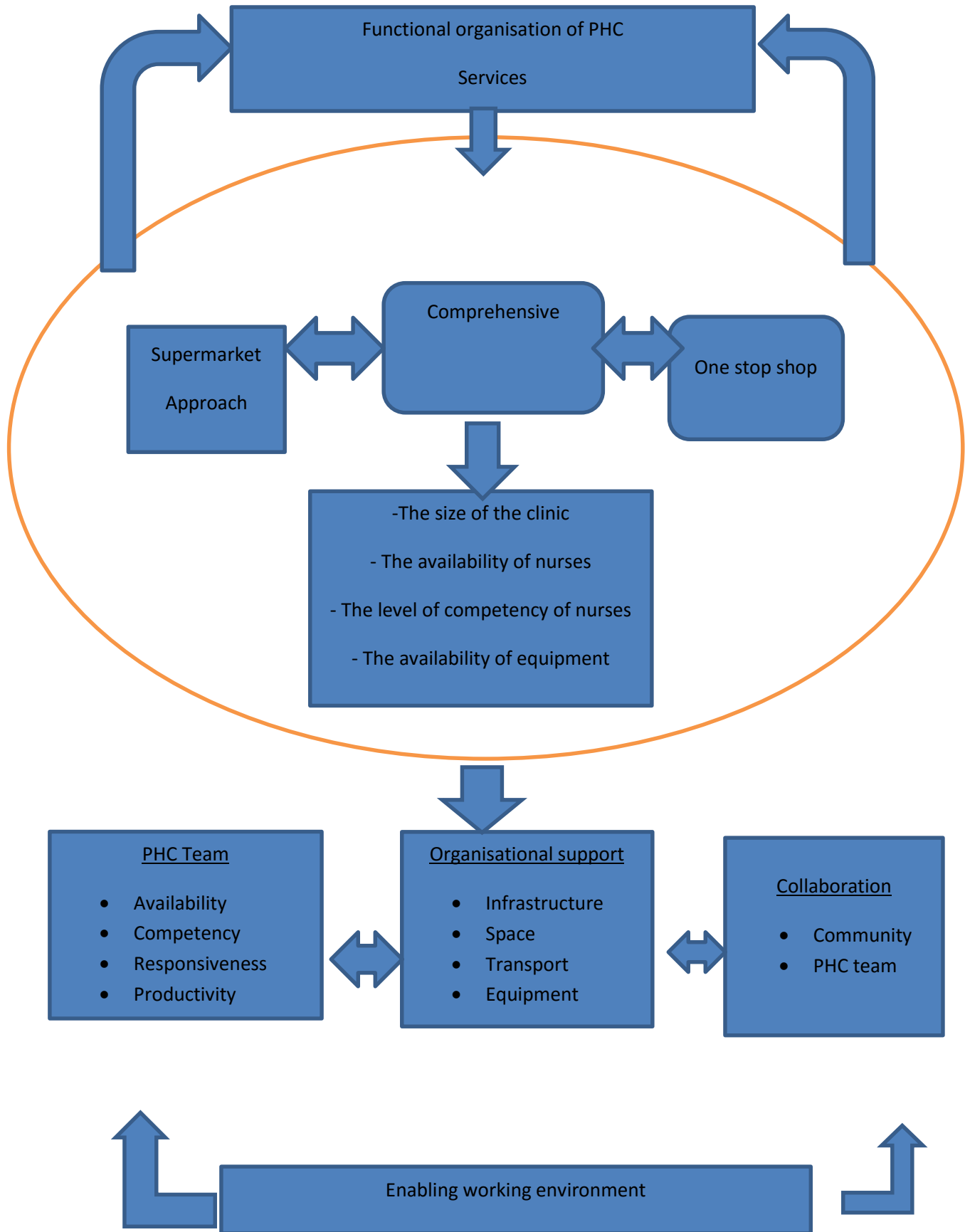
Results from this study may be utilised by other countries for their benefit, and the results of the study could be used as a reference point for further researches.

1.9 CONCEPTUAL FRAMEWORK: THE INTEGRATED PRIMARY HEALTH CARE (IPHC) MODEL

The theoretical framework guides the study and gives it structure. Grove; Burns and Gray (2010:200) define a framework as "the abstract logical structure of meaning that guides the development of the study and enables the researcher to link the findings to the body of knowledge that constitutes nursing science and/or health science. For the purpose of this study Integrated Primary Health Care (IPHC) model was utilised as a conceptual framework. This model is appropriate for this study as it provides a framework for assessing whether PHC clinics and health centres' environment are enabling to deliver integrated HIV/AIDS services.

The model stipulates that there should be sufficient primary health care nurses with appropriate knowledge, skills and behaviours. PHC nurses should have positive attitudes towards integration of HIV/AIDS services into the PHC. In this study, the researcher used factors necessary for the smooth functioning of the PHC facilities as stipulated by IPHC model to explore HIV/AIDS programmes that are provided at PHC clinics and health centres, its effectiveness, and to also check whether the environment for PHC clinics and health centres are enabling to deliver the programme. According to the IPHC model, supermarket approach and one-stop shop approach are seen as vehicles for comprehensive health care. These are two strategies for comprehensive health services. The application of each strategy is guided by a number of factors, such as feasibility and practicality of a particular approach, as determined by context under which a clinic had to function (Sibiya & Gwele, 2013:387). Each strategy is discussed below.

Figure 1.1: IPHC model. Adopted from (Sibiya & Gwele, 2013:387)



There are two strategies for comprehensive health services under the phenomenon IPHC, which includes the supermarket approach and the one-stop shop. The application of each strategy is guided by a number of factors, such as feasibility and practicality of a particular approach, as determined by context under which a clinic had to function (Sibiya & Gwele, 2013:387). Each strategy is discussed below as follows:

1.9.1 IPHC as a supermarket approach

A supermarket approach is used for the delivery of PHC services where patients that require more than one service are seen by different nurses allocated in different consulting rooms. It is an approach of a health care provision strategy that ensures that patients and/or clients access and receive all the health services they need under one roof, although not necessarily in one consulting room. Patients/clients may move from one consulting room to another in cases where more than one service is required. A supermarket approach requires a team effort to ensure that patients' needs are met promptly and comprehensively. This approach is characterized by close collaboration between nurses and other health professionals who consult regularly with each other throughout the day, often informally about different patients' problems and interventions (Sibiya & Gwele, 2013:188).

1.9.2 IPHC as a one-stop shop

The one-stop shop approach is conceptualized as the provision of services to the patient by one nurse. In other words, a nurse is responsible for providing all the services that are needed by the patient and this requires nurses who are multi-skilled. In one-stop shop, all programmes are available under one roof and in one room. Patients receive all the services they need in one room. Patients and/or clients are seen by a single practitioner in a multi-skilled and multi-purpose health facility or clinic. The comprehensive PHC service package for South Africa states that through a one-stop approach, the facility provides a comprehensive integrated PHC service for a minimum of 8 hours per day, 5 days a week (Sibiya & Gwele, 2013:190).

The adopted model (IPHC) identifies three factors necessary for the smooth functioning of a clinic: human resources, organisational support, and collaboration. The presence of these three

prerequisites results in an enabling working environment that may result in successful integration of HIV/AIDS services into PHC. Without enabling working environment IPHC is unlikely to be effective.

1.9.3 Human resources

The IPHC model lists four desired dimensions of the PHC team which includes availability, appropriate competencies, responsiveness and productivity (Sibiya & Gwele, 2013:387).

1.8.1.1. Availability

Availability of sufficient and skilled health personnel is fundamental to the success of IPHC. Task shifting as a proposed strategy for HIV/AIDS services integration makes better use of the human resources that are currently available by moving appropriate tasks to less specialized workers.

1.8.1.2. Appropriate competencies

According to IPHC model, PHC nurses need to have appropriate knowledge and skills in order to provide comprehensive services – especially nurses who are using a one-stop shop approach. In the presence of IPHC, PHC nurses need to be adequately educated and equipped with the expertise to be able to offer all the PHC services needed by the community. An essential first step towards improving performance is to understand factors that influence it. Such factors include among others, health worker factors such as knowledge, skills, experience, professional values and comprehension of work experiences. Moreover quality nursing care is a constitutional right of patients, which must be sustained. Competency is therefore demanding for effective integration of HIV/AIDS services into PHC (Sibiya & Gwele, 2013:387).

Based on the IPHC model, the researcher explored whether all the PHC nurses are trained on the following programmes: ART in Adults, Comprehensive Paediatric HIV Care, Integrated Management of Childhood Illness, and Prevention of Mother to Child Transmission (PMTCT)

of HIV, as well as tuberculosis and HIV integration and ARV adherence counselling. Competencies of all the above mentioned programmes are imperative for effectiveness of HIV/AIDS services integration into PHC.

1.9.4 Responsiveness

Comprehensive management of HIV/AIDS in PHC clinics and health centres could be effective only if there are sufficient PHC nurses with a positive attitude towards HIV/AIDS. Studies further revealed that providers' readiness to develop HIV/AIDS services depends on attitude towards people with HIV/AIDS. The positive attitude and good working relations among staff is considered as an important factor in the successful implementation of IPHC. Despite the limited resources and poor working conditions in PHC settings, a positive attitude towards IPHC is still core. Health care workers should also have a positive attitude towards PLWHIV for successful HIV/AIDS management. Health care workers with negative attitudes are less likely to spend time in caring for patients with AIDS and this tends to reduce the quality of health care they provide. As a result effective integration of HIV/AIDS into PHC requires that users have trust in the services and trust develops where providers display a positive attitude towards users (Sibiya & Gwele, 2013:390).

1.9.5 Productivity

Productivity refers to producing the maximum effective health services and health outcomes possible given by the existing pool of health workers and reducing waste of staff time or skills. Integrated services was thought to increase the access to health care for patients as all their health needs could be met at a single visit. Despite the growing population in South Africa, the need to maintain the production of health professionals to care for patients is still important. Hence productivity is necessary for effective integration of HIV/AIDS services into PHC.

1.9.6 Organisational support

Organisational support refers to infrastructure, including space, transport, and equipment. In order for the integration to take place effectively, adequate resources should be available at

PHC setting. PHC facilities should be able to provide transport for emergencies that occur during the usual working hours as well as after-hours (Sibiya & Gwele, 2013:394). In this study, clinics and health centres will be assessed for the availability of space, transport and equipment for successful implementation of the integration of HIV/AIDS services.

1.9.7 Collaboration

Collaboration between the multidisciplinary team can also result in successful implementation of IPHC. According to Sibiya and Gwele (2013:395), multidisciplinary team refers to any health professionals visiting the PHC clinics to support nurses. These may include doctors, psychologists, dentists, and others. The incorporation of visits to clinics by doctors and other health professionals in support of the other members of the PHC team, particularly nurses, improves collaboration between health professionals.

1.10 DEFINITION OF KEY CONCEPTS USED THROUGHOUT THIS THESIS

In order to enhance the ability of readers and researchers to share similar perceptions of the key concepts used throughout this study, the following concepts were defined:

Integration

The organization and management of health services so that people get the care they need, when they need it, in ways that are user-friendly, achieve the desired results and provide value for money (WHO, 2008:5). For the purposes of this research, integration of HIV services into PHC was defined as sharing of services and resources for HIV care and PHC such as clinic space, clinicians, health education, pharmacy, laboratory services and training. PLWHIV are sharing services and resources with other non-HIV patients at PHC clinics and health centres.

Primary Health Care

Primary health care (PHC) is essential health care made universally accessible to individuals and acceptable to them, through full participation and at a cost the community and country can afford. It is an approach to health beyond the traditional health care system that focuses on health equity-producing social policy (Macdonald, 2013:9). In this study, primary health care was defined as the care given in health centres and clinics at the community level.

HIV/AIDS services

HIV/AIDS services are services provided for HIV/AIDS prevention, treatment, care as well as the provision of anti-retroviral drugs and treatment of opportunistic infections (Odeny, Penner, Lewis-Kulzer, Leslie, Shade, Adero, Kioko, Cohen, & Bukusi, 2013:4). In this study, HIV/AIDS services was defined as services for comprehensive management of HIV/AIDS

Guidelines

A detailed plan of explanation to guide you in setting standards or determining the course of action (Robinson, 2010:5). In this study, guidelines was defined as the plan of action to guide PHC managers and health care workers when integrating HIV/AIDS services into PHC.

Facilitation

Any activity that makes tasks easier for others, or tasks that are assisted (Pearsall, 2016:9). In this study, facilitation was defined as creating an enabling environment for the integration of HIV/AIDS services into PHC clinics and health centres.

Enabling environment

An enabling environment is defined as a set of conditions which promote a sustainable route of market development in such a way as to promote socially desirable outcomes (Porteous, 2006:13). Enabling environment in this study refers to the availability of national guidelines, physical infrastructure and material and human resources that need to be in place for the facilitation of HIV/AIDS services integration into PHC.

1.11 RESEARCH METHODOLOGY

In this section, the research methodology is summarised. The detailed research methodology is discussed in chapter 3. The study was divided into two phases and the methodology is discussed according to each phase.

1.11.1 Phase 1: qualitative research design

In phase 1, an exploratory, descriptive and contextual qualitative research design was used. Semi-structured interviews were conducted with operational managers from clinics/health centres to explore the extent of HIV/AIDS services integration into PHC clinics and health centres, to determine whether the clinic/health centres' environments are enabling to integrate HIV/AIDS services into PHC as well as to identify the available guidelines on integration of HIV/AIDS services into PHC. Non-probability purposeful sampling method was used to select study participants. PHC health centers and clinics from three local areas in Vhembe district of Limpopo province were purposively sampled for the study. Twelve (12) participants as determined by saturation participated in the study though the researcher anticipated for 25 clinic/health centre 'operational managers. The researcher used the interview guide to conduct face to face interviews with clinic and health centre managers. Qualitative data were analysed using Tesch steps of open coding. Credibility, transferability, dependability and Confirmability were ensured.

1.11.2 Phase 2: quantitative research approach

In phase 2, descriptive, quantitative research design was used to collect data. Probability random sampling technique was used to obtain sample from clinics and healthcare centres. 24 clinics and healthcare centres were randomly sampled. 270 questionnaires were distributed among nurses from the clinics and healthcare centres and 217 completed. Pre-test was done with ten PHC nurses conveniently sampled from randomly sampled healthcare centres and clinics, to determine whether the research instrument was reliable. Health centres and clinics in which pre-testing was conducted did not form part of the main study. Data were analysed using Statistically Package for the Social Sciences (SPSS) version 23.0 with the assistance of a Statistician. Frequency tables with percentages, graphic summaries such as bar charts and cross tabulation were used to display data.

1.12 ETHICAL CONSIDERATION

Ethics is a system of moral values to ensure that the research procedures adhere to professional, legal and social obligation of the study participants while protecting their rights, balancing the benefits and risk in the study by obtaining informed consent and submitting a research proposal for institutional review (Grove & Burns, 2010:193).

1.12.1 Protecting the rights of the institution

Permission to conduct a study was sought from the following institutions:

- School of Health Sciences Higher Degree Committee (SHDC)
- University of Venda Higher Degree Committee (UHDC)
- The University of Venda Ethics Committee
- The Limpopo Department of Health Provincial Research Committee
- Vhembe district Department of health
- Sampled health centres and clinics of Vhembe district.

1.12.2 Informed consent

The researcher provided detailed information regarding the purpose and nature of the research to the participants and those who agreed to take part in the study to sign consent forms. The informed consent covered four essential elements namely disclosure of essential information, comprehension, competency and voluntarism (Burns & Grove, 2010:193).

1.12.3 Confidentiality, anonymity and privacy

Confidentiality was maintained at all times and information shared with participants was not shared without permission. The participants were assured that the information was used for the purpose of the research only and the results of the research made available to them on request (Polit & Beck, 2012:87).

1.12.4 Non-maleficence

This study involved minimal risk and potential emotional discomfort.

1.12.5 Beneficence

The researcher has avoided causing psychological harm to participants by carefully considering the phrasing of questions. Participants were assured that the information they provide were not used against them.

1.13 LAYOUT OF THE THESIS

The layout of the research report includes the following chapters:

Chapter 1: Introduction and orientation to the study. The background, problem statement and significance of the study are discussed. Also, the aim objectives, research questions, conceptual framework, relevant terminology and a brief research methodology, including ethical considerations were addressed.

Chapter 2: Literature review. This chapter includes a review of relevant articles, journals, books, research reports, internet searches and other information sources with the purpose of establishing and identifying available knowledge and evidence with regard to the integration of HIV/AIDS services into PHC. This was conceptualised by the integrated primary health care model.

Chapter 3: Research methodology. This chapter focuses on the research designs and techniques. Detailed information of the study population, sample size, instrumentation used, data collection techniques, ethical considerations and data analyses are presented.

Chapter 4: Data analysis for phase 1 is discussed. This phase focuses on the qualitative research. This phase involved face to face semi-structured interviews with clinics and health centres' managers at Shayandima, William Edie and Sibasa local areas.

Chapter 5: Data analysis for phase 2 is presented. It involves the quantitative research design. Phase 2 focused on structured self- questionnaire with PHC nurses from clinics and health centres of Vhembe district of Limpopo province.

Chapter 6: Guidelines development

Chapter 7: Conclusions, limitations, recommendations

1.14 SUMMARY

Chapter 1 discussed an overview of the study, which focuses on the guidelines to facilitate the integration of HIV/AIDS services into the primary health care programme in Vhembe district of Limpopo province, South Africa. It also provided the background of the study, the purpose and the objectives, the significance of the study, the Integrated Primary Health Care model and definition of concept. A summary of the research methodology according to each phase of the study was also described.

Chapter 2 reviewed literature on studies that have been done in developed as well as in developing countries, including South Africa regarding the integration of HIV/AIDS services

into PHC. Literature review was presented according to the major beliefs of integrated primary health care model as well as objectives of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The previous chapter presented an overview of the study. This chapter discusses a review of literature related to the integration of HIV/AIDS services into PHC in the context of the integrated primary health care (IPHC) model.

2.1.1 Purpose of literature review

Literature review is a critical summary of research on a topic of interest, to put a research problem in context and/or to provide a basis for the implementation of a research project (Polit & Beck, 2006:503). It provides a foundation on which to base new knowledge. The primary purpose for the reviewing relevant literature is to gain a broad background or understanding of the available information about a research problem. This background enables a researcher to build upon work of others, since major breakthroughs or discoveries of new information in a field are based on previous works (Burns & Grove, 2010:95). Furthermore, literature review can play an important role in shaping the research by helping a researcher to conceptualise the research problem clearly and precisely.

In this study, the purpose of literature review was to obtain information about the integration of HIV/AIDS services into PHC. Literature review was done to enhance the focus on the research topic and to improve the research methodology. The literature review included searching both qualitative and quantitative research which were based on the objectives of the study and the adopted IPhc model. It comprised the following sub-topics: HIV/AIDS services integration into PHC, the enabling environment for the integration of HIV/AIDS services into PHC, the extent of HIV/AIDS services integration into PHC, guidelines for HIV/AIDS care,

barriers of the integration of HIV/AIDS services into PHC and the attitude of PHC nurses regarding integration of HIV/AIDS into PHC. These are discussed as follows:

2.2 HIV/AIDS SERVICES INTEGRATION INTO PHC

HIV treatment programmes have rapidly expanded in the African region. Over the past decade, services were delivered through vertical stand-alone models of care. In response to criticisms that such models are often unsustainable and ineffective at meeting complex needs, a more sustainable public health approach has been promoted, in which ART services are decentralized and integrated with existing PHC structures (Church, Wringe, Lewin, Ploubidis, Fakudze, Mayhew & Integra Initiative, (2015:662). The integration of HIV/AIDS services into the PHC is considered as a colocation and sharing of services and resources for HIV care and PHC, such as clinic space, clinicians, and health education

Studies revealed that service integration provides more comprehensive care to patients, improves patient adherence to treatment when multiple interventions are required; avoids missed opportunities for key interventions and minimizes patients being "lost" in the system; makes visits more efficient for the patient and clinical team and reduces waiting times during clinic visits. The integration of HIV/AIDS services into PHC is essential for the provision of cost-effective services for PLWHIV and to improve effectiveness, efficiency and equitability of health systems. Service integration had helped to spread the workload among all staff and is considered as a key strategy in moving towards universal access to HIV treatments and improves patient retention in long-term HIV care and treatment. Additionally, the integration of HIV/AIDS services into PHC allows people to access the health care they require regardless of HIV status and it results in greater acceptability of services. Referrals and enrolments into HIV care has enhanced and improved patient retention as compared to services at specialized hospitals. Patient outcomes are also better, and costs lower, at PHC facilities. Furthermore, the integration of HIV care services into the PHC yield improvements in access to care, quality of care and efficiency in service delivery. Service integration also improves care and reduces missed opportunities for key interventions such as HIV testing, provision of ART, PMTCT, and adherence support. Additionally, service integration provides more comprehensive care to

the patients and improves patient adherence to treatment when multiple interventions are required (WHO, 2008:16; Mulamba, Fullem, Hirschhorn, Allers, Oser & Rau, 2010:3; Sweeney, Dayo, Obure, Maier, Greener, Dehne & Vassall, 2011: 85; Odeny et al., 2013:3; and Bedelu, Ford, Hilderbrand & Reuter 2007:10).

According to the operation manual for delivery of HIV prevention, care and treatment at primary health centres in high-prevalence; resource-constrained settings, every patient's contact with the PHC health centre and clinics can be used as an opportunity to deliver HIV/AIDS services. This manual supports best practises in integration, such as providing integrated care for families, and training health workers so that patients receive all their needed services in a single visit. This manual further specified that service integration can improve patient care and reduce missed opportunities for key interventions such as HIV testing, provision of ART, PMTCT, and adherence support. Integration of HIV/AIDS services into PHC is therefore considered as an important strategy to improve patient retention in long-term HIV care and treatment (WHO, 2008:7).

Integrating HIV programmes with other health programmes is one of the eight action points of ending the AIDS epidemic. Implementing integrated services according to the eight-action point of ending the AIDS epidemic would result in much broader health outcomes for PLWHIV. However, isolated HIV/AIDS programmes are no longer efficient as it misses out providing holistic care that focuses on individual needs. Strategies to integrate HIV/AIDS services into PHC include: down referral of stable patients on ART to PHC clinics and health centres, task shifting and the provision of outreach support to PHC clinics from existing ART sites (UNAIDS, 2013:101).

The term integration in South Africa has related to the fragmented nature of South African health services, inherited by the first democratically elected government in 1994. There has been a pressing need to coordinate local authority and provincial services, previously separately responsible for preventative and curative care respectively, and to bring together services offered through authorities in the former homelands, with new provincial and national

structures. Integrated PHC comprises the provision of all the services needed by the patients. This implies multipurpose clinics and multipurpose staff. In 2001, the National Department of Health introduced a comprehensive PHC core package. The PHC core package represents the services that should be rendered for PHC services to be regarded as fully comprehensive. There is more than one strategy for comprehensive health services under the phenomenon integrated Primary Health Care (IPHC), which includes the supermarket approach and the one-stop shop. The application of each strategy is guided by a number of factors, such as feasibility and practicality of a particular approach, as determined by context under which a clinic had to function (Sibiya & Gwele, 2013:387).

Best practises in the integration of HIV/AIDS services into PHC include integration of provider-initiated testing and counselling (PICT) into clinical services; integration of HIV services into antenatal, labour and delivery, postpartum and new-born care; TB-HIV co-management; integration of family planning into maternal and HIV care; and integration of STI screening and management into chronic and acute care. Therefore service integration includes integration of TB and HIV care and treatment (TB-HIV co-management), integration of HIV services into antenatal, labour and delivery, postpartum and new-born care (PMTCT), integration of family planning and sexual and reproductive health into HIV services and maternal care, integration of STI management into acute and chronic HIV care and integration of HIV services into services for adolescents (UNAIDS, 2013:99). These are discussed as follows:

2.2.1 Integration of TB and HIV care and treatment (TB-HIV co-management)

TB/HIV integration is where both TB and HIV prevention and care are provided simultaneously to the co-infected patients. According to WHO (2008:35) all people with HIV who are not suspected of having TB should be eligible to be put onto Isoniazid (INH) preventive therapy. Patients suspected of having TB should undergo prompt evaluation for TB. Sputum specimens' collection is carried out away from other people, and should be sent to a quality-assured laboratory for acid fast bacillus (AFB) smear and culture (when possible). WHO further emphasise that the turn-around time for sputum AFB smear results should not be more than 24 hours. Upon initiation of care, HIV-infected patients without a history of TB,

should be tested for mycobacterium TB infection. Those with positive test results should be treated and repeat testing is recommended in patients with advanced HIV disease and who initially tested negative tuberculin test, but with CD4 less than 200. Providing TB services to HIV-positive clients and HIV services to those with TB is vital though it requires more organisational changes, particularly in terms of staff training and time. It may also require changes to physical infrastructure to make private space for HIV counselling and testing and suitably ventilated space where sputum specimens can be produced (South African National AIDS Committee, 2016:22).

According to WHO (2015:101), HIV-positive patients are at higher risk of developing TB compared to the general population, especially during the period immediately after initiating ART, therefore all HIV-positive patients should be screened for TB. Statistics show that South Africa ranks the third highest in the world in terms of TB burden and HIV is fuelling the TB epidemic with more than 70%. The Department has set two strategic objectives, namely, reducing the burden of TB; and combating TB and HIV by reducing the co-infection burden. It was therefore recommended that universal access to HIV counselling and testing (HCT) and TB screening should be an entry point for diagnosis. HIV and TB treatment care and support is a key intervention required to achieve the goals of the national strategic plan (NSP) on HIV, Sexual Transmitted Infections (STIS) and TB. So, special attention is required to ensure that persons from key populations know their HIV and TB status to ensure early access to treatment and to reduce transmission. Knowing one's HIV or TB status is critical for access to effective prevention interventions for those testing negative. According to NSP on HIV, STIS and TB 2012-2016, opportunities for testing and screening to ensure that everyone in South Africa is tested for HIV and screened for TB should be maximised. The full package of screening should be available in all clinical settings (South African National AIDS Committee, 2016:20).

2.2.2 Integration of HIV services into antenatal, labour and delivery, postpartum and new born care (PMTCT)

In this instance, integration refers to HIV services included on the same visit with ANC, labour and delivery, postpartum and new-born services with the reason of reducing maternal and neonatal mortality. HIV services should include prevention of mother-to-child (PMTCT) interventions. (WHO, 2013:27). The aim of PMTCT programme is to reach out to all women before and during pregnancy, through labour and delivery, and through the postnatal period up to 18 months. The programme further aims at identifying and promoting the health of HIV-positive mothers and their HIV-exposed infants, including the diagnosis, management and prevention of opportunistic infections. A number of affordable and effective interventions are now available to protect HIV-exposed infants from infection. With increasing focus on integration of services, gains from PMTCT programme investments have also begun to extend beyond the prevention of perinatal HIV transmission to broader improvements in maternal and child survival. These critical developments make it possible to virtually eliminate new paediatric HIV infections globally. The World Health Organization (WHO) articulated a 4-pronged strategy for comprehensive PMTCT. These include (1) prevention of HIV infection among women of childbearing age; (2) prevention of unintended pregnancies among those living with HIV; (3) prevention of HIV transmission from infected mothers to their infants; and (4) treatment, care, and support for infected mothers and children (WHO, 2015:30)

PMTCT represents a unique and convenient entry point for HIV care and treatment services, not only for women and their infants but also for sexual partners and other family members. HIV prevalence among antenatal attendees is typically higher than that found in the general population. The initiation of ART among treatment-eligible women in this context benefits both the mother and infant. Initially, successful linkages were constrained by physical distances and transport costs, as the provision of ART was restricted to centralized facilities that were separate from antenatal services. The integrated PMTCT-ART service models caused a 2-fold increase in ART initiation among treatment-eligible women when services were integrated in the antenatal setting compared with a referral-based system (Chi, Adler, Bolu, Mbori-Ngacha, Ekouevi, Gieselman & Stringer 2012:81)

The two national strategic objectives for 2012/13 were to reduce maternal mortality and to expand PMTCT coverage to pregnant women and their babies. So, adequate and appropriate antenatal care is critical for ensuring that both the mother and the baby are carefully monitored during pregnancy in order to identify any risks and to intervene appropriately and timeously. Mother-to-child transmission is the main way children become infected with HIV worldwide. This can occur during pregnancy, during delivery through infected birth canal, or after birth from breastfeeding. ARV prophylaxis to HIV-positive pregnant women during pregnancy, delivery, and postpartum; and to their new-born infants is therefore the main strategy for preventing the baby of an HIV-positive mother from becoming infected with HIV ((Burlew, Puckett, Bailey, Caffrey, & Brantley, 2014:24).

According to NSP on HIV, STIS and TB 2012-2016, the PMTCT programme must be strengthened with respect to both coverage and quality through: the engagement of fathers; the integration of PMTCT into PHC services; enhancement of referral services and the increase of linkages allowing for a continuum of care. Good quality antenatal care (including HIV testing before 14 weeks and at 32 weeks gestation); improved maternity delivery services and postnatal care, with PCR testing for all exposed infants at six weeks, and immediate initiation on ART if positive, as well as HIV rapid antibody testing at 18 months are critical for a PMTCT programme. Moreover, ART initiation in line with current guidelines and strengthened infant feeding practices with support for exclusive breastfeeding for at least the first six months is also vital. Improved training and integration of community health workers with facilities further enhance effective postnatal follow-up of mothers and infants (South African National AIDS Committee, 2016:42).

The millennium development goal for child survival, requires countries to reduce child mortality by two-thirds before 2015; however, South Africa is one of 12 countries globally where child and infant mortality rates have risen, mainly because of the burden of paediatric HIV disease. Interventions for PMTCT are therefore critical to reduce paediatric HIV infection and child mortality and this should include early diagnosis and initiation of ARTs in HIV-infected and HIV exposed babies. WHO on the other hand recommend HIV testing and

counselling to all pregnant women of unknown status and all HIV-exposed infants of mothers with unknown HIV status.

HIV testing and counselling for pregnant women is considered as the first step toward enrolling mothers living with HIV in the cascade of PMTCT interventions. Moreover, early testing of infants who have been exposed to HIV is essential for identifying infants who may be living with HIV and for starting them on early, life-saving treatment. So, the integration of HIV counselling and testing into Antenatal Care (ANC) services is required for the provision of PMTCT. These include offering HIV counselling and testing in ANC services as part of the provision of PMTCT. Infants exposed to HIV in utero should receive antiretroviral post exposure prophylaxis and undergo HIV virological diagnostic testing at 14–21 days of life, at 1–2 months of age, and at 4–6 months of age. High-risk exposed infants should have virological testing at birth. The PMTCT programme functions well during the antenatal period to achieve the universal coverage of HIV testing among pregnant women. So the success of the programme for PMTCT is critical for reducing maternal and child mortality and morbidity.

Women with low CD4 counts and high viral loads put them at high risk of MTCT. They have to be identified early and started on Highly Active Antiretroviral Treatment (HAART) prior to delivery (Horwood, Haskins, Vermaak, Phakathi, Subbaye & Doherty, 2010:992). Initially, in South Africa the PMTCT programme relied largely on HIV testing in pregnancy, coupled with a very simple prevention regimen during labour and immediately after delivery. The study conducted in Kwa-Zulu Natal, concluded that the major gap in the provision of antenatal PMTCT care is the failure to obtain CD4 results. This study further revealed that PMTCT services in many clinics are rendered by a dedicated PMTCT nurse, and this means that these services are not integrated into routine care. In some clinics mothers were found to be reluctant to attend specialised HIV clinics or services because they fear being identified as HIV infected by other community members attending the clinic and this has been identified as an underlying cause of poor infant follow-up. Follow-up care for HIV-positive mothers was also poor; few women reported of attending regular follow-up for their own care.

They indicated that services were carried out mostly by lay counsellors, who are inadequately trained and that caused them to drop off. The study by Horwood, et al (2010:997) recommends that there should be a link between the care of the HIV-infected mother during pregnancy and delivery, and the follow-up care of the mother and baby to avoid the drop off in PMTCT service provision that occurs after delivery. All HIV-exposed infants not on ART should have a rapid test at 18 months of age to confirm HIV status conferred by the birth, 10-week HIV PCR test, or the 18-week HIV PCR performed 6 weeks post the 12-week NVP prophylaxis, or 6 weeks after stopping breastfeeding. All HIV-positive women should have access to TB symptom screening, INH prophylaxis plus pyridoxine and/or cotri-moxazole prophylaxis, nutritional and psychosocial support, cervical cancer screening, counselling on and access to family planning options, monitoring of CD4 cell count, viral load and clinical staging. Mothers of unknown HIV status or who are HIV-negative should be tested 3-monthly, throughout pregnancy, at labour/delivery, at the 6-week EPI visit and 3-monthly throughout breastfeeding (WHO, 2015:62).

2.2.3 Integration of care of HIV-exposed infants with their mothers

The President's Emergency Plan for AIDS Relief (PEPFAR) supports the scale-up of PMTCT and paediatric HIV services as critical interventions in each country's HIV prevention, care, and treatment programme. These important goals have been adopted in the context of significant scientific advances that have the potential to result in more effective programmes, reduced transmission to infants, improved maternal morbidity and mortality, and enhanced infant HIV-free survival. Building on these advances, WHO released new guidelines for infant feeding in the context of HIV and paediatric ART, including initiation of lifelong treatment for all HIV-infected children 2 years and younger and earlier initiation for those older than 2 years. It continues its recommendation of cotri-moxazole for all HIV exposed children at 6 weeks of age until 15 months of age (Padian, Holmes, McCoy, Lyerla, Bou & Goosby, 2011:2). After delivery, both mother and infant (HIV-exposed) need continued chronic HIV care. This is a key moment when both could be lost to follow-up that can have serious ramifications on the child's health. So, strengthening the integration of services is important for HIV-exposed children because in most settings there are serious problems of lack of follow-up of infants of HIV-positive mothers. This results in the majority of them being lost to follow-up for their HIV-exposed infants. Both the mother and infant should be seen for chronic HIV care by one

clinical provider at the same time. This increases the chance that the mother will come to the health centre regularly, compared to if she had to bring the infant for a separate visit. Infants should also receive routine child health services (immunization, prophylaxis, growth monitoring, and so forth (WHO, 2008: 34).

2.2.4 Integration of family planning and sexual and reproductive health into HIV services and maternal care

Sub-Saharan Africa is the region with the highest HIV prevalence as well as the highest Prevalence of unmet need for contraception, where one in five women has unmet need for spacing or limiting pregnancies. Furthermore, People living with HIV have health needs beyond those directly associated with their HIV infection, and evidence shows that many people with HIV have unmet contraceptive needs and unintended pregnancies. Studies shows that family planning for women living with HIV has the dual goals of preventing unintended pregnancies and facilitating safe and healthy pregnancy among women who want to become pregnant. Enabling women and couples living with HIV to prevent unintended pregnancies and to plan for safe and healthy pregnancies will also prevent perinatal transmission of HIV. Additionally, Providing family planning (FP) services in HIV care offers an opportunity to increase access to contraception among women and couples living with HIV, FP is also a cost-effective strategy for preventing vertical HIV transmission (Haberlen, Narasimhan, Beres & Kennedy 2017:3; Onono, Guzé, Grossman, Steinfeld, Bukusi, Shade, Cohen & Newmann, 2015:571).

The study by Wilcher, Hoke, Adamchak, and Cates (2013:5) identifies systems factors at policy, infrastructure, and service delivery levels – such as lack of policy guidance on integrated care, staff turnover and shortages, poor oversight, ambiguous service delivery guidelines, and inadequate monitoring systems as challenges for the integration of services. These authors further concluded that, as family planning and HIV integration is scaled up, increased attention must be focused on examining and strengthening fundamental health system components to allow service delivery interventions to be implemented with high commitment for the maximum achievements.

The integration of HIV with sexual and reproductive health (SRH) care is being widely promoted in Sub-Saharan Africa. Integrated SRH-HIV services are considered to have distinct advantages over stand-alone models, including greater efficiency and cost effectiveness, enhanced service access and increased utilization of separate service components. All patients should be screened for syphilis upon initiation of care and periodically thereafter, depending on risk. All women should be screened for trichomoniasis, and all women aged ≤ 25 years should be screened for chlamydia trachomatis infection. Men and women should be screened for gonorrhoea and chlamydia infection at initial presentation and then annually if at risk of infection (South African National AIDS Committee, 2016:42).

The NSP on HIV, STIS and TB 2012-2016 emphasise the delivery of an integrated package of SRH services as part of the PHC approach within the district health system. The package should include fertility management services (including termination of pregnancy services, contraception counselling and dual contraceptive method use). This is essential to reduce unintended pregnancies (especially teenage pregnancy) and to improve planning for safe and desired pregnancies. Appropriate contraception should be offered to all HIV-positive women and men at every opportunity, and contraceptive services should be integrated into ART services. PMTCT is integrated into sexual and reproductive health and fertility management services to address reproductive health needs of both HIV-negative and HIV-positive women (South African National AIDS Committee, 2016:40). The importance of integrating SRH and HIV is widely recognized and has the potential to increase the efficiency and effectiveness of health systems and providers and to better meet the needs of clients seeking these services. The Population Council conducts research and evaluates strategies for integrating care, with a focus on increasing acceptability and feasibility.

2.2.5 Integration of STI management into acute and chronic HIV care

Literature shows that there are close to a million people who acquire STI and HIV every day, so, prevention and control of STI should be part of comprehensive sexual and reproductive health service in order to contribute towards attainment of millennium development goals. National

policies and programmes should also consider how best to link sexual reproductive health (SRH), STI and HIV services in different setting. (Paz-Bailey & Jacobson, 2014:203).

According to Paz-Bailey & Jacobson (2014:224), the integration of STI and HIV into other reproductive health services include four main groups of activities; firstly, primary STI and HIV prevention (including health education, and counselling and provision of educational materials and condoms), secondly, the diagnosis and management of STI, thirdly, the integration of HIV services into SRH, including; PMTCT, HIV testing and testing and treatments and lastly, the integration of other SRH services. HIV testing is therefore recommended to all those attending any kind of SRH. Additionally, according to these authors PMTCT need to be integrated into reproductive health care as is another critical HIV service, these include the introduction of HIV testing, ARV prophylaxis for HIV infected pregnant women, safe delivery practices and support for infant feeding practices, follow-up of HIV infected pregnant woman, and prevention counselling with condom promotion.

During chronic HIV care, the clinical review of PLHIV should address STI symptoms and yearly syphilis testing. If patients disclose behaviours that place them at increased risk of acquiring or transmitting an STI, it is important to emphasize to both patients and partners the need for more frequent screening, stronger condom promotion and risk reduction counselling.

2.2.6 Integration of HIV interventions into adolescents' services

Adolescence and young women are more susceptible to HIV infection compared to older women, possibly due to a number of biological factors such as; age variability in vulnerability. For example, the immature cervix has a greater proportion of genital mucosa exposed to HIV that is highly susceptible to infection, and young women have relatively high levels of genital inflammation which have consistently been reported to increase HIV acquisition risk. Interventions to prevent HIV infection in adolescents should therefore focus on health systems strengthening in an effort to address barriers to health care access, by increasing the provision of high-quality, youth-friendly HIV and SRH services (Dellar, Dlamini & Karim 2015:66).

According to WHO (2008:38) adolescents provide an example of why there is a special need for an integrated approach to health centre services due to social/behavioural factors. Most adolescent care and treatment is technically the same as for adults, but how it is delivered can have an impact on whether or not it succeeds.

2.3 THE ENABLING ENVIRONMENT FOR THE INTEGRATION HIV/AIDS SERVICES INTO PHC

The study on the assessment of primary health care facilities for decentralization of HIV/AIDS services in Nigeria, concluded that enabling working environment is critical for effective and efficient delivery of quality service to the clients and patients by the health workers. This study further indicated that the enabling environment should include the physical infrastructure and other basic requirements for delivering quality services. In the context of this study enabling environment was defined as having the following: regular power supply (electricity or generator); system for external communication, computer or email; emergency transportation; clean water onsite; client toilet and good building infrastructure (National HIV/AIDS Division, 2014:13).

Similarly the study by Crowley and Stellenberg (2014:6) evidenced that integration of HIV/AIDS services into PHC requires functional health facilities with adequate infrastructure, equipment and human resources capable of providing services such as ART; PMTCT, TB; and SRH; good medical storage systems and guidelines that ensure quality assurance mechanisms; and functional logistics and supply chain management systems capable of providing uninterrupted supply of commodities. This author further emphasise the availability of the staff, storage and management systems to maintain the potency of the drugs being supplied to the facilities, the presence of guidelines and protocols on PMTCT and ART services as of importance for the integration of HIV/AIDS services into PHC. The study also considered the availability of physical space, trained health care professionals, updated guidelines, essential drugs, nutritional support, support groups and a system for tracing of defaulters as aspects necessary for successful HIV/AIDS service integration.

In South Africa, PHC was seen as the best way to increase access to HIV services for people living with HIV. Nurses at clinics and health centres are trained to holistically manage HIV. Training includes pre and post HIV counselling, initiating ARV, monitoring adherence and referring in case of complications. According to the integrated primary health Care model, as the conceptual framework for the current study three factors are necessary for the successful integration of HIV/AIDS services into PHC, These include: human resources, organisational support, and collaboration. The presence of these three prerequisites results in an enabling work environment that may result in successful integration of HIV/AIDS services into PHC (Sibiya & Gwele, 2013:387). These factors will be discussed as follows:

2.3.1 Human resources

It is now widely accepted that the extreme shortage of health workers in many places is among the most significant constraints to achieving the three health-related Millennium Development Goals (MDGs): to reduce child mortality, improve maternal health, and combat HIV/AIDS and other diseases, such as tuberculosis and malaria. It is not only health service providers who are in short supply – shortfalls exist in all categories of health workers including laboratory technicians, pharmacists, logisticians and managers (WHO, 2013:19).

Studies concluded that for HIV/AIDS service integration to be successful there should be sufficient PHC nurses who are well trained, as well as standardising protocols available in order to equip them with knowledge and skills. The implementation of effective and comprehensive health programmes, PHC health centres and clinics depend on the availability of adequate human resources with knowledge and skills for the programme. Hence monitoring workload and equity of staff distribution and addressing needs of clinics with large workloads, defining future staffing requirements in the light of growing needs and developing an incremental plan to increase staffing to PHC services, is important for HIV/AIDS service integration (Mulamba et al., 2010:3; Uebel, Guise, Georgeu, Colvin & Lewin, 2013:6). According to the IPHC model, integrating additional services into PHC without providing adequate human resources and ongoing support could compromise quality of care (Sibiya & Gwele, 2013:387). The IPHC

model lists four desired dimensions of the PHC team which includes availability, appropriate competencies, responsiveness and productivity (Sibiya & Gwele, 20013:387).

2.3.1.1 Availability

Availability of sufficient and skilled health personnel is fundamental to the success of IPHC. The new and innovative ways of recruiting and retaining PHC nurses should be in place in the present employment climate in order to meet the changing needs of clients and the required levels of service provision. Financial incentives are the most obvious ways of inducing people not to move. These include direct or indirect payments such as improving their conditions of service, for example, salary improvements and the provision of incentives for the nurses that are placed in PHC clinics. This will ensure that more staff is attracted to PHC. Task shifting is one of the strategies that is used to scale up workforce in PHC settings. Task shifting makes better use of the human resources that are currently available by moving appropriate tasks to less specialized workers. For example, immunization, management of patients with TB can safely be delegated to an enrolled nurse. However, regulations of scope of practice designed to establish minimum standards and protect patients, become a barrier of task shifting (Sibiya & Gwele, 2013:387).

2.3.1.2 Appropriate competencies

Adequate management of HIV/AIDS in PHC clinics requires that providers are trained in comprehensive clinical skills. This will promote the appropriate detection and management of HIV/AIDS related opportunistic infections at the PHC level. Training of all health care providers, including nurses and clinical officers, in how to assess PLWHIV, initiate ART, follow-up with clients, identify and manage complications, and/or refer patients to hospitals during HIV/AIDS services integration is of importance. (Mulamba et al., 2010:3; Uebel et al., 2013:6).

According to IPHC model, PHC nurses need to have appropriate knowledge and skills in order to provide comprehensive services – especially nurses who are using a one-stop shop approach.

In the presence of IPHC, PHC nurses need to be adequately educated and equipped with the expertise to be able to offer all the PHC services needed by the community. An essential first step towards improving performance is to understand factors that influence it. Such factors include among others, health worker factors such as knowledge, skills, experience, professional values and comprehension of work experiences. Moreover quality nursing care is a constitutional right of patients, which must be sustained. Competency is therefore demanding for effectiveness of integrating HIV/AIDS services into PHC (Sibiya & Gwele, 2013:387).

Competencies encompass the combination of knowledge, understanding, skills and attitudes that an individual develops or acquires through education, training and work experience, which can be used to describe particular occupational roles or functions against which individual performance may be assessed (WHO, 2008: 79). In order for IPHC to work, nurses need to possess appropriate knowledge, skills and behaviours. Furthermore, with IPHC, all nurses need to be adequately educated and equipped with expertise to be qualified to offer all the PHC services needed by the community. It is therefore imperative to support the learning needs of nurses, especially the newly qualified to ensure that their skills, knowledge and experience are developed rapidly for a demanding clinical environment. In South Africa, nurses at clinics and health centres are trained to holistically manage HIV. Training includes pre and post HIV counselling, nurse initiated and management of ART (NIMART), monitoring adherence and PMTCT. This shows that knowledge and skills are of importance in integrating HIV/AIDS services into PHC.

2.3.1.3 Responsiveness

Responsiveness is how well the health system meets the legitimate expectations of the population for the non-health enhancing aspects of the health system. It includes seven elements: dignity, confidentiality, autonomy, prompt attention, social support, basic amenities, and choice of provider. Responsiveness is fundamental, because it relates to basic human rights. Health systems, education, economic, political and cultural systems share responsiveness as a goal. WHO introduced the term responsiveness with the release of the World Health Report, which is grounded in an established body of research from which common defining factors of responsiveness emerge. IPHC as a social system, similar to other

social systems; for example, education is expected by its populations to meet a core goal plus common social goals are expected of all social systems. Responsiveness therefore, implies that people should be treated decently, regardless of whether or not their health improves, and irrespective of who they are. WHO argues that responsiveness is not a measure of how the system responds to health needs, which shows up in health outcomes, but of how the system performs relative to non-health aspects, meeting or not meeting a population's expectations of how it should be treated by providers of prevention, care or non-personal services (WHO, 2015:31).

Comprehensive management of HIV/AIDS in PHC clinics and health centres could be effective only when there are sufficient PHC nurses with a positive attitude towards HIV/AIDS. Studies further revealed that providers' readiness to develop HIV/AIDS services depends on attitude towards people with HIV/AIDS. A positive attitude and good working relations among staff is considered as an important factor in the successful implementation of IPHC. Despite the limited resources and poor working conditions in PHC settings, a positive attitude towards IPHC is still core. Health care workers should also have a positive attitude towards PLWHIV for successful HIV/AIDS management. Health care workers with negative attitudes are less likely to spend time in caring for patients with AIDS and this tends to reduce the quality of health care they provide. As a result effective integration of HIV/AIDS into PHC requires that users have trust in the services and trust develops where providers display a positive attitude towards users (Sibiya & Gwele, 2013:390).

2.3.1.4 Productivity

Productivity refers to producing the maximum effective health services and health outcomes possible, given by the existing pool of health workers and reducing waste of staff time or skills. Integrated services was thought to increase the access to health care for patients as all their health needs could be met at a single visit. Despite the growing population in South Africa, the need to maintain the production of health professionals to care is still important. Hence productivity is necessary for effective integration of HIV/AIDS services into PHC (Sibiya & Gwele, 2013:390).

2.3.2 Organizational support

Organisational support refers to infrastructure which includes space, transport, and equipment. According to the IPHC model, organisational support is essential for the success of HIV/AIDS services integration into PHC. There should be a provision of transport to a referral centre for emergencies that occur during the usual working hours as well as after-hours for a well-functioning IPHC. The implementation of effective and comprehensive health programmes in a district is dependent on the availability of adequate transport. Being able to provide transport to a referral centre for emergencies that occur during the usual working hours as well as afterhours is vital for a well-functioning health service. Furthermore, sustainability and reliability of the PHC services must be supported by all role-players for IPHC to be successful. Integration of HIV/AIDS services into PHC requires organisational changes. When considering the integration of HIV/AIDS services into PHC, existing structures may need modification to ensure privacy for the consultation which is particularly important for the provision of sexuality counselling (Paz-Bailey & Jacobson, 2014:225).

All levels including individuals, family, community, facility, district, provincial, national and global have a role and responsibility if IPHC is to be achieved. The incorporation of visits to clinics by doctors and other health professionals to support other members of the PHC team, particularly nurses, improves collaboration between health professionals. Teamwork is vital for an effective integration of HIV/AIDS services into PHC. This means that everyone involved

needs to understand the programme, their own role in it, and appreciate and acknowledge the importance of everyone else in the programme (Sibiya & Gwele, 2013:394).

According to WHO (2008:15), careful attention to ventilation is essential to minimize nosocomial transmission of TB. These include adequate waiting space and consultation rooms. It is also important for health centres and clinics to maintain privacy to ensure that a person's HIV status is not identifiable to others in any way. Mulamba et al. (2010:3) indicated that ensuring a continuous and secure supply of quality drugs and laboratory commodities; improving the infrastructure; building effective links among HIV services; tapping into private-sector networks; delivering quality ART services; and addressing challenges that hamper service quality are important for the success of HIV/AIDS services integration. According to Crowley (2014:5), essential HIV care and treatment and infrastructural support are key components for ensuring quality services.

2.3.2.1 Infrastructure

The physical work environment often influences (positively or negatively) the mind-set of the service providers and their efficiency and ability to innovate in delivering expanded services. A good work environment can facilitate better HIV services and reduce workload and on the other hand, disorganised work environment impairs the health centre team. To improve the work environment, one would start with improving the use of existing resources. Improving ventilation, cough hygiene and patient flow for TB infection control are particularly important and urgent since these interventions will also prevent the transmission of other respiratory infections. Most interventions for HIV infection control will also reduce transmission of other blood-borne infections such as hepatitis B. These infrastructure interventions need to be accompanied by providing information about and promoting hygiene with staff, patients, and caregivers so that they are knowledgeable about essential necessary behaviours to limit disease transmission at health facilities and in the home (WHO, 2008:62). WHO further identified four essential infrastructure requirements for successful service integration that are: space, privacy and confidentiality, water, sanitation and hygiene for infection control, communications, power and fire safety.

2.3.2.1.1 Space needed for HIV services (integrated within primary care)

Determining the space requirements depend on how many HIV patients the clinic has, how many are on ART and the room size and this must accommodate the reality of existing basic clinical services.

2.3.2.1.2 Privacy and confidentiality

It is important for health centres to maintain the privacy of HIV clinics and ensure that a person's HIV status is not identifiable to others in any way.

2.3.2.1.3 TB infection control

TB infection control at clinics/health centres is a very high priority to prevent transmission of TB between patients and to health workers. So, WHO and the Stop TB Partnership have just released a 10-steps programme for TB infection control. The following are 10 essential actions for effective TB infection control: safety without stigma:

- **Include patients and community in advocacy campaigns**

The community should be well-educated about TB infection, prevention and control. Patients need to understand that they will be better off if they know their HIV status, may be eligible for isoniazid preventive therapy (IPT), and have a right to rapid TB diagnosis and treatment.

- **Adapt an infection control plan**

Each health centre should have an infection control (IC) plan and a staff person or team responsible for IC. The plan should identify high-risk areas for TB transmission, and provide information on TB and HIV rates for health workers and patients.

- **Ensure safe sputum collection**

Sputum collection can be potentially hazardous for health workers and other patients; therefore sputum should be collected outdoors if possible. Workers need to explain to patients that safety without stigma is the goal of good TB infection control.

- **Promote cough etiquette and cough hygiene**

Every health centre facility should have a poster on TB infection control and cough etiquette. Patients need to be instructed to cover their mouths and nose with hands, a cloth such as a handkerchief, a clean rag, tissues, or paper masks when coughing. All staff are responsible for safety and are advised to work together to help patients adhere to this practice.

- **Triage TB suspects for ‘fast-track’ or separation**

Individuals suspected of having TB should be “fast-tracked” for rapid diagnosis and care services, or should be asked to wait near an open window, or in a comfortable area separate from the general waiting room (outdoors when possible). When possible, use community-based treatment. Patients with known or suspected drug-resistant TB should be separated from other TB suspects.

- **Assure rapid diagnosis and treatment initiation**

Patients suspected of having TB should move to the front of the queue for all services and need prompt evaluation for TB. Sputum collection should be done away from other people, and specimens sent to a quality-assured laboratory for acid-fast bacillus (AFB) smear and culture (when possible). Turn-around time for sputum AFB smear results should be no more than 24 hours if testing is done on-site.

- **Improve room air ventilation**

Patient waiting areas should be open and well-ventilated and this includes leaving windows and doors open when possible to maximize cross ventilation.

- **Protect health workers**

Health workers should know the symptoms of TB and be given a health assessment including screening for TB and HIV at least every year. All workers are encouraged to know their HIV status, and those with HIV infection should be given the opportunity to minimize exposure to people with TB. HIV-infected workers should be screened for INH preventive therapy as part of basic HIV care and treatment.

- **Capacity building**

All health workers should receive TB infection control training, and be engaged in improving their own and patient safety. This training may be combined with other infection control training.

- **Monitor infection control practise**

Overseeing infection control practices should be a part of every supervisory visit. When feasible, monitoring annual TB cases among health workers can also provide useful information on transmission of TB in facilities.

- **HIV infection control**

Minimizing occupational and nosocomial exposure to HIV is also dependent on work practice and administrative controls, including training and supervision in injection safety, and in the safe and appropriate use and disposal of sharps. Additional environmental controls include ensuring adequate and appropriate space and layout for phlebotomy services and areas;

accessibility of sharp disposal containers; personal protective equipment for staff; and the availability of post-exposure prophylaxis

- **Water supply and wastewater**

Both the quantity and quality of water and safe disposal of wastewater are important in health centres.

- **Hand washing and other hygiene practices**

Water for hand washing after going to the toilet, before handling food, and before and after performing health care should be available at health care facilities. This should be available for every clinical consultation room; in labour, delivery, postpartum, and other in-patient areas such as in the laboratory, near waste disposal areas and near the toilet.

- **Latrines/toilets**

There should be at least four toilets in the health care facility: one for male patients; one for female patients; one for young children and one for disabled. In large health centres, more toilets are required depending on several local factors including the average time patients wait before consultations

- **Cleaning**

Management needs to provide cleaning supplies that enable staff to routinely clean surfaces and fittings to ensure that the health-care environment is visibly clean and free from dust and soil. The purpose of cleaning is to eliminate this dirt.

- **Health centre waste management**

Appropriate standard precautions at all times in handling wastes should be used as follows:

- ✓ Segregating at the point of generation the four categories of waste (sharps, non-sharps infectious waste, non-sharp non-infectious waste, and hazardous waste).
- ✓ Having three colour-coded containers at convenient locations in all work areas.
- ✓ Keeping hazardous waste containers in lab and pharmacy.
- ✓ Training all staff in waste management. Making sure waste treatment and disposal happen properly and consistently.
- ✓ Properly identifying waste packages to warn health personnel and waste handlers about their contents.
- ✓ Locating the waste-disposal zone at least 30 metres from groundwater sources.
- ✓ Fencing off the waste-disposal zone.

- **Power**

All health centres need some electricity. Ambient light can be used during the day for most tasks, but emergency lights, electricity to charge a mobile phone, and (in health centres performing malaria or sputum microscopy) minimum levels of electricity for a microscope are required.

- **communication infrastructure**

It is essential that the clinical team has the physical means to communicate with each member and to consult on side-effects, other complications, et cetera. The health centre must have reliable distance communication between it and the district-based medical officer (also a part of the clinical team). Furthermore, clinical mentors need to be available to offer advice by cell phone, landline or radio.

- **Fire safety**

Health care facilities should make sure that there is always a functional fire extinguisher or at least buckets of sand at the clinic or health centre.

2.3.3 Collaboration

Collaboration and linkages between the facilities and local government councils are essential to plan, implement, and delivery quality and comprehensive HIV prevention and care services. Linkages to community resources and support are important to help people living with HIV/AIDS and their caregivers to gain access to services and support across the continuum of HIV care. There are community-based services available for PLWHIV in most places, but often groups and organisations do not know about each other or are unaware how they can work together. Without this collaboration, health care workers are handicapped in their ability to refer clients and their families to the community-based organisations that can assist them (Burlew, Puckett, Bailey, Caffrey, & Brantley, 2014:24).

Collaboration between the multidisciplinary team can also result in successful implementation of IPHC. According to Sibiya and Gwele (20013:395), multidisciplinary team refers to any health professionals visiting the PHC clinics to support nurses. These may include doctors, psychologists, dentists, and others. The incorporation of visits to clinics by doctors and other health professionals in support of the other members of the PHC team, particularly nurses, improves collaboration between health professionals. In IPHC, tasks are shifted from health care personnel to the community itself. The active involvement and participation of the community in those matters that affect their health and wellbeing lie at the very core of a well-functioning district based PHC system. The community is involved in the assessment of the situation, the definition of problems and the setting of priorities, and can then help to plan PHC activities and cooperate when these activities are carried out. Therefore, to successfully integrate PHC services, partnerships, links and an enabling environment are needed (Sibiya & Gwele, 20013:395).

2.4 THE EXTENT OF THE INTEGRATION OF HIV/AIDS SERVICES INTO PHC

In this study, integration is conceptualised as the extent to which primary health care clinics are providing HIV/AIDS care and support services within the pre-existing package of PHC. It also involves the extent to which primary health care clinics are integrating with other organisations in the provision of HIV/AIDS care and support. Integration of health programmes was first raised at the Alma Ata conference and was considered as a way of achieving health for all. Integration of HIV/AIDS services into PHC services is an important strategy to provide coordinated care for HIV/AIDS and other related health needs such as TB and SRH (Uebel et al., 2013:6).

In certain countries, significant proportions of pregnant women living with HIV either remain undiagnosed or, if diagnosed, do not start on ARV medicines for their own health and PMTCT. Other studies in Sub-Saharan Africa show that close to half the people who test HIV-positive are lost between testing and being assessed for eligibility, and 32% of the people considered eligible for ART are lost between being assessed for eligibility and initiating ART. Numerous efforts are started to reduce such attrition which included expanding HIV testing and counselling, linking patients from testing to care, antiretroviral therapy initiation, retention and adherence (WHO, 2013:11).

A study conducted in South Africa about integrating HIV care into nurse-led PHC services revealed that, at some clinics patients accessing HIV treatment were sent to one nurse who had access to computer based records for HIV care. Clinics that were initially integrating ART care into PHC returned to vertical delivery of care where one nurse concentrated on care of HIV/AIDS patients and collection of HIV statistics because nurses were experiencing problems with recording of HIV statistics. Some clinics were still employing vertical programmes, where each nurse treated a specific condition because of huge amounts of paperwork required by multiple registers for each programme (Uebel et al., 2013:5).

Clinics and health centres may vary with regard to human resources and infrastructure, necessitating individualised interventions. Additional resources and support should be allocated to PHC clinics and health centres in order to sustain long-term HIV care that is of a high quality that will not compromise other services. Such an approach will inevitably strengthen the larger PHC system in order to address the quadruple burden of disease in South Africa. Studies revealed that large clinics with a large number of nurses tended to provide separate care under different programmes. The reasons underlying this were that, in most large clinics nurses would be allocated to one programme and be responsible for clinical care, reports and monthly statistics. Nurses could rotate through different programmes and gain comprehensive experience, but even so they tended to specialise in one programme and remain with that programme for extended periods of time. In contrast, in clinics with only two or three nurses, each nurse had to be experienced in and responsible on a daily basis for caring for patients with health issues that covered a number of programmes. In other small clinics, consultations were fully integrated despite nurses having experience in all programmes. With other clinics, patients were referred to the ART nurse for HIV testing or care (Uebel et al., 2013:5).

According to Uebel et al. (2013:7), there are many factors on HIV/AIDS service integration into PHC and that include: factors hindering the integration, factors facilitating the integration, factors to promote a more specialised or vertical approach to delivery of HIV care and some factors appeared to have both facilitating and hindering effects on integration, depending on the setting. Health systems factors such as the access of medical records, registers and monthly reports specific to each programme; the shortage of support personnel; and the infrastructure are also observed. Many clinics have separate waiting areas and buildings for different services. The high workload in many clinics had complex effects on integration while the smaller size and staff complement of other clinics appeared to promote integration of care. In certain clinics, the administrative work required for clinic staff tended to hinder integration in a number of ways. For example, some programmes had specific forms for each consultation to ensure that important clinical information was elicited and recorded within the patient's general file.

In many clinics there are also separate medical files for HIV and other chronic diseases. In addition, many programmes had their own register in which the numbers of patients seen had to be recorded. These programmes for specific records tended to hinder efforts to integrate HIV/AIDS services into all consultations within a clinic. Staff shortages, the structure of clinics and the amount of space available also affected integration. Many clinics had been built initially with different sections or had extra sections built later, each with consulting and waiting rooms. The high workload of nurses in most of the clinics had complex effects on integration. In some clinics, workload hindered integration because nurses felt unable to spend sufficient time with patients to provide comprehensive care. Nurses reported that they did not have time to provide comprehensive care in all consultations. The study further revealed that HIV positive patients had more potential illnesses, side effects and emotional aspects to consider and thus required longer and more complicated consultations than for other chronic diseases. This affected their willingness to provide integrated care (Uebel et al., 2013:8).

Large clinics with a large number of nurses tended to provide separate care under different programmes. Clinic nurses would be allocated to one programme and are responsible for clinical care, reports and monthly statistics. Nurses could rotate through different programmes and gain comprehensive experience. They tended to specialise in one programme and remain with that programme for extended periods of time. In contrast, in clinics with only two or three nurses, each nurse had to be experienced in and responsible on a daily basis for caring for patients with health issues that covered a number of programmes. In some clinics patients could access integrated care. In other small clinics, all consultations were not fully integrated despite nurses having experience in all programmes. Some patients in need of HIV testing or care are referred to ART nurses. These authors considered factors hindering the integration of HIV/AIDS service into PHC as; the existing organisation of clinical records and reporting; high workloads and shortages of support staff; and the structure and organisation of existing clinic buildings. Factors promoting the integration of HIV/AIDS service as; a separate programme included nurses' preferences to develop expertise and specialise in particular areas of care as well as the value that nurses and patients placed on nurse–patient relationships (Uebel et al., 2013:8).

Modiba et al. (2002:57) recommend that monitoring and evaluation of HIV/AIDS care in the primary health care clinics should be done through defining specific indicators to measure quality and utilization of HIV services in the primary health care setting, developing tools for HIV quality monitoring at district level, to be integrated into quality improvement systems, institute systems for periodic monitoring to measure uptake and quality of HIV/AIDS services.

2.5 GUIDELINES FOR HIV/AIDS CARE

The World health organisation (WHO) has revised its ARV guidelines to recommend earlier initiation of ART and immediate ART in certain circumstances. The 2013 ARV guidelines recommend initiating ART earlier – at CD4 count ≤ 500 cells/mm³ – and immediately initiating ART for Sero-discordant couples, pregnant women living with HIV, people with TB and HIV, people with HIV and hepatitis B, and children living with HIV who are younger than five years, irrespective of CD cell count. The guidelines further recommend initiating ART immediately for all children younger than five years of age who are diagnosed with HIV, irrespective of CD4 count. WHO has also developed guidelines to promote integration of TB and HIV activities which indicated that everyone living with HIV is screened for symptoms of TB. Everyone with TB should be routinely offered HIV testing to identify those who need HIV-related services. WHO also recommends that all individuals with TB and HIV receive co-trimoxazole preventive therapy and immediately initiate ART, regardless of CD4 count.

A practical guide for TB and HIV integration at PHC facilities was developed by the National Department of Health, South Africa, in order to guide health care workers (HCWs) when integrating TB and HIV services. The guide embraces initiation and management of ART at PHC facilities. Some of the principles and guidelines for HIV service integration are in place to ensure that all services required by patients are provided by the same health care providers during the same visit. This means that each client receives all the services they require during each visit. According to this guide, quality services are to be rendered by trained, competent and confident workers; this can be ensured by decentralised services at PHC level as well as task shifting. With task shifting, specific tasks are moved from more highly qualified (HCWs) to those with less qualifications in order to make efficient use of the available human resources

integration of TB and HIV services. This implies that existing guidelines for TB case management, TB infection control, HIV/ART and PMTCT should be adhered to by a single service provider. WHO and UNICEF also developed a strategy called the Integrated Management of Childhood Illness (IMCI), in order to focus on the wellbeing of the child as a whole, which also includes screening for HIV (McCarthy, Goemaere, Wilkinson, Tihon, Vilakazi-Nhlapo & Hausler, 2010:15).

The Minister of Health, Dr Aaron Motsoaledi announced changes in the ART guidelines during his budget speech in July 2014. These changes included changing the eligibility criteria for treatment from CD4 <350 to CD4 <500. National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults were developed. South Africa also adopted Universal Test and Treat (UTT) which directly supports UNAIDS 90-90-90 targets of ensuring that 90% of all people living with HIV know their HIV status, 90% of people with diagnosed HIV infection receive sustained ART and 90% of all people receiving ART have viral suppression. According to UTT, All HIV positive children, adolescents and adults are offered ART treatment regardless of CD4 count but prioritizing those with CD4 \leq 350 (WHO, 2016:4). The main purpose of these guidelines is to improve the clinical outcomes of PLWHIV, reduce morbidity due to TB/HIV co-infection, reduce HIV incidence and prevent AIDS-related deaths. The target audience for the guidelines include all health care professionals, health care workers, managers of the national health laboratory services, programme managers at district, provincial and national level and community based organisations working with people living with HIV. These guidelines address clinical and programmatic aspects of HIV treatment and prevention amongst pregnant and breastfeeding women, children, adolescents and adults by making use of the continuum of care, from HIV testing and counselling, linkage with care and treatment, general HIV care and all aspects of ART management. This includes ART initiation, adherence and retention strategies and monitoring and evaluation. The guidelines also have the following guiding principles: Increasing effectiveness and efficiency of programmes, managing HIV as a chronic health condition, strengthening integration of services, promoting human rights and health equity and promoting a family approach to HIV care (Department of Health, 2015:8).

According to these guidelines, integration of HIV/AIDS services into PHC is vital as people PLWHIV often have other health issues. Different services such as SRH, TB and HIV services, and operational programmes can be joined to maximise on collective outcomes. The guidelines further indicated that access to HIV prevention, care and treatment is important to ensuring the universal right to care. Therefore health care providers and institutions should render services based on principles of medical ethics and the right to equitable and quality health care. Family-centred approaches represent the most appropriate and cost-effective models for responding to the challenges of HIV prevention, treatment and care. This includes ensuring that programmes provide appropriate care to women before, during and after pregnancy. It should also integrate maternal and child care services such that children have timely access to treatment and that early child development is supported. Couples and families, especially mothers and their infants, should receive health care at the same consultation regardless of the service point.

2.6 BARRIERS TO THE INTEGRATION OF HIV/AIDS SERVICES INTO PHC

Studies revealed that most basic HIV care and treatment services are provided in PHC clinics and health centres though they are not equipped adequately to render integrated HIV care and treatment services. This was because of a lack of capacity on both a clinical and health system level. Studies further suggested that, key elements such as recording and reporting, human resource constraints, physical space and support systems are to be addressed for the effectiveness of HIV/AIDS services integration into PHC. Other barriers for the integration of HIV/AIDS service into PHC are related to the availability of physical space, trained health care professionals, updated guidelines, essential drugs, nutritional support, support groups and tracing of defaulters. Workload and capacity constraints as well as logistical and infrastructural challenges and a lack of supervision and support are ongoing barriers for integrating HIV/AIDS services into PHC (Crowley & Stellenberg 2014:6; Delobelle, Rawlinson, Ntuli, Malatsi, Decock & Depoorter, 2009:1062). Hence, the integration of HIV/AIDS services into PHC should be supported with additional human resources in order to sustain long-term HIV/AIDS care that is of a high quality and will not compromise other services.

2.6.1 Human resource and increased workload

Health systems in Sub-Saharan Africa (SSA) face a serious human resources crisis, with recent estimates pointing to a shortfall of more than half a million nurses and midwives needed to meet the Millennium Development Goals of improving the health and wellbeing of the SSA population, by 2015. Deficiencies in human resources are considered as the key limitation for the integration of HIV services into PHC clinics and health centres. Health care workers in SA face an enormous challenge in dealing with the impact of the HIV/AIDS epidemic, largely because of the high workload, chronic staff shortages and sub-optimal working conditions. A study conducted in Free State, South Africa also supported that high workload of nurses in most of the clinics had complex effects on integration. In some cases, workload hindered integration because nurses felt unable to spend sufficient time with patients, as HIV positive patients had more potential illnesses, side effects and emotional aspects to consider and thus required longer and more complicated consultations than for other chronic diseases. These were affecting nurses' willingness to provide integrated care. The findings further concluded that as long as nurses are expected to manage high numbers of patients each day in PHC, HIV care is unlikely to be successfully integrated into service delivery (Delobelle, Rawlinson, Ntuli, Malatsi, Decock & Depoorter, 2009:2).

Similarly, the study conducted by Legido-Quigley, Montgomery, Khan, Atun, Fakoya, Getahun and Grant (2013:204) revealed barriers for implementing the integration of HIV/AIDS services into PHC as; lack of staff trained to manage both HIV and tuberculosis, high staff turnover, requiring continuing training activities where additional activities are introduced, staff attitude, overloaded and not motivated to integrate HIV/AIDS services into PHC, particularly if perceived as an extra work as well as unwillingness to implement HIV testing early in tuberculosis treatment. HIV/AIDS care increased workload because of lengthy counselling procedures with lack of trained staff and increased numbers of patients with HIV/AIDS.

2.6.2 Availability of physical space and support system

The structure of the amount of space available can be a barrier for integrating HIV/AIDS services into PHC. Studies revealed that structural challenges related to weaknesses of health systems in a wide range of settings across the public sector in developing countries are noticeable. PHC clinics and health centres were not designed to facilitate infection control for tuberculosis, where sputum samples are produced. They also Lack private space for HIV counselling and testing. Data recording systems are poorly designed for integrated care as well as ineffective referral systems (Legido-Quigley, et al., 2013:203; Church & Mayhew, 2009:179).

2.6.3 Recording and reporting

Good recordkeeping of drugs and other supplies means properly maintaining adequate supplies to ensure uninterrupted services. It will help in ensuring availability of materials and medicines when needed, avoid the use of expired drugs, and minimize wastage. The non-availability resulting from under-stocking of drugs, supplies and materials may lead to compromising the quality of services while over-stock can result in wastage. Therefore, up-to-date stock recordkeeping of drugs is best for facilities to maintain quality service (National HIV/AIDS Division, 2014:23; Uebel et al 2013:6) indicated factors hindering the integration of HIV care into PHC as the existing organisation of clinical records and reporting. In this study the researcher will review all the records related to the integration of HIV/AIDS services into PHC. These are TB registers; PMTCT; IMCI and clinical data book for daily routine.

2.7 SUMMARY

This chapter discussed the literature relevant to the integration of HIV/AIDS services into PHC. The literature review assisted in the identification of studies that was done on integration of HIV/AIDS services into PHC as well as the adopted IPHC model that guided the study.

Chapter 3 will discuss the research methodology that was used in this study, comprising the research design, setting, sampling, data collection methods, data analysis processes and ethical considerations.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Previous chapter discussed the literature review; relevant articles, journals, books, research reports, internet searches and other information sources were reviewed with the purpose of establishing and identifying available knowledge and evidence with regard to the integration of HIV/AIDS service into PHC. This was conceptualized by the integrated primary health care model. This chapter outlines the research methodology. Research methodology refers to ways of obtaining, organizing and analysing data (Grove, Burns and Gray 2014:325). It is a blue print for conducting a study that guides the researcher in planning and implementing the study in order to achieve the intended goal. Leedy and Ormrod (2005:12) refers research methodology as the researcher's general approach in carrying out the research project.

For the purpose of this study, a mixed methods were used. A mixed method research is a research that focuses on collecting, analysing, and mixing both qualitative and quantitative data in a single study or a series of studies. It is the use of both quantitative and qualitative methods in one study. The rationale for mixing qualitative and quantitative data was to provide an improved understanding of the research problem and to provide more evidence and different pictures than when one approach was used (Creswell, 2012:62). With mixed method the researcher views problems from multiple perspectives to enhance and supplement the meaning of a singular perspective.

According to Creswell and Plano (2011:5) mixed method research should incorporate many diverse viewpoints which rely on the core definition of characteristics of mixed method research. The authors continue to indicate that it combines methods, a philosophy, and a research design orientation, which ultimately seems to highlight the key components that go into designing and conducting a mixed methods study. Furthermore, mixed methods research originated in the social sciences and has recently expanded into the health and medical sciences including fields such as nursing, family medicine, social work, mental health, pharmacy, allied health, and others. An analysis of descriptions about mixed methods research in literature clearly reveals an agreement, irrespective of the focus of the definition, to a great extent among proponents of this particular type of research.

3.1.1. Characteristics of mixed methods research

- The collection of both qualitative and quantitative data (open- and closed-ended) in response to research questions
- The analysis of both qualitative and quantitative data
- Persuasive and rigorous procedures for the qualitative and quantitative methods
- The integration of these two data sources (merging, connecting, embedding)
- The use of a specific mixed methods design that involves a concurrent or sequential integration (and equal or unequal emphases)
- An approach to research that has a philosophical foundation (Creswell & Plano, 2011:15).

3.1.2 Rationale for choosing a mixed method research design for this research was to:

- Gain data about a wider range of interest
- Understand more fully and thus get a more complete research picture
- Generate deeper and broader insight of the phenomenon under study
- Enhance the significance of interpretation
- Enhance the convergence and collaboration of findings
- Allow for unexpected developments
- Clarify underlying logic
- Facilitate both outsider and insider perspectives, thereby improving research

- Facilitate a better understanding of the relationship between variables
- Allow appropriate emphases at different stages of the process; and to
- Explain idiosyncratic circumstances, approaches, opinions and practices of different participants (Creswell & Plano, 2011:17).

3.2 PURPOSE AND OBJECTIVES

The overall purpose of the study was to develop guidelines to facilitate the integration of HIV/AIDS services into PHC in Vhembe district of Limpopo province, South Africa.

To achieve this purpose the following objectives were developed as:

Phase 1: qualitative study

- To explore the extent at which the existing HIV/AIDS service is integrated into PHC clinics and health centres in Vhembe district of Limpopo province, South Africa?
- To determine whether the clinic or health centres environment are enabling to integrate HIV/AIDS services into PHC clinics/healthcare centre
- To identify the existing guidelines on integration of HIV/AIDS service into PHC.

Phase 2: quantitative study

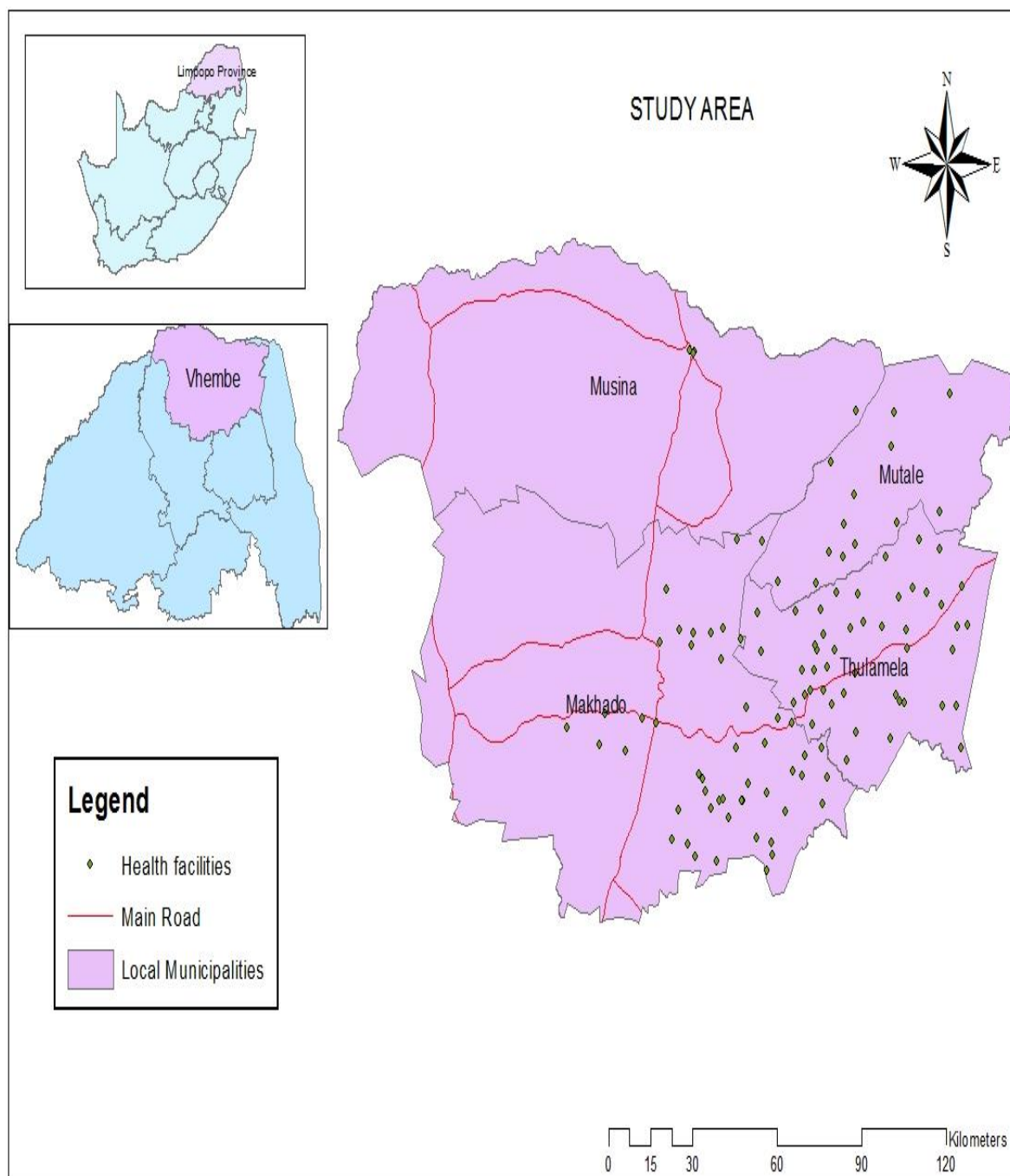
- To assess the barriers on implementation of the of HIV/AIDS services integration into PHC in Limpopo province, South Africa.
- To explore the attitude of PHC nurses regarding the integration of HIV/AIDS service into PHC.

3.3 RESEARCH SETTING

The study was conducted at the sampled health centres and clinics located in Vhembe district of Limpopo Province. Limpopo province has five (5) districts and Vhembe is one of these districts. The researcher purposefully sampled Vhembe district because it is the only district among other districts in Limpopo province, which was selected to pilot National Health Insurance (NHI) with the purpose of integrating services into the current PHC model, including health promotion and preventive care focusing on non-communicable diseases, mother and child health, HIV and tuberculosis. Furthermore, the district is situated in areas with high levels of underserved communities (Matsoso & Fryatt, 2013:157).

Vhembe District is located in the northern part of Limpopo Province and it is bordered in the East by the Kruger National Park, South East Mopani District, South West Capricorn District, North East Botswana and North Zimbabwe. It is comprised of four local municipalities namely, Musina, Mutale, Thulamela and Makhado. It covers a geographical area that is predominantly rural. The District has a total population of 1,293,783 (Statistics South Africa, 2011:11). The sub district populations are detailed in Figure 1 below:

Figure 2: Vhembe District: study area

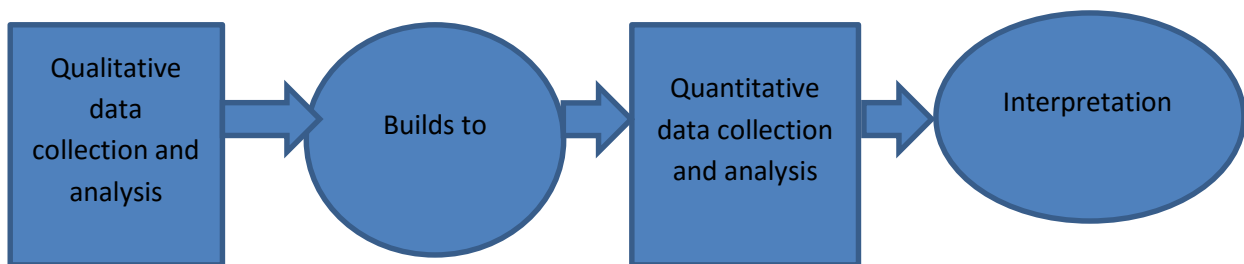


3.4 RESEARCH DESIGN

A research design lays down the blueprint of how the study is conducted in order to maximize control over factors that could interfere with validity of the findings (Burns & Grove,

2010:211). An exploratory sequential mixed methods design was used. The qualitative data was collected and analysed before and results for qualitative approach were used to build subsequent quantitative phase. Phases were linked by using the qualitative results to shape the quantitative phase; for example specifying the research questions and development of an instrument. Building from the exploratory results from qualitative phase, the researcher then conducted a second, quantitative phase to test or generalize the initial findings (Burns & Grove, 2010:219). The purpose of exploratory sequential mixed method design was to test qualitative exploratory results to see if they can be generalized to a sample and a population.

Figure 3.1: Exploratory sequential designs



This study was conducted in two phases: phase 1(a); qualitative approach which consisted of the semi-structured interviews with operational managers from the selected clinics, and phase 1(b); quantitative which comprised of structured questions with professional nurses from selected PHC clinics. The research design was therefore discussed under those phases.

3.4.1 Phase 1(a) Qualitative research

Polit and Beck (2012:508) define qualitative research as the enquiry into phenomena, normally in an in- depth and holistic fashion, through the collection of rich narrative material using a flexible research design. A qualitative approach is used when researchers want to develop a rich understanding of a phenomenon as it exists in the real world and as it is constructed by individuals within the context of that world (Polit & Beck, 2012:212).

According to Klopper (2013:31), qualitative research is an inquiry approach in which the inquirer explores a central phenomenon, asks participants broad, general questions and collects detailed views of participants in the form of words or images. The characteristic of qualitative research are as follows:

- **Naturalistic setting:** Qualitative researchers tend to collect data in the field at the site where participants experience the issue or problem under study.
- **Researcher as key instrument:** Qualitative researchers collect data themselves through examining documents, observing behaviour, or interviewing participants.
- **Multiple sources of data:** Qualitative researchers typically gather multiple forms of data, such as interviews, observation, documents and audio-visual information rather than rely on a single data source.
- **Inductive and deductive data analysis:** Qualitative researchers build their patterns categories and themes from the bottom up by organising the data into increasingly more abstract units of information.
- **Participants meanings:** In the entire qualitative research process, the researcher keeps a focus on learning the meaning that the participants hold about the problem or issue, not the meaning that the researchers brings to the research or that writers express in the literature.
- **Emergent design:** The research process for qualitative researchers is emergent.
- **Reflexivity:** In qualitative research, the inquirer reflect about how their role in the study and their personal background, culture and experiences hold potential for shaping their interpretations such as the themes they advance and the meaning they ascribe to the data.
- **Holistic account:** Qualitative researchers try to develop a complex picture of the problem or issue under study (De Vos, Delpont, Fouché & Strydom, 2011:185).

In this study qualitative research was informed by objective 1 which is to explore the extent at which the existing HIV/AIDS service is integrated into PHC clinics and health centres in Vhembe district of Limpopo province, South Africa; objective 2 which is to determine if the clinic or health centres environments are enabling to integrate HIV/AIDS services into PHC clinics and health centres, and lastly objective 3 which is to check the availability of guidelines

on integration of HIV/AIDS services into PHC. The researcher used an exploratory, descriptive and contextual qualitative research design and they are discussed as follows:

- **Exploratory research design**

The purpose of the exploration is to gain a richer understanding of the research problem. This study explored the extent of integration of HIV/AIDS services into PHC as well as determining whether the environment for PHC clinics and health centres are enabling to deliver programmes in Vhembe district of Limpopo province, South Africa. The researcher selected the exploratory method to gain new insights, discover new ideas and/or increase knowledge about the phenomenon under study.

- **Descriptive research design**

According to Grove, Burns and Gray (2014:38) descriptive research enables the researcher to explore and describe a phenomenon in its real situation. It allows the researcher to generate new knowledge of the subject by describing characteristics of persons, situations and the frequency with which certain phenomena occur. In this study operational managers from selected clinics were interviewed on the extent of integration of HIV/AIDS services into PHC as well as whether clinic environments are enabling to integrate HIV/AIDS services into PHC. While answering, field notes were taken, data was audio-recorded and described.

- **Contextual research design**

The study was conducted in health centres and clinics where HIV/AIDS integration is practiced within Vhembe district, Limpopo Province, South Africa. This study was contextual in nature because attention was given to the extent of integration of HIV/AIDS services into PHC as well as whether clinic environment is enabling centres to integrate HIV/AIDS services into PHC. The context that was studied was clinics and health centres where operational managers are working. The extent of integration of HIV/AIDS services into PHC as well as whether clinic environment is enabling centres to integrate HIV/AIDS services into PHC, were explored in relation to the social context where their experiences occurred.

3.4.1.1 Study population

Population refers to all the elements (individuals, objects or substances) that meet certain criteria for inclusion in a given universe” (Grove, Burns and Gray 2014:38: 23). For the current research, the researcher chose topic-specific experts in the field of the study as participants based on their specialised expertise and close involvement in clinics and health centre management. The study population comprised of clinic and health centre managers in Vhembe district of Limpopo province, South Africa.

- **Accessible population**

Accessible population comprised of clinic and health centre managers from the health centres and clinics where HIV/AIDS service is integrated in Vhembe district of Limpopo province, South Africa.

- **Target population**

Target population comprised operational managers from selected clinics and health centres where integration of HIV/AIDS service into the PHC is practiced. The sampled clinics were from three local areas (Shayandima, Sibasa & William Edie).

3.4.1.2 Sampling

Sampling refers to the process of selecting a portion of the population to represent the entire population so that inferences about the population can be made (Polit & Beck, 2012: 513).

- **Sampling of health care facilities**

PHC healthcare centres and clinics from three local areas (Shayandima, Sibasa & William Edie) in Vhembe district of Limpopo province were purposively sampled for the study. The reason for sampling these three local areas was that they are the ones with more clinics and health centres. Only clinics and health centres that integrate HIV/AIDS service into PHC were sampled. Information about clinics and health centres facilities that integrate HIV/AIDS services into the PHC was obtained from the district manager who is responsible for the programme.

- **Sampling of participants**

Non-probability purposeful sampling procedures was used for the selection of knowledgeable and experienced operational managers from selected clinics and health centres where integration of HIV/AIDS services into the PHC was practiced.

- **Sample size**

The sample size could not be determined in advance; however, the minimum requirements for qualitative research were adhered to namely, data saturation. In this study, the researcher anticipated 25 clinic and health centre operational managers to participate in the study, though data saturated at 10 clinics and two (2) healthcare Centre

3.4.1.3 Criteria for inclusion and exclusion in the study

Sampling criteria; also referred to as eligible criteria; include a list of the characteristics essential for membership or eligibility of the target population. Inclusion and exclusion criteria may be used to develop the desired sample (Grove, Burns & Gray 2014:343).

- **Inclusion criteria**

- Clinic and health centre managers from PHC facilities in which integration of HIV/AIDS services into PHC is practiced.

- Should have 2 years of experience in PHC facilities where HIV/AIDS services integration is practiced.
- Able to provide voluntary informed consent.

- **Exclusion criteria**

Participants were excluded from the study due to:

- Not able to provide informed consent
- Less than 2 years of experience in PHC facilities where HIV/AIDS services integration is practiced.

3.4.1.4 Research instrument

A semi-structured interview guide was designed for data collection from clinic and health centre managers and met the eligible criteria to participate in the study. The interview guide was perused by the experts of research and promoters of this study to check if the questions are comprehensively clear and logic.

3.4.1.5 Data collection

Data collection is the process of collecting information from the participants which is needed to address the research problem (Creswell, 2012:20). In qualitative research the researcher was the sole data collector. The researcher did not make use of the research assistant trained for data collection. The researcher facilitated the communication (one to one semi-structured interview) and encouraged the participant to talk freely about the extent of integration of HIV/AIDS services into PHC as well as whether the environment for clinics and health centres are enabling to integrate HIV/AIDS services into PHC. The researcher made observation and took field notes at the same time. Before commencing with the semi-structured interview, permission was sought to have a private room. The following central questions were asked:

- *To what extent do you integrate HIV/AIDS services into the PHC programme?*

- *Is the clinic/health centre environment enabling to deliver integrated HIV/AIDS services?*
- *Do you have guidelines which you follow when integrating HIV/AIDS services into PHC?*

Each question was followed by the following communication techniques:

Probing: participants were encouraged to talk during an interview by making vague comments that could have multiple meanings.

Paraphrasing: to convey to the participant that you are with him/her and that you understand what he/she is going through. Paraphrasing helps the interviewer to check her own perceptions to make sure that she really understands what the participant is describing. The researcher often repeats what has been said in a more concise manner in order to crystallize the participant's comments.

Summarizing: this allows the interviewer to condense and to crystallize the essence of the participant's statement. The researcher was summarising what has been said by participants throughout the interview in order to make sure that what the researcher heard is correct.

Clarification: this involves the interviewer's response to make the interviewee's verbalization clearer. The purpose of clarification is to highlight participants' meaning that was not clear initially. Clarification was done throughout the interview for the things that were not clear.

Listening: this is the process of tuning in carefully to the participants' messages and responding accurately to the meaning behind the messages. Listening enhances interviews, as the participants are encouraged to talk freely. The researcher listened while participants narrated the information, in order to understand everything that the participants were saying (Polit & Beck, 2012:336).

PHC clinics and health centre managers were encouraged to talk freely about integration of HIV/AIDS services into the PHC. Observation during the interviews were made and field notes were taken. In order to ensure that all responses from the participants were recorded, a digital voice recorder was used to record the responses of the participants. Participants were made aware that they were being recorded.

3.4.1.6 Pilot study

A pilot study is a procedure for testing and validating the instrument by administering it to a small group of participants from the intended research population. It can be viewed as a dress rehearsal of the investigation and is similar to the research planned investigation, though on a smaller scale (De Vos, Delport, Fouché & Strydom, 2011:237). The researcher conducted a pilot study with two (2) operational managers from clinics where HIV/AIDS services are integrated into PHC to check if the questions are comprehensively clear and logic and whether the questions are answering the research questions. Participants who participated on the pilot study did not participate in the actual study. Consultation with an expert concluded that the order in which the questions were asked was vitally important. Appropriate and necessary changes were made to the interview guide.

3.4.1.7 Qualitative data analysis

Qualitative data is the information collected in narrative (non-numerical) form such as transcript of an unstructured interview; the analysis thereof is the organisation and interpretation of this non-numeric data for the purpose of discovering important underlying patterns of relationships (Polit & Beck, 2006:504). In qualitative research data were analysed using Tesch steps of open coding (Creswell, 2012:11). The following steps were followed:

Step One: The initial step was to get a sense of a whole data by thoroughly reading all the interview transcripts and listening to the audio-recordings prior to the transcription while carefully jotting down some ideas as they come to mind.

Step Two: The researcher selected one interview and perused it again, asking what it was about and bearing in mind its underlying meaning. The researcher wrote the thoughts in the margins in order to obtain a general sense of the transcripts.

Step Three: The researcher made a list of all the topics from the interviews clustering together similar topics in columns. Then the researcher arranged these topics into major themes and sub themes

Step Four: The researcher abbreviated the topics as codes and these codes were written next to the appropriate segment of the text.

Step Five: The researcher changed descriptive topics into categories. In addition, the researcher reduced the categories by clustering together similar topics.

Step Six: The researcher decided on the final abbreviation for each category and placed these codes in alphabetical order.

Step Seven: The researcher assembled the related data material of each category in one place.

Step eight: The researcher recorded the existing data to show the interrelations among the categories of information where it was necessary and conducted a preliminary analysis.

A literature control was conducted after data analysis to identify similarities and the uniqueness of the research. The purpose of the literature review was to put the findings in the context of what is already known. It also enabled the researcher to identify the relationships and variation between the present and previous studies as well as the potential contributions of the current study towards the knowledge pool that existed (Grove, Burns and Gray (2014:116; Polit & Beck, 2012:133).

3.4.1.8 Measures to ensure trustworthiness

According to (Polit and Beck, 2012:511), trustworthiness is the extent of confidence that qualitative researchers have in their data. This is assessed using criteria of credibility, transferability, dependability and conformability.

- **Credibility**

This is a criterion for evaluating data quality in qualitative studies and it refers to confidence in the truth of the data and the researcher's interpretation of the data. It is an important characteristic of trustworthiness (Polit & Beck, 2012:132). This includes activities that increase the likelihood of producing credible data. These activities include: prolonged engagement, persistent observation, triangulation, external checks such as peer debriefing and member check, and the researcher's credibility.

- **Prolonged engagement**

Prolonged engagement refers to the investment of sufficient time in data collection activities in order to have an in-depth understanding of the phenomenon under study and to test for misinformation. Prolonged engagement is also important to build trust and rapport between the participant and the researcher. Prolonged engagement with the study participants was done in order to understand the implementation of the integration of HIV/AIDS service integration, its extent as well as whether the PHC environment is enabling for the integration. Prolonged engagement built trust and rapport between the researcher and participants. First contact was made to obtain agreement and then to request consent from clinic and healthcare centre managers, followed by a visit to conduct semi-structured interviews. The researcher spent 45 to 50 minutes with the participants to build rapport, explaining the purpose of the study and ethical issues involved.

- **Persistent observation**

This refers to the researcher's focus on features of the situation that are relevant to the phenomenon under study. The researcher paid special attention to the responses from the participants about the extent of integration of HIV/AIDS services into PHC as well as whether the clinic environment is enabling centres to integrate HIV/AIDS services into PHC. Questions were rephrased where necessary and hints and cues were used to probe for further information in order to increase the credibility of the collected data.

- **Triangulation**

Triangulation refers to the use of multiple methods to collect and interpret data about the phenomenon under study, so as to produce an accurate representation of reality. Triangulation is used to ensure that the most comprehensive approach was taken to solve the research problem (Grove, Burns and Gray 2014:25; Polit & Beck, 2012:511). According to these authors, the aim of triangulation is to overcome the intrinsic bias that comes from the single observer and single theory studies. In qualitative data collection, the researcher used semi-structured interviews, and observation and field notes were taken.

- **External checks: peer debriefing and member checks**

Polit and Beck (2012:333) stated that two other techniques for establishing credibility involve external checks of inquiry. These are peer debriefing and member checks.

- **Peer debriefing**

Peer debriefing is a session held with independent peers to review and explore various aspects of investigation. In this study, research proposals were reviewed by the promoters, department of advanced nursing, school of health sciences as well as the university higher degree committee and all the comments were effected accordingly.

- **Member checks**

Member checks involve soliciting study participants' reaction to preliminary findings and interpretation of the data (Grove, Burns & Gray 2014:795). Member checking with participants can be carried out during data collection or during data analysis to confirm research data, findings and interpretations. In this study the researcher went through the participant responses with them and played back the recordings in order to get comments immediately after interviews.

- **Dependability**

Dependability refers to the stability of data over time and across conditions. Dependability in qualitative research is similar to reliability in quantitative research. Dependability involves an examination or inspection of data and supporting documents by an external reviewer (Polit & Beck, 2012:335). Audio tape was transcribed by the researcher and cross-checked with the field notes taken by the researcher. The research methodology was clearly and fully described. Consensus discussions with the independent coder took place to reach an agreement on themes.

- **Conformability**

Conformability refers to the objectivity and neutrality of the data. It is the potential for similarity between two or more independent people about the data accuracy, relevancy and meaning reviewer (Polit & Beck, 2012:336). Confirmability in this study was enhanced by the availability of raw data on audio-recorder and transcriptions to verify the themes. The use of bracketing prior to data collection ensured the pure description of data. All pre-conceived ideas regarding the integration of HIV/AIDS service, its extent and whether the PHC environment is enabling was put aside. Observations recorded on the researcher's handwritten notes were part of the audit trail and kept by the researcher.

- **Transferability**

Transferability refers to the extent to which the findings from the data can be transferred to other settings or groups; it is similar to generalizability in quantitative studies (Polit & Beck, 2012: 336). A detailed report (thick description) of the findings of this study provided sufficient information to permit judgments about contextual similarity. Based on the integrity of this study, other settings may decide on the applicability of the findings to their settings. The use of purposive sampling of clinic and health centre managers increased transferability. Data were collected through semi-structured interviews with operational managers until data saturation.

3.4.2 Phase 1(a): quantitative research design

Quantitative research is a formal, objective, systematic process in which numerical data are utilised to obtain information. This research method is used to describe variables, examine

relationships among variables, and determine cause-effect interactions between variables. Furthermore, quantitative research is thought to produce a “hard” science that is based on rigor, objectivity and control (Grove, Burns & Gray 2014:326). Creswell (2012:5) refers quantitative research as a means for testing objective theories by examining the relationship among variables. Quantitative research is associated with a positive stance and a belief that reality can be measured and observed objectively. Quantitative research requires objectively evaluating the data which consists of numbers; trying to exclude bias from the researcher’s point of view. Typically, the quantitative method makes use of a questionnaire. The objectives to be achieved are to assess the barriers of the integration of HIV/AIDS services into PHC and to assess the attitude of PHC nurses regarding the integration of HIV/AIDS services into PHC. In this phase quantitative, exploratory and descriptive survey was used to collect quantitative data and they are as follows:

- **Exploratory research**

The exploratory research allows the use of questionnaires distributed to a large sample of the population and is therefore intent on finding facts which relate to the field of study. The aim of an exploratory design is to establish facts, gather new data and determine whether there are interesting patterns in the data. The research design of an exploratory study tends to be open and flexible. Exploratory studies are conducted when little is known about the phenomenon of interest (Polit & Beck, 2012:19). In this study, the researcher used exploratory research to explore the barriers of HIV/AIDS services into PHC as well as the attitude of PHC nurses regarding HIV/AIDS service integration.

- **Descriptive research**

Descriptive research provides an accurate portrayal or account of the characteristics of a particular individual, event, determining the frequency with which something occurs and categorises information (Grove, Burns & Gray 2014:23). According to De Vos, Strydom, Fouche and Delpont (2011:94), descriptive research "determines what exists, the frequency with which something occurs and the categories of various aspects. With a descriptive design, the researcher plans either to assemble new information about an unstudied phenomenon or to gain more information about characteristics within a particular field of study, for the purpose of providing a picture of a situation as it naturally happens. A descriptive design was used in

this study to describe the prevailing situation regarding the barriers of integrating HIV/AIDS services into PHC as well as the attitude of PHC nurses towards the HIV service integration into PHC.

- **Descriptive survey**

Descriptive surveys are done mainly to describe some sample in terms of simple proportions and percentages of people who respond in some way to different questions. Surveys collect data from large samples of people and all surveys present participants with a series of questions to be answered (De Vos, Strydom, Fouche & Delport 2011:156). In addition, survey is used to describe a technique of data collection in which questionnaires were delivered in person by the researcher and the research assistants to collect data from an identified population" (Grove, Burns and Gray 2014:256). This design enabled the researcher to explore and describe the barriers of HIV/AIDS services into PHC as well as the attitude of PHC nurses towards HIV service integration.

3.4.2.1 The study population

Population refers to all the elements (individuals, objects or substances) that meet certain criteria for inclusion in a given universe (Grove, Burns & Gray 2014:40). Polit and Beck (2012:337) refer to the population as the entire aggregate of cases in which the researcher is interested. In this study, the population consisted of 270 PHC nurses working at health centres and clinics in Vhembe district of Limpopo province, South Africa.

- **Target population**

Target population refers to the entire set of individuals or elements who meet the sampling criteria (Grove, Burns & Gray 2014:40). In this study, target population was PHC nurses working at health centres and clinics where HIV/AIDS services are being integrated into PHC, in Vhembe district of Limpopo province, South Africa.

- **Accessible population**

According to Grove, Burns and Gray (2014:740), accessible population is the portion of the target population to which the researcher has reasonable access. In this study, the accessible population comprised PHC nurses working at the health centres and clinics, and who are responsible on the integration of HIV/AIDS service into PHC in Vhembe district of Limpopo province, South Africa.

3.4.2.2 Sampling and sampling technique

Sampling involves selecting a group of people, events, behaviours, or other elements with which to conduct a study. It is a process of selecting participants who are representative of the population under study (Grove, Burns & Gray 2014:345). Probability simple random sampling technique was used to obtain a simple random sample. Clinics and healthcare centres were sampled randomly to participate in the study.

- **Sampling of health centres and clinics**

Total number of health centres and clinics is 124

Sample size was calculated using the formula below:

n=sample size of the adjusted population

N=population size

e=accepted level of error set at 0.05.

$$n = \frac{N}{1+N(e)^2}$$

$$n = \frac{124}{1+124(0.05)^2}$$

$$n = 95$$

Clinics and health centres were randomly sampled. The names of the clinics and health centres were written on pieces of paper, the slips put inside the container and mixed. The slips of paper were picked one by one from the container until the desired number (95) was reached.

Table 3.1: showing the number of PHC clinics and healthcare centres per local area and the number of professional nurses per local area

Local area	Number of clinics & health centres	Number of participating clinics
Bungeni	8	6
Madala	5	4
Makhado	6	5
Mhinga	6	5
Mpambo	7	5
Musina	4	2
Mutale	7	5
Phadzima	7	5
Shayandima	9	7
Sibasa	9	7
Shingwezi	6	5
Tiyani	8	6
Tshaulu	6	5
Tshififi	5	4
Tshilwavhusiku	8	6
Tshino-Mutshetshe	6	5
Vatervaal- Nthabalala	8	6
William Eadie	9	7
TOTAL	124	95

- **Sampling of the participating professional nurses**

Total number of PHC nurses (professional nurses) is 821

Sample size calculated using the formula below:

n =sample size of the adjusted population

N =population size

e =accepted level of error set at 0.05.

$$n = \frac{N}{1+N(e)^2}$$

$$n = \frac{821}{1+821(0.05)^2}$$

$$n = \frac{821}{1+2.0525}$$

$$n = 270$$

Names of professional nurses (obtained from the clinic or the healthcare centre' managers were written on slips of paper, placed in a container, mixed well, and then drawn out, one at a time, until the sample size (270) was reached.

3.4.2.3 Quantitative data collection

- **Questionnaire as a measurement instrument**

In this phase of the study, structured questionnaires were used as an instrument to collect data. Grove, Burns and Gray (2014:398) define questionnaire as a printed self-report form designed to stimulate information that can be obtained through a written response of the participants. A questionnaire is a document used to gather self-report data via the self-administration of questions (Polit & Beck, 2012:414).

Table 3.1: Advantages and disadvantages of questionnaire

Advantages	Disadvantages
It is familiar to users and allows participants to complete the questionnaire at their own convenience, while allowing some time to think about their answers.	Questionnaires often provide low responses (return rates), time consuming follow up and data entry.
Questionnaires facilitate the collection of vast amounts of data with minimal efforts.	Ease of production and distribution can result in the collection of far more data than can be effectively used.
The availability of a number of participants in one place makes it possible because of economy of time and expense and provides a high proportion of useable responses.	Questionnaires are everywhere, competing for participant's time. The meaning here is not clear!
As research instrument, questionnaires can be used time and time again to measure differences between groups of people. They are thus a reliable data gathering tool.	Lack of adequate time to complete the instrument may result in the return of superficial data.
The person administering the instrument has the opportunity to establish rapport, explain the purpose of the study and elaborate on the meaning of items that may not be clear.	Lack of personal contact (if the questionnaire is mailed it may mean that response rate suffers, necessitating the expense of follow up letters, telephone calls and other means of chasing the participants' responses.
Well-designed questionnaires can allow relationships between data to be identified. They are particularly useful to showing relationships with data that are easily quantifiable.	

Questionnaires were designed to be completed anonymously by the respondents. In relation to this study, a questionnaire was constructed based on the results from qualitative research and research questions were aligned with the objectives of the study, the literature review and the IPHC model. The questionnaire consisted of 5 sections and they are as follows:

Section A: Socio-demographic data of respondents

Section B: Clinic demographic data

Section C: Barriers of integrating HIV/AIDS services into PHC

Section D: Attitude towards HIV/AIDS service integration into the PHC

- **Relevancy:**

Questionnaires are used as they give complete anonymity to the respondents because no names are attached to it. Closed-ended questions were used because they allow the gathering of data from large samples and, because of that, the results of investigation can become available fairly quickly. Closed-ended questions are more efficient because participants can complete them in a given amount of time (De Vos, Strydom, Fouche & Delpont 2011:156:175).

- **Pre-testing of the instrument**

A pre-test is a trial run to determine whether the instrument is clearly worded and free from major biases and whether it solicits the type of information imagined. It is a small scale study to determine whether the instrument is useful in generating the desired information (Polit & Beck, 2012:496). In this study pre-test was conducted among 10 PHC nurses conveniently sampled from randomly sampled health centres and clinics. Only one PHC nurse from each clinic was conveniently sampled to complete a self-administered questionnaire and the total participants for pre-test were 10 PHC nurses. Health centres and clinics in which pre-testing were done were not included in the main study.

3.4.2.4 Quantitative data analysis

Quantitative data analysis is the systematic statistical organisation and synthesis of research data, and the testing of research hypothesis using those data (Polit & Beck, 2012:340). Data were analysed using Statistical Package for the Social Sciences (SPSS) version 23.0 with the assistance of a statistician.

3.4.2.5 Validity and reliability

Validity and reliability are the two most important criteria for evaluating quantitative instruments. Validity is a degree to which the instrument measures what it is designed to measure. It ensures that correct procedures are applied to find answers to research questions. Validity entails both internal and external validity. Internal validity refers to the ability of the research tool to measure what is supposed to be measured whereas, external validity relates to the generalizability of the study findings to the whole with that problem. Reliability refers to the degree of consistency, accuracy and precision with which an instrument measures an element. This means that someone else using the same method in the same circumstances should be able to obtain similar findings (Polit & Beck, 2012:340).

- **Validity of the research tool**

Validity entails both internal and external validity. Internal validity refers to the ability of the research tool to measure what is supposed to be measured, whereas external relate to the generalizability of the study findings to the whole population with that problem (Polit & Beck, 2012:200).

- **Internal validity**

Internal validity is crucial to experimental research design; and it may be obtained by using at least two groups that are equal in respect of both the dependent variable and all nuisance variables. Polit & Beck (2012:200) believes that the internal validity of the study is the extent to which its design allows the researcher to draw accurate conclusions about cause–and-effects relationships. To ensure the internal validity of the research, the researcher needs to eliminate

any other possible explanations for the results observed. In this study, internal validity was ensured by pre-testing of the research instrument. Ten participants completed self-administered questionnaires prior to the actual study to detect any flaws in the tool. Furthermore, the questionnaires were checked by the promoters and the statistician to check the logical flow of the questions.

➤ **External validity**

In order for research to use sample results to make valid statements or generalisations about the larger unstudied population, the sample must be representative. A representative sample is one that is similar to the larger population from which the sample was drawn (Polit & Beck, 2012:264). In this study, it is believed that by using a probability sampling strategy, the sample might be representative and as a result would enhance the generalizability of the results.

➤ **Measurement validities**

Lacobucci and Churchill (2010:257) describes measurement validity “as how well an empirical indicator and the conceptual definition of the construct that the indicator is supposed to measure fit together. There are several types of validity, specifically, face and content validity, concurrent and predictive validity and construct validity. In this study, three types of validity were considered and they are as follows:

➤ **Face validity**

According to Lacobucci and Churchill (2010:257), face validity refers to the relationship (similarities/correlation) between the researcher’s description of concepts and his/her description of the categories measured. Face validity involves judgments by experts about the degree to which the instrument appears to measure the relevant construct. The judgment that an instrument is measuring what it is supposed to measure is primarily based upon the logical link between the questions and the objectives of the study. In this study, the researcher formulated questions or items on the scale that have logical links with the research objectives. The questions and items in the structured interview schedules covered the full range of issues

to be measured. In addition, pre-test of the instruments to check if the question appeared relevant added some strength. Promoters also verified the appropriateness of the items in the structured questionnaires.

➤ **Content validity**

Content validity is systematic assessments of the content of an instrument to ensure that it adequately represents the entire content area, or domain specified. It is judged on the basis of the extent to which statements or questions represent the issue they are supposed to measure (Grove, Burns & Gray 2014:376; Polit & Beck, 2012:212). In this study, content validity was determined by giving the questionnaires to experts in the research domain, those who have knowledge of instrument development and those with knowledge on integration of HIV/AIDS services into PHC; to judge if the tools covered the research objectives and questions.

➤ **Construct validity**

Construct validity is an estimation of how well a particular instrument measures a theoretical construct. It examines the fit between the conceptual definitions and the definitions of the variable. Examinations of the construct validity determine whether the instrument is actually measuring the theoretical construct it is supposed to measure (Grove, Burns & Gray 2014:217; Polit & Beck, 2012:330). Before the development of a questionnaire, the researcher identified the variables that the tool needs to address. Then the tool was designed according to the identified variables to ascertain the degree to which it was collecting the required information. Thereafter data analysis was done using statistical procedures to establish the contribution of each construct. The contribution of these variables to the total variance was an indication of the validity of the instrument.

• **Reliability of the instrument**

Reliability of measurement refers to the consistency, accuracy and precision of the measures taken. A slight ambiguity in the wording of questions can affect the reliability of a research instrument as respondents may interpret the question differently, resulting in indifferent

responses. In this study, pre-testing of the instrument was performed to ensure that the wording of the questions or statements were not ambiguous. Promoters and the statistician also served as moderators for the questionnaires to see if there is any ambiguity (Polit & Beck, 2012:214).

3.5 ETHICAL CONSIDERATION

Ethics is a system of moral values to ensure that the research procedures adhere to professional, legal and social obligations of the study participants while protecting their rights, balancing the benefits and risk in the study by obtaining informed consent and submitting a research proposal for institutional review (Grove, Burns & Gray 2014:193). According to Polit and Beck (2012:499), ethics is a system of moral values that is apprehensive of the degree to which research procedures adhere to professional, legal, and social obligation due to study participants. During the current study, the following ethical issues were taken into consideration.

3.5.1 Permission to conduct a study

Permission to conduct a study was obtained from the School of Health Sciences Higher Degree Committee (SHDC), University of Venda Higher Degree Committee (UHDC), t

he University of Venda Ethics Committee, the Limpopo Department of Health Provincial Research Committee, and Vhembe district Department of Health as well as sampled health centres and clinics of Vhembe district. The ethical principle of beneficence, respect for human dignity and justice were adhered to

3.5.2 The principle of beneficence

Beneficence is a fundamental ethical principle that seeks to prevent harm and exploitation of, and maximize benefits for, study participants. This principle stresses that researchers do no harm to the study participants. It imposes a duty on the researchers to minimise harm and to maximise benefits. Thus, it implies that people, especially professionals, should contribute to

the health and welfare of others. Human research should be intended to produce benefits for research participants themselves and for other individuals or society as a whole (Polit & Beck, 2012:86). There were no obvious risks and discomfort inflicted on the study participants during the current study. The researcher provided detailed information regarding the purpose and nature of the research. The researcher avoided causing psychological harm to participants by carefully considering the phrasing of questions. Participants were assured that the information they provided will not be used against them.

3.5.3 The principle of respect for human dignity

According to Polit and Beck (2012:89) respect for human dignity includes participants 'rights to self-determination'. Participants/respondents have the freedom to control their own activities including their voluntary participation in research. Prospective participants who are fully informed about the nature of research, the demands it would make on them and potential costs and benefits to be incurred, are in position to make informed decision regarding participation in the study.

During the current study, participants were treated with respect. Participants/respondents were informed that they retained the right to decide voluntarily whether to participate or not; the right to give information if they felt that the questions were too personal; and the right to opt out of the research without a threat of retaliation from the researcher. Additionally, they were free to ask for clarification regarding any aspect of the study. This paved the way for obtaining informed consent from prospective participants. Informed consent was obtained from each participant in both phases of the research.

3.5.4 The principle of justice

Justice refers to participants' right to fair treatment and their right to privacy. This principle applied more to participants who participated in the first phase of the study. However, all participants were treated fairly and equitable before, during and after the study. Participants were chosen for reasons directly related to the problem under study. Confidentiality was maintained at all times and information shared with participants was not shared without

permission. The participants/respondents were assured that the information they gave would be used for the purpose of the research only and the results of the research were made available to participants on request (Polit & Beck, 2012:87). To further show respect to participants all interviews were conducted privately. No names or identity were disclosed; numbers of participants were written on the interview schedule. In the case of questionnaires they were labelled as respondents 1, 2, 3, 4 and so forth.

3.6 SUMMARY

In this chapter the research design and methodology were set out. A specific, related research design was identified to ensure the accomplishment of the set aims for this study, namely to develop guidelines to facilitate the integration of HIV/AIDS services into PHC in Vhembe district of Limpopo province, South Africa. Chapter 4 presents the study findings for phase 1 of the research. In chapter 5 results from a quantitative phase with professional nurses, phase 2 of the research, is presented.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION- QUALITATIVE DATA

4.1 INTRODUCTION

Chapter three displayed the research designs and techniques; detailed information of the study population, sample size, instrumentation used, data collection techniques, ethical considerations and data analyses. In this chapter results from semi-structured interview with operational managers of the clinics/health centres are displayed. The purpose of phase 1 and data analysis are briefed.

4.1.1 The purpose of phase 1 of the study

The purpose of this study was to develop guidelines that will facilitate the integration of HIV/AIDS services into PHC.

Three objectives guided this phase, namely to:

- Explore the extent at which the existing HIV/AIDS services are integrated into PHC clinics and health centres in Vhembe district of Limpopo province, South Africa.
- Determine whether clinic or health centres' environments enabled the integration of the HIV/AIDS services into PHC clinics and health centres.
- Identify the availability of guidelines on integration of HIV/AIDS services into PHC.

4.2 QUALITATIVE DATA ANALYSIS

The major characteristic of qualitative data is that it is analysed in words. Data were analysed using Tesch steps of open coding (Creswell, 2012:11). Data analysis was done with the assistant of independent coder and five main themes emerged and a description of the theme as well as sub-themes are given in detail below:

Table 4.1: Themes and sub-themes

Main themes	Sub-themes
<p>1. Existing practices related to integration of HIV and AIDS services into Primary Health Care Programme</p>	<p>1.1 History taking processes and content explained</p> <p>1.2 Existing protocol and programme serves as guidelines for integration of services</p> <p>1.3 Provision of Voluntary Testing and Counselling during consultation sessions</p> <p>1.4 Clients' physical signs and symptoms guides professional intervention and integration</p> <p>1.5 Test results guides provision of relevant treatment</p> <p>1.6 Turn-around-time for test results promotes timeous initiation of treatment</p> <p>1.7 Availability of Lay Counsellors trained on HIV management promotes integration of services</p> <p>1.8 Unavailability of resources for the success of services integration</p> <p>1.9 Existing different government PHC programmes promotes integration</p>

<p>2. Knowledge related to HIV and AIDS services and its integration to PHC programme</p>	<p>2.1 Existing knowledge related to ART regimen</p> <p>2.2 Referral system guidelines known and understood</p> <p>2.3 Existing knowledge related to baseline blood and other results which affect integration</p> <p>2.4 Consultation session an opportunity to test clients' existing knowledge related to HIV and AIDS</p> <p>2.5 Knowledge prevalence of correct stage of initiation of ARTs</p> <p>2.6 Knowledge related to PCR protocol exists</p> <p>2.7 Knowledge in dealing with integration of HIV and AIDS into PHC programme</p> <p>2.8 Knowledge related to precautions to take during practice exist</p> <p>2.9 Existing information sessions enhance knowledge related to integration</p>
<p>3. Programmes which facilitate opportunities for integration of HIV and AIDS services into PHC programme</p>	<p>3.1 Immunisation programme marked as an opportunity for integration of services</p> <p>3.2 Family planning sessions used for integration of services</p> <p>3.3 PMTCT and ANC programmes opportunity for integration of services</p> <p>3.4 STIs consultations serves as an opportunity for integration of services</p>

	<p>3.5 Consultation for minor ailments an opportunity for HIV screening</p> <p>3.6 Consultation for chronic illness an opportunity for HIV screening</p> <p>3.7 TB consultation an opportunity for HIV screening</p>
<p>4. Challenges faced during integration of services</p>	<p>4.1 Refusal of HIV testing before initiation of ARTs</p> <p>4.2 Non-adherence to scheduled appointments and treatment by patients experienced</p> <p>4.3 Non-acceptance of experience after HIV+ status</p> <p>4.6 Disclosure of HIV+ status problematic leading to lack of adherence</p>
<p>5. Strategies used to overcome obstacles during integration of HIV and AIDS services into PHC programme</p>	<p>5.1 Rescheduling of appointments a strategy to give clients an opportunity to think about an HIV+ test</p> <p>5.2 Initiation of new programmes by government enhance integration of services in the PHC setting</p>

4.3 Description of the sample of the study

- The sample comprised of professional nurses who were managing clinics/healthcare Centers (Operational managers) in Vhembe district of Limpopo province, South Africa.
- Ten (10) participants were from clinics while two (2) participants were from healthcare centres.
- Data saturation occurred after interviewing 12 participants, who were Three (3) male professional nurses and nine (9) female professional nurses.
- Their ages ranged between 45 and 55 years, with the working experience of more than two (2) years at PHC facilities.

4.4 PRESENTATION OF THEMES AND SUB-THEMES

The findings with direct quotes have been discussed along the themes and the categories that were derived from the data. Appropriate direct quotes have been used where relevant to clarify the results and the literature is provided to support the reported findings.

4.4.1 Theme 1: Existing practices related to integration of HIV and AIDS services into Primary Health Care Programme

4.4.1.1 History taking processes and content explained

The study revealed that all clients who come to the clinic for any other health problem, are asked about their HIV status whether they have been tested or not and whether they have information about HIV. If the client says that he/she was tested; the health care provider will ask about the results; so, depending on what the client has said the health care provider continues to conduct HIV counselling and testing. Participant responded in this manner:

“We first enquire whether they are tested for HIV or not and we also ask if the test is not older than three months, if it is older than three months we counsel for re-test.”

Participant further indicated that:

“We first ask about her HIV status. If she says that she is tested; we ask when and whether she has information about HIV and we also test the knowledge that she has.”

This means health care workers do follow the process of history talking about HIV as a way of integrating HIV/AIDS services into PHC. Taking a patient's medical history into account allows the health care provider to further assess their general health status and it should be done in a room or setting where privacy and confidentiality can be ensured.

According to the nursing standard, history taking is a key component of patient assessment, enabling the delivery of high-quality care. Understanding the complexity and processes involved in history taking allows nurses to gain a better understanding of patients' problems. Care priorities can be identified and the most appropriate interventions commenced to optimise patient outcomes (Fawcett & Rhynas, 2012:41).

The primary care 101 and HCT Policy guidelines recommended that a comprehensive present and past medical history, physical examination, medication/social/family history, and review of systems, including HIV-related information, should be obtained for all patients upon initiation of care. Patients without documentation of their HIV status or who were tested anonymously should have an HIV serologic test performed upon initiation of care (Aberg, Gallant, Ghanem, Emmanuel, Zingman & Horberg, 2013:2).

4.4.1.2 Existing protocol and programme serves as guidelines for integration of services

Integration of HIV services into PHC programmes implies that existing guidelines should be adhered to by a single provider. In a way, in the PHC facilities guidelines are available that direct the processes of HIV service integration into PHC services. Participants of this study confirmed that existing guidelines are applied in the care of all patients/clients who consult the clinics.

“According to the new guidelines which were passed on the 1st September 2016; if the patient is co-infected; by TB and HIV; then we have to take CD4; if the CD4 is less than 50, ya, if the CD4 is less than 50; we fast track then we give TB treatment in two weeks. However if the CD4 is more than 50 then we initiate TB treatment first then we give ARV after two months which is 8 weeks; that is according to the new guideline.”

Participant further said:

“Right now from the first of September, we are using the revised new guidelines which indicate that everyone who tested positive should be put on treatment.” “Previously, we use to test at booking, 32 weeks and 38 weeks; now we have a new guideline which indicates that each and every 6 weeks we should re-test.”

“According to the clinic protocol; every client who enters the clinic must be counselled for HIV; we sell the idea of HIV testing to everyone.”

The government of South Africa introduced guidelines for the management of HIV/AIDS with the purpose of improving the clinical outcomes of people living with HIV, reduce morbidity due to TB/HIV co-infection, reduce HIV incidence and avert AIDS-related deaths in the most cost-efficient manner by ensuring that people living with HIV start with the right therapy at the right time (National Department of Health South Africa, 2015:16). Guidelines for the integration of HIV/AIDS services into PHC were also introduced to PHC clinic and health centres to guide facility managers and health care workers (HCWs) when integrating HIV/AIDS services into PHC, including initiation and management of ART at PHC facilities in the South African Public Health care sector.

4.4.1.3 Provision of Voluntary Testing and Counselling during consultation sessions

HIV testing and counselling (HTC) is the essential first step in enabling people with HIV to know their status and obtain HIV prevention, treatment and care services. For those who test negative, HTC is an important opportunity to put those at risk of HIV in contact with primary prevention programmes and to encourage later retesting (Aberg et al., 2013:50).

Participant indicated that they do HIV counselling and testing for everyone during a consultation session. Participants responded in this way:

“Everyone who comes to the clinic for any services; we offer voluntary HIV testing and counselling.”

“We do Provider Initiated counselling testing; every patient who comes to the clinic for any other services; we counsel for HIV and test them.”

“Any client who comes at the clinic we give the information about HIV, if they volunteer to test, we test.”

This is in accordance with the national consolidated guidelines as they state that: HIV counselling and testing (HCT) is vital to identify HIV positive persons and provide an entry point to comprehensive HIV prevention, treatment, care and support. It encourages individuals, couples, families and communities to know their HIV status and support positive living, lifestyles and good nutrition. It also helps to identify and reduce behaviour that increases HIV transmission risks. HCT is the first component of the continuum of care, and forms a part of the cascade (WHO, 2016:20).

The study conducted by Meehan, Leon, Naidoo, Jennings, Burger and Beyers (2015:10) also concluded that HCT should be made available at PHC facilities, through the opportunity to test everyone who visited the facility for another health reason. HCT is provided as part of an integrated clinical service.

4.4.1.4 Clients’ physical signs and symptoms guides professionals’ intervention and integration

The findings of this study revealed that patients can be diagnosed for HIV by just looking at their physical stature as well as the signs patients present and such may guide the nurses to intervene accordingly. Participants indicated that the physical appearance could be used as the criteria for assessing the clinical stage for PLWHIV for the initiation of ARV. Participant said:

“There are those who when they enter the cubicle you can see that the patient is too sick, with this one we fast track the process by taking all the blood samples (CD4, Creatinine, ALT and FBC). We don’t delay the process; we cut the time for waiting the results; then when the results come back we just initiate.”

These findings are in accordance with the national consolidated guidelines that clinical WHO staging system for HIV/AIDS emphasizes the use of clinical parameters to guide clinical decision-making for the management of HIV/AIDS patients (National department of Health, 2016:20).

According to the guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents, acute HIV-1 infection should be considered in individuals with signs or symptoms of fever, lymphadenopathy, skin rash, myalgia, arthralgia, headache, diarrhoea, oral ulcers, leukopenia, thrombocytopenia, and transaminase elevation (AIDSInfo, 2013:121).

4.4.1.5 Test results guide provision of relevant ARV treatment

Participants specified that they are guided by the test results to provide relevant ARV treatment to patients; particularly base line bloods. In the case where there are problems with a liver and kidney function test; such patients are referred to the doctor and the doctor should avoid Tenofovir. Participants responded to this theme that:

“We take base line bloods and initiate same day; when the result come out we refer to the doctor if there are problems with liver and kidney function test. The doctor is the one who will decide on type of treatment the client should receive. For example we are not supposed to give Tenofovir to patient with liver or kidney problems.”

Participants further mention that; if CD4 is less than 100; they take blood for Cryptococcus so that the patient should be treated for Cryptococci infection before starting ARV:

If CD4 is less than 100 we take blood for Cryptococcus and we give patient Bactrim meanwhile waiting for results, if they are positive, we don't start treatment; we refer to the doctor. The patient is treated for Cryptococci infection first before starting ARV.

We take bloods for baseline and if the patient does have renal problem; then we change FDC because it does contain Tenofovir.

We take the baseline blood, ALT, creatinine, FBC then the results if they are good we start the treatment, because we are supposed to establish what kind of the treatment are supposed to be given; because there are other drugs that are contraindicated to other patients. Like patients with kidney problems, we cannot give them Tenofovir.

If HB is less than 7; we don't give FDC; it is said that if it is given to the anaemic patient, anaemia will become worse because in FDC there is Tenofovir which lowers the HB.

We take that bloods; if the result come back and found that there is a problem then we change FDC; on that baseline blood we, check HB. If the patient is having low HB; that patient should not be put on AZT.

The findings of the current study concur with Primary Care 101 guidelines as it stated that; baseline bloods are to be taken routinely as they are the ones that determine the type of treatments to be given; for instance if baseline ALT is less than 100, the patient should be referred to the doctor to start ARV, and Niverapine should be avoided. If baseline HB is less than 8, the doctor should investigate for anaemia and avoid AZT. This means that test results guides provision of relevant treatment (Department of Health, 2015:62).

Similar findings were reported by the South West Nigerian study by Afe, Haroun, Edet-Utan and Akinmurele (2014:477) that pregnant women who were diagnosed as HIV positive are admitted into the programme without waiting for the results of laboratory investigations such as the CD4 count; patients start on ARV drugs irrespective of their CD4 count result. Nevertheless, blood samples for CD4 count and other baseline tests like the liver function tests, Hepatitis B and C tests, full blood count, electrolytes, serum urea and creatinine are drawn immediately after the post-test counseling, the physicians go ahead to prescribe the ARV and Adherence counselling is also done simultaneously.

4.4.1.6 Turn-around-time for test results promotes timeous initiation of treatment

According to the findings of this study; turn-around-time for test results is not long; participants indicated that it only takes one day for baseline bloods (FBC, ALT and creatinine) to come back and only two days for CD4 results, hence promote timeous initiation of treatments. Participant responded in this manner:

“CD4 results doesn’t take long; even the one for creatinine and ALT does not take long. When the results are back and we find that both TB and HIV are positive and CD4 is low; this patient need to be initiated but the fact that she has also TB; we do not initiate; we first give TB treatments for 2 weeks.”

Results for culture can take four weeks to come back. The one for GXP does not take long, they may come after some hours; for example if I take in the morning, I can find them in the afternoon.”

These findings concur with the national consolidated guidelines which states that testing for CD4 and base line bloods (FBC, ALT and creatinine) should be done within 48 hours, but no later than 72 hours after drawing them (WHO 2008:215).

4.4.1.7 Availability of Lay Counsellors trained on HIV management promote integration of services

The current study revealed that at PHC clinics there are lay counsellors who give HIV information to all the clients when they are in the waiting room. Screening for TB and HIV is done for all patients while they queue for consultation, they do not have to queue again for these services after the consultation. Lay counsellors do counselling and testing for all the clients at the clinic; they also refer clients who tested HIV positive to nurses trained for HIV management for the initiation of ARV and that promote HIV services integration into PHC. Participant response:

“We do have a lay counsellor; but they do not work on weekend and on Friday she knock off at one. It means that Friday after one we do it ourselves.”

“Nurses do counselling though we have lay counsellor who is available Monday to Friday.”

“We advise patients to go for HIV counselling and testing; then if they test positive, the Lay counsellor refer them to us then we take it from there.”

“If the counsellor test a client and the client test positive; she refer the client to the clinical nurse practitioner.”

“We also have a lay counsellor who is here during the week; during the weekends he is not available. So, during the weekend; we refer to the person who is trained for HIV management; even staff nurses are trained. Lay counsellor are always available unless if they are attending meetings.”

“The Lay counsellor is trained to do counselling and testing, except to initiate treatment.”

“Those who are trained for HCT, we are five professional nurses and two staff nurses.”

Findings of this study further revealed that most of the staff are trained for HIV management which include VCT, PMTCT and PICT training and this makes integration of HIV services into PHC easier as the staff have the necessary knowledge.

“Mostly our staff are trained for HIV management; I think there is only one nurse who is not trained.”

“All nurses who are VCT, PMTC and PICT trained are expected to do HIV counselling and testing.”

According to the Operations Manual for Delivery of HIV Prevention, Care and Treatment at Primary Healthcare Centres in High-Prevalence, Resource-Constrained Settings, Lay counsellors can perform a range of tasks including helping with triage, taking patients’ vital signs and pulling their charts, data keeping, treatment adherence counselling, treatment literacy and education. They can also do pill counting and stock management, track patients who are lost to follow-up, community outreach, home-based care and follow-up, manage PLHIV support groups, handle counselling (such as for people who are HIV-positive and their partners), basic laboratory testing, and more. Nurses, who are often the main clinical providers at health centres, can shift provision of HIV testing and counselling to PLHIV lay counsellors (WHO, 2008:25).

Study by Zachariah, Ford, Philips, Lynch, Massaquoi, Janssens, and Harries (2009:7) concluded that Lay counsellors, when provided with the approved and appropriate training, can play a key role in HIV counselling services. While they can support the provision of good-quality counselling and testing services to relieve overburdened health care workers, they will require ongoing supervision to further enhance their performance. In order to make this strategy

sustainable, efforts must be made to mainstream their activities and formalize their relationship with the health facilities.

Participants further indicated that they do have support staff from social workers, visiting doctors and home based care. Participants responded in this way:

“We do have a visiting social worker; the correct thing is that after counselling; the patient is to be referred to the social worker because even in the file there is a space where the social worker must sign.”

“If there are problems we refer the client to the visiting doctor. We were used to refer them to the Hospital but now that we have the visiting doctor; we refer them to the visiting doctor.”

“We also have home-based care, they visit patients at home but there are others who hide their status. They don’t want the home-based care to know their status that they are HIV positive. We ask the home-based care when we have defaulters to visit the clients at their homes.”

Participants also indicated that they do not have pharmacists at their clinic/health centres to dispense treatments to patients:

“We do not have pharmacist at the clinic after seeing a patient I have to stand up and go to dispensary to give the treatment that I have prescribed.”

The current study concurred with the study by Mathibe et al. (2015:5) that clinicians regarded the lack of support staff, such as well-trained HIV counsellors, data capturers and pharmacy assistants as a demonstration of the lack of management support for integration of ART services. Clinicians expressed great dissatisfaction about having to dispense their own

prescriptions in consulting rooms and considered the process of issuing medicines as opportunity time that could have been used to improve the quality of care given to clients.

4.4.1.8 Unavailability of resources for the successful services integration

Availability of resources determines the success of service integration and these include human resources and infrastructure.

4.4.1.8.1 Human resource

Human resources are the essential ingredient for all care deliveries. Whether delivering basic primary care or HIV prevention, care, and treatment service; a health centre needs an adequate supply of trained and motivated staff to provide quality services. These are discussed as follows:

Participants explained that they have shortage of staff, particularly nurses and that hindered the success of HIV service integration. They further indicated that service integration is time consuming because there could be multiple of services needed by one patient. Participants responded in this way:

“They don’t believe when we say we are short staffed and everything; even though we are two we are expected to give more than 100%. According to the staff establishment; we are not supposed to be five, we are supposed to be nine, because there are four posts which are vacant.”

“This programme as a whole if I can give an example: this is the patient she is tested, the procedure takes 15 minutes; it means other patient will be waiting for 15 minutes from there if it is a woman I have to do Pap smear if we are only two it means that other patient will be waiting, Ya, staff is not enough.”

“We have shortage of personnel as we have already indicated that we are short staffed; because if you can find two clinical nurse practitioner consulting patients who are ± 100 per day. And according to the guideline and other policies that I have seen; in order to give a proper service to a client in a day we are supposed to consult ± 30 patient per day. If the government or the department can be able to increase personnel; it would be very, very simple for us to give proper service to our clients.”

“We are left with 4 professional nurses and one is the manager who work only from Monday to Friday, the other one we are three, usually in my group I am the only one professional nurse. The other group have two professional nurses.”

The study conducted by Uebel, Guise, Georgeu, Colvin and Lewin (2013:11) revealed that staff shortages hindered integration of HIV/AIDS services into PHC. These authors further argued that the shifting of clinical tasks to nurses requires adjustments in the roles of other supporting staff, such as pharmacists. Shortage of support staff tended to hinder the integration of HIV care. This study suggested that HIV care and treatment services should be supported with extra staffing for the successful HIV/AIDS service integration.

Crowley and Stellenberg (2014:6) also argued that integrating additional services into primary health care without providing the adequate human resources and ongoing support could compromise the quality of care provided to patients. Furthermore, the integration of HIV/AIDS services into PHC should be supported with additional human resources. According to Mathibe, Hendricks and Bergh (2015:6) staff shortages cause difficulties in providing quality services such as full examination, exclude opportunistic infections and getting proper history information which results in poor patient care as the staff tries to push the queues.

4.4.1.8.2 Infrastructure

According to Crowley and Stellenberg (2014:6), essential HIV care and treatment services as well as managerial and infrastructural support are key components for ensuring quality services. Infrastructure in this study includes space, transport and equipment.

- **Space**

The findings of this study revealed that the space at the clinics/health centres is inadequate for the integration of HIV services into PHC; participants indicated that they also use for example, a post natal room for counselling and tests as they lack space. Participants' response:

“Acute ailment preventative and chronic in two cubicles; space is not enough.”

“Mm...the structure is not enabling; we are running short of cubicles because counselling and testing is done in post natal room.”

“Mm I can say no, the environment is too small the space is too small.”

The vital signs station, we have only one; all patients are taken vital signs in one station and that delays those who are coming for chronic treatments.”

“The most important that we aspire is the big room for storing medication because we do not have enough space for storing medication; the space is so small.”

Studies revealed that the structure of clinics and the amount of space available affect integration because of inadequate space to accommodate all the programmes that are offered at the clinics/health centres. Furthermore, at some clinics two nurses used one cubicle for patients'

consultation and with other clinics, the nurse shared an office with the data clerk due to an inadequate number of consultation rooms. So, inadequate privacy restricted discussion of personal matters and full history-taking. Privacy was particularly impeded at clinics where some ART services were delivered on chairs in the corridor (Sibiya & Gwele, 2013:165; Uebel, Guise, Georgeu, Colvin & Lewin, 2013:11; as well as Church, Wringe, Lewin, Ploubidis, Fakudze, Mayhew & Integra Initiative, 2015).

According to the study of Mathibe, Hendricks and Bergh (2015:7) on lack of space in the waiting areas, especially during peak hours, was identified by the majority of clinicians in all facilities. Some clinics' nurses considered the consulting rooms as adequate and fairly equipped whereas others considered them as poorly equipped with inadequate storage space for medicines. Furthermore, the study about the feasibility of the integration reproductive health with HIV in Swaziland, supported that the Space for integrated care was problematic in all facilities. In some clinics nurses shared an office with the data clerk, and that led to inadequate privacy which restricted discussion of personal matters and full history-taking. In some of the clinics, some ART services were delivered on chairs in the corridor (Church et al., 2015:12).

Attention to patients' confidentiality is very important because of profound stigma surround HIV infection. So, it is important for health centres to maintain the privacy and ensure that a person's HIV status is not identifiable to others in any way (WHO, 2008:65).

- **Transport**

Lack of transport is a challenge in integrating HIV/AIDS services into PHC. Participants indicated that they sometimes face a challenge when they need to transfer patients to the hospital for further management; it takes long for the ambulance to arrive at the clinic. Participant's response:

“Sometimes is a challenge because when you try refer there is no ambulance you have to wait for 2-3 hours waiting for ambulance critical ill patient waiting for 3 hours...”

The study conducted in Kwa-Zulu Natal also revealed that there is a problem of transport when patients are to be referred from PHC clinics to the hospital. The study pointed out that it can take some hours for an ambulance to arrive at the clinic to take the patient to a hospital in cases of emergency (Sibiya & Gwele, 2013:165).

- **Equipment**

Participants indicated that they do not have sufficient equipment for the effective integration of HIV services into PHC. For example equipment for vital signs and pap smear kits. Participants expressed themselves in the following way:

“Even equipment; if we have enough equipment; we would create another station for vital signs.”

“We do not have enough Pap smear kits; they are only five we do autoclave those five.”

Studies show that lack of equipment predisposes clinicians to exhaustion, burnout, stress-associated illnesses, and absenteeism (Mathibe et al., 2015:6).

4.4.1.9 Existing different government PHC programmes promotes HIV service integration

Participants indicated that before down-referral of PLWHIV to the clinics, they had their own PHC programmes related to HIV. Programmes like PMTCT, Family planning and immunisation existed at PHC before the integration of HIV/AIDS services into PHC. So the existence of these programmes promote HIV service integration. Participants said:

“Every woman who comes for ANC booking, we counsel them for HIV under the programme PMTCT.”

“Every woman who comes to the clinic for family planning; before we give the service, we first counsel for HIV to check if the woman is infected or not.”

“We counsel and test for HIV every woman who is bringing child for immunization.”

These findings support the study by Doherty and Govender (2004:16) which revealed that PHC offers people with cost effective services close to their homes, thus eliminating costly trips to hospitals. These services include; maternity care, family planning, childhood immunization, and treatment of common child illness. The package also includes prevention and treatment of malaria, tuberculosis and other common illnesses. Comprehensive care and management of HIV/AIDS is also part of PHC. These findings show that before the strategy of integrating HIV services were introduced, PHC was responsible with other existing PHC programmes related to HIV and this promotes service integration.

4.4.2 Theme 2. Knowledge related to HIV and AIDS services and its integration to PHC programme

4.4.2.1 Existing knowledge related to ART regimen

NIMART programme allows the initiation and management of patients on antiretroviral therapy (ART) by nurses, rather than solely doctors. WHO (2016:113) recommended the following aspects about task shifting:

- Trained non-physician clinicians, midwives and nurses should initiate first-line ART
- Trained non-physician clinicians, midwives and nurses can maintain ART
- Trained and supervised community health workers can dispense ART between regular clinical visits

Participants showed knowledge and understanding regarding the ART regimen and its integration to PHC. Participants expressed themselves in this way:

“AZT has a tendency of lowering HB and the patient is having psychiatric condition, we are not supposed to put that patient on efavirenz.”

“If the patient is having problems with kidneys; because TDF does have Tenofovir; which cause a problem in the kidneys then we take the patient out of TDF; is either we can put the patient on AZT.”

“Those with mental health conditions are still on the old ones as TDF has efavirenz. Efavirenz has side-effects such as hallucination; therefore is contra-indicated to the mental health user patients.”

“When the child is HIV exposed, we also give Niverapine to the child.”

“We are not supposed to give TDF to patient with liver or kidney problems.”

This is in accordance with PC101 which state that; a nurse must decide on the type of ART regimen that the patient must follow, check baseline bloods according to ART regimen and decide when to start ART. These are discussed as follows:

- **Decide which ART regimen the patient needs as follows:**

Regimen 1

TDF, 3TC and EFV or fixed dose combination (FDC) TDF/FTC/EFV if available unless:

- ✓ Depression or psychosis: use NVP instead of EFV. If CD4 > 250 (woman) or > 400 (man), refer/discuss.

- ✓ If pregnant with depression, psychosis, known kidney disease, diabetes, hypertension or $\geq 2+$ proteinuria, start AZT 300mg 12 hourly instead of regimen 1 ART and refer to doctor.

Regimen 2

- ✓ LPV/r and 3TC and:
- ✓ AZT if currently using TDF or
- ✓ TDF if currently using AZT or d4T Do not stop TDF if hepBsAg positive.
- **Check baseline bloods according to ART regimen:**
 - ✓ If patient not pregnant, review patient with results within 2 weeks.
 - ✓ If patient pregnant, start ART same day and review baseline blood results within 1 week.
- **Decide when to start ART:**
 - ✓ If patient pregnant, start ART same day.
 - ✓ If pregnant and starting TB treatment, give AZT 300mg 12 hourly and switch to ART after 2 weeks.
 - ✓ If patient has TB and $CD4 \leq 50$, start ART within 7 days.
If $CD4$ 50–350 start ART within 2–8 weeks of starting TB treatment once tolerating TB treatment.
 - ✓ If $CD4 > 350$ start ART at 8 weeks of TB treatment
 - ✓ If TB meningitis or Cryptococci meningitis, start ART after 4–6 weeks of treatment.
 - ✓ If patient does not have TB, start ART within 7 days if $CD4 < 200$ or stage 4, otherwise within 2 weeks (Department of Health, 2013/14:63)

When selecting a regimen for an individual patient, a number of patient and regimen specific characteristics should be considered, with the goal of providing a potent, safe, tolerable, and easy to adhere to regimen for the patient in order to achieve sustained virological control. Some of the factors can be grouped into the following categories:

Initial Characteristics of the Patient:

- ✓ Pre-treatment HIV RNA level (viral load)
 - ✓ Pre-treatment CD4 cell count
 - ✓ HIV genotypic drug resistance testing results
 - ✓ HLA-B*5701 status
 - ✓ Patient preferences
 - ✓ Patient's anticipated adherence
- **Specific Comorbidities or Other Conditions:**
 - ✓ Cardiovascular disease, hyperlipidaemia, renal disease, osteoporosis, psychiatric illness, neurologic disease, drug abuse or dependency requiring narcotic replacement therapy
 - ✓ Pregnancy or pregnancy potential
 - ✓ Co-infections: hepatitis C (HCV), hepatitis B (HBV), tuberculosis (TB)
 - **Regimen-Specific Considerations:**
 - ✓ Regimen's genetic barrier to resistance
 - ✓ Potential adverse drug effects
 - ✓ Known or potential drug interactions with other medications
 - ✓ Convenience (e.g., pill burden, dosing frequency, availability of fixed-dose combination products, food requirements)
 - ✓ Cost (AIDSInfo, 2010:70).

4.4.2.2 Referral system guidelines known and understood

Participants indicated that they also have an obligation to refer HIV positive patients to other institutions according to patient preferences. This shows that they know and understand the referral system in the integration of HIV and AIDS services into PHC. Participant's response:

"We also have some referral system where we transfer patients who are HIV positive. Isn't others will want to go to Gauteng or other health care facilities or other district? We write the transfer out letter. It means the patient is no longer at our clinic, but when the patient come back we continue. We also have transfer in of patients from other area, clinic, Hospital and

district. For example patients who were getting their treatments from Hospitals, are now coming to the clinic with transfer in letter and we register them in our system.”

Good monitoring of HIV services requires a “transfer protocol” that describes the expected procedures for a patient to transfer officially from one facility to another for his/her HIV prevention, care and treatment. This protocol involves moving the longitudinal medical record from one centre to another to ensure continuity of patient care. Effective HIV service monitoring includes documenting the need for and referral to a wide range of home- and community-based services. Referral documentation can be done by:

- using standardized referral forms
- designate a staff member to do active follow-up
- Using standardized indicators and forms to monitor community-based services (WHO, 2008:101).

4.4.2.3 Existing knowledge related to baseline blood and other results which affect integration

The findings of this study show that nurses have knowledge related to baseline blood and other results which affect integration. Participants responded in this way:

“If we test and the client is HIV positive; we take CD4 and baseline blood; When the client is HIV positive, we are supposed to take baseline blood and CD4; if CD4 is two or three; we supposed to check Cryptococci and if you take baseline blood and HB is low you are not supposed to initiate the client with TDF.”

“After seven days we check baseline results; if there are abnormalities on the baseline blood, is then that we sit down with the patient and check which treatment is suitable for that woman.”

A number of laboratory tests are important for initial evaluation of HIV-infected patients upon entry into care, and before and after initiation or modification of antiretroviral therapy (ART) to assess the virological and immunologic efficacy of ART and to monitor for laboratory abnormalities that may be associated with antiretroviral (ARV) drugs (AIDSInfo, 2010:2).

4.4.2.4 Consultation session an opportunity to test clients existing knowledge related to HIV and AIDS

Consultation sessions give nurses opportunity to test clients' existing knowledge about HIV and AIDS. This lays a foundation for nurses to do proper HIV counselling and testing. Participant responded in this way:

“During each and every consultation with our clients; we ask whether they have information about HIV to test the existing knowledge that they have.”

According to the guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents, every HIV-infected patient entering into care should have a complete medical history, physical examination, and laboratory evaluation and should be counselled regarding the implications of HIV infection. The goals of the initial evaluation are to confirm the diagnosis of HIV infection, obtain appropriate baseline historical and laboratory data, ensure patient understanding about HIV infection and its transmission, and to initiate care as recommended in HIV primary care guidelines and guidelines for prevention and treatment of HIV-associated opportunistic infections. The initial evaluation also should include an introductory discussion on the benefits of antiretroviral therapy (ART) for the patient's health and to prevent HIV transmission (Manosuthi, Ongwande, Bhakeecheep, Leechawengwongs, Ruxrungtham, Phanuphak, Hiransuthikul, Ratanasuwan, Chetchotisakd, Tantisiriwat, & Kiertiburanakul, 2015:3).

4.4.2.5 Knowledge prevalence of correct stage of initiation of ARTs

Findings of the current study revealed that nurses have knowledge regarding the correct stage of ARV initiation. Participants said:

“The person qualifies for ARV when the CD4 cell count is less than 500.”

“Previously we use to take CD4 count and if CD4 count is less than 500 is then that we initiate patient on ARV.”

“If the pregnant woman tested HIV positive, we give ARV on the same day; we don’t wait for CD4 and baseline bloods result.”

“When we come across with the patient who is HIV positive; number one we check the clinical stage; if the client is in WHO clinical stage three or four, we start the treatment immediately regardless of how much the CD4 is.”

ART is recommended for all HIV-infected individuals, regardless of CD4 cell count, to reduce the morbidity and mortality associated with HIV infection. ART is also recommended for HIV-infected individuals to prevent HIV transmission. Furthermore, when initiating ART, it is important to educate patients about the benefits of ART, and to address barriers to adherence and recommend strategies to optimize adherence (AIDSInfo, 2013:47).

4.4.2.6 Knowledge related to PCR protocol exists

Participant showed that they have knowledge related to the issues around PCR as they responded in this way:

“At birth we do PCR for the child then if negative the baby will continue to take Niverapine for six weeks. Then when we repeat PCR at ten weeks and if still negative; we continue to encourage the mother not to stop treatment to maintain the PCR negative status for the baby. Then we repeat PCR at 18 months.”

“At birth at birth we do PCR to the child and give niverapine for six weeks if the mother’ viral load is suppressed that is when the viral load is less than 1000. We do PCR at birth and then at 18 weeks and if the mother was on FTC for more than for weeks; the child takes Niverapine for 6 weeks and then we do another PCR at 10 weeks.”

According to the national consolidated guidelines, the first postnatal visit for the infant is scheduled for day 3 but should take place within 6 days of life at a health facility. However nurses should ensure that the birth PCR results have been documented for all the HIV exposed neonates. For Mothers who are newly diagnosed HIV-positive within 72 hours of delivery; if mother received no ART before delivery, infant should receive birth PCR and for the mother started ART less than 4 weeks prior to delivery; an additional HIV PCR test is required 4 weeks after NVP is discontinued. For unknown maternal status for any reason, including orphans and abandoned infants, if rapid test is positive an HIV PCR should be done. If negative, it should be repeat at 10 weeks. If HIV PCR positive, initiate baby on triple ART immediately and send confirmatory HIV PCR (Department of Health, 2015:55).

4.4.2.7 Knowledge in dealing with integration of HIV and AIDS into PHC programme

Participants showed that they know what is expected of them when integrating HIV and AIDS services into PHC programme. They also pointed out that they are guided by the existing “guidelines for all the existing PHC programmes”.

“It is about integration, we integrate HIV services to all PHC programmes.”

“We integrate HIV programme in almost every programme in the clinic.”

These show that they know what to do regarding the integration of HIV services into PHC, regardless the challenges that they may encounter.

As the in-charge at a health facility, one must play an important role in planning and tracking the training the staff receive. A person in charge should ensure that health centre staff have the right training at the right time to provide quality basic services. Moreover, a person in charge of the health facility should ensure that training opportunities are provided fairly and do not interfere with service delivery (WHO, 2008:244).

4.4.2.8 Knowledge related to precautions to take during practice exist

Participants showed that they have the necessary knowledge regarding the precautions to be taken when integrating HIV services into PHC. The following quotes support this:

“If the pregnant woman is HIV positive; we do PCR to the child at birth and give Nevirapine for six weeks; if the mother’ viral load is suppressed that is when the viral load is less than 1000. For all mothers who tested HIV positive during ANC and started ARV four weeks before delivery; the child takes Nevirapine for 6 weeks. If the mother tested HIV positive less than four weeks before delivery; like for example at birth we also do HCT to the mother during delivery; if she test positive; we initiate with FTC, it means the child will get Nevirapine for 12 weeks after delivery.”

“If the woman is tested HIV positive and she wants to have a child we take viral load then if viral load is lower than detectable we advise them to plan for pregnancy because is safe when the viral load is lower than detectable for the child to get a virus.”

PLWHIV who desire children may be at risk of re-infection from the partner. So, in developed countries this may be prevented by artificial reproduction techniques such as artificial insemination. However in developing countries support can include advice on conception at the fertile time (Church, 2014:229).

4.4.2.9 Existing information sessions enhance knowledge related to integration

Participants indicated that all patients are given information regarding HIV as well as the importance of HIV counselling and testing so that they can pass via the lay counsellor for voluntary testing and counselling. Participant's response:

“In the morning after prayer, the lay counsellor introduce herself to all clients in the waiting room indicating that everyone should go via her room. The problem is you might find that when the lay counsellor introduce herself there were only few patients; meaning that those who came later would not know. These will be discovered in the cubicle then the nurse will refer the client to the lay counsellor for counselling and testing.”

WHO (2008:129) recommends HIV testing and pre-test information to be integrated into the evaluation process for all patients with unknown HIV status, and group pre-test information with HIV testing by lay provider before the patient sees the health worker. This is an efficient way for a lay counsellor or a nurse to give group pre-test education in the waiting area, where there are a large number of clients. Patients may consent to HIV testing while they queue for services – they move to a room labelled “Counselling Room” where the lay counsellor immediately performs a rapid HIV test and then provides post-test counselling.

4.4.3 Theme 3. Programmes which facilitate opportunities for integration of HIV and AIDS services into PHC programme

Delivering HIV services works best when these services are integrated into all the services that are provided at the clinic/healthcare Centre. Key information about the delivery of specific HIV services such as provider-initiated testing and counselling, PMTCT interventions, and TB/HIV

care has been added to the standard forms, cards, registers and reports that the health Centre already uses when patients seek these other health services. For example, the standard ANC register has been modified to add columns for ‘date of HIV testing’ and ‘HIV test result’ to allow clinic/healthcare Centre to monitor PMTCT services as part of delivering antenatal Services (WHO 2008:98).

Moreover, people living with HIV often have other health issues and integration of HIV services with PHC, maternal, new-born and child (MNCH) and TB; provides an opportunity for more patient centered care (National department of Health, 2015:18). Service integration and linkages can improve care and reduce missed opportunities for key interventions such as HIV testing, provision of ART, PMTCT, and adherence support. Integration of care is an important strategy to improve patient retention in long-term HIV care and treatment. These include integration of provider-initiated testing and counselling into clinical services; integration of HIV services into antenatal, labour and delivery, postpartum and new-born care; TB-HIV co-management; integration of family planning into maternal and HIV care; and integration of STI screening and management into chronic and acute care (WHO, 2008:23). Programmes which facilitate opportunities for integration of HIV and AIDS services into PHC are discussed below:

4.4.3.1 Immunisation programme marked as an opportunity for integration of services

Participants explained that when mothers bring their children for immunization; they consider it as an opportunity to counsel them (mothers) for HIV and test at each and every visit. A participant responded in this way:

“Mothers for young children, when they bring children for immunization, we counsel them for HIV. We first enquire whether they are tested or not and we also ask if the test is not older than three months, if it is older than three months we counsel for re-test. If she tested negative during pregnancy, we repeat after three month of delivery and then every three months.”

The participants further pointed out that they do not test children; they only test mothers. However with children they only test if they are HIV exposed:

“We only test children who are born of mothers who are HIV positive, after PCR; isn’t nowadays we do PCR at birth if the mother is HIV positive. We take PCR at birth and if negative; we repeat at 10 weeks and then at 18 months. If PCR is positive; we refer to the doctor for initiation.”

“We give Niverapine according to weight. The baby must take that Niverapine for six weeks. At birth we do PCR for the child then if negative the baby will continue to take Niverapine for six weeks. Then when we repeat PCR at 10 weeks and if still negative; we continue to encourage the mother not to stop treatment to maintain the PCR negative status for the baby. Then we repeat PCR at 18 months.”

“If the mother has started treatment before delivery, we are supposed to check viral load of the mother and also check whether the baby will be exclusively breastfed or not. If the mother is already on treatment and the baby is breastfed then at birth the baby is given Niverapine. If the viral load of the mother is lower than detectable limits, the child stop Niverapine at six weeks. If the viral load of the mother is high and the mother did not start treatments may be four months before giving birth, the child must continue with Niverapine for 12 weeks.”

All women of childbearing potential should be offered pre-conception counselling and care as a component of routine primary medical care. Counselling should include discussion of special considerations pertaining to ARV use when trying to conceive and during pregnancy. Safe sexual practices, reproductive desires and options for conception, HIV status of sexual partner(s), and use of effective contraception to prevent unintended pregnancy should be discussed. An HIV-infected woman who wishes to conceive with an HIV-uninfected male partner should be informed of options to prevent sexual transmission of HIV while attempting conception. Counselling and related behavioural interventions for those living with HIV

infection can reduce behaviours associated with secondary transmission of HIV (AIDSInfo, 2013:137).

4.4.3.2 Family planning sessions used for integration of services

The sexual and reproductive health and rights (SRHR) of women living with HIV are influenced by factors such as stigma and discrimination, gender inequality, violence, lack of community empowerment, coercion and lack of informed choice from health care providers, and unsupportive laws and policies (Haberlen, Narasimhan, Beres, and Kennedy,2017:5).

Participants specified that they link family planning with HIV counselling and testing. All women who come for family planning are given information and implications of HIV status. Participant responded in this manner:

“Every woman who comes for family planning; before we give her injection or pills for family planning; we first ask about her HIV status. If she says that she is tested; we ask when and whether she has information about HIV and we also test the knowledge that she has. If it is for the first time she comes for family planning; we counsel her for HIV and if she consent we test.”

According to Operations Manual for Delivery of HIV Prevention, Care and Treatment at PHC, reproductive health/family planning within care and treatment programmes should be provided. Accurate information on the risks and benefits of child bearing, reproductive intentions and choices, and access to contraception and other reproductive health services should be an essential part of chronic HIV care (WHO, 2008:37).

Primary care guidelines recommended cervical Pap test to be performed to all HIV-infected women upon initiation of care, and this test should be repeated at six months and annually thereafter if results are normal. All HIV-infected women of childbearing age should be asked

about their plans and desires regarding pregnancy upon initiation of care and routinely thereafter (Aberg et al., 2013:6).

4.4.3.3 PMTCT and ANC programmes -an opportunity for integration of services

The PMTCT programme aims to reach out to all women before and during pregnancy, through labour and delivery and through postnatal period up to 18 months. All pregnant women should be offered HCT at first visit with Provider Initiated Counselling and Testing (PICT) for HIV negative women, repeated every three months (National department of Health, 2016:51). According to National HIV/AIDS Division (2014:32), Mother-to-child transmission of HIV can occur during pregnancy, during delivery through infected birth canal, or after birth from breastfeeding. The basic package of essential health services specifies that PMTCT should be provided at the health facilities including PHC level.

Participants specified that they do HIV counselling and testing to all ANC mothers who come for bookings to prevent HIV vertical transmission from the mother to the unborn baby. They also indicated that if the ANC mother is positive, she is initiated the same day regardless of how much the CD4 count is. Participants responded in this way:

“When the woman comes for ANC; we first test for pregnancy and if positive; we counsel for HIV and test to prevent the transmission of HIV to the unborn child so that the mother is HIV positive; the child can be prevented from being, infected meaning that we test her same day. This woman if she is HIV positive, we initiate same day.”

“With PMTCT, if the mother is HIV positive we start ARV treatment on that day then we take blood after then after three months of taking treatment we supposed to take blood and repeat that blood at six months.”

“We give Niverapine according to weight. The baby must take that Niverapine for six weeks. At birth we do PCR for the child then if negative the baby will continue to take Niverapine for six weeks. Then when we repeat PCR at 10 weeks and if still negative; we continue to encourage the mother not to stop treatment to maintain the PCR negative status for the baby. Then we repeat PCR at 18 months.”

“If the woman tested positive and she wants to have a child we take viral load then if viral load is lower than detectable limit; we advise them to plan for pregnancy because is safe when the viral load is lower than detectable limit; for the child to get a virus. However if after she deliver; we take viral load and if is above 1000 copies/ml; ya it’s a problem; there is a possibility that the virus can pass to the child.”

“With ANC mothers, we do PMTCT programme until she delivers and until she stops breast feeding. If she is HIV positive; at birth we do PCR to the child and give Niverapine for six weeks if the mother’ viral load is suppressed that is when the viral load is less than 1000 copies/ml. For all mothers who tested HIV positive during ANC and started ARV four weeks before delivery; the child takes Niverapine for six weeks. If the mother tested HIV positive less than four weeks before delivery; like at birth we also do HCT to the mother during delivery; if she test positive; we initiate with FTC, it means the child will get Niverapine for 12 weeks after delivery; we do... If she took Niverapine for 12 weeks; we do PCR at birth and then at 18 weeks and if the mother was on FTC for more than; the child takes Niverapine for six weeks and then we do another PCR at 10 weeks.”

The findings of this study concur with the Operations Manual for Delivery of HIV Prevention, Care and Treatment at Primary Health Centres in High-Prevalence, Resource-Constrained Settings, which states that pregnant women should have routine HIV testing and counselling while queuing for the ANC clinic. After receiving HIV testing and counselling, they can return to their place in the queue and be evaluated by an ANC provider (nurse or midwife). The ANC provider can recommend HIV testing and counselling during the first visit and then carry out the test. Nurses and midwives providing ANC care need to be able to do clinical staging, to prepare and start pregnant women on ART and AZT prophylaxis, to monitor therapy (including

determining haemoglobin), and to respond to side effects and opportunistic infections. ANC clients newly diagnosed with HIV can be immediately started on chronic HIV care on the same day by the nurse or midwife who has been trained in this care. This can minimize the chance that a pregnant woman will not return on another day to the HIV care clinic for PMTCT interventions (WHO, 2008:23).

The findings of the current study, are contrary with the findings of the study on assessment of primary health care facilities for decentralization of HIV/AIDS services which was conducted in Nigeria which revealed that PMTCT services are rendered at health care facilities but they only conduct HIV testing and refer HIV-positive clients for ARVs at other facilities. So, with the findings of the current study, HIV testing for pregnant women and initiation of ARV^s are done at the same health care facility, clients are not referred to other facilities for initiation of ARV^s (National HIV/AIDS Division, 2014:3). According to Aberg et al. (2013:6) pregnant women should be treated for HIV infection, regardless of their immunological virological status to prevent infection of their fetus. Infants exposed to HIV in utero should receive antiretroviral post exposure prophylaxis and undergo HIV virological diagnostic testing at birth, at 14–21 days of life, at 1–2 months of age and at 4–6 months of age. By so doing HIV services are being integrated to PHC programmes.

4.4.3.4 STIs consultations serves as an opportunity for integration of services

Though participants indicated that they integrate every programme with HIV, they also emphasise that every patient who comes to the clinic with any type of STI infection, it is a must that the particular person should be counselled and tested for HIV because it is an indication that the patient is not practicing safe sex. Participants expressed themselves in this way:

“Anyone who come to the clinic with STI, it send us a message that this person is obvious that he/she does not protect himself, we just refer the client for HIV counselling and testing.”

“With all patients with STI; they have no choice; they are not supposed to go out of the clinic without being tested because it is a sign that they do not use condoms. So, we counsel and test them for HIV.”

Management of STI has its own procedures to follow, so with HIV integration the work is extended; the nurse is now expected to treat the client for two conditions; each with its own course to follow. According to WHO (2008:37), the clinical review of PLHIV should address STI symptoms and yearly syphilis testing. If patients disclose behaviours that place them at increased risk of acquiring or transmitting an STI, it is important to emphasize to both patients and partners the need for more frequent screening, stronger condom promotion and risk reduction counselling.

According to primary care guidelines, all women should be screened for trichomoniasis, and all women aged ≤ 25 years should be screened for chlamydia trachomatis infection. Men and women should be screened for gonorrhoea and chlamydia infection at initial presentation and then annually if at risk for infection. Retesting in three months is indicated in men and women found to be positive for gonorrhoea and chlamydial infections and women found to be positive for trichomoniasis on initial screening, because of high reinfection rates. All this are done for the purpose of integrating HIV services with STI, hence, HIV services integration into PHC (Aberg et al., 2013:2).

4.4.3.5 Consultation for minor ailments as an opportunity for HIV screening

Participants indicated that they do HIV counselling and testing to all patients who come to the clinic for consultation with minor ailments. They consider that as an opportunity for HIV screening, hence HIV service integration. Participants’ responses:

“We integrate this HIV&AIDS services to all client who enter at our clinic, it depends on what you are coming for, whether you are coming here for acute or chronic condition then if you are here for acute condition we interview you we take under history talking it depends on what

investigation are we supposed to do or physical examination that we may ask you when did last have an HIV testing if you have not done it within three months we have to do an HIV test it depends on the results if the results is positive you supposed to be taken baseline bloods and start treatment for now if you negative we supposed to do HIV test at a period of three month for window period previously we use to test after six month now we do it after three month.”

“We integrate every disease with HIV; any patient coming with minor ailment or headache we counsel and test them for HIV.”

According to HIV testing services policy, Provider-initiated HIV counselling and testing (PICT) should be routinely offered by healthcare providers to all persons attending clinical services in both the public and private sector regardless of whether they show signs or symptoms of HIV infection. To accomplish this efficiently and effectively requires integrated provider-initiated HIV counselling and testing services delivered at settings in the public and private sectors, as well as making client-initiated HIV counselling and testing available to all (National department of health, 2016:9)

4.4.3.6 Consultation for chronic illness an opportunity for HIV screening

Nurses at PHC clinics consider consultation of patients with any chronic illness as an opportunity for HIV screening. Participants explained that they do HIV counselling and testing to all patients with chronic conditions like diabetes mellitus, as a way of integrating HIV services with PHC programmes. Participant said:

“Chronic conditions like Diabetes mellitus (DM); especial those who are sexual active and even the old once because you may find that the old lady is taking care of the grandchild and the mother is HIV positive. The old lady would do everything for the child and some even touch bloods with bare hands; so, we do counsel them about HIV and if they consent we test them. If they test positive, we give them ARV same day as they have DM.”

The findings of this study concur with the Operations Manual for Delivery of HIV Prevention, Care and Treatment at Primary Health Centres in High-Prevalence, Resource-Constrained

Settings, which state that there should be strong linkages from PICT services to chronic HIV care; all patients who test positive for HIV need to be effectively linked with chronic HIV care services (WHO, 2008:26).

4.4.3.7 TB consultation an opportunity for HIV screening

Nurses at PHC clinics consider consultation of patients with TB as an opportunity for HIV screening. Participants responded in this manner:

“Everyone who tested TB positive; this one does not have a choice; we just tell them that they are supposed to be tested because their immune system is low and that they are vulnerable to many diseases. TB and HIV like going together; so, if a client is tested TB and HIV positive; we start treating TB before HIV.”

“If the person come to the clinic, may be with an acute condition or may be the patient is complaining of cough, we check TB on that patient by checking the sputum. If the sputum is positive we have to check HIV, if HIV positive, we supposed to start ARV, two weeks after TB treatment has started.”

Operations Manual for Delivery of HIV Prevention, Care and Treatment at PHC, indicated that all people with HIV who are not suspected of having TB should be eligible to be put on Isoniazid (INH) preventive therapy. Patients suspected of having TB should undergo prompt assessment for TB (WHO 2008:35). This shows that there is increased workload with TB and HIV integration at PHC settings. Another participant said:

“Let’s say the client come for STI and is HIV positive; this one does not go without sputum for TB being taken. When we send blood for CD4, we also send sputum for TB. We collect sputum for GXP and the other one for culture, because with HIV positive patients; TB does not usually show in GXP sputum. Previously we use to take sputum for AFB; nowadays we do GXP; but

we also do AFB. If the patient is HIV positive; we test sputum for GXP; if it is positive; GXP does not show the level of TB virus in the body; do you still remember with AFB sputum, it was showing 1⁺, 2⁺ and 3⁺; so wit GXP it does not show that, it only shows the sensitivity.”

“We collaborate; all patients who tested positive we test for TB if she is positive we give TB treatment for two weeks before initiating ARV, we treat TB first for two weeks; then after two weeks we initiate ARV, we collaborate.”

HIV positive patients are at higher risk of developing TB compared to the general population, especially during the period immediately after initiating ART. Therefore all HIV positive patients should be screened for TB (National department of Health, 2015:102).

According to WHO (2008:36) every effort should be made to strengthen the health centres' TB programme while delivering HIV services. Patients diagnosed with TB should receive anti-TB drugs according to standard national DOTS protocols. Administering TB drugs outside of the National TB Programmes' (NTP) guidelines can lead to drug resistance that is dangerous for the patient and community alike. If resistance is suspected, and when possible in all TB-HIV patients, sputum should be sent for culture and DST. Participants pointed out that all clients who are diagnosed TB positive are counselled and tested for HIV and also if the patient is TB positive, he/she must be tested for HIV as these two go hand in hand.

Primary care guidelines recommended that HIV-infected patients without a history of tuberculosis or a prior positive tuberculosis screening test should be tested for M. tuberculosis infection by either a tuberculin skin test (TST) or by an interferon- γ release assay (IGRA) upon initiation of care. Those with positive test results should be treated for latent M. tuberculosis infection after active tuberculosis has been excluded. Repeat testing is recommended in patients with advanced HIV disease who initially had negative TST or IGRA results but subsequently experienced an increase in the CD4 cell count to >200 cells/ μ L on ART, and who may thus have developed sufficient immune competence to mount a positive reaction. HIV-infected patients who are close contacts of persons with infectious tuberculosis should be treated for

latent M. tuberculosis infection regardless of their TST or IGRA results, age, or prior courses of tuberculosis treatment; active tuberculosis should be excluded first (Aberg et al., 2013:18).

4.4.4 Theme 4. Challenges faced during integration of services

4.4.4.1 Refusal of HIV testing before initiation of ARTs

Participants explained that they face challenges while integrating HIV services into PHC; some patient refuse to be tested and some postpone the date for testing indicating that they will first think about it. With some other patient, even if they are tested, they do not come back for test results. Findings of this study further revealed that, there are pregnant women who do not accept their pregnancies; so, they refuse HIV counselling and testing. Participants said:

“Some are difficult; they refuse to be tested; however, with some clients; you test them and give them the date to come back for CD4 results; they won’t come back, when you do follow-up by trying to phone their phones are switched off and that is a challenge”.

“It does because some may say they will come back; some other day for testing; indicating that she will think about it. This means that as a nurse you must come-up with the strategy of convincing her to be tested. Sometimes we come across with the woman who is not accepting the pregnancy; that is very difficult to counsel and test that woman. It’s like they have two burdens; the first one the unwanted pregnancy she is caring and on the other hand the nurse is telling about HIV.”

According to the study by Christopoulos, Weiser, Koester, Myers, White, Kaplan, and Morin (2012:6), clients have a number of factors that influenced their decision to accept testing, including curiosity, reassurance of negative status, convenience, and opportunity. Others give the reason that they tested recently and want to focus on the medical issue that brought the patient to the health care facility. The study further revealed other reasons for refusal of testing as “not wanting to know” and fear of confidentiality violations. Many people declined HIV testing because they had tested recently, often in the same health care facility and individuals

did not perceive themselves to be at risk for HIV infection, usually because they were in long-term monogamous relationships and had been tested prior to or during these relationships.

The study by Leblanc, Flores, & Barroso (2015:300) revealed that people refuse HIV testing because of Fear of knowing their status and the anticipated emotional and psychological turmoil from a seropositive result. Anticipated breaches to positive interpersonal experiences such as dissolution of an intimate relationship or abandonment by family and friends also served as strong impediments to HIV screening. To maintain positive interpersonal experiences, people would delay HIV testing or simply refuse to test. Individuals' lack of awareness about HIV screening, diagnosis, and treatment was also revealed as well as perception of seropositive results based on current or previous sexual/drug using behaviour or engagement in occupations that posed a risk for transmission, such as a traditional birth attendant or commercial sex work.

The study by Bigna, Noubiap, Plottel, Kouanfack, and Koulla-Shiro (2014:6) pointed out that; despite the fact that voluntary rapid screening tests have undeniable benefits when applied in the gestational period, some reasons previously described to reject HIV testing include the high rates of stigmatisation and discrimination after a positive test, the medical unit where test was performed, the lack of perception that unborn babies are put at risk by HIV infection and the scarce information about therapeutic measures and/or the benefits of antiretroviral drug

Gari, Doig-Acuña, Smail, Malungo, Martin-Hilber and Merten (2013:5) also argued that non-uptake of HIV testing in high income countries is associated with socio-demographic constructs such as being black, being between 25 to 34 years old, and living in a community with high HIV testing refusal rates. Other barriers includes high risk sexual behaviours such as multiple sexual partners and not using condoms and enacted stigma. In low income countries, the barriers associated to HIV testing included belonging to the age group from 25 to over 45, having unprotected sex and having sex with a non-spousal or non-cohabiting partner and anticipated stigma.

4.4.4.2 Non-adherence to scheduled appointments by patients experienced

Participants indicated that they have problems with clients who do not adhere to their scheduled appointment. Participants responded in this way:

“Mm, but others we can find them here at the clinic when they come for consultation; for example the patient may come for consultation and when you are with that patient, you realize that it is long that you see the patient; then when you investigate you find that the patient has defaulted. Sometimes when you ask whether he/she is tested for HIV; they can say that they are tested and they are negative; when you ask when; they would say last months and isn't we don't test every month.”

“It is a problem because if they start treatment and when they become better; some do stop treatment saying that “I am okay”. “We are experiencing problems with some of the mothers after delivery; when you are supposed to repeat PCR, they don't turn-up; some would decide to stop Niverapine for the baby then when we repeat PCR, we find that it is positive and that is a challenge.”

When provider-initiated counselling and testing (PICT) is initially scaled up and demand for testing is high, consider scheduling more part-time lay counsellors during morning peak hours. When capacity is exceeded, it may be necessary to schedule return appointments for HIV testing and counselling. Making testing available outside usual working hours may also increase uptake. To effectively monitor HIV prevention, care and treatment services healthcare workers need to set regular appointments with patients, and keep track of whether they keep them. Use an appointment log; and keep it at registration to monitor if patients come to clinic on the day of their appointments, are late for them (by a day or two), or miss their appointments altogether (WHO, 2008:100).

According to Bigna et al (2014:6), the most significant determinant of not attending medical appointments was the caregiver's lack of formal education and this could lead to a caregiver

not truly understanding the importance of follow-up appointments. The study further revealed that patients with no formal education in a HIV clinic in Nigeria were more likely to have poor communication skills. The study done in China of measuring early missed visits to HIV clinics revealed that unaccompanied women were more likely to not attend medical appointments whereas in several studies unaccompanied adult males were more likely to not attend medical appointments in resource limited settings. The study further revealed that boys accompanied by women adhered less to medical appointments compared to girls accompanied by women. One hypothesis is that male children are favoured by male caregivers and female children are favoured by female caregivers when it comes to medical care in Sub-Saharan Africa. The study also revealed that the longer the time period to the next appointment, the higher the failure rate of keeping appointments. This is consistent with forgetfulness over time as shown by other studies in adult patients living with HIV and in other non-HIV populations.

Bigna et al (2014:6) therefore, recommended that healthcare professionals responsible for scheduling children's medical appointments should pay extra attention to caregivers who haven't had any formal education, and to female adults accompanying female children. Also, appointments should be scheduled as soon as the need for one arises so as to lessen the chance of forgetting.

4.4.4.3 Non-acceptance of HIV+ status

Participants indicated that some patients become frustrated when they are informed about their HIV positive status. Participants responded in this way:

“Some other patients when you tell them that they are HIV positive they become frustrated in such a way that they would not like to frequently come to the clinic, so we fast track the process. Some after tested HIV positive they just feel that is better for them to die.”

“She just perceive that to be HIV positive is dying so, she just think is better not to be tested. So, as a nurse you must come-up with the strategy to make her understand; by either making another appointment date with the client for further counselling.”

Studies revealed reasons for refusal of HIV testing as lack of knowledge about partner's HIV status and not knowing anyone with HIV/AIDS. In addition, stigma attached to HIV is associated with refusal of HIV testing. The overall anticipated stigma score, as well as the combined measure of anticipated male partner stigma, were strongly associated with HIV test refusal. Other people refuse HIV testing because of fear of break-up of relationships. Among women interviewed at their first antenatal clinic visit of the index pregnancy in selected government health facilities in Nyanza Province, Kenya, anticipated HIV/AIDS stigma from the male partner and lack of knowledge of the partner's HIV status were found to be the main factors associated with refusal of HIV testing. Women were more likely to accept HIV testing if they know someone who is HIV-positive. In addition fears of stigma and discrimination from male partners were found to be more important negative influences on HIV test acceptance than fears of stigma and discrimination from others, such as friends, family, co-workers, health workers, others in the community (Turan, Bukusi, Onono, Holzemer, Miller & Cohen, (2011:1113) and Setse & Maxwell, 2014:969).

4.4.4.4 Disclosure of HIV+ status problematic leading to lack of ART adherence

Participants indicated that patients do not want to disclose their HIV status to their relatives fearing that they would be rejected by their family members. Some patients would even hide their status from nurses and this led to lack of ARV adherence. Participants expressed themselves as follows:

“So, a person of age 16 to 19 years would not want his/her HIV positive status to be known; mostly they do not have sufficient knowledge about HIV, they just take HIV as a disease. Firstly if is a girl who is pregnant; she is afraid of a boyfriend and parents thinking that she will be rejected. Parents would say she bringing unwanted baby as well as HIV; so, she cannot disclose the status to them, but the re-engineering team is the one that helps us if she is not adhering.”

“They do not have reasons’ just say they do not want to disclose, may be is fear that they will be known by the community. For example if the patient is tested by the other nurse; he/she does not want the next nurse to know about her status.”

“The other thing is the problem of not disclosing; they go to the next clinic; they do not tell that they are HIV positive and when they are retested the results will be negative because they are on treatment for long time. Then when they are told that the results are negative; they stop treatment.” Because all the patients who are on treatment for long time if he/she is tested; the result will be negative because viral load will be lower than detectable limit; so it cannot be detected by rapid test. So if at the next clinic, the result is negative the patient will stop treatment. From there we would only see her after some months when he/she is coming back with the other illness and find that the patient deteriorated.”

“Every patient who tested positive; isn’t they say every patient with CD4 of less than 500, we initiate; but the patient is not sick, so, adherence will be poor. That’s where we get defaulters because they do not see the reason why they should take lifelong treatments; if they are not sick.”

HIV-infected adolescents are especially vulnerable to specific adherence problems because of their psychosocial and cognitive developmental trajectory. Comprehensive systems of care are required to serve both the medical and psychosocial needs of HIV-infected adolescents, who frequently lack both health insurance and experience with health care systems. Studies in adolescents infected in their teen years and in adolescents infected through perinatal transmission demonstrate that many adolescents in both groups face numerous barriers to adherence compared with adults, these youths have lower rates of viral suppression and higher rates of virological rebound and loss to follow-up. Reasons that HIV-infected adolescents often have difficulty adhering to medical regimens include the following:

- Denial and fear of their HIV infection
- Misinformation

- Distrust of the medical establishment
- Fear of ART and lack of confidence in the effectiveness of medications
- Low self-esteem
- Unstructured and chaotic lifestyles
- Mood disorders and other mental illness
- Lack of familial and social support
- Lack of or inconsistent access to care or health insurance
- Risk of inadvertent disclosure of their HIV infection if parental health insurance is used (AIDSInfo, 2013:126).

According to Akilimali, Musumari, Kashala-Abotnes, Kayembe, Lepira, Mutombo and Ali (2017:4), patients often do not disclose their HIV status out of fear of rejection and gossip and this causes a potential barrier to ART adherence.

4.4.4.5 High workload related to service integration

Participants reported high workload related to the integration of HIV services into PHC. They indicated that high workload has a negative impact on the integration of HIV/AIDS services into PHC as they are unable to spend sufficient time with patients to provide comprehensive Care. Participants responded in this manner:

“The workload is high; if the government or the department can be able to increase the number of personnel; it would be very, very simple for us to integrate HIV service into PHC as well to render quality care to our clients.”

“Workload is too much; ya, workload is too much. At first patients used to be initiated by doctors; but now we do initiate ourselves; it is a nurse programme, is no longer a doctor’s. You just consult a doctor if you encounter problems but you have to initiate. We initiate our own patients; sometimes if you refer the patient, they will just send the patient back.”

“They down- referred all patients to the PHC; they should have brought the staff who were working at ARV clinics to PHC because here at the clinic; we had problems for our own programmes before they down refer HIV patient. So, on top of that they gave us another more workload that need a lot of time and staff.”

These findings concur with the study conducted by Mathibe, Hendricks and Bergh (2015:4) that high workload was reported to have a negative effect on the quality of care for ART clients: Unreasonable workload led to unhappy patients as they have to wait longer. Reasons for high workload included staff shortages and increased activities such as: Counselling for new and follow-up clients; examination; routine investigations; amount of forms to be completed; management of side-effect and complications; and self-dispensing and issuing treatment from consulting room.

4.4.5 Theme 5. Strategies used to overcome obstacles during integration of HIV and AIDS services into PHC programme

4.4.5.1 Rescheduling of appointments a strategy to give clients an opportunity to think about an HIV+ test

Participants indicated that they reschedule the appointment date as a strategy to give clients opportunity to think about HIV counselling and testing. Participant responded in this way:

“It does because some may say they will come back; some other day for testing; indicating that she will think about it. This means that as a nurse you must come-up with the strategy of convincing her to be tested. Sometimes we come across with the woman who is not accepting the pregnancy; that is very difficult to counsel and test that woman. It’s like they have two burden; the first one the unwanted pregnancy she is caring and on the other hand the nurse is telling about HIV. She just perceive that to be HIV positive is dying so, she just think is better

not to be tested. So, as a nurse you must come-up with the skills that she must understand; by either making another appointment date with the client for further counselling.”

HIV testing must only take place with the voluntary, informed consent of the patient. The patient must clearly understand the information provided, so that he or she agrees to the HIV test, based on a proper understanding. Verbal pre-test counselling of the patient by the health care practitioner in order to obtain an informed consent should be conducted. It must be emphasised that with regard to HIV testing there should be no medical emergency situation and it may be difficult legally to justify such a situation on the basis that testing without consent was necessary in order to save a person’s life (WHO, 2008:4).

4.4.5.2 Initiation of new programmes by government enhanced integration of services in the PHC setting

Participants indicated that IDEAL clinic programme was introduced by government to enhance integration of services into PHC. However introducing a new programme without consideration of whether the clinic environment is enabling to integrate services is not appropriate. Participant said:

“With IDEAL clinic, every client who come to the clinic must get every service they want in time. For example, the patient might have come for well-baby clinic; and also want family planning or she is sick; all this things should be attended to. Previously, the client were supposed to move from one cubicle to another; so with IDEAL clinic, the client will get all the services in one cubicle. We have four consulting rooms; one is for preventative, one is for all chronic; HIV, hypertension, asthma and so forth. They all use one consulting room and they no longer carry files; they get them when they enter the cubicle.”

The ‘Ideal Clinic’ (IC) programme is an initiative started by South Africa’s national Department of Health (NDoH) in July 2013 as a way of systematically improving and correcting deficiencies in PHC clinics in the public sector. An Ideal Clinic is a clinic with good

infrastructure, adequate staff, adequate medicine and supplies, good administrative processes and sufficient bulk supplies that use applicable clinical policies, protocols, guidelines to ensure the provision of quality health services to the community. An Ideal Clinic will cooperate with other government departments as well as with the private sector and non-governmental organisations to address the social determinants of health (Fryatt & Hunter, 2014:10).

4.5 CONCLUSION

In this chapter, the extent of HIV/AIDS service integration into PHC, whether the clinic/healthcare environments enabling to integrate HIV/AIDS service into PHC as the available guidelines at the clinic/healthcare centre were analysed, presented, interpreted and discussed. The researcher used the results from phase 1 to design a research tool for conducting phase 2 with professional nurses from PHC clinics and health centres.

CHAPTER 5

QUANTITATIVE DATA ANALYSIS AND DISCUSSION OF FINDINGS

5.1 INTRODUCTION

The previous chapter presented qualitative results, this chapter discusses the quantitative data analysis, interpretation and discussion of findings.

5.1.1 Purpose of the study

The purpose of this study was to develop guidelines to facilitate the integration of HIV/AIDS service into PHC in Vhembe district of Limpopo province, South Africa.

5.1.2 Objectives of the study

The specific objective for quantitative research was to:

- Assess the barriers of HIV/AIDS service integration into PHC in Vhembe District of Limpopo province, South, Africa.
- Explore the attitude of PHC nurses regarding the integration of HIV/AIDS services into PHC.

5.1.3 Research questions

The research questions for quantitative research are as follows:

- What are the barriers of integrating HIV/AIDS service into PHC?
- What attitudes do nurses have towards the integration of HIV/AIDS service into PHC?

The purpose of this section was to present the information obtained from the quantitative aspects of the questionnaires, interpret and discuss as guided by the objectives of the study as

well as integrated primary health care model as the conceptual framework of the study. The statistical information was derived from a sample of 217 respondents who completed the questionnaires. The percentages were calculated on the number of responses to each item (valid percent), not on the total number of questionnaires received. This was done as a function of the SPSS version 23.0 programme on the advice of the statistician.

The researcher used the Integrated Primary Health Care Model (IPHCM) as a conceptual framework. The data collected enabled the researcher to evaluate whether the integration of the HIV/AIDS services into Primary Health Care services in Vhembe district came into the reality. Integrating HIV with primary health services has the potential to reduce defaulting from coming to the PHC for the treatment. IPHCM was considered for its appropriateness for this study as it provides a framework for assessing whether PHC clinics and health centres' environment is enabling to deliver integrated HIV/AIDS services. Integrating HIV/AIDS services with generalist primary health care, including sexual and reproductive health (SRH) care, has the potential to reduce HIV-related stigma experienced within healthcare settings. While health services can act as a locus of stigma in many ways including through discriminating behaviour by health professionals, the structural organization of care may play a role through the protection of clients' HIV status and confidentiality.

The statistical information was derived from a sample of 220 respondents who completed self-administered questionnaires. Some of the respondents chose not to complete certain sections of the questionnaires, or certain items within specific sections, and the reason why not completing all the sections was not established since it was not the focus of this study. The percentages were calculated on the number of responses to each item (valid percent), not on the total number of questionnaires received. This was done as a function of the SPSS version 23 computer programme on the advice of Mr Mulaudzi V, from the University of Venda, Department of Statistics.

Where applicable, differences and comparisons were noted within the various PHC facilities in Vhembe district. Demographic information was obtained from all the respondents of this study to contextualise the information about the experiences, qualifications and the years of

experience as a professional nurse. The questionnaire layout was as follows: 3 items from questionnaires measured background information; 21 items measured clinic demographic data; 15 items assessed barriers of integrating HIV/AIDS service into PHC and 13 assessed attitude of PHC nurses towards HIV/AIDS integration. Data analysis was done by the researcher with the assistance of a statistician using the SPSS version 23 programme. The following statistical tests were applied in the data analysis:

- Frequency distributions were compiled to arrange data belonging to the same category (De Vos, Delport, Fouché & Strydom, 2011:255). Frequencies, percentages and cumulative percentages were used to describe different variables and allow for the clear presentation of data in figures and frequency tables.
- Chi-square applies a statistical test to cross-tabulation by comparing the actual observed frequencies in each cell of tables with expected frequencies. Expected frequencies are those we would expect if data is ‘randomly distributed (Greasley, 2008:64).
- Cross-tabulation was used to examine the relationship between categorical variables in greater detail than simple frequencies for individual variables (Greasley, 2008:9).

5.2 SOCIO-DEMOGRAPHIC DATA

The personal profile of the participants reported in this section is based on information obtained from section A of the questionnaires. The demographic information includes: gender, professional qualification and work experience.

5.2.1 Gender

The figure 5.1 shows 217 respondents who completed the questionnaires. Out of the 217, the minority 19 (8.8%) respondents were male and 198 (91.2%) were females. It is not surprising to realise that male professional nurses are still at a fewer number than the female nurse. This is the fact that nursing was pre-dominantly a women’s profession in the earlier years. That is why male respondents are at the minority because male nurses are fewer in the health fraternity than female nurses. However, there was no significance importance of this discrepancies.

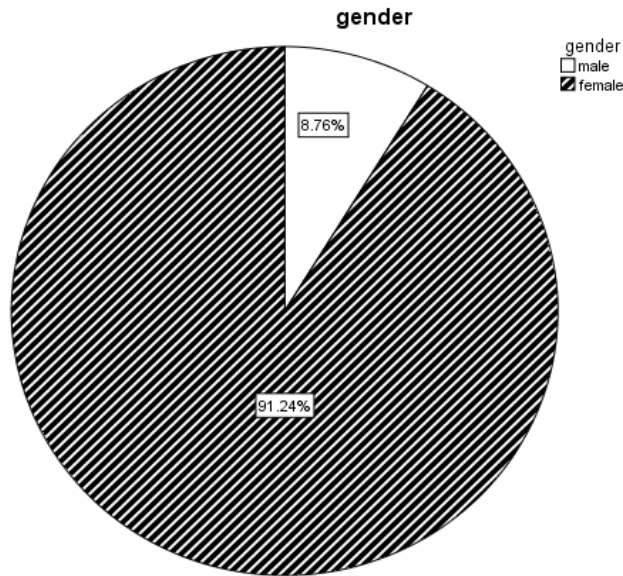


Figure 5.1: gender of respondents (n=217)

5.2.2 Professional qualifications

Table 5.1 summarises qualifications of professional nurses allocated at PHC facilities who participated in this study. All of the respondents 217 (100.0%) has general nursing and midwifery, while 116 (53.5%) qualified with an additional qualification in community nursing and 76 (35.0) in primary health care, which are the requirement for professional nurses working at the PHC facilities.

Table 5.1: Frequency distribution for professional qualifications

		Frequency	
		N	Percent
Profession	general	217	100%
	midwifery	217	100%
	community	116	53.5%
	primary	76	35.0%

Due to the shortage of qualified professional nurses in the Vhembe district, some of the respondents of this study were assigned at the PHC facilities without the required qualifications. Only 76 (35.0%) nurses were reported to have qualified as Primary Health Nurses which is significantly required for the PHC allocation. South Africa has a great shortage of healthcare workers, and this might have been the perpetuating factor that led to the allocation of such category without relevant qualifications. IPHCM (the conceptual framework of the current study) argued that Shortage of PHC nurses and community healthcare nurses might be the perpetuating factor that lead to the allocation of such category without relevant qualification and IPHC concluded that competencies for the health care providers is demanding for effectiveness of the integration of HIV/AIDS services into PHC (Sibiya & Gwele (2013:387)

5.2.3 Work experience of the respondents

The findings of the current study showed that the majority of nurses (91.2%) who participated in this study have more than 2 years of work experience at PHC; only 8, 8% have less than 2 years' experience at PHC. The working experience distribution of the respondents was as follows: work experience less than 2 years is 8, 76%; work experience 2-5 years is 16.59%; work experience 5-10 years is 33.64%; and work experience 10 and above is 41.01%.

Table 5.2: respondents working experience at PHC clinics/primary healthcare Centre

Working experience at PHC

	Frequency	Percent	Valid Percent	Cumulative Percent
<2years	19	8.8	8.8	8.8
2-5 years	36	16.6	16.6	25.3
5-10 years	73	33.6	33.6	59.0
10 and above	89	41.0	41.0	100.0
Total	217	100.0	100.0	

The distribution of those with community nursing is as follows: 13 (11.2%) have less than 2 years' experience; 19 (16.6%) have 2-5 years' experience; 42 (36.2%) have between 5 to 10 years' experience; and 42 (36.2%) have 10 and above years of experience. The distribution of primary health care is: 3 (3.9%) have less than 2 years, 9 (11.8%) have 2–5 years; 21 (27.6%) have 5–10 years of experience; and 43 (56.6%) have 10 and above years of experience (see table 5.2).

Table 5.3 Cross tabulation for the relationship between professional qualification and work experiences

			Work experience at PHC				Total
			<2years	2-5 years	5-10 years	10 and above	
professional qualification	general	Count	19	36	73	89	217
		% within professional	8.8%	16.6%	33.6%	41.0%	
	midwifery	Count	19	36	73	89	217
		% within professional	8.8%	16.6%	33.6%	41.0%	
	community	Count	13	19	42	42	116
		% within professional	11.2%	16.4%	36.2%	36.2%	
	primary	Count	3	9	21	43	76
		% within professional	3.9%	11.8%	27.6%	56.6%	
Total	Count	19	36	73	89	217	

5.3 CLINIC DEMOGRAPHICAL DATA

In section B of the questionnaire, respondents were asked questions about clinic/health centres demographical data. About 198 (91.2%) respondents indicated that their clinics open for 8 hours per day; 53 (24.4%) respondents showed that they do not have sufficient storage space for nutritional supplements and 27 (12.4%) respondents showed that they do not have sufficient space for medications. 62 (28.6%) said that clinics/health centres do not have sufficient consultation rooms and 49 (22.6%) share consulting rooms. 43 (19.8%) have inadequate referral systems while 42 (19.4%) do not have reliable transport systems for patient referral. 80 (36.9%) do not have HIV educational material in local languages.

The study conducted in Nigeria concur with the current study about the drug storage conditions five percent of the facilities were found to store drugs in places that are not protected from the water and sunlight. This implies that a majority of the facilities in the states had the pharmaceuticals stored in a place protected from water and sunlight and in the context of the current study, 12.4%) respondents showed that they do not have sufficient space for medications (National HIV/AIDS Division, 2014:20).

Findings of the current study showed that 55 (25.3%) of clinics/health centre do not provide reproductive health services though all the clinics and healthcare centre take bloods at their clinic/health Centre. About 215 (99.1%) prepare and initiate ART at the clinic; 212 (97.7%) practice provider-initiated counselling and testing (PICT) at the clinic/healthcare centre; and 208 (95.9%) received HIV-related training; 207 (95.4%) showed that there are dedicated professional nurses for managing patients on ART; 203 (93.5%) specified that guidelines related to HIV management are available at the clinic/health centre; 204 (94.0%) respondents indicated that they are able to implement universal infection precautions in the clinic/health centre.

Respondents were also asked whether they have functional support groups for HIV-positive patients at their clinic/health centre; About 199 (91.7%) agreed; 206 (94.9%) respondents have system in place for tracing clients that default on their treatment at their clinic/health centre; 190 (87.6%) respondents agreed that there are interaction between the clinic and community-based organisations; 197 (90.8%) respondents agreed that they have reliable system for transport of specimens to laboratory; and 162 (74.7%) indicated that essential medicines are available at all time.

Table 5.4 Clinic demographic data

STATEMENT	YES	NO
Is the clinic open for eight hours per day?	198 (91.2%)	19 (8.8%)
Is there sufficient storage space for nutritional supplements?	164 (75.6%)	53 (24, 4%)
Is there sufficient storage space for medication?	190 (87.6%)	27 (12.4%)
Are there sufficient consultation rooms for HIV/AIDS service integration?	155 (71.4%)	62 (28.6%)
Do you share consultation rooms among the staff?	168 (77.4%)	49 (22.6%)
Does the clinic have adequate referral systems?	174 (80.2%)	43 (19.8%)
Does the clinic have reliable transport systems for patient referral?	175 (80.6%)	42 (19.4%)
Does the clinic have HIV educational material in local languages?	137 (63.1%)	80 (36.9%)
Do you provide reproductive health services at the clinic?	162 (74.7%)	55 (25.3%)
Do you take blood at the clinic?	217 (100%)	00 (00%)
Do you prepare and initiate ART at the clinic?	215 (99.1%)	2 (0.9%)
Do you practice provider-initiated counselling and testing (PICT) at the clinic?	212 (97.7%)	5 (2.3%)
Have you received any HIV-related training?	208 (95.9%)	9 (4.1%)
Are there dedicated professional nurses for managing patients on ART?	207 (95.4%)	10 (4.6%)
Are guidelines related to HIV management available at the clinic?	203 (93.5%)	14 (6.5%)
Are you able to implement universal infection precautions in the clinic?	204 (94.0%)	13 (6.0%)
Do you have functional support groups for HIV-positive patients at your clinic?	199 (91.7%)	18 (8.3%)
Do you have a system in place for tracing clients that default on their treatment?	206 (94.9%)	11 (5.1%)
Is there any interaction between the clinic and community-based organisations?	190 (87.6%)	27 (12.4%)
Is there a reliable system for transport of specimens to the laboratory?	197 (90.8%)	20 (9.2%)
Are essential medicines available at all time?	162 (74.7%)	55 (25.3%)

5.4 INFORMATION REGARDING HIV/AIDS SERVICE INTEGRATION

5.4.1 Barriers to integrating HIV/AIDS services into PHC

Specific questions on barriers for the integration of HIV/AIDS service into PHC were asked which included infrastructure, human and material resources

5.1.1.1 Infrastructure

5.1.1.1.1 Insufficient consulting rooms

Respondents were asked whether they considered insufficient consulting rooms as the barrier for integrating HIV/AIDS services into PHC. Approximately 78 (35.9%) respondents strongly agreed whereas 18 (8.3%) respondents agreed on insufficient consulting rooms with cumulative percent for the strongly agreed and agreed of 96 (44.2%). This findings shows that insufficient consulting rooms is a barrier for the integration of HIV/AIDS services into PHC in most of the clinics and health centres (see figure 5.2).

The findings of the current study are related to the findings of the study done by Mathibe, Hendricks and Bergh (2015:5), which considered the adequate consulting rooms as fundamental for the integration of HIV/AIDS services into PHC. These results also correspond with the results from qualitative design of the current study as it revealed that insufficient consulting rooms hindered HIV/AIDS services integration. Similarly, the study about the experiences of lay counsellors regarding HIV and AIDS care and support in clinics, revealed that Lay counsellors complained about the lack of infrastructure such as limited space and rooms for individual or one-on-one counselling. Counsellors opted for group counselling which negatively impacted on confidentiality and also inhibited free expression of thoughts and feelings by the clients. The study concluded that group counselling was not as effective as individual counselling (Mkhabele & Peu, 2016:321).

Gunda, Jousset, Tchereni, Joseph, and Mwapasa (2017:S138) on the study about integrating HIV and Maternal, Neonatal and Child Health Services in Rural Malawi, concluded that efforts to achieve integrated health service delivery in resource-constrained settings, with insufficient human resources and poor infrastructure were not guaranteed to attain positive results.

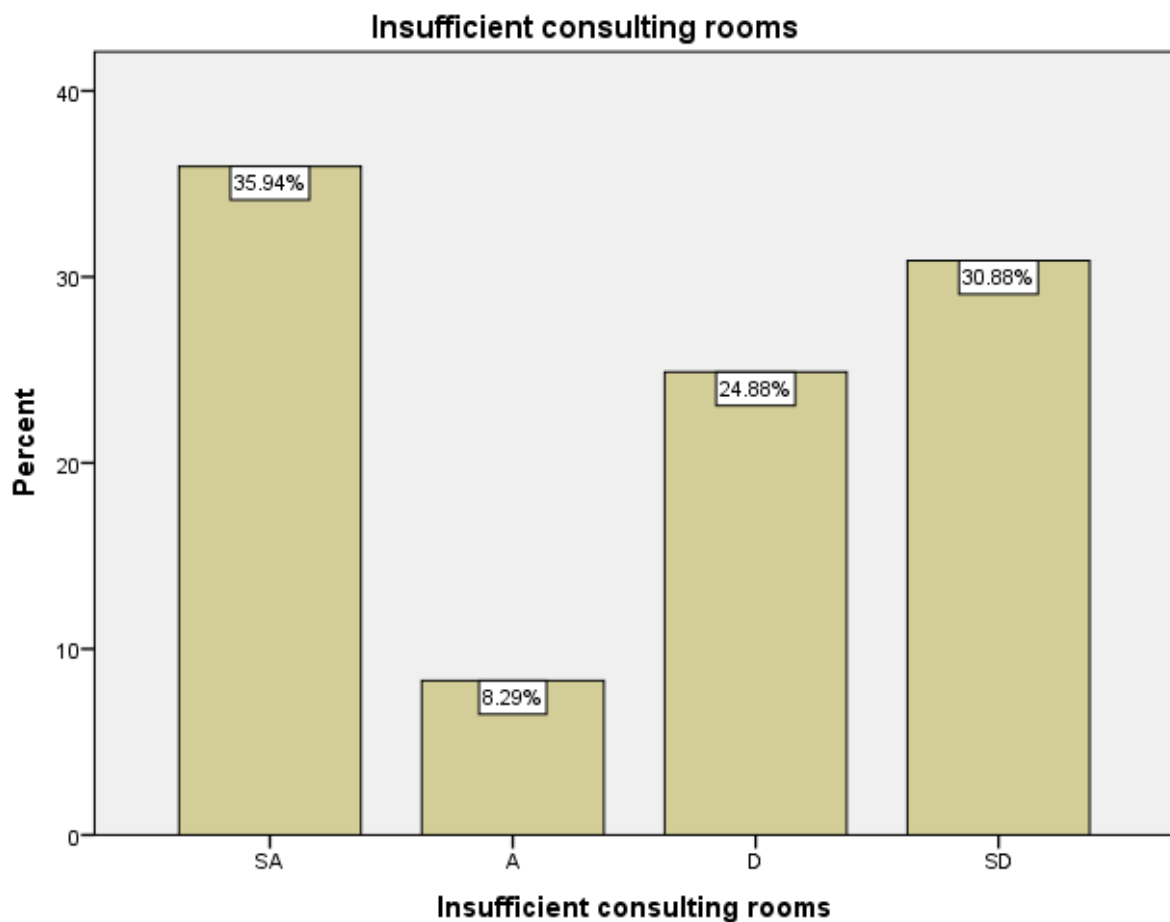


Figure 5.2: insufficient consulting rooms

Key: SA-Strongly agree, A-Agree, D-Disagree and SD-Strongly disagree

The need for counselling space is often underestimated by managers, creating barriers and bottlenecks to HIV/AIDS service integration into PHC. Although some counselling is often provided in the course of clinical consultation, facilities providing HIV services require additional individual space for the large range of counselling required to ensure the delivery of

quality HIV services. Additional counselling infrastructure is required, both to support the scale-up of treatment and care (WHO, 2008:87).

5.1.1.1.2 Small waiting area

The findings of this study shows a small waiting area at the clinics/health centres as a barrier for the integration of HIV/AIDS services into PHC. About 73 (33.6%) of 217 (100%) respondents strongly agreed while minority 19 (8.8%) of the respondents agreed with the cumulative percent of 92 (42.2%), which is significant to consider a small waiting area as a barrier for the integration of HIV/AIDS services into PHC.

Table 5.5: Small waiting area

Key: SA-Strongly agree, A-Agree, D-Disagree and SD-Strongly disagree

	Frequency	Percent	Valid Percent	Cumulative Percent
SA	73	33.6	33.6	33.6
A	19	8.8	8.8	42.4
D	60	27.6	27.6	70.0
SD	65	30.0	30.0	100.0
Total	217	100.0	100.0	

Similar findings were reported by a South African study by Wright, Street, Cele, Kunene, Balakrishna, Albers, and Mathee (2017:11) that waiting rooms may have underlying conditions which predispose patient/clients to infection, assembled in small waiting areas can expose individuals for pathogenic microorganisms, therefore controlled temperatures in

clinic waiting rooms, as well as the reduction of clinic waiting time is important for the successful integration of HIV/AIDS services into PHC. Similarly, the study by Legido-Quigley, Montgomery, Khan, Atun, Fakoya, Getahun and Grant (2013:21) also discovered that healthcare facilities were not designed to facilitate infection control for tuberculosis, both in general areas and specifically for areas where sputum samples are produced. According to WHO (2008:68), Patients should not wait for services in narrow, poorly ventilated corridors or rooms. Similarly, the study by Uebel et al (2013:10) revealed that the presence of adequate physical infrastructure was not sufficient to ensure integration of HIV/AIDS services into PHC.

5.1.1.1.3 Condition of the consultation rooms

As many 62 (28.6%) of 217 (100%) respondents strongly agreed and 18 (8.3%) respondents agreed on a consulting area not well ventilated, as a barrier for the integration of HIV/AIDS services into PHC. According to the current study, a consulting area which is not well ventilated is a barrier for proper integration of HIV/AIDS services into PHC.

Table 5.6: Consulting area not well ventilated

Key: SA-Strongly agree, A-Agree, D-Disagree and SD-Strongly disagree

	Frequency	Percent	Valid Percent	Cumulative Percent
SA	62	28.6	28.6	28.6
A	18	8.3	8.3	36.9
D	67	30.9	30.9	67.7
SD	70	32.3	32.3	100.0
Total	217	100.0	100.0	

According to Chen, Liu, Gu, Wang, Qiu, Shen and Jiang (2016:5), well-ventilated waiting areas are a key element of the environmental control measures needed to minimize transmission of tuberculosis. Natural ventilation, such as opening of windows and doors, is efficient and less costly for the movement of air. However, if a naturally ventilated space is not available, the addition of extra windows and/or the use of fans can be a simple and effective way to enhance ventilation. Furthermore, to adhere to the requirements, the effectiveness and functioning of ventilation should be monitored on a regular basis.

Studies by Topp According to Topp, Chipukuma, Giganti, Mwango, Chiko, Tambatamba-Chapula, & Reid, (2010:354); Mahomed, Asmall, and Voce, A. (2016:7) supported that appropriate infrastructure is an essential pre-requisite to effective HIV/AIDS service integration into PHC. Additionally, provider-initiated counselling and testing require re-allocation of space. WHO (2008:67) recommend improved room air ventilation at primary healthcare facilities, Patient waiting areas should be open and well-ventilated. This includes leaving windows and doors open when possible to maximize cross ventilation.

Table 5.7: Inadequate waiting area and consulting area not well ventilated cross tabulation

			Consulting area not well ventilated				Total
			SA	A	D	SD	
Small waiting area	SA	Count	45	7	18	3	73
		% within Small waiting area	61.6%	9.6%	24.7%	4.1%	100.0%
		% of Total	20.7%	3.2%	8.3%	1.4%	33.6%
	A	Count	3	7	7	2	19
		% within Small waiting area	15.8%	36.8%	36.8%	10.5%	100.0%
		% of Total	1.4%	3.2%	3.2%	0.9%	8.8%
	D	Count	11	4	41	4	60
		% within Small waiting area	18.3%	6.7%	68.3%	6.7%	100.0%
		% of Total	5.1%	1.8%	18.9%	1.8%	27.6%
	SD	Count	3	0	1	61	65
		% within Small waiting area	4.6%	0.0%	1.5%	93.8%	100.0%
		% of Total	1.4%	0.0%	0.5%	28.1%	30.0%
Total		Count	62	18	67	70	217
		% within Small waiting area	28.6%	8.3%	30.9%	32.3%	100.0%
		% of Total	28.6%	8.3%	30.9%	32.3%	100.0%

Table 5.6 shows the relationship of small waiting area and ventilated consulting rooms, out of those who strongly agreed to small waiting area, 45(61.6%) respondents strongly agreed that consulting areas are not well ventilated while those who strongly disagreed to small waiting areas 61 (93.8%) respondents also strongly disagreed that consulting areas are not well ventilated. The chi-square test shows that there is a significance evidence ($p=0.0000$) that there is a relationship between the size of a clinic waiting areas and the consulting area ventilation; clinics with a small waiting area are more likely to have inadequate ventilation than those with large waiting area.

5.1.1.2 Human resource

5.1.1.2.1 Respondents information on insufficient staff

Most of the respondents in this study 128 (58.0%) agreed that insufficient staff was a barrier for the integration of HIV/AIDS service into PHC while 89 (40.0%) disagreed. This shows that insufficient staff at a clinic/health centre hinders the integration of HIV/AIDS services into PHC.

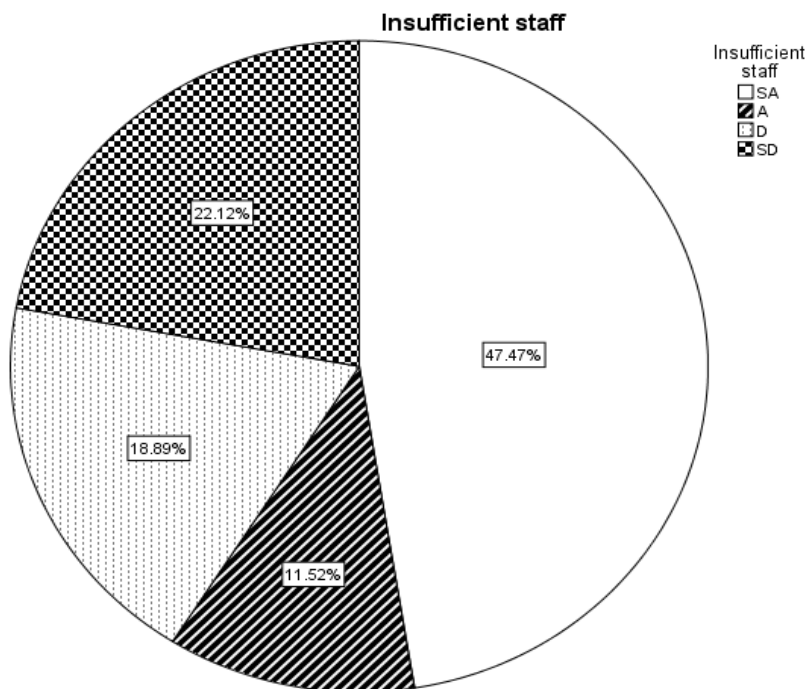


Figure 5.3: Insufficient staff

Key: SA-Strongly agree, A-Agree, D-Disagree and SD-Strongly disagree

Findings of this study concur with the findings of the South African study by Mathibe, Hendricks and Bergh (2015:5) on that shortage of staff is related with difficulties in providing quality services such as full examination, excluding opportunistic infections and getting proper history information. The study by Topp, et al (2010:354) support the findings of the current study that insufficient staff is a barrier for the integration of HIV/AIDS service into PHC. According to these authors, integrating HIV/AIDS service into PHC worsened already limited human resources in the primary health care setting because of large number of patient on chronic, life-long HIV care. However, Jongh, Gurol-Urganci, Allen, Jiayue Zhu and Atun (2016:11) also concluded that integrating HIV/ADS services into PHC requires health workers to assume additional tasks and these additional tasks may lead to increased workload and long waiting times, making healthcare workers reluctant to implement them.

5.1.1.2.2 Lack of knowledge and skills

Table 5.7 illustrate the findings of lack of knowledge and skills as a barrier of integrating HIV/AIDS service into PHC, 22 (10.1%) respondents agreed that lack of knowledge and skills

are barriers for the integration of HIV/AIDS service into PHC whereas 176 (65%) disagreed. Cross tabulation was done to measure the relationship between professional qualification and lack of knowledge and skills. Only 16 (21.1%) of 217 (100%) respondents who strongly disagreed on lack of knowledge and skills have primary health care. This means that 201 (78.8%) do not have knowledge on primary health care which is a requirement at clinics and health centres.

Table 5.8: Lack of knowledge and skills

Key: SA-Strongly agree, A-Agree, D-Disagree and SD-Strongly disagree

	Frequency	Percent	Valid Percent	Cumulative Percent
SA	14	6.5	6.5	6.5
A	22	10.1	10.1	16.6
D	105	48.4	48.4	65.0
SD	76	35.0	35.0	100.0
Total	217	100.0	100.0	

According to the study by Jongh, Gurol-Urganci, Allen, Jiayue Zhu and Atun (2016:11), lack of training was also identified as a barrier to delivering an integrated TB- PMTCT-ANC programme in South Africa, because healthcare workers were not well trained in all care aspects and this contributed to poor TB case-finding among pregnant women. This is contrary with the study by Odeny et al (2013:4) which revealed that after integration, all clinical officers and nurses were offered training for HIV-related and non-HIV-related topics such as Rational Use of ART in Adults, Comprehensive Pediatric HIV Care, Integrated Management of Adult and Adolescent Illness, Prevention of Mother to Child Transmission of HIV, and Psychosocial Counseling for Pediatrics. Based on the findings of the current study, training and clear care

guidelines are therefore essential for providing knowledge and skills to deliver integrated services. This training should be provided consistently to all health workers at the clinics and healthcare centres.

5.1.1.2.3 Large numbers of patients

Respondents were asked whether large numbers of patients are barrier for the integration of HIV/AIDS services into PHC. About 100 (46.1%) respondents strongly agreed while 54 (24.9%) agreed and about 54 (24.9%) strongly disagreed while 9 (4.4%) disagreed. These results show that large numbers of patients at clinics/health centres are barriers for the integration of HIV/AIDS services into PHC (see figure 5.5).

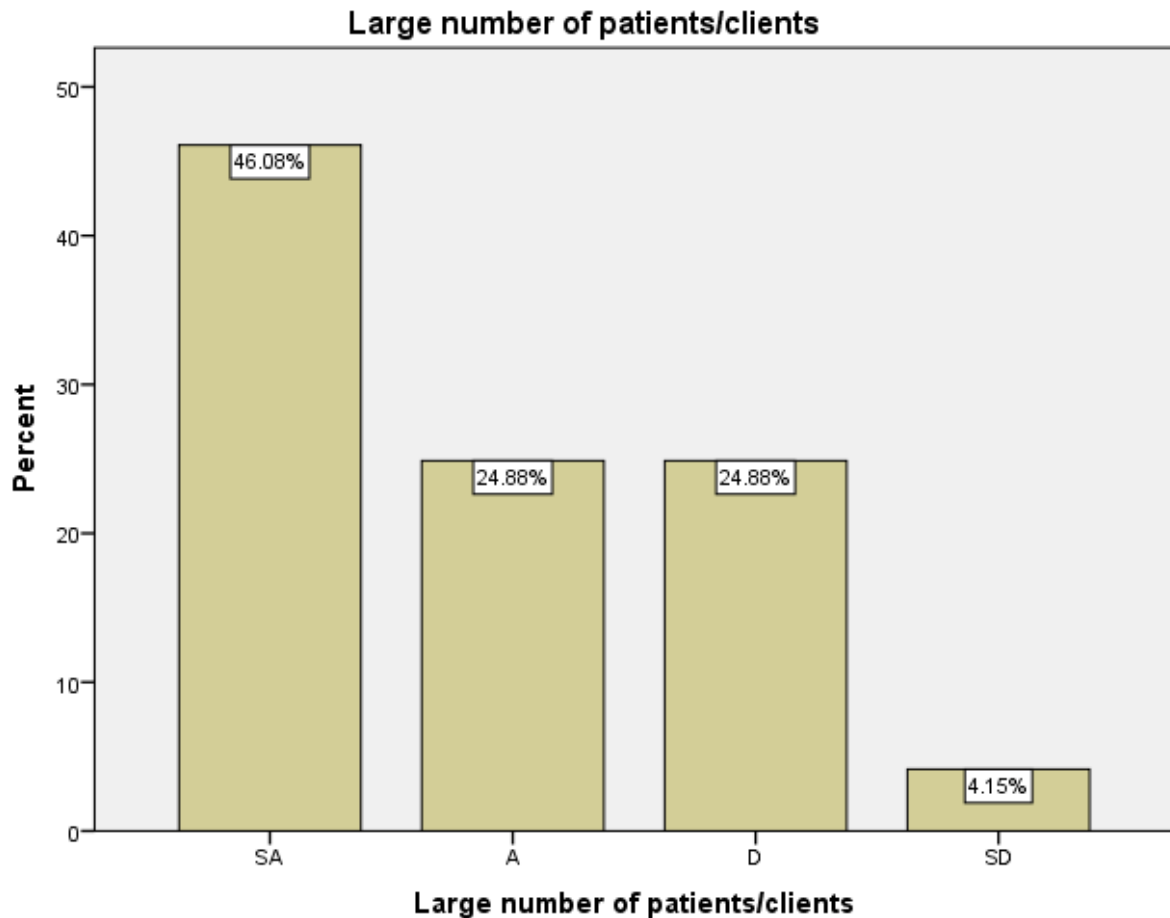


Figure 5.4: Large number of patients

Key: SA-Strongly agree, A-Agree, D-Disagree and SD-Strongly disagree

Table 5.8: illustrate cross tabulation for insufficient staff and a large number of patients/clients. About 39.8% of the respondents that strongly agreed to insufficient staff also strongly agreed to large numbers of patients and 95 (43.8 %) of the respondents who agreed to insufficient staff also agreed to a large number of patients, using chi-square. There is a significant association between insufficient staff and large a number of patients ($p=0.001$), where there is insufficient staff there tends to be many patients.

Table 5.9: cross tabulation for insufficient staff and a large number of patients/clients

			Large numbers of patients/clients				Total
			SA	A	D	SD	
Insufficient staff	SA	Count	41	36	23	3	103
		% within Insufficient staff	39.8%	35.0%	22.3%	2.9%	100.0%
		% of Total	18.9%	16.6%	10.6%	1.4%	47.5%
	A	Count	11	7	5	2	25
		% within Insufficient staff	44.0%	28.0%	20.0%	8.0%	100.0%
		% of Total	5.1%	3.2%	2.3%	0.9%	11.5%
	D	Count	9	9	23	0	41
		% within Insufficient staff	22.0%	22.0%	56.1%	0.0%	100.0%
		% of Total	4.1%	4.1%	10.6%	0.0%	18.9%
	SD	Count	39	2	3	4	48
		% within Insufficient staff	81.3%	4.2%	6.3%	8.3%	100.0%
		% of Total	18.0%	0.9%	1.4%	1.8%	22.1%
Total	Count	100	54	54	9	217	
	% within Insufficient staff	46.1%	24.9%	24.9%	4.1%	100.0%	
	% of Total	46.1%	24.9%	24.9%	4.1%	100.0%	

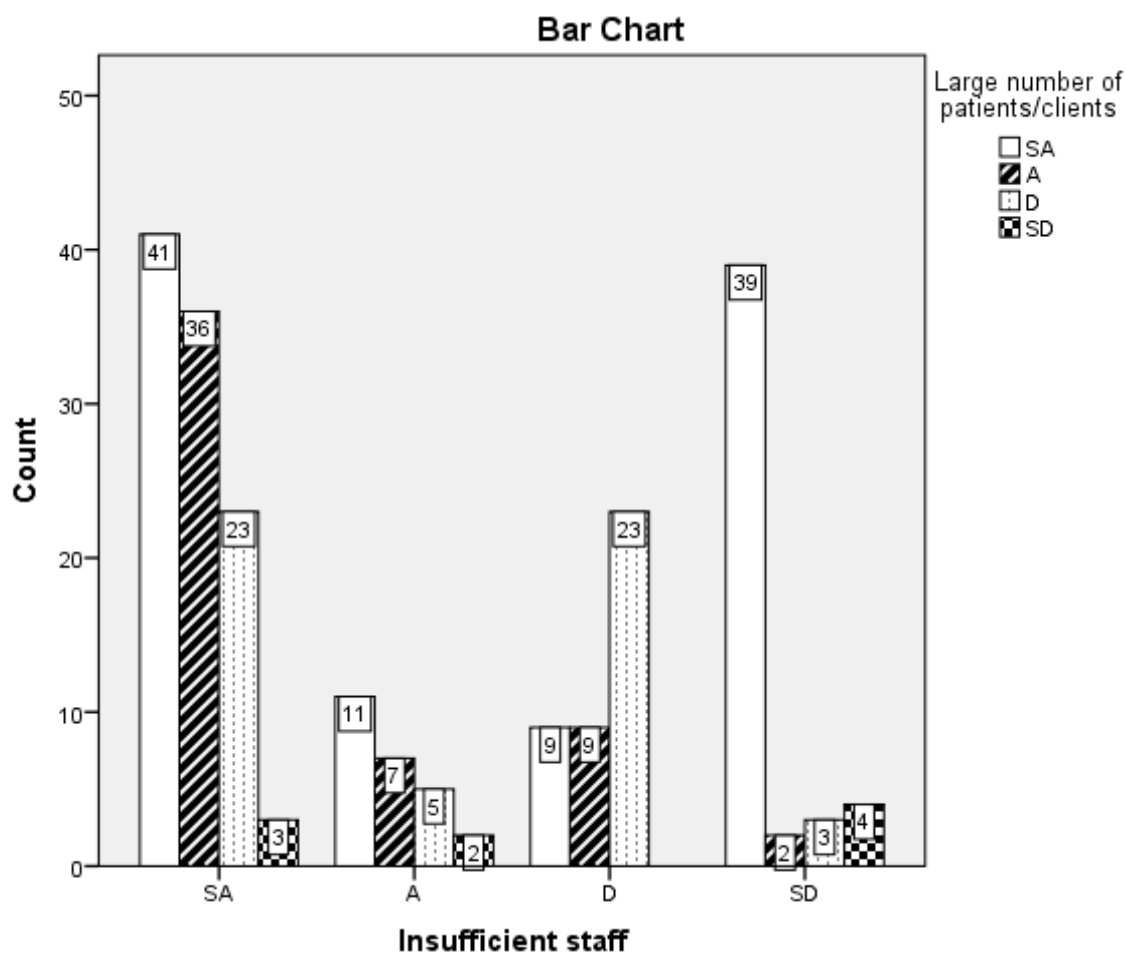


Figure 5.4: bar chart showing relationship of insufficient staff and large number of patients/clients

The study conducted by Uebel et al (2013:11) revealed that high workload with large number of patients had complex effects on integration while the smaller size and staff complement of some clinics appeared to promote integration of care. These authors further concluded that as long as nurses are expected to manage large numbers of patients each day in primary care, HIV/AIDS service is unlikely to be successfully integrated into PHC; more especially in countries like South Africa where criteria for ART eligibility have been widened and large numbers of people are eligible for ART. According to IPHCM as the conceptual framework of this study, the availability of human resources is mandatory to create enabling environment for the HIV/AIDS service integration into PHC. Furthermore the study revealed that nurses were failing to provide quality care and were not always able to integrate HIV care into their

consultations. Many clinics with large number of patients, allocated specific tasks to one nurse in order to streamline the work. In some clinics, all patients who needed TB investigations were sent to one nurse for sputum collection, partly for reasons of infection control, but also to save time and ensure that one nurse could be responsible for collating results. Additionally in clinics with a large number of patients on ART, patients were sent to one nurse on arrival at the clinic for routine blood taking (Sibiya & Gwele, 20013:387).

Lack of managerial support

Respondents were also asked whether lack of managerial support is a barrier for the integration of HIV/AIDS service into PHC. 24 (11.1%) strongly agreed; 31 (14.3%) agreed; 96 (44.2%) disagreed; and 66 (30.4%) strongly agreed. These results show that managerial support is not a barrier for the integration of HIV/AIDS services into PHC though 55(25.4%) agreed that lack of managerial support is a barrier.

5.1.1.2.4 Lack of teamwork

On the question of whether lack of team work is a barrier for the integration of HIV/AIDS 18 (8.3%) strongly agreed, 17 (7.8%) agreed, 111 (51.2%) disagree and 71 (32.7%) strongly disagree. According to these results, majority of the clinics/health centre 182 (85.1%) have team work whereas 35 (16%) do not have team work.

5.1.1.2.5 Lack of community involvement

Findings also illustrated that 21 (9.7%) strongly agreed; 24 (11.1%) agreed; 104 (47.9%) disagreed; and 68 (31.3%) strongly disagreed to lack of community involvement as a barrier to the integration of HIV/AIDS services into PHC. This shows that there is community involvement at clinics/health centres though 45(19.8%) do not have community involvement.

According to WHO (2008:45), involving community stakeholders in Integrated HIV/AIDS services at your health centre improve the quality of care received by patients. It is therefore

empirical to involve PLWHIV who are also on treatment for achieving effective and sustainable services. Health workers have technical skills that members of the community may not have and these skills should be shared to ensure quality of community-based care. The community, in turn can form a significant component in the delivery of quality HIV services; including counselling, adherence support, development of a referral framework, and dissemination of information. The community being served by the health care facility support the facility management and staff by being involved in service planning and taking ownership and pride of their facility and its functioning.

The study on the assessment of primary health care facilities for decentralization of HIV/AIDS services in Nigeria revealed that about 57% of the facilities were found to link relevant HIV services with the community while less than half of the facilities reported to have links with community based organizations. This study concluded that linkages to community resources and support are important to help people living with HIV/AIDS and their caregivers to gain access to services and support across the continuum of HIV care. The study further revealed that community-based services were available for PLWHA in most places, but often groups and organisations do not know about each other or are unaware how they can work together. So, according to this study, lack of collaboration causes the health care workers to be handicapped in their ability to refer clients and their families to the community-based organizations that can assist them (National HIV/AIDS Division, 2014:25)

5.1.1.2.6 Poor referral/communication system

About 11 (5.1%) respondents strongly agreed while 28 (12.9%) agreed and 106 (48.8%) respondents disagreed while 72 (33.2%) strongly disagreed on poor referral/communication system as a barrier for the integration of HIV/AIDS services into PHC. According to these results most of the clinics/health centres have good referral/communication systems. According to the ideal clinic manual, health care facility must have access to a rational and responsive referral system to ensure continuity of care between different levels of health service.

5.1.1.2.7 Lack of experience in the programme

On the question of whether lack of experience in the programme is a barrier to the integration of HIV/AIDS service into PHC; 7 (3.2%) strongly agreed, 22 (10.1%) agreed, 107 (49.3%) disagreed, and 81 (27.3%) strongly disagreed. This results shows that lack of experience in the programme was not a barrier on HIV/AIDS service integration into PHC. This correspond with the respondents working experience under socio-demographic data because 198 (91.2%) respondents who participated in the study were more than 2 years of working experience at PHC clinics/healthcare centre.

5.1.1.2.8 Lack of training on HIV/AIDS programme

The question of whether lack of training on HIV/AIDS programme is a barrier for the integration of HIV/AIDS services into PHC; 12 (5.5%) strongly agreed, 25 (11.5%) agreed, 95 (43.8%) disagreed and 85 (39.2%) strongly disagreed. This shows that respondents do not consider lack of training as a barrier for the integration of HIV/AIDS service into PHC. However, this is contrary to the findings under professional qualifications under socio-demographic data where 192 (88, 5%) do not have community and primary healthcare nursing and these are pre-requisite for every nurse working at the clinic/healthcare centre.

WHO (2008:244) stated that, the person in-charge at a health facility, play an important role in planning and tracking the type of training that the staff can receive. The person in-charge at a healthcare facility, should ensure that health centre staff have the right training at the right time to provide the quality basic service. Training opportunities must be provided fairly and must not interfere with service delivery. By helping the staff to gain access to training opportunities in an equitable way promote their career development and improve motivation and morale.

5.1.1.3 Material resources

5.1.1.3.1 Lack of medical equipment

Respondents were asked whether lack of equipment is a barrier for the integration of HIV/AIDS service into PHC; 35 (16.1%) strongly agreed, 42 (19.4%) agreed, 73 (33.6%)

disagreed, and 67 (30.9%) strongly disagreed. According to this findings lack of equipment in some of clinics and health centres is a barrier to the integration of HIV/AIDS service into PHC.

5.1.1.3.2 Lack of kits for HIV testing

Respondents were also asked the question of whether lack of kits for HIV testing is a barrier for the integration of HIV/AIDS into PHC; 14 (6.5%) strongly agreed, 20 (9.2%) agreed, 105 (48.4%) disagreed, and 78 (35.9%) strongly disagreed.

5.1.1.3.3 Lack of protective clothing

For the lack of protective clothing as a barrier for the integration of HIV/AIDS into PHC; 27 (12.4%) strongly agreed, 33 (15.2%) agreed, 84 (38.7%) disagreed and 73 (33.6%) strongly disagreed. This distribution shows that respondents do not consider lack of protective clothing as a barrier for the integration of HIV/AIDS into PHC.

The study by Amoran and Onwube (2013:1520) shows that many of the facilities did not even have equipment and sufficient medication. The lack of protective materials and other supplies and utilities documented in the health facility survey and cited also by professionals as the main reason for not applying standard precautions may be a major factor in noncompliance to universal precautions. Healthcare workers should have access to protective shoes, gowns, and masks to protect patients and health workers from infectious diseases (WHO, 2008:91)

5.5 The attitudes of PHC nurses towards HIV/AIDS integration into PHC

In section D of the questionnaire, specific questions on attitude of PHC nurses regarding the integration of HIV/AIDS service into PHC were asked and table 5.4 below illustrate the results.

Findings of this study evidenced that most of the PHC nurses have a good attitude towards HIV/AIDS services integration into PHC. However there are few nurses who showed negative attitudes. Table 5.8 illustrates the assessment of nurses' attitudes towards the integration of HIV/AIDS services integration into PHC. 142 (65.4%) strongly agreed that people living with HIV should be seen in the same clinics as other patients and 59 (27.2%) disagreed. 143 (65.9%) strongly agreed that people living with HIV should be seen by the same doctors/nurses that see other patients, with 65 (25.8%) agreeing. 163 (75.1%) strongly disagreed on setting a separate clinic for HIV-positive clients only and 36 (16.6%) disagreed. 160 (73.7%) strongly disagreed that visitors and other clients can readily identify HIV-positive clients at clinic/health centre and 35(16.1%) disagreed. 176 (81.1%) strongly agreed that clients have a right to know HIV-positive clients in the clinic/health centre and 28 (12.9%) disagreed. 122 (56.2%) strongly disagreed that a clinic arrangement increases our client's exposure to HIV-related stigma and 49 (22.6%) disagreed. 140 (64.5%) strongly agreed that they like the combined sitting arrangements for all clients and 61 (28.1%) agreed. 128 (59.0%) strongly agreed that quality of services has improved when providing HIV/AIDS treatment services according to guidelines and 64 (29.5%) agreed. 79 (36.4%) strongly agreed they are comfortable with the work load of running a combined clinic and 28 (12.9%) agreed. These results show that although there are few participants who show that they have a negative attitude towards HIV/AIDS services integration, the majority show positive attitudes (see table 5.8).

According Aarts, Chalker and Weiner (2014:449), a positive attitude and good working relations among staff is considered as an important aspect for the clinic/health care environments and this facilitate the integration of HIV/AIDS services into PHC.

Table 5.10 Respondents' attitudes on HIV/AIDS services integration

Statements	SA	A	D	SD
I believe that people living with HIV should be seen in the same clinics as other patients (if the clinic space can accommodate this arrangement)	142 65.4%	59 (27.2%)	8 (3.7%)	8 (3.7%)
I believe that people living with HIV should be seen by the same doctors/nurses that see other patients (if the doctors/nurses have the skills to attend to them)	143 (65.9%)	65 (25.8%)	11 5.1%)	7 (3.2%)
I'd prefer that we set-up a separate clinic for HIV-positive clients only	14 (6.5%)	4 (1.8%)	36 (16.6%)	163 (75.1%)
I believe that visitors and other clients can readily identify those of our clients who are HIV-positive in our clinic	10 (4.6%)	12 (5.5%)	35 (16.1%)	160 (73.7%)
I believe that clients have a right to know those clients who are HIV-positive in the clinic	7 (3.3%)	6 (2.8%)	28 12.9%	176 (81.1%)
I believe that our clinic arrangement increases our client's exposure to HIV-related stigma	23 (10.6%)	23 (10.6%)	49 (22.6%)	122 (56.2%)
I am satisfied with the amount of time our clients spend in the	95	64	30	28

waiting area	(43.8%)	(29.5%)	(13.8%)	(12.9%)
I believe that we are now providing more services to our clients since we started the integrated clinic.	122 (56.2%)	77 (35.5%)	5 (2.3%)	13 (6.0%)
All the patients get their weight and BP checked regularly in the clinic	141(65.0%)	55 (25.3%)	10 (4.6%)	10 (4.6%)
I like the combined sitting arrangements for all clients (HIV-positive and other) in the waiting area	140 (64.5%)	61 (28.1%)	4 1.8%	12 (5.5%)
I believe that the general quality of our services (for all clients) has improved because of the demands of providing HIV/AIDS treatment services according guidelines	128 (59.0%)	64 (29.5%)	10 (4.6%)	15 (6.9%)
I am comfortable with the work- load that I have to deal with in running a combined clinic	79 36.4%	28 (12.9%)	53 (24.4%)	57 (26.3%)
I will recommend this clinic to somebody seeking treatment for HIV and AIDS	157 (72.4)	44 (20.3%)	4 (1.8%)	12 (5.5%)

5.6 SUMMARY

From the findings of this study, health care workers at the clinic/health centre were experiencing challenges when integrating HIV/AIDS service into PHC, as the respondents showed that there are barriers for the integration of HIV/AIDS into PHC such as: insufficient staff, insufficient consulting rooms, and small waiting areas as well as consulting rooms which are not well ventilated. Furthermore, more than a half respondents who participated in this study were not qualified in community and primary health care nursing which are significant for healthcare workers working at clinic/healthcare centre. IPHCM, which is the conceptual framework of the study, also support that organisational changes is required, for the integration of HIV/AIDS services into PHC, particularly in terms of staff training and physical infrastructure to make private space for HIV counselling and testing and suitably ventilated space where sputum specimens can be produced.

CHAPTER 6

DEVELOPMENT AND DESCRIPTION OF GUIDELINES TO FACILITATE THE INTEGRATION OF HIV/AIDS INTO PHC

6.1 INTRODUCTION

The empirical findings of this study revealed that the environments at PHC clinics and health centres were not enabling to integrate HIV/AIDS services into PHC, mainly due to insufficient staff, inadequate space as well as insufficient medical equipment. Transport to transfer patients to the hospital was also a challenge in some of the health care facilities. The purpose of this study was to develop guidelines to facilitate the integration of HIV/AIDS service into PHC. The specific objectives to attain the study purpose were to:

- explore the extent of HIV/AIDS services integration into PHC clinics and health centres in Vhembe district of Limpopo province, South Africa
- determine whether the clinic environment is enabling to integrate HIV/AIDS service into PHC
- Identify the existing guidelines on integration of HIV/AIDS services into PHC whether
- Assess the barriers of HIV/AIDS services integration into PHC in Vhembe District of Limpopo province, South, Africa.
- Explore the attitude of PHC nurses regarding the integration of HIV/AIDS services into PHC.

6.2 GUIDELINES DEVELOPMENT

The development and description of the guidelines to facilitate the integration of HIV/AIDS services into PHC followed the six elements of practice orientated theory by Dickoff and Wiedenbach, (1968:203) as well as World Health Organization (WHO) steps of developing guidelines (WHO, 2015:13). Six elements of practice orientated theory are Agent, recipient, context, dynamics, procedure and terminus and they are discussed as follows:

6.2.1 Agent

According to Kamenye, Iiping and Van Dyk (2016:120), an agent is an individual who specialises in facilitating the change process during which new values, attitudes and behaviour are fostered. In the context of this study, agents comprised of operational managers from PHC clinic/health centre as they are involved in the provision, planning, organisation, management, monitoring and evaluation of the integration of HIV/AIDS into PHC. The operational managers of PHC clinics and health centres are the ones responsible in the facilitation of patient care and they have management skills and knowledge that enables them to plan and to interact with other stakeholders, including nurses and patients. The operational managers should facilitates the implementation of the developed guidelines to facilitate the integration of HIV/AIDS service into PHC. The study finding revealed that the clinic/health centres' environments are not enabling the integration of HIV/AIDS services into PHC, it is therefore imperative that the operational managers should be responsible in creating enabling environment for the integration of HIV into PHC by ensuring the availability of competent PHC team and adequate infrastructure.

6.2.2 Recipient

Recipient is a person who receives or persons who are receiving activities from an agent. Recipients of the nursing care include all those persons who receive action from an agent; for instance families, communities, or societies. According to the researcher's understanding, a recipient can be referred to as a person who benefits from the activities that are designed by an agent (Kamenye, Iiping & Van Dyk, 2016:121).

In the context of this study, the registered and enrolled nurses as well as lay counsellors at clinics/health centres are the recipients for the guidelines to facilitate the integration of HIV/AIDS into PHC. According to the IPHC model PHC team should have competency, responsiveness and should be productive for the successful integration of HIV/AIDS services into PHC. However, the findings of this study revealed that some of the nurses are not trained for the matters related to HIV and AIDS. So, operational manager should ensure that registered and enrolled nurses, and Lay counsellors are well trained for the successful service integration. PLWHIV and family members are also recipients for the guidelines since the proper integration of HIV/AIDS services into PHC might lead to quality HIV/AIDS care.

6.2.3 Context

Context refers to the circumstances or a setting in which an event occurs. A situation in which the activities take place and it comprises human, environmental, professional, and organisational facilities (Kamenye, Iipinga & Van Dyk, 2016:122).

In this study, the guidelines' to facilitate the integration of HIV/AIDS service into PHC, was developed in the context of PHC clinics/health centres of Vhembe district, Limpopo province South Africa. Furthermore, Dickoff and Wiedenbach, (1968:203) emphasise that despite the fact that a clinical setting provides learning opportunities, it is influenced by the external and internal context of an agent. The internal context of the agent that guides nurses activities include the health professional skills, competency, commitment, knowledge of HIV/AIDS services integration, policies and WHO national guidelines; SANC regulations and nursing Act no. 33 of 2005. Guidelines to facilitate the integration of HIV/AIDS services into PHC was also developed within the context of patients' rights, Batho Pele principles and nursing standards. On the other hand, the external resources include those resources other than the health professional that are available for maintaining and supporting the agent's capacities and power, these include socio-cultural, economic and political factors of a particular committee.

6.2.4 Dynamics

Dynamics refers to energy sources of the activities inside an individual or the internal motivating factors for success (Kamenye, Iipinga & Van Dyk 2016:122). The operational managers acquired scientific knowledge and skills on the integration of HIV/AIDS into PHC through training and national guidelines that direct nurses at PHC level. The findings of this study revealed that there are insufficient competent PHC team, inadequate infrastructure, delayed transport to transfer patient to hospitals as well as equipment such as Pap smear kits. However, According to the IPHC model, the presence of the above prerequisites results in an enabling working environment that may result in successful integration of HIV/AIDS services into PHC and without enabling working environment IPHC is unlikely to be effective. Guidelines had to be developed to address such challenges in order to facilitate HIV/AIDS services integration.

6.2.5 Procedure

Procedure is referred to as an orderly way (steps) of doing things. Procedure is the general rule that guides activity and it comprises of the protocol and devices that enable an agent to attain a set goal. It is also referred to as the way in which activities take place (Kamenye, Ipinge & Van Dyk, 2016:122).

In this study, the researcher followed the World Health Organization (WHO) methodology and processes for development of the guidelines; to develop the guidelines to facilitate the integration of HIV/AIDS service into PHC (WHO, 2015:13). The following WHO steps to develop the guidelines were followed:

6.2.5.1 Establishing guideline groups

Developing credible clinical guidelines requires a balanced working group including clinical and methodological expertise to promote broad consensus and to prevent bias from conflicts of interests. Guidelines should be developed by a group of people with a broad range of expertise relevant to the topic of guidelines to be developed. The way the group work together can have a significant effect on the outcome of the process. Members of the groups were selected so as to ensure a range of expertise and experience. In this study, the guidelines development group comprised of operational managers from PHC clinics/health centres, PHC nurses as well as the researcher and promoters of the current study. The researcher has adopted a facilitation role during the entire guidelines' development process (WHO, 2016:14).

6.2.5.2 Defining the scope of the guidelines

Scoping the guideline refers to the process of defining what the guideline will include and exclude. The scope should describe: the area of practice or policy to which the guideline applies, those whom the recommendations are intended to affect, the actions and interventions of interest as well as the outcomes that may result – both positive and negative. The scope should yield questions that will govern the data search, and help frame likely recommendations. It should ensure that the guidelines are of manageable size and adequately focused. Though

scoping is considered one of the most difficult but important aspects of guideline development, but if one can get the scope right, the guideline should be manageable (WHO, 2016:14).

It is important for the group to agree on the questions/topics to be addressed as this decision will direct the searching and appraisal steps. Wollersheim, Burgers and Grol (2005:189) argued that the more relevant the topic for resolving the problems encountered, the more likely the guidelines will be accepted. Furthermore appropriate topics can be selected by the relevance and prevalence of the problem. However besides scientific aspects, psychosocial, ethical, legal and financial aspects play a role in implementing guidelines. So, a systematic analysis prior to guideline development contributes to its successful application.

The guidelines to facilitate the integration of HIV/AIDS services into PHC were developed in relation to the study objectives which are: exploring the extent of HIV/AIDS services integration into PHC, determining whether the clinic/health centre environments are enabling for the integration of HIV/AIDS services into PHC, to identify the existing guidelines on integration of HIV/AIDS service into PHC, to assess the barriers of HIV/AIDS services integration into PHC in Vhembe District of Limpopo province, South, Africa and to assess the attitude of PHC nurses regarding the integration of HIV/AIDS services into PHC. The development of the guidelines to facilitate the integration of HIV/AIDS services into PHC were developed in the context of the findings of the study as well as the IPHC model.

6.2.5.3 Find the best evidence

The quality and trustworthiness of a guideline is based on the methods used to reduce any bias. Finding and appraising the best and most current evidence is the most important part of guideline development and requires a systematic approach. It is strongly recommended that the process of evidence searching be done with the help of an expert in the area of literature searching. The working group should carefully develop questions they want to be answered and articulate the topics they plan to address in the guideline. In the context of this study, Population, Intervention, Comparator and Outcomes (PICO) approach of formulating the questions was used. PICO refers to four elements that should be in a question governing a systematic search of the evidence:

- **Population**

Population refers to those who are targeted by the action being recommended. The population in this study comprised operational managers and nurses at PHC clinic/healthcare centres where HIV/AIDS services are integrated.

- **Intervention**

Intervention refers to what action is being considered. Intervention in this study refers to the facilitation of the integration of HIV/AIDS services into PHC clinics/health centres.

- **Comparator**

Comparator refers to the alternative choices of action. Despite the fact that the clinic/healthcare centre's environment is not enabling, the integration of HIV/AIDS service into PHC clinics is implemented.

- **Outcomes**

Outcomes refers to the purpose of the guidelines. The purpose of the guidelines is to facilitate the integration of HIV/AIDS services into PHC.

In the context of this study, guidelines group used the PICO questioning method to find the best available evidence on how to facilitate the integration of HIV/AIDS services into PHC.

6.2.5.4 Appraise and collate evidence

The literature search starts by identifying and reviewing existing guidelines and a systematic literature review, searching for scientific evidence, an assessment of its relevance and quality, and the involvement of clinical experts to formulate and prioritise recommendations (Wollersheim, Burgers & Grol, 2005:189).

In this study, the existing guidelines on the integration of HIV/AIDS services were reviewed. Examples of reviewed guidelines include: National consolidated guidelines, Primary care 101 guidelines as well as Operations Manual for Delivery of HIV Prevention, Care and Treatment at Primary Health Centres in High-Prevalence, and Resource-Constrained Settings. A systematic literature review was done to search for scientific evidence about the topic under study. The evidence was found by searching from different data bases; namely science direct, ebscohost, PubMed, emerald and many others. Literature related to the integration of HIV/AIDS services into PHC were reviewed from recent journal articles. The specific questions for this study were:

- To what extent are HIV/AIDS service integrated into PHC?
- Is the clinic/health centre environment enabling to deliver integrated HIV/AIDS service?
- What guidelines are available regarding the integration of HIV/AIDS service into PHC?
- What are the barriers of integrating HIV/AIDS service into PHC?
- What attitudes do nurses have towards the integration of HIV/AIDS service into PHC?

Once the key literature has been identified, the working group reviewed the evidence from the primary literature search and summarize the findings for each topic. It is strongly recommended that a systematic approach be followed to appraise the evidence. When forming recommendations, members of the group should be familiar with and have some training in the grading system chosen. The guidelines development group used the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach to assess the quality of a body of evidence, develop and report recommendations. The guideline development group is very confident that the true effect lies close to that of the estimate of the effect. GRADE categorizes the quality of evidence as high, moderate, low or very low (see table 7.1).

Table 6.1: Significance of the four levels of evidence (WHO, 2015:13)

High	The guideline development group is very confident that the true effect lies close to that of the estimate of the effect	Further research is very unlikely to change confidence in the estimate of effect
Moderate	The guideline development group is moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different	Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate
Low	Confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the true effect	Further research is very likely to have an important impact on confidence in the estimate of effect and is unlikely to change the estimate
Very low	The group has very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of the effect	Any estimate of effect is very uncertain

6.2.5.5 Draft recommendations

Once the evidence has been found and summarised the guideline group drafted the recommendations for each topic. It is important that recommendations are as clear as possible and that it is easy to see the link between the recommendation and the evidence. Research suggests that a formal process of forming conclusions/recommendations is better than an informal consensus process. Recommendations were made based on the findings of the study as well as IPHC model which is the conceptual framework of the study and they are as follows. Recommendation comprised; increasing knowledge of HIV serostatus, accelerating HIV

prevention, accelerating the scale-up of HIV treatment and care, creating of enabling environment for the integration of HIV/AIDS services into PHC, nursing education and training and nursing education and training.

6.2.5.6 Producing the guidelines

Following the Guideline Development Group consultation, the full draft of guidelines to facilitate the integration of HIV/AIDS into PHC were revised and circulated to the Guidelines Development Group for review and comments. All responses were considered and addressed in the final draft.

6.2.5.7 Evaluation of the guidelines

The final step is the overall process of the evaluation of their application, applicability and effects of the developed guidelines. In the context of this study, members of the guideline development group discussed and agreed on using the Appraisal of Guidelines for Research and Evaluation (AGREE) tool to evaluate the guidelines. The guidelines development group adopted the AGREE Reporting Checklist to improve the completeness and transparency of guidelines.

The developed guidelines to facilitate the integration of HIV into PHC were reviewed by the promoter and co-promoters of the study. Comparison with other documents was made and guidelines were sent to PHC clinics and healthcare centres for the evaluation of the guidelines document to check the guidelines for its applicability and effectiveness.

6.2.6 Terminus

Terminus is defined as the end point of the activities/process. Terminus also refers to the desired outcome an agent wishes to attain by implementing a particular procedure.

In this study, terminus of the guidelines to facilitate the integration of HIV/AIDS services into PHC refers to creating an enabling clinics/health centre's environment for effective integration

of HIV/AIDS service into PHC. This is based on the findings of the study which revealed the need for enabling environment and according to the IPHC model, enabling environment is necessary for the success of service integration. The other terminus is the improved quality care at PHC clinics and health centres in Vhembe district of Limpopo province, South Africa

Table 6.2: The structure of the guidelines to facilitate the integration of HIV/AIDS INTO PHC

Title	Guidelines to facilitate HIV/AIDS services integration into PHC
	Guidelines to facilitate the integration of HIV/AIDS services into PHC was compiled by the researcher as a facilitator for the guidelines development as well as the guideline development group which comprises; clinic/healthcare centre's operational managers, PHC nurses as well as the promoters of the study as experts of research
Principal author(s)	Student: Mrs. Tshililo AR Promoter: Prof ML Netshikweta Co-promoter: Dr. LH Nemathaga
Special contributor(s)	Statistician as well as independent coder for this study contributed with data analysis. Research experts in the field of the study also contributed greatly on the methodology for the development of the guideline to facilitate the integration of HIV/AIDS services into PHC. Research directorate funded the research project.
Disclaimer	This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be taken as dictating an exclusive course of treatment or procedure to be followed. Local institutions can dictate amendments to these opinions. Amendments should be well documented if modified at the local level. None of the content may be reproduced in any form without prior written permission.
Abstract o Objective	<ul style="list-style-type: none"> The existing guidelines about the integration of HIV/AIDS service were reviewed. Examples of reviewed guidelines include: National consolidated guidelines, Primary care 101 guideline as well as Operations Manual for

<p>o Options</p> <p>o Outcomes</p>	<p>Delivery of HIV Prevention, Care and Treatment at Primary Health Centres in High-Prevalence, Resource-Constrained Settings. A systematic literature review was done to search for scientific evidence about the topic under study. The specific questions for this study were:</p> <ul style="list-style-type: none"> • To what extent are HIV/AIDS services integrated into PHC? • Is the clinic/health centre environment enabling to deliver integrated HIV/AIDS services? • What guidelines are available regarding the integration of HIV/AIDS service into PHC • What are the barriers of integrating HIV/AIDS services into PHC? • What attitudes do nurses have towards the integration of HIV/AIDS services into PHC? <p>Literature on the barriers of integrating HIV/AIDS services into PHC from other settings; which include national or international were also reviewed to gain more evidence. The study findings revealed that the PHC clinic/health centre's environments are not enabling to integrate HIV/AIDS services into PHC due to insufficient human and material resources, infrastructure (space, transport and equipment) and organisational support. So, guidelines to facilitate the integration of HIV/AIDS services into PHC, guidelines were developed.</p>
<p>Evidence</p>	<p>The evidence was found by searching from different data bases; namely science direct, ebscohost, PubMed, emerald and many others; using appropriate controlled vocabulary and keywords. Literature related to the objectives of the study and IPHC model (the conceptual framework of the study) were reviewed from national or international recent journal articles to gain more evidence.</p>

<p>Benefits, harms and costs</p>	<p>Benefit of the guidelines to facilitate the integration of HIV/AIDS services into PHC are:</p> <p>Appropriate and effective integration of HIV/AIDS services into PHC in Vhembe district of Limpopo province, South Africa.</p> <p>Improved quality patient care at PHC.</p> <p>ARV/treatment adherence will be promoted.</p> <p>Enabling environment may result in successful integration of HIV/AIDS services into PHC.</p> <p>Job satisfaction among PHC team will be ensured.</p> <p>There may be increased uptake of HIV counselling and testing; reducing morbidity and mortality rate amongst people living with HIV.</p> <p>With the guidelines to facilitate the integration of HIV/AIDS service into PHC; no harm was anticipated though it will be costly to recruit and hire more staff as per recommendations.</p>
<p>Validation</p>	<p>The developed guidelines were reviewed by the promoter and the co-promoters of the study. Comparison with other documents was made and guideline sent to PHC clinics and health centres for clinical testing. The reason for clinical testing was to check the guidelines for its applicability and its effectiveness. Relevant elements of guidelines validation were:</p> <ul style="list-style-type: none"> • How well are the guidelines known and applied? Are the recommendations understood? • Does the application of guidelines lead to the objectives anticipated? <p>High-quality guidelines can improve health care, but low-quality guidelines may harm patients.</p> <p>The guideline development group discussed and agreed on using the Appraisal of Guidelines for Research and Evaluation (AGREE) tool to evaluate the guidelines</p>

Sponsors	The researcher together with the working group developed guidelines to facilitate the integration of HIV/AIDS services into PHC. Funding of the project was done by the research directorate of the University of Venda.
Introduction	The aim of these guidelines is to facilitate the integration of HIV/AIDS services into PHC. The integration of HIV/AIDS service into PHC is an important strategy to provide coordinated care for HIV/AIDS and other related health needs such as TB, sexual health as well as maternal and child health. However according to IPHC model PHC clinic and health centres environment must be enabling for successful integration of HIV/AIDS services into PHC. The study findings revealed that the environments at clinics/health centres are not enabling for the integration of HIV/AIDS services into PHC due to insufficient staff, inadequate space as well as insufficient medical equipment hence guidelines to facilitate HIV/AIDS services into PHC was developed.

Main content	<p data-bbox="595 209 1227 403">AGENT: Operational managers from clinics and health centres</p> <p data-bbox="1361 209 1977 403">RECEIPIENTS: Registered and enrolled nurses, Lay counsellors, PLWHIV and their family members.</p> <p data-bbox="595 443 1977 608">CONTEXT: PHC clinics/health centres, policies and WHO national guidelines; SANC regulations and nursing Act no. 33 of 2005, patients right charter, Batho Pele principles and nursing standards. Socio-cultural, economic and political factors of a particular committee.</p> <p data-bbox="595 667 1977 874">DYNAMICS: Insufficient competent PHC team, inadequate infrastructure, delayed transport to transfer patient to hospitals as well as equipment such as Pap smear kits</p> <p data-bbox="595 884 1977 1066">PROCEDURE: WHO steps of developing guidelines were followed including: Establishing guideline groups, defining the scope of the guidelines, find the best evidence, appraise and collate evidence, draft recommendations, producing guidelines and evaluation of guidelines.</p> <p data-bbox="595 1142 1977 1337">TERMINUS: Appropriate and effective integration of HIV/AIDS services into PHC and improved quality patient care at clinics and health centres.</p>
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<p>Conclusion/Summary</p>	<p>To successfully introduce the guidelines to facilitate the integration of HIV/AIDS service into PHC, its development should consider the implementation from the very beginning. This includes attention to the relevance of the topic, credibility and involvement of all relevant stakeholders. Guidelines to facilitate the integration of HIV/AIDS services into normal care processes should be combined with local care procedures at clinics and health centres.</p>
<p>Recommendations</p>	<p>In formulating recommendations the scientific evidence and clinical expertise were brought together. The following issues were considered to ensure application of the guidelines:</p> <ul style="list-style-type: none"> • Nature and strength of the scientific evidence; the balance between the advantages of a given intervention and its disadvantages. • Generalisability and applicability to the target population. • Cost-effectiveness of the proposed intervention. • Achievability of the intervention in terms of required skills, instruments, time, available staff, patients’ preferences and legal or financial limitations. • Opinions, norms and values, and ethical considerations of the target users. <p>Recommendations focused on increasing knowledge of HIV serostatusas, accelerating HIV prevention, accelerating the scale-up of HIV treatment and care as well creating of enabling environment for the integration of HIV/AIDS services into PHC.</p>

6.3 SUMMARY

The study focused on the development of guidelines to facilitate the integration of HIV/AIDS services into PHC. Guidelines to facilitate the integration of HIV/AIDS into PHC were developed using the six elements of practice orientated theory by Dickoff and Wiedenbach as well as WHO steps of guidelines development. Chapter 8 will focus on the conclusions, limitations and recommendations of the study.

CHAPTER 7

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

7.1 INTRODUCTION

In the previous chapters the research design, methodologies employed, findings and discussion of findings were presented, followed by the development of guidelines to facilitate the integration of HIV/AIDS services into PHC. Additionally, the study was established through the review of literature based on the research orientation. The aim of this chapter is to provide an overview of research findings, draw conclusions and recommendations.

The study emanated from the evidence that the Government of South Africa in response to HIV mainly introduced an approach of integrating HIV services into PHC. The aim was to achieve universal access to ART, to increase life expectancy among PLWHIV, to reduce maternal and child mortality rates, to combating HIV and AIDS as well as to decreasing the burden of diseases from TB. Down- referral of stable PLWHIV to PHC clinics/health centres and NIMART were used as strategies to enhance HIV service integration. Despite the government efforts of integrating HIV/AIDS services into PHC, this study revealed that the clinic/health centre environments are not enabling to integrate HIV/AIDS services into PHC. Insufficient number of PHC staff and inadequate infrastructure evidenced as barriers for the successful integration of HIV/AIDS service into PHC. IPHCM as a conceptual framework for the current study, depicted human resources, organizational support, and collaboration as prerequisites for successful integration of HIV/AIDS services into PHC.

It was established from literature that an enabling working environment is critical for effective and efficient delivery of quality service to the clients and patients by the health workers. These include the available of adequate physical infrastructure, sufficient trained health care professionals, updated guidelines, essential drugs, nutritional support, support groups (National HIV/AIDS Division, 2014:5; Crowley & Stellenberg, 2014:6).

The objectives of the study were to:

- Explore the extent of HIV/AIDS services integration into PHC clinics and health centres in Vhembe district of Limpopo province, South Africa.
- Determine whether the clinic environment is enabling to integrate HIV/AIDS services into PHC.
- Identify the existing guidelines on integration of HIV/AIDS services into PHC.
- Assess the barriers of HIV/AIDS services integration into PHC in Vhembe District of Limpopo province, South Africa.
- Explore the attitude of PHC nurses regarding the integration of HIV/AIDS services into PHC.
- To develop guidelines to facilitate the integration of HIV/AIDS services into PHC in Vhembe District of Limpopo province, South Africa.

This chapter presents the conclusions obtained from the results of the study and the recommendations to facilitate the integration of HIV/AIDS services into PHC in Vhembe district of Limpopo province, South Africa. The chapter also clearly stipulates the limitations of the study and concluding remarks.

7.2 OUTLINE OF THE RESEARCH DESIGN AND METHODOLOGY

An exploratory sequential mixed methods design was used to make an in-depth investigation on the integration of HIV/AIDS services into PHC. The qualitative data was collected and analysed before and results for qualitative approach used to build subsequent quantitative phase. Phases were linked by using the qualitative results to shape the quantitative phase; for example specifying the research questions and development of an instrument. Building from the exploratory results from the qualitative phase, the researcher then conducted a second, quantitative phase to test or generalize the initial findings (Burns & Grove, 2010:219). The

purpose of exploratory sequential mixed method design was to test qualitative exploratory results to see if they can be generalized to a sample and a population.

7.3 SUMMARY OF THE RESEARCH FINDINGS

7.3.1 The extent of HIV/AIDS services integration into PHC

HIV/AIDS services are integrated to every existing programme at the PHC clinic and health centres; these include: Immunisation programme, Family planning, PMTCT and ANC programmes, STIs, minor ailments and chronic illness and TB.

7.3.2 Enabling environment for the integration of HIV/AIDS services into PHC

Findings revealed that the environment at PHC clinics and health centres is not enabling to integrate HIV/AIDS services into PHC. These are discussed as follows:

7.3.2.1 Human resources

Shortage of personnel at PHC clinic/health centres evidenced as an obstacle for effective integration of HIV/AIDS services into PHC. Findings revealed that there are situations where two clinical nurse practitioners consult approximately 100 patients per day; which is contrary with the national guidelines which state the ratio of nurse- patient as 1:30. In some clinics, the staff establishment does not correspond with the allocated staff. Government or the Department of Health should increase the number of health care workers for proper integration of HIV services into PHC. This study evidenced that integrating HIV/AIDS services into PHC is coupled with many activities such as; HIV counselling and testing, initiating ARV, adherence counselling, blood taking (CD4, viral load and baseline bloods), ANC booking, pap smear and referral of patients to other multidisciplinary teams. Each activity has its own course and according to the findings of this study, integrating HIV/AIDS services into PHC is time consuming. This increased the workload to the insufficient PHC staff.

Despite the fact that; lay counsellors, social workers, visiting doctors and home based care are available at clinics; PHC clinics/health centres still lack pharmacists to dispense medication as well as psychologists for counselling those clients with psychological problems.

Findings further revealed that some PHC clinic/health centre nurses are not trained for the programmes that are necessary for delivering integrated service. For example most PHC nurses are not PHC and community trained.

7.3.2.2 Infrastructure

- **Space**

Inadequate space hindered the integration of HIV/AIDS services into PHC. Findings of this study evidenced that space for integrating HIV/AIDS services into PHC is inadequate. In some clinics there are only two cubicles for acute ailments, preventative and chronic consultations. With other clinics HIV counselling and testing is done in a post natal room. Vital signs for acute and chronic patients are taken in one station and this causes delays for those who are coming for chronic treatments. Other clinics aspire to have big rooms as they do not have enough space for storing medications nor space for consultation rooms.

- **Equipment**

The findings of this study evidenced that; PHC clinics do not have sufficient equipment for the integration of HIV services into PHC, for example; insufficient Pap smear kits as well as equipment for taking vital signs.

- **Transport**

Findings revealed that PHC nurses face a challenge when referring critically ill patients to hospitals as sometimes they have to wait for approximately 2-3hours for ambulance.

7.3.3 Existing guidelines on integration of HIV/AIDS services into PHC

Nurses at PHC clinics/health centres use national guidelines in the integration of HIV/AIDS services into PHC; for example; National consolidated guidelines on HIV prevention, Diagnosis, treatment and care for Key populations 2016

7.3.4 Barriers of HIV/AIDS services integration into PHC

PHC nurses face some challenges when integrating HIV/AIDS services into PHC. These include:

7.3.4.1 Insufficient consulting rooms

The study findings revealed that out of 217 (100%) respondents, 78 (35.9%) strongly agreed on insufficient consulting rooms as a barrier for the integration of HIV/AIDS services into PHC.

7.3.4.2 Small waiting area

Out of 217 (100%) about 73 (33.6%) of respondents have strongly agreed on a small waiting area as a barrier for the integration of HIV/AIDS services into PHC. This means that some clinics do have small waiting for patients/clients, which exposed them to many infectious diseases like TB.

7.3.4.3 Consulting area not well ventilated

Approximately 62 (28.6%) of respondents strongly agreed that consulting area not well ventilated and respondents that as a barrier for the integration of HIV/AIDS services into PHC.

7.3.4.4 Insufficient staff

Out of 217 (100%) respondents, about 103 (47.5%) strongly agreed that there are insufficient staff at PHC clinics and health centres and according to the respondents of this study, the integration of HIV/AIDS services into PHC is not effective due to insufficient staff..

7.3.4.5 Large number of patients/clients

Approximately 100 (46%) of 217 (100%) respondents, strongly agreed on large number of patients/clients as a barrier for the integration of HIV/AIDS services into PHC.

7.3.5 Attitudes of PHC nurses towards HIV/AIDS services integration

Findings of this study evidenced that PHC nurses have a good attitude towards HIV and AIDS.

7.4 CONCLUSION

The purpose of the current study was to develop guidelines to facilitate the integration of HIV/AIDS services into PHC. The study followed the exploratory sequential design, qualitative research was conducted and analysed first followed by quantitative research

The findings of this study contributed to the body of knowledge as they revealed that the clinics/health centres' environments are not enabling to integrate HIV service into PHC due to insufficient staff with large numbers of patients, inadequate consulting rooms and waiting rooms as well as shortage of equipment. Despite the fact that the environments at clinics/health centres are not enabling to integrate HIV service into PHC, the study revealed that HIV/AIDS services are integrated into all the existing PHC programmes at the clinics and health centres.

The study findings further revealed that PHC nurses have positive attitude towards the integration of HIV/AIDS services into PHC.

The findings of the study have suggestion on policy development and implementation, institutional management and practice, nursing education and further research. It is also suggested that the relevant stakeholders should discuss the recommendation of the study in order to address the critical issues presented

7.5 LIMITATIONS

The study included operational managers and PHC nurses as participants of the study; the study should have included lay counsellors as well as patients who are also the recipients of the developed guidelines to facilitate the integration of HIV services into PHC, in order to obtain a different perspective of the phenomenon under study. Furthermore, the study was conducted only at the clinics/health centres in Vhembe district of Limpopo province and cannot be generalised.

7.6 RECOMMENDATIONS

The recommendations were made based on the findings of the study and the IPHC model (the conceptual framework of the study) and such recommendations comprise; increasing knowledge of HIV serostatus, accelerating HIV prevention, accelerating the scale-up of HIV treatment and care, creating of enabling environment for the integration of HIV/AIDS services into PHC, nursing education and training and nursing education and training.

7.6.1 Increasing knowledge of HIV serostatus

The findings of this study revealed that some patient refuse to be tested and some pregnant women refuse HIV counselling and testing because they are not accepting their pregnancies. The following recommendation were made:

- health care providers should increase knowledge of HIV serostatus by recommending provider-initiated testing and counselling (PITC) routinely to persons attending health care facilities as a standard component of medical care through:
 - family and partner testing and counselling
 - PITC during early antenatal care, labour, and post-partum period;

- infant and child HIV testing and Counselling;
- PITC in reproductive health services including family planning;

7.6.2 Accelerating HIV prevention

The study findings revealed that some patients do not want to disclose their HIV status to their relatives fearing that they would be rejected by their family members and this impact on increased HIV transmission. The following recommendation were made:

- Health workers should encourage and provide support to PLWHIV to disclose their status to their partners as well counselling on the possibility of HIV transmission while on ART.
- Prevention of HIV infection among PLHIV should be strongly emphasized during each and every visit to the clinic or health centre.

7.6.3 Accelerating the scale-up of HIV treatment and care

Findings of this study revealed that some patients do not adhere to their scheduled treatments and appointment, so the following recommendations were made:

- Health care providers should ensure treatment preparedness before initiation of ARVs as well as adherence support for people on antiretroviral therapy through patient monitoring and adherence counseling.

7.6.4 Creating of enabling environment for the integration of HIV/AIDS services into PHC

According to the IPHC model (the conceptual framework of the current study), enabling environments for clinics and health centres are required for the successful integration of HIV/AIDS services into PHC and these include are human resources, organisational support, and collaboration.

7.6.4.1 Human resource

○ Availability

The study findings revealed that there are shortage of staff, particularly nurses at the clinics and health centres and that affects the integration of HIV/AIDS services into PHC. The following recommendations were made:

- ✓ Operational managers should contact the district health office to acquire the positions assigned to their clinics.
- ✓ Job descriptions for each position assigned to clinic should be set.
- ✓ PHC managers should learn how the local hiring process works and advocating for their PHC team, and should pursue alternative hiring procedures when necessary.
- ✓ PHC managers should contact the district health office and request to be on the selection committee.
- ✓ PHC managers should communicate regularly with the local recruiting authorities so that they know of upcoming changes that could affect staffing of positions at their clinics.
- ✓ PHC managers should recruit lay counsellors for their clinics, including PLWHIV.
- ✓ Lay counsellors should be trained to do a range of tasks including helping with triage, taking patients' vital signs and pulling their charts, data keeping, treatment adherence counselling, treatment literacy and education.
- ✓ PHC managers should request the district health office to hire support staff such as; pharmacists and psychologists for the clinics.
- ✓ There must be a clear policy on human resources that will include strategies for dealing with the migration of health staff to developed countries as well as the retention strategies.

○ Competencies

This study revealed that there is shortage of qualified professional nurses in the Vhembe district, some nurses were assigned at the PHC facilities without the required qualifications e.g. Primary Health care Nurses which is significantly required for the PHC allocation. The study revealed the need for ongoing training related to the service integration to ensure competent

and skilled nurses. Based on IPHC model, the study recommend training to provide basic primary care services, HIV prevention, care, and treatment to all PHC staff. For the success of HIV service training at PHC clinic/health centres the following training is recommended:

- ✓ It is important that health workers be able to respond to the specific needs of patients and provide quality services, know what interventions, tools and materials are available to provide information, can advise on HIV risk reduction strategies, and know how to support treatment adherence and retention in care.
- ✓ Health care workers should receive appropriate recurrent training and sensitization to ensure that they have the skills and understanding to provide services for adults and adolescents based on all persons' right to health, confidentiality and non-discrimination.
- ✓ PHC nurses should have appropriate knowledge and skills in order to provide comprehensive health care services

○ **Responsiveness**

According to the IPHC model, effective integration of HIV/AIDS into PHC requires that health care providers have positive attitude towards users. However, findings revealed that some nurses have negative attitudes towards the integration of HIV/AIDS services integration into PHC. The recommendations are as follows:

- ✓ Healthcare providers working with HIV positive adults or adolescents should be non-judgemental, supportive, responsive and respectful and should understand the issues that people from key populations face.
- ✓ Training, with the involvement of patient's representatives and groups, can be developed to sensitize and educate health workers on issues specific to patients, non-discriminatory attitudes and practices, and key populations' right to health, confidentiality, non-coercive care and informed consent.

7.6.4.2 Organizational support

The findings of this study revealed that the space at the clinics/health centres is inadequate with insufficient consulting rooms, small waiting area and consulting rooms not well ventilated. The

current study recommended the following for the successful integration of HIV/AIDS services into PHC:

- ✓ Planning for adequate space for HIV/AIDS service integration into PHC should accommodate the reality of existing basic clinical services.
- ✓ Additional space for storing HIV related drugs and supplies should be available.
- ✓ Policies for HIV/AIDS services need to be reviewed in order to inform the structuring of an environment that enables the integration of HIV/AIDS services into PHC

7.6.5 Nursing education and training

PHC in South Africa is nurse-based. In response to increased burden of the disease and a growing population, the training of sufficient numbers of nurses with appropriate skills must be a human resource priority. Therefore, the current study recommends an expanded role of schools, colleges and university programmes of nursing education in developing continuing professional education in integrated primary health care services (IPHC). There is a need to develop basic educational experiences in IPHC so that new graduates understand IPHC and their roles and how to function in these settings.

7.6.6 Further research

This study revealed that the clinic/health centre environments are not enabling to integrate HIV/AIDS services into PHC; the researcher therefore recommends that future research be conducted on the impact and feasibility of HIV/AIDS services integration into PHC.

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ANNEXURE A

LETTER REQUESTING PERMISSION FROM THE LIMPOPO PROVINCE DEPARTMENT OF HEALTH ETHICAL COMMITTEE TO CONDUCT THE STUDY

University of Venda
P/Bag X5050
Thohoyandou
0950
18 March 2014

The Head of Department
Department of Health and Welfare
P/Bag x 9302
Polokwane
0700

Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

I **Tshililo Azwidihwi Rose**, request to conduct study, am presently doing a PhD degree at the University of Venda, and am engaged in a research study entitled: **Guidelines to facilitate the implementation of integration of HIV/AIDS services into primary health care in Vhembe district of Limpopo province, South Africa**

The study is conducted under the supervision of Professor Netshikweta ML and Dr. Nemathaga of the Department of Advanced Nursing Science in the School of Health Sciences.

The Ethics Committee of the University of Venda has approved the study.

The objectives of the study are to:

- To explore the extent at which the existing HIV/AIDS services integration implemented into PHC clinics and health care centres in Vhembe district of Limpopo province, South Africa?
- To evaluate the existing guidelines on integration of HIV/AIDS services into PHC.
 - To identify and describe the available programmes that PHC nurses provide to HIV/AIDS patients in Vhembe district of Limpopo province, South Africa

- To assess the barriers on implementation of the of HIV/AIDS services integration into PHC in Limpopo province, South Africa.
- To assess the attitude of PHC nurses regarding the integration of HIV/AIDS services into PHC.
- To develop guidelines to facilitate the implementation of integration of HIV/AIDS services into PHC in Vhembe District of Limpopo province, South Africa.

The name and dignity of each participant will be preserved by observing the following ethical standards throughout the research process:

- Voluntary participation and freedom to withdraw without a penalty.
- Informed consent
- Names of the participants and their community will not be mentioned during discussions.
- Raw materials will be kept under lock and key to ensure confidentiality.
- Information related to the interview will only be accessible to my supervisor and the independent coder.
- Field notes will be destroyed and audiotapes will be erased as soon as possible.
- The summary of the research will be made available to participants if they wish.

Should there be issues that you want to be clarified, I am more than willing to address them to your satisfaction.

I look forward to your positive response.

Yours sincerely

Tshililo AR

ANNEXURE B INFORMED CONSENT

I -----on this day -----of --
----- hereby consent to:

1. Being interviewed by ----- on the topic entitled:
“Guidelines to facilitate the implementation of integration of HIV/AIDS services into primary health care in Vhembe district of Limpopo province, South Africa”
2. Follow-up interviews if necessary
3. Audio-taped interviews
4. Use of data derived from the interviews by the interviewer in a research report as deems appropriate.

I also understand that:

1. I am free to end my involvement or to recall my consent to participate in this research at any time.
2. Information given up to the point of my termination of participation could however still be used by the researcher.
3. The researcher grants anonymity and that data will under no circumstances be reported in such a way as to reveal my identity.
4. More than one interview might be necessary.
5. The researcher will make no reimbursement for information given on my participation in this study.

Signature of the participant

ANNEXURE C INTERVIEW TRANSCRIPT

Researcher: Afternoon

Participant: Afternoon

Researcher: How are you?

Participant: Fine and you

Researcher: I'm okay, I am Mrs. Tshililo and I am here to investigate about the integration of HIV/AIDS services into PHC. So, my first question will be: to what extent do you integrate HIV/AIDS services into PHC?

Participant: Okay, to answer your first question of to what extent do we integrate HIV/AIDS into PHC. In our clinic we have several services which is, if the patient come at the clinic for any services; we integrate it with HIV. We have services like family planning; every woman who come to the clinic for family planning; before we give the service, we first counsel for HIV/AIDS to check if the woman is infected or not. If the woman is infected, we give treatment. The other service is TB; everyone who is diagnosed TB we have to check HIV; counsel, test and treat because HIV and TB go hand in hand. If the patient is having TB and on the other he is HIV, it lowers the immune system; so, we have to check if the patient is having TB we have to check whether the patient is having TB together with HIV in order to treat. Because if the patient is having TB and HIV; we treat TB for two weeks; we give treatment for two weeks before we initiate ARV.

Researcher: Okay, you treat TB first?

Participant: Yes

Researcher: For two weeks?

Participant: Yes , According to the new guideline which has passed on 1st September 2016; if the patient is co-infected; which means having TB and HIV; then we have to take viral load; if the viral load is less than 50, ya, if the viral load is less than 50; we fast track then we give TB treatment in two weeks. If the viral load is more than 50 then we initiate TB

treatment first then we give ARV after two months which is 8 weeks; that is according to the new guideline.

Researcher: Okay, you are saying if the viral load is less than 50...

Participant: No, not viral load; CD4 count

Researcher Okay

Participant: If CD4 is less than 50; then we put patient on TB treatment

Researcher Same day

Participant: Yes, same day

Researcher: After the results?

Participant: Yes and then we initiate ARV after two weeks and if CD4 cell count is above 50 then we put patient on TB treatment then we initiate after two months

Researcher: Hoo, it depend on the amount of CD4?

Participant: Yes

Researcher: Okay, but you are still applying the old one or you have already started with the new guideline

Participant: Yes, we have already started with the new one.

Researcher: Okay

Participant: Another service is ANC; every woman who is coming to book ANC then we counsel for HIV under the programme PMTCT, which is the prevention of mother to child transmission. If the woman; after testing we find that is HIV positive then we give ARV on the same day. We take CD4 count and blood for baseline then we advise the patient to come after seven days for results

Researcher: Okay

Participant: After seven days we check baseline results; if there are abnormalities on the baseline blood, is then that we sit down with the patient and check which treatment is suitable for that woman

Researcher: The ARV?

Participant: Yes

Researcher So, with base line blood what do you take?

Participant: Okay, with base line blood; we check U&E, ALT, FBC and HB

Researcher: Can you explain to me as to what happens if it leads to changing of treatment

Participant: According to new guideline on the first day when we diagnose or when we test positive then we give FDC on the first day

Researcher: FDC?

Participant: Yes and after that we take that bloods; if the result come back and found that there is a problem then we change FDC; on that baseline blood we, check HB. If the patient is having low HB; that patient should not be put on AZT.

Researcher: Okay

Participant: Because AZT has a tendency of lowering HB and the patient is having psychiatric condition, we are not supposed to put that patient on efavirenz

Researcher: Okay AZT and Tenofovir, are they combined on FDC?

Participant: Yes they are combined on FDC

Researcher: Okay

Participant: That's why we take bloods for baseline and if the patient does have renal problem; then we change FDC because it does contain Tenofovir

Researcher: Okay, come again; you said ...

Participant: If the patient is having problems with kidneys; because TDF does have Tenofovir; which cause a problem in the kidneys then we take the patient out of TDF; is either we can put the patient on AZT

Researcher: So, when the patient experience this problems, low HB, psych and renal problem it means that you move patient from FDC

Participant: FDC, is either we can go for AZT which is the other ART regimen

Researcher: Okay I do understand now

Participant: Also child health services, every woman who is bringing child for immunization; we use to test; we use to offer this service; this HIV counselling and testing

Researcher: Do you offer counselling to the mother?

Participant: Yes

Researcher: Then, you test the mother, not the child

Participant: Yes and it happens that the mother is HIV positive; we put her on FDC on the same day; just because the mother is breast feeding

Researcher: Okay

Participant: Yes in order to prevent the child from getting HIV, we put the mother on FDC; the same day

Researcher: Does it mean that you do this to the mothers who are still breast feeding or even if the mother is not breast feeding?

Participant: Any one

Researcher: Okay, anyone you just initiate same day?

Participant: Yes

Researcher: Okay

Participant: Even other medical condition; everyone who come to the clinic for any services; we offer HIV testing and counseling. If we test and the client is HIV positive; we take CD4 and baseline blood; previously we use to take CD4 count and the CD4 count is less than 500 is then that we initiate patient on treatment. Right now from the first of September, we are using the revised new guidelines which indicate that everyone who if tested positive she should be put on treatment

Researcher: Same day?

Participant: No, not same day; we are no longer checking CD4 count; whether CD4 count is less than 500 or above 500; we initiate.

Researcher: Okay, have you already started with this?

Participant: Yes

Researcher: Everyone who comes is initiated?

Participant: Yes, but we first take baseline

Researcher: So, who is responsible for counseling and testing?

Participant: We have the lay counselor, clinical practitioner and staff nurses

Researcher: Even staff nurses?

Participant: Yes

Researcher: Okay, it means that everyone a counselor and a nurse; everyone do the counseling and testing then if the lay counselor do counseling and testing and the results is positive so, where do you go now

Participant: Okay, if the counselor test a client and the client test positive; she refer the client to the clinical nurse practitioner

Researcher: So, they are no longer called the professional nurse; they are called the...

Participant: Clinical nurse practitioner

Researcher: Okay, then the clinical nurse practitioner will...

Participant: Will take blood for CD4 count and baseline and also do adherence counseling and put patient on treatments. The patient is ready for treatment

Researcher: What do you cover when you do adherence counseling?

Participant: When we offer adherence counseling to patient we are preparing patients for the treatment because isn't ART is a lifelong treatment; so we have to prepare patient; before we put him/her treatment to avoid those people who are stopping treatment unnecessary. If it happens that the patient stops treatment it gives us problems and it also gives problem to the patient because when the patient comes back again for re-treatment; we are not supposed to

put the patient on treatment immediately. If the patient for an example stop treatment and comes back may be after three months or more then we put that patient on Bactrim for three months.

Researcher: Without initiating?

Participant: Yes, to prepare the body

Researcher: Okay

Participant: Because if we can put that patient on ART without preparing the body that ART can destroy that person

Researcher: Okay, but how is the statistic for those who just stop the treatment and come back after three months

Participant: in our facility, we don't have many people who are not adhering to treatment; I can say +- 5%

Researcher: 5%?

Participant: Ya 5%

Researcher: Then you are supposed to put that person on Bactrim for how long

Participant: For three months

Researcher: Okay for three months; then after that?

Participant: Then we re-initiate using FDC

Researcher: So you said; you also do this adherence counseling; then after you initiate do they adhere

Participant: Yes they do adhere

Researcher: How do you monitor; as to whether they adhere?

Participant: Isn't we give treatment for a months each and every moths; each and every months we give date to come back for treatment; then he/she bring the treatment. We do pill count to check whether the patient was using treatment and after six months we take bloods to check viral load; if viral load is suppressed it shows that the patient was adhering to

treatment but if the viral load is not suppressing; it gives us clue that the patient was not adhering to treatment

Researcher: Okay, so you spoke of the ANC mothers; when the ANC mother comes for booking. When do they book; after how many weeks are they supposed to book?

Participant: According to the guideline, it indicate that the same day the woman realized that she missed the period; she must come for booking even if it is one month; we encourage them to book before twenty weeks

Researcher: Twenty weeks

Participant: Yes

Researcher: Is there no way that may be the ANC mother may refuse to be tested?

Participant: We don't have problem with them; everyone is undergone PMTCT; counseling and testing then no one refuse

Researcher: Okay, you can proceed

Participant: I think under question one I have answered everything

Researcher: I want to ask about adolescents; those whom you find that they are HIV positive because they got it from their parents; how are they when you look at their lifestyle and everything?

Participant: Mm..., those adolescence who acquired this virus from their parent which called vertical; some of them is difficult for them to accept; isn't that you can find that they started treatment when they are still young not knowing exactly what is going on but as time goes on we have to sit down with the adolescent concern and the parent in order to tell him or her why is he or she is taking ARV. Is then that you can find that immediately when you explain to this treatment that you are this treatment just because you are having virus in your blood. Then he/she will start asking questions, what happened and by that you can see the patient/adolescent start to behave awkward; it needs us to give ourselves time with those people in order to make them understand they can live longer when using treatment. Is not

Researcher: Okay, do you have many in your clinic

Participant: Yes they are many

Researcher: But they are coping?

Participant: Ya, after some counseling; because we use to do on-going counselling. Every time when they come for treatment we sit with them trying to do on-going counselling

Researcher: On-going counselling

Participant: Yes

Researcher: Is this ongoing counselling helping them

Participant: Yes

Researcher: They also change their lifestyle

Participant: Yes

Researcher: You said they are many; how many if I may ask

Participant: Mm..., in our clinic they are more than twenty

Researcher: More than twenty?

Participant: Yes

Researcher: Yo, they are many

Participant: Ya

Researcher: And are they still in secondary schools or are they at tertiary

Participant: Others are in secondary, others are in tertiary while other are primary

Researcher: Yo, primary?

Participant: Yes

Researcher: Because I was just taking that; may be after the introduction of PMTCT may be we don't have anyone who could be born with PCR positive

Participant: We are still having some few cases of PCR positive; may be just because those women when they are tested HIV positive; they use not to adhere to treatment and by failing to adhere to treatment it causes problems after delivery; that's where we get PCR positive

which is not supposed to be like that. That is why we are trying by all means to curb that problem

Researcher: So tell me if may be ANC mother tested negative during the booking, when do you repeat the test?

Participant: According to the new guideline; the new guidelines which we are supposed to use now; previously, we use to test at booking, 32 weeks and 38 weeks; now we have a new guideline which indicate that each and every 6 weeks we should re-test

Researcher: Every 6 weeks?

Participant Yes

Researcher: Okay

Participant: The other one which is in use now; indicate that each and every visit we have to test

Researcher: If the initial one was negative

Participant: Yes

Researcher: So if is positive what do you do after delivery to the child?

Participant: Then we take PCR at birth

Researcher: At birth?

Participant: Then we take PCR at 10 weeks

Researcher: At birth, 10

Participant: At Birth, 10 weeks and 18 months

Researcher: 18 months

Participant: Yes, we use to do like that; but now according to the new guideline; we are supposed to test HIV exposed baby every time when the baby comes for immunization

Researcher: Okay

Participant: Which means is 6 weeks, 10 weeks, and 14 weeks

Researcher: Each time?

Participant: Every time

Researcher: Ya, then you said after that; when you do; if the mother is on PMTCT; when you do PCR; how is the statistic for PCR positive

Participant: We don't have much PCR positive in our clinic; maybe we can have one PCR positive after a while; in a year we can have one PCR

Researcher: Okay, so what happen is tested HIV positive, and the woman is married; how do you do it do the husband come as well or they do not disclose?

Participant: Eish, ya we still having a challenge when it comes to disclose; some of the women or ANC mothers who are tested positive is difficulty for them to disclose while others do not have problems

Researcher: Mm..., what are their reasons for not disclosing?

Participant: Some are afraid to be expelled from their marriage and that is the main reason

Researcher: So, how do you deal with that problem?

P: With the problem like that one, then we use to empower those women; if they are failing to disclose ; we encourage them to come back with their husband ; then we sit down with them then she disclose in our for example in my present. If the woman disclose the status, and the husband shows strange behavior then we intervene

Researcher: Okay

Participant: Ya, to make him understand

Researcher: Is that strategy working?

Participant: Ya, it's working

Researcher: It's working; so when you are you said you are doing this HIV counseling and testing to everyone who come to the clinic; so, how is the statistic I mean when you compare males and female who are most willing to be tested?

Participant: Women

Researcher: Males are difficulty

Participant: Very, very difficulty

Researcher: And another thing with the woman isn't that they are supposed to also be done Pap smear; I just want to know is you also do it at this clinic

Participant: Yes, we do Pap smear always

Researcher: To all women?

Participant: All woman who are above thirty

Researcher: Okay, how often?

Participant: Previously if we do Pap smear; this year and found that there is no problems; we advise to come after ten years; but now is different. Every women who is having HIV supposed to be done Pap smear yearly and non-HIV is every three years

Researcher: Okay, do you manage to do Pap smear to all these patients who are HIV positive?

Participant: Ya, we are trying our level best; isn't that according to guideline, we are supposed to adhere, every women who is HIV positive are supposed to be done Pap smear

Researcher: Because as you were deliberating on this; I realize that is like this; especially when you are dealing with the ANC mothers who is coming for booking; it means that you must also do the things for booking as well as HIV counseling and testing and initiating

Participant: Yes, together with Pap smear

Researcher: Pap smear is also done to ANC mothers?

Participant: Yes, at booking

Researcher: At booking, so, how long does it take maybe for one ANC mother?

Participant: Yes is time consuming; is ± 45 minutes to one hour

Researcher: With one patient?

Participant: With one patient

Researcher: It will now depend on how many patients are seen per day

Participant: Yes

Researcher: But all in all how many patient do you see per day

Participant: Mm..., you mean the whole facility? Or one clinical practitioner

Researcher: The whole facility

Participant: The whole facility? ± 100

Researcher: How many professional nurses?

Participant: Mm..., in our shift we are two;

Researcher: Two

Participant: In other shift they are three; which means we are five

Researcher: And how many cubicles?

Participant: We have three cubicles

Researcher: So, it means that when you are two; the other cubicle is not working?

Participant: Yes

Researcher: So, is it not a challenge?

Participant: Ya, it is a challenge

Researcher: Because, I look at your number of patients that you are seeing and the workload when you are trying to explain; I can see that others are time consuming and everything

Participant: Ya, we are having a challenge of personnel; even though we are not supposed to say, to raise the issue of staff; people don't believe on that

Researcher: They don't

Participant: They don't believe when we say we are short staffed and everything; even though we are two we are expected to give more than 100%

Researcher: Who is not believing on that; the management

Participant: Ya, the management; because according to the staff establishment; we are not supposed to be five, we are supposed to be..., because there are four post which are vacant

Researcher: Yo, it means that you were supposed to be nine

Participant: Yes, we were supposed to be nine

Researcher: Are including also the operational manager?

Participant: No

Researcher: Okay; it is like now we are answering the second question which says: is this clinic enabling to integrate; maybe you can move to it

Participant: Okay, when we come to the second question which says: is the clinic environment enabling to deliver HIV integrated service; we are having some challenges even though we are trying to address that problem. We have shortage of personnel as we have already indicated that we are short staffed; because if you can find two clinical nurse practitioner consulting patients who are ± 100 per day

Researcher: It means is 50/50

Participant: 50/50, and according to the guideline and other policies that I have seen; in order to give a proper service to a client in a day we are supposed to consult \pm patient per day

Researcher: Per one clinical, you said what...? I 'm not used to this word

Participant: Clinical nurse practitioner

Researcher: Hoo, clinical nurse practitioner, okay it should be 30 at least

Participant: Ya

Researcher: Okay 30 patient per 1 nurse so you are saying they are 100 and you are 2 it mean that the ration is not good

Participant: Yes

Researcher: Okay

Participant: We have so many services

Researcher: Many services? It means that the workload is high

Participant: The workload is high; if the government or the department can be able to increase personnel; it would be very, very simple for us to give proper service to our clients. Then other challenge is infrastructure

Researcher: Okay

Participant: Now that we are having this new building they are trying to address this type of problem, because in this new building; we are having four cubicles

Researcher: four cubicles?

Participant: Yes, one cubicle we are using as vital signs station, the other cubicle is for emergency only

Researcher: Only

Participant: Yes, we are not supposed to use it for consultation because according to IDEAL clinic, we are supposed to use that room for emergency only. It does have emergency equipment only: emergency drugs; we are not supposed to use as the room for consultation. These two cubicles we are using them for consultation; and on that two cubicles, the other one is used by the doctor; we have a doctor who is visiting our clinic three times a week

Researcher: Three times

Participant: Yes

Researcher: Okay

Participant: If the doctor is around, which means we are using one cubicle for consultation because the other cubicle would be used by the doctor

Researcher: And the doctor must have the clinical nurse practitioner?

Participant: Yes, who assisting him

Researcher: And it means if you are two; then one will be left for consultation?

Participant: Yes

Researcher: Yo, okay

Participant: It is a challenge

Researcher: So, it means the other room is for emergency, these two for consultation

Participant: The other one is for vital signs

Researcher: Hoo, vital signs

Participant: Yes

Researcher: And from these two, one is also utilized by the doctor?

Participant: Yes, by the Doctor

Researcher: Okay

Participant: On the old building we are having one room which is operational manager's office

Researcher: Mm

Participant: The other room, we use that room for files

Researcher: Files, okay

Participant: And we have post natal; we also have labour ward and we also have prevention room; isn't that according to IDEAL clinic; we use streams

Researcher: Okay, what is this IDEAL CLINIC?

Participant: IDEAL clinic is a new programme; which we are supposed to use it in order to treat our clients, it uses streams

Researcher: Streams, in which way?

Participant: We have ± 4 streams; the other one is chronic, the other one is acute, preventive and that one for emergency

Researcher: They are four?

Participant: Yes

Researcher: Okay

Participant: Each and every client is supposed to go; for example if the patient comes here for chronic treatment; that patient should go for chronic consultation; and the patient comes maybe having a medical condition or minor ailment; that patient should go acute and if the patient comes for preventive like family planning, immunization and something like that should go for preventive

Researcher: Okay

Participant: We have room for preventive and if the patient come to the clinic for; for example family planning should not come to acute room which is for minor ailment and medical conditions

Researcher: Who is supposed to be in all those rooms; acute, chronic, preventative and emergency?

Participant: Acute; the person who supposed to work on acute, is clinical nurse practitioner and we use that clinical nurse practitioner who is having PHC

Researcher: Okay

Participant: Ya

Researcher: So, do you have any clinical nurse practitioner who do not have PHC?

Participant: Yes, out of five; we have two who is PHC trained

Researcher: Okay, this three they are not trained

Participant: They are not yet trained

Researcher: So, how do you do because it means that from each shift you have one with PHC?

Participant: We have one who is PHC trained; but even those who are not PHC trained; they consult patient

Researcher: So, don't you think that this could hamper the quality of care

Participant: Isn't if they face challenges the consult

Researcher: Hoo, they consult

Participant: Yes

Researcher: So, you spoke of the Lay counselor, where are their rooms?

Participant: Due to infrastructure problems, she use to counsel people at post natal ward and if we have a woman who is post-delivery, isn't we are supposed to admit her before we discharge her; then she is facing a challenge

Researcher: Ya, with the post-natal mothers she is discharged after how many hours?

Participant: After 6 -8 hours

Researcher: 6-8 hours

Participant: Yes

Researcher: So, what happen if there is a post natal mother and the lay counselor wants to counsel the client?

Participant: If there is a post natal mother in the post natal ward then she uses operational manager's office and sometimes use that one for emergency

Researcher: Which is not allowed, just imagine if the emergency comes and there is some body there, the Lay Counselor is busy doing this sensitive issue in counselling

Participant: It's a problem, especially if the patient is newly diagnosed HIV positive; while the Lay counselor is busy doing post-counseling then if the emergency comes; so, it's a challenge

Researcher: Ya, okay, and what else under whether the clinic is enabling?

Participant: Equipment; even though we are having the new building; which is fully equipped, this new building is fully equipped that are necessary for consultation for the patients; but sometimes we face some challenges with equipment; like this; this is a weighing machine, is no longer working

Researcher: Why

Participant: Mm..., I can't tell but we try to switch it on, it does not work. We do have equipment but not working

Researcher: So, how do you do it without a scale?

Participant: Okay, this new building, is composed of four cubicles; each cubicle have weighing machine, stethoscope; I can say this new building is fully equipped

Researcher: Only that some of the equipment are not working

Participant: Yes

Researcher: It means you have to move to weigh the patient

Participant: Yes

Researcher: Okay, and what else?

Participant: Support, under support I'm going to talk about support to the staff or personnel and support to clients. Support for clients we do have support group, especially for those who are HIV. We have support groups where we gather people, sit down and discuss about the challenges in order to support each other to continue or adhere with the treatment and its helping.

Researcher: It's helping?

Participant: Yes, because defaulter rate in this clinic is very low

Researcher: very low?

Participant: Yes, very low

Researcher: Okay because of that support

Participant: Ya, we also have support group for chronic; example HPT and DM

Researcher: So, where do they meet?

Participant: Ya, we check the numbers; if they come in numbers; we use the space behind the clinic; we use to sit there and give health education and after that we do some exercises and we have football club for chronic patients. All this days they use to play football

Researcher: and it's working

Participant: Yes it is working; a lot

Researcher: How often do they meet; I mean the support group?

Participant: monthly

Researcher: How many support group do you have?

Participant: We have two; we have one for chronic patients and one for HIV patient

Researcher: They all meet monthly?

Participant: Yes

Researcher: On different days?

Participant: Yes

Researcher: Ok

Participant: Support for personnel, we do have support from local areas and from district

Researcher: Okay

Participant: They support us regularly to give us strength so that we can continue giving more than 100% to our clients

Researcher: Okay

Participant: Because we face so many challenges which can hinder services to our clients; which needs support from our management; they are trying their level best

Researcher: They are trying; so, with the challenge; you are referring to the shortage of staff

Participant: Yes, isn't that even though we are two professional nurses, one professional or clinical nurse practitioner use to give 24 hour service

Researcher: Okay, So, how is the statistic for delivery

Participant: In a month, we can deliver more than 10

Researcher: More than 10?

Participant: Yes

Researcher: Okay, and what else?

Participant: Medication, especially ARV's; we do have medication; our clients do not have problems related to shortage of medication. We have medication, because they said we should have 2 weeks stock in hand

Researcher: Okay, it means even you even order, you have enough. So, how often do they collect their ARV?

Participant: Monthly, but we do have people who are working far away like in Johannesburg; we have patients who are working in jo'burg but they collect treatment here. So, we use to give them treatment for 6 months; isn't they are supposed to come for check-up each and every 6 months

Researcher: Okay, so when they come; you also give them treatment for 6 months

Participant: Yes and also taking blood for viral load

Researcher: So, what is the problem if they are working; is it not possible for them to collect ARV there

Participant: Ya, it is possible; isn't that they will tell you that "no I just want to collect my treatment in this District

Researcher: At home?

Participant: Yes at home and isn't that there is an issue of CCMDD; is a programme

Researcher: CC...?

Participant: CCMDD, is a programme which we are supposed to take all HIV patient who are collecting treatment here; collect their treatment at pick-up points

Researcher: Okay, who are those?

Participant: We have Mukula medical Centre next to Shoprite there is our pick-up point there, so, those people who are HIV positive; who are on treatment for 6 months; whose viral load is suppressed; we are putting them on CCMDD and they are going to collect treatment at pick-up points

Researcher: Who is giving them treatment at pick-up points?

Participant: Those people who are working at medical Centre, it's a tender

Researcher: Hoo, is a tender

Participant: Yes

Researcher: Okay

Participant: They are trying to avoid cues

Researcher: So, are they only for HIV?

Participant: No, for now also for chronic

Researcher: Other chronic?

Participant: Yes

Researcher: Okay, when did they started

Participant: For HIV, we started year before last; the other chronic we started last year

Researcher: So, is it working?

Participant: Yes it is working; even though we do have some challenges with old ladies; they don't understand. Isn't if you put her on CCMDD; they are not supposed to queue. When she arrive at the clinic, she should tell the nurse that she got SMS which indicate that I must come and collect my treatment; that patient should not undergo any vital signs; she will come and collect treatment and go

Researcher: So, how many pick-up points?

Participant: Around here is one

Researcher: Ok is it only for this clinic or for other clinic around?

Participant: I'm not show; but I think that one is for mukula and William eadie

Researcher: Okay, you send them to pick-up points after six months

Participant: Yes, after six months

Researcher: And their viral load is suppresses

Participant: Is suppressed; those whom their viral load is not suppressed; we treat them at the clinic

Researcher: So, if the viral load is not suppressed; how often do you take viral load?

Participant: We take after three months

Researcher: After three months; so, if is not suppressing, what do you do?

Participant: If it is not suppressing then we suspect virological failure and in that case; we refer the patient to the Hospital

Researcher: Okay, but are they many those whose viral is not suppressed?

Participant: No, we don't have anyone

Researcher: Okay, and what else

Participant: I think under this question, we are done

Researcher: So, how is the attitude for the staff HIV/AIDS service integration?

Participant: Now the attitude is good towards HIV/AIDS service integration; before it was not good; because clients were grumbling; they were grumbling in such a way that they promise not to come back for treatment collection. Especially when it comes to the issue of stigmatization; some nurses use to take it for granted that they can even take treatment and give the patient whilst the patient is on the queue

Researcher: And while others are observing; then the issue of stigma was the biggest problem to patients but right now is better because we sit down with our staff and educate them as they know that everyone who come to the clinic should be treated with dignity. So you said how many times does the doctor come to the clinic?

Participant: Thrice

Researcher: Thrice a week?

Participant: Yes

Researcher: Okay, I think we covered almost everything except of the guidelines that you have regarding HIV/AIDS service integration

Participant: We have clinical guideline, which is the prevention of mother to child transmission: PMTCT. The second one is guideline for management of HIV in children, the third one is management of HIV in adolescents and adult

Researcher: Okay

Participant: Ya

Researcher: These guidelines are available in each and every cubicle?

Participant: No, we have only three

Researcher: So, if there is something that I am not show of it means that I have to move to the other cubicles

Participant: Yes

Researcher: Okay, where do you get those guidelines?

Participant: We get them from the department; from those people who are responsible for HIV/AIDS programme

Researcher: Okay, so if you are done with the things that I have asked; I just want to thank you. Thank you very much for the information and for your time

Participant: Thanks

ANNEXURE D

QUESTIONNAIRE

SECTION A - SOCIO-DEMOGRAPHIC DATA

1. Your gender

Male	
Female	

2. Professional qualifications:

General	
Midwifery	
Community nursing	
Primary health care	

3. For how long have you been working at PHC

<2years	
2-5 years	
5-10 years	
10 and above	

SECTION B - CLINIC DEMOGRAPHICAL DATA

Mark with an (X)

NO	Clinic demographical data	YES	NO
1	Is the clinic for eight hours per day?		
2	Is there sufficient storage space for nutritional supplements?		
3	Is there sufficient storage space for medication?		
4	Are there sufficient consultation rooms for HIV/AIDS service integration?		
5	Do you Share consultation rooms among the staff?		
6	Does the clinic have adequate referral systems?		
7	Does the clinic have Reliable transport systems for patient referral?		
8	Does the clinic have HIV educational material in local languages?		
9	Do you provide reproductive health services at the clinic		
10	Do you take bloods at the clinic?		

11	Do you prepare and initiate ART at the clinic		
12	Do you practice provider-initiated counselling and testing (PICT) at the clinic		
13	Have you received any HIV-related training?		
14	Are there dedicated professional nurses for managing patients on ART?		
15	Are guidelines related to HIV management available at the clinic?		
16	Are you able to implement universal infection precautions in the clinic?		
17	Do you have functional support groups for HIV-positive patients at your clinic?		
18	Do you have system in place for tracing clients that default on their treatment?		
19	Is there any interaction between the clinic and community-based organisations?		
20	Is there reliable system for transport of specimens to the laboratory?		
21	Are essential medicines available at all the time?		

SECTION C- BARRIERS OF INTEGRATING HIV/AIDS SERVICES INTO PHC

Indicate if you agree or disagree with the statement by ticking 'strongly agree' (SA), 'agree' (A) 'Disagree' (D), 'strong disagree' (SD).

INFRSRUCTION					
NO	BARRIERS	SA	A	D	SD
1	Insufficient consulting rooms				
2	Small waiting area				
3	Consulting area not well ventilated				
HUMAN RESOURCE					
4	Insufficient staff				
5	Lack of knowledge and skills				
6	Lack of managerial support				
7	Lack of team work				
8	Lack of community involvement				
9	Large number of patients/clients				
10	Poor referral/communication system				
11	Lack of experience in the programme				
12	Lack of training on HIV/AIDS programme				
MATERIAL RESOURCES					
13	Lack of medical equipment				
14	Lack of kits for HIV testing				
15	Lack of protective clothing				

SECTION D: ATTITUDE OF PHC NURSES REGARDING HIV/AIDS INTEGRATION.

Indicate if you agree or disagree with the statement by ticking 'strongly agree' (SA), 'agree'

(A) 'Disagree' (D), 'strong disagree' (SD).

NO	HIV/AIDS attitude Scale	SA	A	D	SD
1	I believe that people living with HIV should be seen in the same clinics as other patients (if the clinic space can accommodate this arrangement)				
2	I believe that people living with HIV should be seen by the same doctors/nurses that see other patients (if the doctors/nurses have the skills to attend to them)				
3	I'd prefer that we set-up a separate clinic for HIV-positive clients only				
4	I believe that visitors and other clients can readily identify those of our clients who are HIV-positive in our clinic				
5	I believe that clients have a right to know those clients who are HIV-positive in the clinic				
6	I believe that our clinic arrangement increase our client's exposure to HIV-related stigma				
7	I am satisfied with the amount of time our clients spend in the waiting area				
8	I believe that we are now providing more services to our clients since we started the integrated clinic.				
9	All the patients get their weight and B.P checked regularly in the clinic				



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Laif Shamla

Ref:4/22

Tshilo AR
UNIVERSITY OF VENDA

Greetings,

RE: Guidelines to facilitate the implementation of the integration of HIV/AIDS services into the primary health care programme in Vhembe District of Limpopo Province, South Africa.

The above matter refers.

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that-
 - Research must be loaded on the NHRO site (<http://nhrod.hst.org.za>) by the researcher.
 - Further arrangement should be made with the targeted institutions, after consultation with the District Executive Manager.
 - In the course of your study there should be no action that disrupts the services.
 - After completion of the study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
 - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
 - The above approval is valid for a 3 year period.
 - If the proposal has been amended, a new approval should be sought from the Department of Health.
 - Kindly note, that the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.


Head of Department


Date

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Mrs AR Tshililo

Student No:
9617062

PROJECT TITLE: Guidelines to facilitate the implementation of the integration of HIV/AIDS services into the primary health care programme in Vhembe District of Limpopo Province, South Africa.

PROJECT NO: SHS/15/PDC/33/0502

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Prof Ml. Netshikwala	University of Venda	Promoter
Dr LH Nemafohago	University of Venda	Co- Promoter
Mrs AR Tshililo	University of Venda	Investigator - Student

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: February 2014

Decision by Ethical Clearance Committee Granted

Signature of Chairperson of the Committee: 

Name of the Chairperson of the Committee: Prof. G.E. Ekosse



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STEVENS EDITING AND PROOFREADING
~ EDITING ~ PROOFREADING ~ WRITING ~

BA: English; Industrial psychology (Unisa)

Sole Proprietor

Membership:

PEG (SA)

SfEP (UK-Intermediate)

IPEd (WA)

10 May 2017

THIS IS TO CERTIFY THAT:

I have language edited a thesis titled *Guidelines to facilitate the integration of HIV/AIDS Services into the Primary Health Care programme in Vhembe district in Limpopo Province, South Africa* for Ms Rose Azwidihwi Tshililo, E-mail: rose.tshililo@univen.ac.za, a Doctor of Philosophy student in Health studies at the University of Venda, South Africa.

The scope of my editing comprised:

- Spelling
- Vocabulary
- Word usage
- Checking of referencing style
- Tense
- Punctuation
- Language and sentence structure

It has been a gratifying experience working with this student who has clearly displayed integrity in a well-prepared paper and prompt communication with the editor when necessary.

The student has advised me that payment will be effected on Friday 12 May 2017 and her communication in this matter is appreciated. My best wishes for good success and a great career accompany Ms Tshililo.

Yours faithfully,

Charlotte Stevens (Ms)

Stevens Editing and Proofreading

e: ajc.stevens@gmail.com

[Note: Signature withheld for security purposes.]

Qualitative data analysis

Doctoral degree in Nursing Science

For

Tshillo AR

THIS IS TO CERTIFY THAT:

Prof TM Mothiba has co-coded the qualitative data:

For the study:

GUIDELINES TO FACILITATE THE INTEGRATION OF HIV/AIDS SERVICES INTO THE PRIMARY HEALTH CARE PROGRAMME IN VHEMBE DISTRICT OF LIMPOPO PROVINCE, SOUTH AFRICA

I declare that the candidate and I have reached consensus on the major themes reflected by the data during a consensus discussion. I further declare that adequate data saturation was achieved as evidenced by repeating themes.

Mothiba TM



Professor TM Mothiba (PhD)