

**A sociological study to explore the knowledge of Pre-Exposure Prophylaxis
at Rhodes University.**

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ABSTRACT

South Africa has a very high prevalence rate of HIV infections, this is why this exploratory qualitative study examines the Rhodes University's HIV policy and its awareness programmes, with a specific focus on Pre-Exposure Prophylaxis (PrEP). The World Health Organisation's (2016-2017) recommendations for Pre-exposure Prophylaxis has been accepted and rolled-out nationwide by the South African Department of Health. This is to maintain the HIV-negative status of not only the general public, but specifically students at higher institutions of learning. PrEP has been integrated with other HIV prevention methods through the Higher Education and Training HIV/AIDS programme. Semi-structured in-depth interviews were conducted with five female and four male students, and six health care staff members at Rhodes University. Data was thematically analysed, and the findings show that there is a lack of knowledge of both the HIV policy and Pre-Exposure Prophylaxis among the participating students. However, the staff members are knowledgeable due to the fact that they work in health care.

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ACRONYMS

ABC	Abstain, Be-faithful, Condomise
ABCDE	Abstain, Be-faithful, Condomise, Delay, Educate.
AIDS	Acquired Immuno-Deficiency Syndrome
ART	Antiretroviral Treatment
CDC	Centres for Disease Control
CT	Clinical Trials
DHET	Department of Higher Education and Training
DoH	Department of Health
FBP	Future Beats Programme
FDA	Food and Drug Administration
FHI	Family Health International
FTF	First Things First
GBV	Gender Based Violence
GIZ	Gesellschaft Fur Internationale Zusammenarbeit
HCC	Health Care Centre
HEAIDS	Higher Education and Training HIV/AIDS Programme
HES	Higher Education Sector
HIV	Human Immunodeficiency Virus
MC	Male Circumcision
MHP	Men Health Programme
MSM	Men Who Have Sex with Men
MTCT	Mother-to-child-transmission
NACOSA	National AIDS Convention OF South Africa

NACP	National AIDS Control Programme
NDoH	National Department of Health
NP	National Policy
NSP	National Strategy Plan
PEP	Peer-Education Programme
PEP	Post-Exposure Prophylaxis
PMTCT	Prevention-from-Mother-to-Child-Transmission
PrEP	Pre-Exposure Prophylaxis
RCT	Randomised Clinical Trials
RU	Rhodes University
SANAC	South African National AIDS Council
SDG	Sustainable Development Goals
STIs	Sexually Transmitted Infections
TAC	Treatment Action Campaign
TB	Tuberculosis
TMC	Traditional Male Circumcision
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VMC	Voluntary Male Circumcision
VMMC	Voluntary Medical Male Circumcision
WHEP	Women Health and Empowerment Programme
WHO	World Health Organisation

Chapter 1: An Introduction

1.1 Introduction

This exploratory qualitative study investigates the knowledge of pre-exposure prophylaxis (PrEP) at Rhodes University (RU). Numerous strategies have been put in place to combat the incidence of HIV new infections globally, yet new infections continue to spread. According to Whiteside and Sunter (2000: 138) schools need to be used for HIV/AIDS (human immune-deficiency virus/ acquired immune-deficiency syndrome) education and the HIV/AIDS programmes should be aimed at teaching life skills rather than focusing on HIV/AIDS alone. This means that education is as an imperative tool in instilling knowledge and reaching out to most vulnerable groups, such as students.

Young adults continue to be vulnerable to HIV infections despite all the efforts made by the government and the Higher Education Sector to prevent the spread of HIV among university students. The Department of Education in South Africa partnered with the Higher Education and Training HIV/AIDS Programme (HEAIDS) which is a national programme to develop and support HIV awareness programmes at South Africa's higher education institutions.

Despite all these interventions, students continue to contract HIV, and this is a concern because new HIV infections indicate a need for more prevention strategies. The study used a qualitative research design to explore students' and staff knowledge and perceptions on PrEP. Data was collected through semi-structured, in-depth face-to-face interviews. Data was interpreted and presented using thematic analysis. Social representation theory and the human development approach underpin the study.

1.2 Context of the study

Human Immunodeficiency Virus (HIV) was identified in 1980s (Fischer *et al.*, 2011: 6; UNAIDS & WHO, 2003: 3). It is an infection that leads to the immune system breakdown (Centres for Disease Control [CDC] 2016, cited in Neishlos *et al.*, 2017: 728; Whiteside *et al.*, 2000: 5) and can lead to Acquired Immuno-Deficiency Syndrome (AIDS) which is a disease in which the system begins to fail and enables other opportunistic infections, such as, tuberculosis (TB) to threaten the lives of the infected individuals (Fischer *et al.*, 2011: 2). Since HIV was discovered there have been various attempts to combat it, such as condom distribution, antiretroviral treatment (ART) and prevention of mother to child transmission (PMTCT). Even though this is the case, unfortunately some governments particularly those in South Africa have supported the denialism and encouraged the use of ineffective treatments

such as vitamin supplements (Fischer *et al.*, 2011: 5; Simelela *et al.*, 2014: 249). Such that in South Africa, the HIV epidemic was not an issue of major concern and therefore received very limited attention (Simelela *et al.*, 2014: 249). This has contributed greatly to the failure of the South African government to respond in time to its HIV epidemic (Fischer *et al.*, 2011: 5). As a result, South Africa has the highest HIV prevalence rate in the world (Haffeejee *et al.*, 2018:109; Reddy *et al.*, 2011:166). According to Statistics South Africa (2018: 1), the estimated overall HIV prevalence rate is approximately 12,6% among the South African population, and the total number of people living with HIV was estimated at approximately 7,52 million in 2018.

Prior to 2000s, due to denialism and a limited knowledge of HIV transmission dynamics, the mainstay of the response to the epidemic in the 1980s and 1990s was abstinence, the provision of condoms and a 'safe-sex' education (Kelly, 2000: 19; Simelela *et al.*, 2014: 249). For decades, in many countries, the promotion of condom use has been a preferred strategy in many countries (Abraham *et al.*, 2002 in Jaspal *et al.*, 2016: 2). The continued increase in the number of people living with HIV is evidence that HIV is still a major challenge in South Africa and needs to be treated as exceptional (Smith *et al.*, 2011: 345). In the absence of a cure, prevention remains the most effective strategy to reduce new infections (Kelly, 2000: 19; UNAIDS, 2004: 69). In 2015 the World Health Organisation (WHO) released updated Pre-Exposure Prophylaxis (PrEP) recommendations in South Africa (PrEP implementation pack: South Africa, 2016-2017: 5) which was accepted and rolled out by the National Department of Health (NDoH) in 2016 as a new additional HIV prevention strategy. PrEP is an additional HIV prevention strategy that HIV-negative people take to reduce their risk of becoming infected (Koechlin *et al.*, 2016: 1325).

According to CDC 2012 and 2015 reports, and Volk *et al.* 2015 (cited in Whitfield *et al.*, 2018: 2) PrEP is a promising HIV prevention strategy that is approved by the Food and Drug Administration (FDA), and it has proved to be 92-99% effective in the prevention of HIV infections. Clinical studies reviewed by the FDA confirmed the effectiveness of PrEP by showing that seven PrEP pills per week offers protection that is estimated at 99%, four pills a week offers 96% protection and two pills a week offers 76% (San Francisco AIDS Foundation, 2015: 4). Although PrEP is highly effective in preventing the sexual transmission of HIV when taken regularly and as directed, it is important to note that PrEP does not prevent other sexually transmitted infections (STIs) or pregnancy and is certainly not a cure for HIV but is one of several ways in which antiretroviral drugs can be used to prevent HIV transmission (Neishlos

et al., 2017). It is PrEP's effectiveness that has inspired the current study, which aims to find out knowledge of PrEP at Rhodes University (RU).

In 2017, the Higher Education and Training HIV/AIDS (HEAIDS) national programme introduced PrEP to seven South African universities namely Nelson Mandela University, University of Limpopo, University of Venda, University of Free-State, University of Zululand, Vaal University of Technology and Rhodes University (Child, 2017). Studies conducted by HEAIDS found that approximately 14% of university and college students are involved in transactional sex, prostitution, take alcohol and use drugs putting them at high risk of contracting HIV and condom uptake is very low, which makes them suitable candidates to access PrEP (Child, 2017). This supports Whiteside *et al.*'s (2000: 137) observation that young people are growing to adulthood and engaging in sexual activity, they can, and should, be kept HIV-free.

Rhodes University 2006 policy on HIV/AIDS recognises and acknowledges the seriousness of the HIV/AIDS pandemic for the students, staff and the community at large, and commits itself to the creation of HIV/AIDS support structures directed at enhancing the health and welfare awareness of its whole community (RU HIV/AIDS policy, 2006: 3). Although PrEP is not stated in the RU HIV/AIDS policy, it is included in the Training Manual for Student Leaders which means that PrEP is one of the adopted strategies at RU as recommended by HEAIDS. According to a study conducted at RU by Rau and Coetzee (2008) titled *Curriculum as a space for shaping student attitudes to and perceptions of HIV/AIDS*, including HIV/AIDS issues in university curricular is another method of tackling HIV. A significant finding of this study is that 94 percent of students strongly agreed that it is the duty of all South African universities to address HIV/AIDS in teaching and research (Rau & Coetzee, 2008).

1.3 Theoretical Framework

The study draws on the insights from the interpretive perspective, specifically the social representation theory, to explore the knowledge of pre-exposure prophylaxis (PrEP) at Rhodes University. According to Moscovici (1988: 214) social representations focus on everyday communication and thinking and are linked to Durkheim's concept of collaborative representations which also refers to uniform ways of perceiving, thinking about and evaluating social reality (Bauer & Gaskell, 2008: 338; Hoijer, 2011: 4; Moscovici & Duveen, 2000: 30). Moreover, it is based on how people construct societal issues that influence and shape individuals' perceptions and social action (Hoijer, 2011: 3). At a primary level, a social

representation is defined as a collective elaboration of a given social object which enables individuals to think and talk about it. For this study, this elaboration consists of emerging ideas and descriptions in relation to PrEP. From this perspective, two social psychological procedures converge in the creation of social representations: *anchoring* and *objectification* (Moscovici, 1984b: 24). Anchoring refers to the process whereby a new and unfamiliar phenomenon is introduced and integrated into existing ways of thinking (Hoijer, 2011: 7). While, objectification refers to the process whereby a nonconcrete phenomenon is rendered concrete and tangible (Hoijer, 2011: 12). The individuals, in this context, students and staff members differ in the extent to which they are aware of, understand, accept, and conform to their thinking of a social representation. For example, even when an individual may be aware of PrEP, they may understand it in similar terms to the contraceptive pill because of the societal understanding or anchoring of PrEP to reproductive health care. This is a suitable theory for this study because PrEP is a new and unfamiliar prevention method that is in the process of being integrated with familiar prevention strategies such as condom use. Moreover, knowledge of PrEP may increase its usage and acceptance.

In addition to social representation theory, the study draws on the human development approach to understand HIV policy at higher institutions of learning. The human development approach is about “expanding the richness of human life, rather than simply the richness of the economy in which human beings live. It is an approach that is focused on people, and their opportunities and choices” (UNDP, 1996). This includes health policies, such as HIV policy, that promote valuable capabilities through participatory decision-making (Sen, 1999)

1.3 Dissertation objectives

The primary objective of the study was to examine Rhodes University’s HIV policy and its awareness programmes, with a specific focus on PrEP, and this was achieved through the following sub-objectives:

1. Explore the students’ and staff’s knowledge of Rhodes University HIV policy;
2. Investigate the students’ and staff’s awareness of HIV prevention programmes;
3. Explore how PrEP is being implemented at Rhodes University.

1.4 Research Methodology

Since the purpose of the study was to explore Rhodes University’s HIV policy, specifically PrEP policy, and how students and staff engage with the programmes, a qualitative research

method was employed. Qualitative method is rooted in social sciences and focuses on participants as creators of their own meanings. As explained by Patton and Cochran (2002: 2), qualitative research is characterized by the aim of understanding some aspects of social life. In this sense, “qualitative researchers seek to interpret phenomena by analyzing the meanings that people attach to their experiences within their natural context” (Goethals, *et al.*, 2004: 1). Data collection was done through semi-structured, in-depth interviews, which according to Boyce and Neale (2006: 3) is a type of interviewing technique in qualitative research that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme, or situation.

Purposive sampling was used to recruit participants. This sampling method deliberately seeks to specific characteristics of participants according to the needs of the developing analysis and emerging concepts such as PrEP (Michael *et al.*, 2004: 2). Study participants included five female and four male second- and third-year students, and six staff members consisting of three Health Care Centre (HCC) nurses, two staff peer education group members, and one institutional health specialist. The interviews were conducted in the students’ residence rooms and at the HCC.

Data was analyzed using thematic analysis which is a method for identifying, analyzing and reporting themes within data (Braun & Clark, 2006; Maguire & Delahunt, 2017; Mills *et al.*, 2010: 2). Raw data was broken into sentences to identify mutual themes and patterns. In identifying and coding emergent themes within the data, Blanche’s *et al.* (2007: 140-4; Babbie, 2007: 384) five stages of data analysis was followed, namely: (i) familiarization and immersion, this refers to becoming familiar with the data through reading through it repeatedly; (ii) listening to records and engaging in activities of breaking the data down; (iii) inducing themes, which refers to generating the emerging themes from the data; (iv) elaboration is carefully comparing and refining existing themes to be presented at the final stage; and finally (v) interpreting and checking, which refers to conducting a detailed analysis to produce a written report.

This study results were limited to one South African higher institution, and fifteen students and staff at Rhodes University, therefore the findings cannot be generalised to other universities. The study was ethically approved by the Rhodes University Ethics Standards Committee.

1.5 Dissertation outline

This thesis is divided into five chapters that are arranged as follows: This chapter provides the introduction to the study. Included in this chapter is the problem statement and a brief introduction of the theoretical framework of the study, the objectives, also methods and methodology are included in this chapter. Chapter 2 is the literature review of various academic debates on HIV and PrEP in the higher institutions. Also, this chapter includes policies, National Strategic Plans, and HIV awareness programmes that are adopted globally, in South Africa and at Rhodes. Chapter 3 presents the research methodology and design of the study. A description of the field work, data analysis and the ethical consideration are provided. Chapter 4 presents the findings of the study, and a thematic analysis of the data. Chapter 5 is a conclusion of the study, it outlines the key findings and delineates the study's limitations. Lastly, the chapter concludes with the recommendations of the study.

Chapter 2: A Literature Review

2.1 Introduction

South Africa, like other African countries, has its share of challenges, but the apartheid history makes it much more difficult to respond quickly to health problems such as the HIV/AIDS epidemic. This chapter outlines the South African ANC-led government's HIV/AIDS policy and practice, and it will also delineate the World Health Organisation and the Rhodes University policy and practical responses to the HIV/AIDS epidemic. The national responses such as the National Strategic Plan for South Africa, the South African National Policy on HIV Pre-Exposure Prophylaxis, and the Test and Treat, and various HIV prevention programmes and studies are reviewed. The chapter starts with a brief discussion of the South African constitutional right to healthcare.

2.2 The Constitution of South Africa - Section 27

Health issues are an ongoing concern in many countries especially the developing ones and South Africa is not an exception. South Africa is a rights-based country, and this can be seen in the second chapter of the Constitution on the Bill of Rights. This means that the South African government need to commit to fulfilling its Constitutional obligations to deliver healthcare services (UNDP, 2013). According to Section 27 of the South African Constitution, everyone has the right to access healthcare services, including reproductive health care; everyone has the right to sufficient food and water; and social security, including, if they are unable to support themselves and their dependants, appropriate social assistance. The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights and no one may be refused emergency medical treatment (Constitution of the Republic of South Africa 1996, 2016: 16-17; Ebi, 2016; Klinck, 2011). Although this is the case, the government can only provide services through the available resources. For example, a study conducted by Ebi (2016) titled *Enforcing the right of access to healthcare services in South Africa* found that treatment such as renal dialysis, among many others, are limited due to lack of finance and human resources.

As noted in Chapter 1, the South African healthcare services and access has been badly affected by the apartheid era in that healthcare access is still shaped by its history (Ebi, 2016: 25). Moreover, South Africa is faced with a situation predicted by Thomas Malthus (1766-1834) that population will supersede the resources when left unchecked, and this supports Ebi's (2016: 25) finding that the majority of South African citizens cannot access healthcare services as they are dependent on public health facilities. This situation is mainly due to lack of financial

and human resources in post-apartheid South Africa (Meyer, 2010: 9). This is why, regardless of the comparable spending with Brazil, Russia, India, and China, South Africa is still lagging behind in key health outcomes (Klinck, 2011: 36).

2.3 HIV and the Sustainable Development Goals (SDGs) in South Africa

In addition to the constitutional mandate, the South African government is signatory to seventeen Sustainable Development Goals (SDGs) that it aims to meet (UN, 2015). This study focuses on the third goal, which is about ensuring healthy lives and promoting well-being for all citizens at all ages. SDGs are guided by Act 108 of 1996, which states that all developmental laws must be in line with the Constitution. Moreover, when interpreting the Bill of Rights, section 39 of the Constitution stipulates that the court or forum must consider international law and may consider foreign law (Constitution of the Republic of South Africa, 1996: 24).

Therefore, the South African government also draws on international organizations such as United Nations Development Plan (UNDP), specifically the United Nations programme on HIV/AIDS (UNAIDS) to fulfil its health care obligations. For example, UNAIDS (2004: 71 states that effective prevention requires policies that assist in reducing the vulnerability of large numbers of people, in effect, creating a legal, social and economic environment in which prevention is possible. As a result of these international considerations, South Africa has adopted some of the World Health Organization's strategies such as the Treatment 2.0 of Framework of Action and the PrEP implementation tool.

2.4 The Treatment 2.0 Framework of Action & Pre-Exposure Prophylaxis

In June 2010, the UNAIDS and the WHO (2011: 3) launched the Treatment 2.0 Framework of Action, which was aimed at increasing antiretroviral therapy (ART) benefits. It is a preventive method and it aims for universal access to treatment. It outlines five priority work areas that encompass the primary component of the initiative: to optimize drug regimens; to provide access to point-of-care diagnostics; to reduce costs; to adapt delivery systems and to mobilize communities (Bui *et al.*, 2012: 64; WHO, 2011: 3). This emphasises the UNDP's (2013: 5) goal that access to ARVs and knowledge about HIV prevention must expand (WHO, 2011).

WHO first published guidelines on the use of antiretroviral therapy (ART) for HIV infection among adults and adolescents in 2012, and on the use of ARV drugs to prevent mother-to-child-transmission (MTCT) HIV transmission in 2004. The 2006 updates of the guidelines introduced the concept of a public health approach with simplified and harmonized ART regimens. In 2013, for the first time, WHO revised and combined these and other ARV-related

guidance documents into consolidated guidelines that address the use of ARV drugs for HIV treatment and prevention across all age groups and populations, based on the HIV service continuum (PrEP Implementation Pack: South Africa, 2016-2017: 8). In 2015, WHO released new recommendation guidelines to start PrEP, which aim to provide PrEP as an additional preventative option for people who are at high risk of contracting HIV (National Policy on HIV Pre-Exposure Prophylaxis and Test and Treat, 2016: 1-2; PrEP Implementation Pack: South Africa, 2016-2017; WHO, 2017). The high risk include, among others, men who have sex with men (MSM), sex workers and students, in case of this study.

2.5 ANC Government's Response to HIV/AIDS: Presidents Mbeki & Zuma

During the Thabo Mbeki's administration from 1999 to 2008, the HIV epidemic received little attention because of denialism and arguments that it did not cause AIDS (McNeil, 2012; Nattrass, 2005: 1; Van Dyk *et al.*, 2017: 12). As the name suggests, HIV is a viral infection that leads to immune system breakdown and can lead to AIDS, a disease which enables other opportunistic infections, such as TB (Centre for Disease Control, 2016 cited in Neishlos & D'Ambrosio, 2017: 728; Fischer & Madden, 2011: 2; Whiteside *et al.*, 2000: 5).

Despite scientific evidence on the link between HIV and AIDS, president Thabo Mbeki and his infamous Health Minister, Manto Tshabalala-Msimang, denied that HIV causes AIDS, and disapproved the introduction and provision of antiretroviral (ARV) therapy for pregnant woman to prevent mother-to-child-transmission (PMTCT) (Nattrass, 2005: 1; Nyberg, 2016: 9; Van Dyk *et al.*, 2017: 12). Instead, president Mbeki's response on preventing the spread of AIDS was to focus on poverty, as he argued that it was the driver of the epidemic (Nattrass, 2005: 1; Nyberg, 2016: 10). However, in 2002, the Mbeki administration was forced by the Constitution Court in a case by the Treatment Action Campaign (TAC) to provide nevirapine to pregnant women to prevent MTCT of HIV (McNeil, 2012; Van Dyk *et al.*, 2017: 13). The outcome of this profound decision is that South Africa is making a great progress in PMTCT, as evidence shows that 98% of the country's health care facilities provide PMTCT, and the percentage of HIV infected women receiving ART to decrease MTCT increased from 83% in 2009 to 87% in 2012 (Akinsanya *et al.*, 2017: 56; National Consolidated Guidelines for the PMTCT and Management of HIV in Children, Adolescents and Adults, 2014: 14).

During president Jacob Zuma's administration, from 2009, the mission was to repair president Mbeki's mistakes regarding the HIV epidemic (National consolidated guidelines for the PMTCT and management of HIV in children, adolescents and adults, 2014: 14). In December

2009, the president announced several interventions to improve access to ARVs (Van Dyk *et al.*, 2007: 14). This was driven by his Minister of Health, Aaron Motsoaledi, and a commitment was made to implement a five-year National Strategic Plan (NSP) for HIV and Tuberculosis (TB). In 2010, the voluntary counselling and testing (VCT) campaign was launched to provide free counselling and testing, which was also aimed at reducing myths and stigma surrounding the disease, such as one made famous by Zuma that “HIV can be washed out by taking a shower” (McNeil, 2012; Van Dyk *et al.*, 2017). In the same year, the Province of KwaZulu-Natal (KZN), due to its high HIV prevalence rate, became the first province in South Africa to offer voluntary male circumcision (VMC), which is proven to reduce HIV infection by at least 60% (McNeil, 2012). A range of prevention measures have been implemented under the Zuma administration, and this includes the provision of PrEP (Van Dyk *et al.*, 2017: 14). For South Africa to achieve success in its response to the HIV epidemic, the National Strategic Plan (NSP) on HIV was developed to include other sexually transmitted infections (STIs) and tuberculosis (TB).

2.6 The National Strategic Plan on HIV, STIs and TB 2012-2016

The NSP on HIV, STIs, and TB 2012-2016 was a five years strategy for the national response to the “dual epidemic” that is HIV and TB (NSP on HIV, STIs & TB 2012-2016: 12). According to the WHO, TB is the leading cause of death among people who are living with HIV (WHO TB/HIV Fact Sheet, 2018; WHO Global TB Report, 2018: 1). The global HIV/TB co-infection rate was at 958 559 in 2017 with South Africa accounting for 39% of the total (WHO Global TB Report, 2018: 103). One of the NSP goals is to at least ensure that 80% of people who are living with HIV receive treatment (NSP on HIV, STIs & TB 2012-2016: 21). Therefore, it is equally important for this dual epidemic to be managed and treated together. This is why Smith, Ahmed and Whiteside (2011: 345) argue that HIV should continue to be treated as exceptional, not just in South Africa, but in the entire sub-Saharan African region. This initiative acknowledges the achievements of the previous NSPs, and the interventions that have been successful, such as a significant reduction in the vertical transmission of HIV and intensifying access to a complete package of HIV, STIs and TB services, have been strengthened (NSP on HIV, STIs & TB 2012-2016: 8). Furthermore, the NSP has identified four strategic objectives to reach its five-year goals: (1) to address social and structural influencers of HIV, STIs and TB; (2) to prevent new HIV, STIs and TB infections; (3) to sustain health and wellness; (4) to ensure protection of human rights including access to justice (NSP on HIV, STIs & TB 2012-2016: 14-5).

2.7 South African National Policy on HIV Pre-Exposure Prophylaxis and Test and Treat

South Africa utilises two key approaches to manage the HIV prevalence, the first is preventing new infections of the virus and secondly to provide treatment, care and support to those who are living with the virus (HIV/AIDS & STI Strategic Plan for South Africa 2007-2011: 58-9; Provincial Strategic Plan 2012-2016: 14). As noted earlier, the South African Department of Health (DoH) National Policy (NP) on HIV adopted WHO's guidelines on PrEP as an additional prevention method (NP, 2016: 1). The central goal of the NP on PrEP is to reduce new HIV infections through a provision of expanded prevention and treatment options (NP, 2016: 2). As a result, this policy also supports the 90-90-90 Fast Track approach by UNAIDS (NP, 2016: 1). This approach means that 90% of all infected people should know their status, 90% of infected people should have access to treatment, and 90% of all people on treatment should have a suppressed viral load, and the prevention target of reducing new infections by 75% (NP, 2016: 1).

However, to achieve this target, it is essential to scale up treatment and further strengthen prevention strategies (Cowan *et al.*, 2016: 1). This approach is contrary to the words of the first post-apartheid Minister of Health (1994-1999 under the Mandela administration), Nkosazana Dlamini-Zuma's statement that "the South African government aimed to prevent rather than to treat" (McNeil, 2012). In line with the 90-90-90 approach, the National Department of Health (NDoH) adopted the WHO's new Test and Treat (TT) policy in 2016. The TT policy enables all HIV infected individuals to receive ART regardless of their CD4 count (Govender, 2016: 952; HEAIDS, 2016: 10).

2.8 The National Strategic Plan on HIV, STIs and TB 2017-2022

The 2017-2022 NSP is the fourth plan that South Africa has adopted to respond to HIV, STIs and TB (NSP 2017-200, 2017; South African National AIDS Council (SANAC), 2017). It seeks to advance on the accomplishments of the NSP 2012-2016, which impressively scaled up South Africa's ART programme and reduced the MTCT rate from more than 3.5% to 1.8% (NSP 2017-2022, 2017: 4; SANAC, 2017). The 2017-2022 NSP aims to: (i) accelerate prevention to reduce new HIV, STI and TB infections (breaking the cycle of transmission); (ii) reduce morbidity and mortality by providing HIV, STI and TB treatment, care and adherence support for all to reach the 90-90-90 target in every district; (iii) reach all key and vulnerable populations with customised and targeted interventions ensuring that nobody is left behind; (vi) address the social and structural drivers of HIV, STIs and TB and link these efforts to the

National Development Programme (NDP), which is a multi-department, multi-sector approach; (v) ground the response to HIV, STIs and TB in human rights principles and approaches, which ensures equal treatment and social justice; (vi) promote leadership and shared accountability for a sustainable response to HIV, STIs and TB to ensure mutual accountability; (vii) mobilise resources and maximise efficiencies to support the achievement of NSP goals and ensure a sustainable response; (viii) finally, strengthen strategic information to drive progress towards achievements of NSP goals (data-driven action) (NSP 2017-2022, 2017: 9). The following section discusses national HIV prevention methods which are based on the NSPs.

2.8.1 Abstain, Be faithful and Condomise (ABC) Strategy

The abstinence, be faithful and condomise (ABC) approach is a HIV prevention approach invented in 1992 by the Philippine's Secretary of Health, Dr Juan Flavio, to sensitise people to the risk of HIV (Burman, Aphane & Dolobelle, 2015: 16). This approach was used in Uganda as part of the National AIDS Control Programme (NACP) in response to the prevalence in 1986 (Okware *et al.*, 2005: 625-6). They defined abstinence as delaying sexual intercourse and distinguished between two types of abstinence, namely, primary abstinence where one has never had sex before, and secondary abstinence is refraining from further sexual engagement. They also referred to being faithful as practicing sexual intercourse with one partner and condomising as constantly and consistently using a condom during sexual intercourse.

ABC is a strategy that advocates behavioural messages to both the young and old individuals in response to the epidemic (Burman & Aphane, 2016: 85; Moodley, 2007:10). This strategy has gained its recognition through its impressive success of decreasing the epidemic in Uganda, as a result, it was also adopted in other countries such as Zambia, Cambodia, Thailand and Dominican Republic (Sigh, Darroch & Bankole 2004:133-4). On the contrary, unfortunately in South Africa, the ABC strategy did not produce the expected results (Burman *et al.*, 2015: 16; Patient & Orr, 2017). One of the reasons for this is that “in the South African context, sex is closely interconnected with systems of power, vulnerability to HIV infection is strongly linked to disempowerment” (Moodley, 2007: 3).

Likewise, other studies showed that in South Africa young people are not abstaining or delaying sexual practice, they have multiple sexual partners and do not use condoms correctly and consistently when they do use them (Moodley, 2007: 14). Consequently, due to the complexity of the current situation they consider the ABC approach as relevant in “yesterday”

rather than “today” based on the claim that it was originally implemented as a “basic message” strategy (Burman *et al.*, 2015: 17) and intended to have an impact on a specific epidemic in the Philippines (Burman *et al.*, 2015: 16).

2.8.2 The A-3B-4C-T Strategy

Burman *et al.* (2015: 13) stated that the best way to respond to the HIV epidemic in South Africa is through a dynamic prevention which is an approach that include the mass roll-out of ART and increased scientific knowledge about other risk-reduction strategies. Because there is no single prevention intervention that will be effective alone (Whiteside *et al.*, 2000; UNAIDS, 2004: 72). As supporters of combination prevention, they argued that nine primary HIV transmission risk-reduction strategies that can reduce HIV transmission as stand-alone interventions are, antiretrovirals, barriers, blood precautions, babies, circumcision, co-infection reduction, couples’ HIV testing and counselling, community viral load management and testing (A-3B-4C-T) (Burman *et al.*, 2015: 21; Patient *et al.*, 2017). A-3B-4C-T “presents biological information in ways that emphasise how relational, networked socio-environmental interactions of peoples’ every day activities, imperfect knowledge and decision-making influence transmission spaces” as compared to the ABC strategy (Burman *et al.*, 2015: 20).

The results of the A-3B-4C-T approach are massive, a selection of evidence illustrates the impact of some of these primary prevention methods, for example, access to ART has extended the lifespan of many who would have died at an earlier age (Kharsany & Karim, 2016: 35; Statistics South Africa, 2018: 7), serodiscordant couples probability of transmitting HIV to the uninfected partner is close to zero (99.9%) after the HIV-positive partner achieves an undetectable viral load (Patient *et al.*, 2017; Shete, 2013: 1) with VMMC reducing the chances of males becoming infected with HIV by at least 50-60% (Patient *et al.*, 2017; Shete, 2013).

2.8.3 Antiretroviral Therapy (ART)

The South African Cabinet approved the operational plan for comprehensive HIV/AIDS care, management and treatment in November 2003 (McNeil, 2012; Serenata, 2014: 15). However, when ART was finally rolled out, it was very limited that it was only offered to approximately fewer than 500 public health facilities (Moorhouse, 2014: 9; Serenata, 2014), nevertheless, access to ART has increased excessively (Jonson, 2012: 22). This assessment suggests that South Africa is on track in trying to meet one of the NSPs goals which is to expand the access of ART for people living with HIV.

ART is the combination of ARV drugs to maximally suppress the HIV virus and ease the progression of HIV it also prevents onward transmission of HIV (Tellalian *et al.*, 2013: 553; WHO, 2018). ART primary goals are to (a) ensure that the patient experiences fewer HIV-related illnesses, (b) CD4 count increases and remain above the baseline count and (c) the patient's viral load becomes undetectable (<400 copies/mm³) and remains undetectable on ART (National Department of Health, 2004: 2). Since HIV compromises an individuals' immune system it is thus important that people be provided with ART as soon as they are diagnosed to avoid the co-infections.

2.8.4 Prevention from Mother-To-Child-Transmission (PMTCT)

Prevention from mother-to-child-transmission (PMTCT) is a strategy that aims to cease the transmission of HIV from mother to child (MTC) before, during and after birth, in South Africa, this national programme has been in effect since 2002 (Eastern Cape Business Sector Provincial Strategic Plan 2012-2016: 5). Notably, some studies such as *Eliminating mother-to-child transmission of HIV by 2030:5 strategies to ensure continued progress* refer to this programme as a cost-effective platform that saves two lives at the same time.

The elimination of MTCT in countries such as Belarus, Cuba and Thailand (Vrazo, Sullivan & Phelps, 2018: 249) has built a historic encouragement for other countries to put PMTCT as the leading programme of HIV care and treatment innovation (Goga *et al.*, 2018: 17). This prioritisation led to a global reduction of about 48% of new HIV infections amongst children (Akinsanya *et al.*, 2017: 56). Specifically, countries such as Ethiopia, Mozambique, Swaziland and Uganda have achieved impressive results of about 60% reduction in infections among children with South Africa leading with 76-80% reduction from 2004 to 2017, contrary to countries like Democratic Republic of Congo (DRC), Angola, Kenya and Nigeria who have shown a slow progress with just 30% reduction of MTCT (Akinsanya *et al.*, 2017: 56; United State President's Emergency Plan for AIDS Relief, 2018: 6).

Evidence of the PMTCT success supports Vrazo *et al.*'s argument (2017: 250) to say it is empirical for PMTCT to be funded and sustained because besides that it saves more than one life at once it also reduces the need for infant ART and limits HIV resistance in a sense that it protects HIV-exposed children from infection and therefore decreases infant morbidity and mortality. Thus, there is a great need for PMTCT's success rates to be recognised and acknowledged for it to be a sustainable development.

2.8.5 Voluntary Medical Male Circumcision (VMMC)

Originally circumcision is part of tradition in many cultures, as such, in South Africa circumcision has been performed as part of traditional initiation although it is usually performed under unsanitary conditions (Eastern Cape Business Sector Provincial Strategic Plan 2012-2016: 15; Maffioli, 2017: 1-2). Definitive evidence for VMMC's protectiveness is grounded on several studies including three randomised clinical trials (RCT) which all showed that VMMC lowers males' risks of contracting HIV by over 50% (Davis *et al.*, 2017: 1; Kalichman *et al.*, 2018: 1682; McNeil, 2012).

However, this raised concerns such as reduction in condom use and multiplication of sex partners by other circumcised men (Kalichman, Eaton & Pinkerton, 2007: 137). Contrary, a study titled *When I was circumcised I was taught certain things: risk compensation and protective sexual behaviour among men in Kisumu, Kenya* showed that male circumcision (MC) accompanied by counselling, HIV testing, and condom packaging usually fosters positive behaviour and maintains good sexual behaviour.

This study's notion strongly supports Maffioli's (2017: 3) essential point that traditional male circumcision (TMC) and VMMC do not have the same health benefits because in most cases TMC is not performed by health trained professionals. Hence, although it is evidently clear that MC is effective as a HIV prevention strategy it is equally important for MC campaigns to make it known that as compared to TCM, only VMMC provides medical health benefits.

2.8.6 Post-Exposure Prophylaxis

Post-Exposure Prophylaxis (PEP) is an anti-HIV medication that is provided before ART (Ncube, Meintjes & Chola, 2014: 2) as it is taken by HIV-negative individuals who have been exposed to the risk of acquiring HIV (Wilton, 2011: 1) such as in rape. PEP is the use of short-term antiretroviral medication to reduce the risk of acquiring HIV after exposure (Aminde *et al.*, 2015: 2; Canadian AIDS Treatment Information Exchange, 2001: 1).

According to Spira, Marx, Patterson, Mahoney, Koup, Wolinsky and Ho (1996: 215) it takes approximately three days from exposure for the virus to be detected in lymph nodes while it may take about five days to be detected in blood. Giving a short window for PEP to be taken to limit the chances of acquiring HIV since PEP is taken within 24 hours and not over 72 hours of exposure (Canadian AIDS Treatment Information Exchange, 2001). Nevertheless, PEP's efficacy is only estimated between 80-90% and highly dependent on adherence, suggesting that

PEP is not a cure for HIV and, also, it does not prevent pregnancies and other STIs (see Aminde *et al.*, 2015 & Canadian AIDS Treatment Information Exchange, 2001).

2.8.7 Pre-Exposure Prophylaxis (PrEP)

Multiple modalities of PrEP are in development from injectables, implants and vaginal gels but only oral PrEP is currently approved by Food and Drugs Administration (FDA) (Seidman *et al.*, 2018: 467). PrEP is an additional HIV prevention strategy which HIV-negative people take before contracting HIV to reduce their risk of becoming infected (Koechlin *et al.*, 2016: 1325; Tallalian *et al.*, 2013: 553). Clinical trials (CT) have shown PrEP to be an effective HIV prevention initiative (Auerbach *et al.*, 2015: 102; Bekker *et al.*, 2015: 907; Denhe *et al.*, 2016: 323; McGillen *et al.*, 2016: 1; Tallalian *et al.*, 2013: 552). Leading to the WHO's PrEP take recommendations (Koechlin *et al.*, 2016: 1325; McGillen *et al.*, 2015: 1), as part of achieving the NSP 2012-2016 and 2017-2022 including SDG goals, South Africa is one of the countries that adopted PrEP to assist in the fight against new HIV infections (Eakle *et al.*, 2018: 1; PrEP implementation pack: South Africa, 2016-2017: 5; Wang *et al.*, 2018: 2).

Different studies conducted in different populations showed different results on the extent to which PrEP is effective, for example, FDA showed 92-98% reduction (Whitfield *et al.*, 2018), while, McGillen *et al.* (2015; 3) showed 75%, Bekker *et al.* (2015: 907) showed 51% and Tallalian *et al.* (2013: 553) showed 44%, however, according to these studies minimum reduction was as a result of low adherence of the pill. In addition, clinical studies reviewed by FDA confirmed the effectiveness of PrEP by showing that seven PrEP pills per week offers protection that is estimated at 99%, four pills a week offers 96% protection and two pills a week offers 76% (San Francisco AIDS Foundation, 2015: 4). This implies that PrEP is extensively effective when adherence is high (Bekker *et al.*, 2015: 907; Seidman *et al.*, 2018: 467; Tallalian *et al.*, 2013: 558; Thigpen *et al.*, 2012: 432). As demonstrated by Underhill and Mayer (2013: 996) PrEP is inherently a combination strategy therefore its effect will not only depend on drug efficacy but also on users' and providers' behaviours.

As such, although PrEP's potential is evidently confirmed in preventing the sexual transmission of HIV when taken regularly and as directed, it is important to note that PrEP does not prevent other sexually transmitted infections (STIs) or pregnancy and is certainly not a cure for HIV (Neishlos *et al.*, 2017: 734; Roger, 2015; Wang *et al.*, 2018: 11).

2.9 Barriers to PrEP use

2.9.1 Antiretroviral resistance, adherence and efficacy

Commonly known concerns about PrEP use include development of antiretroviral resistance and nonadherence (Tellalian *et al.*, 2013: 554). Although, none of the PrEP trials released thus far have shown any significant antiretroviral resistance amongst PrEP users (Tellalian *et al.*, 2013: 557). Family Health International (FHI) released a news bulletin announcing the minimum efficacy of PrEP in women (Tellalian *et al.*, 2013: 554) contrary to this Seidman *et al.* (2018: 467) affirmed that PrEP is not just a discrete woman-controlled method, but it is both safe and highly effective with 90% protection if taken daily. Furthermore, Thigpen *et al.*, (2012: 423) demonstrated uncertain efficacy among heterosexuals, however, the same study acknowledge that this was because of low adherence.

2.9.2 Lack of PrEP awareness or knowledge

Numerous studies have documented lack of PrEP awareness (Auerbach *et al.*, 2015: 108; Koechlin *et al.*, 2017: 1327; Tellalian *et al.*, 2013: 557) such that in one study women reported feeling angry about not having heard of PrEP from health care providers (Seidman *et al.*, 2018: 467). Reasons of lack of PrEP's knowledge pointed out in Auerbach *et al.*, (2015: 104) included a concern that organizations that could potentially disseminate PrEP information were not receiving funds to do so also medical providers are equally unaware of PrEP and its information. Moreover, Turner, Roepke, Wardell and Teitelman (2018: 87) found that HIV specialists were more well-informed about and willing to provide PrEP as compared to primary care providers. As a result, over 60% of primary care providers reported their knowledge of PrEP as poor compared to the low percentage of HIV specialists (Turner *et al.*, 2018: 88).

Therefore, this implies that it is imperative for PrEP to be well mobilised and all health care providers must be equally informed, trained and be willing to discuss sexual health to be able to disseminate PrEP (Mack *et al.*, 2015: 57; Sowicz *et al.*, 2014: 499), PrEP education must address the misunderstandings and misconceptions related to its adherence, resistance and side effects (Turner, 2018: 89-90). This is because of the clear evidence that lack of PrEP's knowledge potentially affects its prescription practices (Turner *et al.*, 2018: 88) as such one study showed that individuals were willing to use PrEP without concerns of its complications due to lack of knowledge (Turner *et al.*, 2018: 89).

Participants in Seidman *et al.*, (2018: 467) suggested family planning clinics as safe institutions to inform about and provide PrEP. This supports Eaton *et al.* (2015: 428) and Mack *et al.*'s

(2015: 55) view that PrEP should be integrated into existing service deliver such as family planning. This may help avoid lack of knowledge amongst other health care providers.

2.9.3 Side effects

Side effects are a barrier to effective consideration of medication, the major they are the likely people will be unwilling to consider that medication, studies such as Koechlin *et al.* (2017: 1327) and Wang *et al.* (2018: 6) demonstrated this to be true. Nevertheless, Thigpen *et al.*'s study (2012: 429) showed that side effects that occurred frequently were nausea, vomiting and dizziness, other side effects include headache, tiredness, diarrhoea, rash and changes in appetite, however, these usually go away within the first month (Koechlin *et al.*, 2017: 1330; TEN81, 2017). Meaning that it is important for health care providers and patients to have a good "doctor-patient" relationship for the sake of monitoring side effects that may occur regardless of how minor they are (Bekker *et al.*, 2017: 8; Liu *et al.*, 2014: 3). Also, it is important to make it clear to patients that PrEP is a pill and like any other medication it does have side effects, however, they are not as severe that PrEP should not be considered.

2.9.4 Cost effectiveness

South Africa among other challenges has unemployment and poverty which makes it hard and sometimes impossible for many individuals to access HIV prevention services. However, means are made to ensure that these issues are not neglected such that grants are provided, and HIV prevention remedies are offered for free in public health institutions. Furthermore, the fact that HIV prevention funds are not as sustainable and are costly remains a problem (Eweka *et al.*, 2018: 122), because self-purchase of PrEP appeared to be a concern in a couple of studies proving Tellalian *et al.*'s (2013: 558) point that out of pocket expenses may hinder access to PrEP. Moreover, studies especially those conducted on women showed that respondents stated that they would be more than willing to take PrEP if it was free and provided by trusted providers even if they were required to re-test every three months (Auerbach *et al.*, 2015: 108; Koechlin *et al.*, 2017: 1327; Seidman *et al.*, 2018: 467). In South African this might not be much of a concern for those who can access public health services because PrEP is provided for free at centres such as the TEN81 including other public health care facilities, colleges and universities.

2.9.5 Stigma

Stigma is still a major barrier to effective HIV prevention including the delivery of treatment, care and support (Parker & Birdsall, 2005: 4). Stigma occurs both at an individual and group

or societal level as it is fuelled by processes such as stereotype and labelling of people as belonging in a certain category of race or class (Parker *et al.*, 2005: 5). Fear of stigma amongst people living with HIV has been found to be a blockade to accessing VCT and other HIV/AIDS related support services (Parker *et al.*, 2005: 7). Likewise, PrEP-related stigma has discouraged some patients from accessing PrEP (Liu *et al.*, 2014: 3). Consequently, some individuals demonstrated that they are reluctant to take PrEP because they fear to be labelled as HIV-infected since PrEP is a HIV related medication (Collier *et al.*, 2017: 186; Liu *et al.*, 2014: 4; Koechlin *et al.*, 2017: 1328). Therefore, it is advisable that HIV prevention campaigns find a way to combat this stigma (Liu *et al.*, 2014: 4).

2.9.6 Willingness to use PrEP

The willingness to take PrEP is directly linked to its awareness or knowledge (Sheth, Rolle & Gandhi, 2016: 153). For instance, in one study women who considered themselves as being at risk of contracting the virus expressed anger about not having heard of PrEP (Sheth *et al.*, 2016: 153; Seidman *et al.*, 2018: 467). Although side effects and cost appeared to be a frequently shown concern, knowledge of PrEP plays a great role in its effective implementation because it avails more than the basic information. As shown by Sheth *et al.* (2016: 154) many United States (US) women expressed interest in using PrEP once they were aware of it. Moreover, a study conducted on Kenyan and South African girls and young women found that all participants showed strong interest in PrEP (Koechlin *et al.*, 2017: 1327). Equally, Wang *et al.* (2018: 9) results showed interest of PrEP usage among men who have sex with men (MSM). This suggest that knowledge about PrEP is needed to successfully offer PrEP. The following section discusses the Rhodes University HIV/AIDS policy and other higher education and training programmes and prevention interventions.

2.10 Rhodes University HIV/AIDS Policy

Rhodes University (RU) 2006 policy on HIV/AIDS recognises and acknowledges the seriousness of the HIV/AIDS pandemic for the students, staff and the community at large, and commits itself to the creation of HIV/AIDS support structures directed at enhancing the health and welfare awareness of its whole community (RU HIV/AIDS policy, 2006: 3). It also recognises the complex nature and significant effect of HIV/AIDS on the entire university community, those who are infected, those who are affected and those who are not yet infected and affected (RU HIV/AIDS policy, 2006: 4). Through the policy's objectives, RU commits itself to promoting a human rights-based approach to HIV/AIDS, and utilising appropriate measures to discourage discrimination and stigma against those who are perceived to be at high

risk of contracting HIV, or students and staff who are living with HIV (RU HIV/AIDS, 2006: 5).

Rhodes University's initial HIV/AIDS strategy was to focus on educating and granting full support to those living with and affected by HIV (RU HIV/AIDS, 2006). It also supports all the programmes that are aimed at addressing HIV issues on campus and outside campus. However, PrEP is yet to be included in the RU HIV/AIDS policy, but it is included in the Training Manual for Student Leaders, which means that PrEP is one of the adopted strategies at RU as recommended by Higher Education and Training HIV/AIDS Programmes (HEAIDS). This is a core objective of this study to find out how PrEP is being implemented at Rhodes University.

2.11 HIV Strategies Implemented at Rhodes University

2.11.1 Voluntary Counselling and Testing

Voluntary counselling and testing (VCT) are a crucial entry point into HIV care and treatment which makes it an essential component of HIV prevention programmes (Fonner *et al.*, 2012: 2). As a strategy, it provides an early diagnosis of HIV and therefore, helps lessen further transmission in that the diagnosed person gets access to treatment and it also encourages those that are not infected to remain HIV negative (Day *et al.*, 2003: 665; Peltzer *et al.*, 2009: 2; Subramanian *et al.*, 2008: 26). As demonstrated by Dehne *et al.* (2016: 323) that clinical trials affirmed that early ART is efficient for prevention. This supports a study conducted at Wits by Buldeo *et al.* findings (2015: 214) that 87% of university students agreed that to protect themselves and their sexual partners and prevent HIV transmission it is unquestionably significant for them to know their HIV status.

The scale-up of VCT is to 4500 South African public health care facilities (Mohlabane *et al.*, 2015: 86), including RU Health Care Centre (RU HIV policy, 2006: 5). VCT is available for free at Rhodes Counselling Centre and Health Care Centre (RU, 2017). This programme is carried out by trained counsellors and nurses. In contrast to prior studies such as *Unsafe sexual behaviour in South African youth* by Eaton, Flischer and Aaro's (2003), one of Buldeo *et al.*'s (2015: 213) findings is that:

the acceptance of VCT and the positive change in sexual norms are beneficial to the decline in the HIV prevalence rate as students are taking cognisance of the impacts of HIV/AIDS and the benefits of knowing their HIV status.

Likewise, Fonner *et al.* (2012: 1) affirmed that VCT can decrease HIV related risky sexual behaviours, therefore, confirming its significance as an HIV prevention strategy.

2.11.2 Condom Distribution

Condom distribution is one of the long-preferred strategies to prevent HIV and STIs for many countries (Jaspal & Daramilas, 2016: 2; Kelly, 2000: 19; Simelela & Venter, 2014: 249). Condoms provide 80% protection against HIV which qualifies them as an important component in the prevention of HIV infection when used consistently and correctly (Kanda & Mash, 2018: 1). Therefore, as part of SHARC programmes, condoms are ordered by the Health Care Centre from the Department of Health (DoH) and their distribution happens through the Housekeeping system (RU, 2017). They are distributed in almost all places around the campus such as the residences, library bathrooms, grounds and gardens bathrooms, departments bathrooms and lecture complex bathrooms (RU, 2017). This supports Whiteside *et al.*'s (2000: 138) view that condoms should be readily available and affordable to young people. As a result, results on Mzizi's study showed that peer education programme has a significant increase in condom distribution (Mzizi, 2017). However, studies conducted by HEAIDS found that approximately 14% of university and college students are involved in transactional sex, prostitution, take alcohol and use drugs putting them at high risk of contracting HIV and condom uptake is very low (Child, 2017). Thus, the prevention programmes have no significant impact on STIs at RU (Mzizi, 2017). Nevertheless, RU is one of the institutions with the lowest HIV prevalence rates (Mzizi, 2017). This means that the HIV prevalence at RU is handled well so far.

2.11.3 Pre-Exposure Prophylaxis

Studies conducted by HEAIDS found that approximately 14% of university and college students are involved in transactional sex, prostitution, take alcohol and use drugs putting them at high risk of contracting HIV, and condom uptake is very low (Child, 2017; Eweka *et al.*, 2018: 122; Motjane *et al.*, 2018: 79). Relationships based on age gap and financial status differences are increasingly common among university and college students and may involve exposure to unprotected sex (Motjane *et al.*, 2018: 79). This transactional sex is illustrated in the following post shared on Rhodes Confessions 2018 Facebook page in June 2018:

So, I found out that I was diagnosed with HIV/AIDS earlier this year, and for some reason I was just in denial of it, especially because I had only had unprotected sex once with somebody I trusted really well. Now, ever since I found out that time that I tested positive, I don't know if I should still say I have been selfish or I have just been in denial, but since then I have been recklessly having sex with different people (friends

with sexual benefits) I don't know what has gotten to me but it is happening, at times I tell myself that nothing will happen to the next person because I cannot be HIV-positive and other times it was done with anger and didn't want to hold this virus to myself. Now I don't know what to do and I have been getting reckless sex with both girls and guys, I went for another test last month at the bicycle lawn and the test still tested positive.

These factors contributed to the Higher Education and Training HIV/AIDS Programme (HEAIDS) to roll-out PrEP to university and college students because they are the ones making students' population suitable candidates to access PrEP (Child, 2017). Many researchers support the notion that young people, like adults, engage in sexual activities that put them at risk of acquiring HIV and other STIs, therefore, they can, and should, be kept HIV-free (see Eweka *et al.*, 2018 & Whiteside *et al.*, 2000)

PrEP aims to offer protection to students in hope that will adhere to it (Motjane, 2018: 79). According to Eweka *et al.* (2018: 122) making PrEP widely accessible can reduce new HIV infections among young adults, however, attitudes of patients and providers towards PrEP must be assessed for its success (Eaton *et al.*, 2015: 424; Eweka *et al.*, 2018: 123). Considering this, HEAIDS rolled-out PrEP across South African universities namely Nelson Mandela University (NMU), University of Limpopo (UL), University of Venda, University of Free-State (UFS), University of Zululand, Vaal University of Technology (VUT) and Rhodes University (Child, 2017; Motjane *et al.*, 2018: 79). Although PrEP does not reflect on the RU HIV/AIDS policy, it does reflect in the Training Manual for Student Leaders which means that PrEP is one of the adopted strategies at RU as recommended by HEAIDS and it is offered by professional nurses at Rhodes health care centre.

2.12 Higher Education and Training HIV/AIDS Programmes

2.12.1 HIV/AIDS and Higher Education

Schools and higher learning institutions are largely attended by the youth, who are or are not yet sexually active, which renders them well-suited environments to educate and implement programmes that may motivate learners and students to delay sexual activity and practice safe sex (Peterson & DiClemente, 2000: 85). According to HEAIDS (2016: 16) there were approximately 1.7 million students at enrolled at public colleges and universities. This was a significant increase in, almost double, the number of higher education enrolment in 2011 of 900 000 students (Buldeo *et al.*, 2015: 209). For this reason, South Africa adopted curriculum strategies that include 'Life Orientation' as a compulsory subject in primary and high schools. This supports Whiteside *et al.*'s (2000: 138) and Van Dyk *et al.*'s (2017: 209) suggestion that

schools need to be utilized for HIV/AIDS education and that the programme should start at an early stage and should not only focus on HIV/AIDS but also on life skills.

In addition to 'Life Orientation', South Africa has an active Higher Education and Training HIV/AIDS (HEAIDS) national programme that focuses not only on HIV, STIs and TB, but on general health and wellness (HEAIDS, 2016: 10). This programme's main purpose is to assist higher institutions to produce healthy and productive graduates by reducing the threat of HIV and ease its impact (HEAIDS, 2016: 10; Higher Education Sector Study South Africa, 2008-2009: 12). It is well acknowledged that effective prevention programmes work well through partnerships (Van Dyk *et al.*, 2017: 210). HEAIDS, as the main partner, ensures that programmes and projects, such as the curriculum development with a specific focus on HIV/AIDS, are integrated across disciplines (HEAIDS, 2018). For example, a study conducted at Rhodes University titled *Curriculum as a space for shaping student attitudes to and perceptions of HIV/AIDS*, found that 94% of the students strongly agreed that it is the duty of all South African universities to address HIV/AIDS in teaching and research (Rau & Coetzee, 2008). Research findings, such as Rau and Coetzee's (2008), has been instrumental in informing solid progress in HIV/AIDS curriculum development in South African higher education institutions (HEAIDS, 2016: 26). The following sections reviews some of these initiatives.

2.12.2 First Things First (FTF) Campaign

In 2011 the HEAIDS implemented a model of practice that is aimed at HIV prevention, care and treatment as well other health-related issues surrounding the student population. The First Things First (FTF) campaign was implemented in South African universities, and focuses on prevention and early detection of HIV, TB and other health risks and conditions (Buldeo *et al.*, 2015: 209; HEAIDS; 2016: 17). The primary goal of FTF is to encourage and enhance the quality of life in young people. Some of the specific targets of this campaign include hypertension, diabetes, cancer, family planning, condom promotion and male medical circumcision (HEAID, 2016: 12 & 17).

In 2016, the number of FTF activations in various institutions rose to 713 from 370 in 2014, and to 586 in 2015 (HEAIDS, 2016: 19). However, as compared to 2015 the number of people who tested for HIV and underwent TB screening was slightly low in 2016. This drop was as a result of poor attention that was given to capacity building and longer-term sustainability of the programme (HEAIDS, 2016: 14). Nevertheless, the response remained considerable with

160 007 people testing for HIV and 155 234 screening for TB (HEAIDS, 2016: 14). This shows that the campaign's activations are succeeding in reaching the student population, but more could be done as Rhodes University statistics, discussed later, shows.

2.12.3 The Women Health and Empowerment Programme

Another HEAIDS programme is the Women's Health and Empowerment Programme (WHEP), in partnership with the Department of Health (DoH), Department of Higher Education and Training (DHET), South African National AIDS Council (SANAC) and United States Agency for International Development (USAID). This programme aims to empower women on how to protect themselves from gender-based violence (GBV) and encourage them to make use of sexual and reproductive health services that are available to them (HEAIDS, 2016: 12). The goals of WHEP are aligned with the SANAC strategy for fast-tracked HIV prevention among girls and young women in South Africa (HEAIDS, 2018). It focuses on reducing HIV prevalence in young women through educating, creating awareness and providing young women with relevant and updated information and skills that will enable them to take informed decisions (HEAIDS, 2018).

It also draws from the ZAZI (know yourself) programme and She Conquers campaign recognising that a combined approach to HIV prevention is obligatory and must include biomedical, behavioural and social approaches to succeed (HEAIDS, 2018). The programme aims to achieve its goals through seven key strategies: (a) to increase the age of sexual debut; (b) to reduce unplanned pregnancy; (c) to reduce sex with older partners; (d) to reduce multiple sexual partners; (e) to increase consistent condom use among young women; (f) to increase uptake and retention of eligible young women on ART; (g) and to increase awareness, screening and referrals for cancers commonly found in women (HEAIDS, 2018).

2.12.4 The Men Health Programme

The Men Health Programme (MHP) is a HEAIDS programme that operates through the Brothers for Life Programme. It focuses on male students and staff at higher education institutions and aims to address the health-risks associated with men, such as male violence, multiple sexual partners, STIs, sexual behaviour practices and it further promotes the FTF campaign (HEAIDS, 2018). It also encourages men to make use of the sexual and reproductive health services that are available to them. Similar to WHEP, and as discussed above, MHP's goals are aligned with the SANAC strategy for fast-tracked HIV prevention among young men in South Africa (HEAIDS, 2018).

2.12.5 Lesbian Gay Bisexual Transgender Intersex (LGBTI) Programme

This programme aims to promote an enabling environment for access to appropriate health and wellness care and prevention services, as well as de-stigmatisation for LGBTI persons (HEAIDS: 2018). For example, at the University of Limpopo (UL) HEAIDS supports the LGBTI structure known as the “UL-OUTRAGE” through the peer education programme (PEP), and the health and wellness centre (HEAIDS, 2018). The LGBTI programme also operates in partnership with the DHET, SANAC and the National Aids Convention of South Africa (NACOSA), this is a vulnerable group with HIV prevalence with 4.1% HIV infections which is twice that of heterosexual persons of 1.7%, and a study found that 6% of male students and staff members engaged in homo sexual relationships (HEAIDS, 2018).

2.12.6 The Future Beats Project (FBP)

Future Beats Programme (FBP) is another HEAIDS prevention and youth development programme, and this is in partnership with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). It aims to establish radio and social media programmes at higher education institutions and youth community radio stations in South Africa. The goal is to create awareness concerning HIV and other social issues such as social transformation, human rights and youth unemployment (HEAIDS, 2018). It was launched in 2014 and has increased the number of radio stations in the programme yearly, for example, in 2016 the programme reached about fourteen university campuses, and community radio stations with an estimated 720 000 listeners (HEAIDS, 2016: 24). In addition to the GIZ partnership, it also works with FTF, WHEP and MHP programmes with a belief that gender stigma can only be tackled through involving both women and men (HEAIDS, 2018).

Unlike other behaviour change programmes, FBP communication messages are tailored to target the higher education sector using most South African languages, different demographics, and different social problems that students face (HEAIDS, 2018). This is achieved through empowering campus and community radio volunteer journalists who manage to produce distinguished radio social media content that allows for peer-to-peer communication and debate on health-related topics (HEAIDS, 2018). FBP was acknowledged as the best practice programme at the South African AIDS Conference in 2017 (HEAIDS, 2018).

2.13 Rhodes University Prevention Programmes

Rhodes University HIV/AIDS prevention programmes are run by Student HIV/AIDS Resistance Campaign (SHARC) an independent student organisation that aims to raise

awareness of HIV/AIDS and prevention methods on campus and in the Grahamstown community at large (Rhodes University, 2017). Under this organisation there are campaigns such as peer education, VCT and condom distribution. There is also a staff peer education group which aims to provide staff access to HIV/AIDS education and RU HIV/AIDS policy (Rhodes University, 2017).

2.13.1 Peer Education Programme (PEP)

According to Van Dyk *et al.* (2017: 210) behaviour change among young people is more likely to occur when young people support and educate one another than under the guidance of older individuals. Peer education is an approach, a communication channel and a strategy that is aimed at engaging young people in health promotion particularly sexual and reproductive health (HEAIDS, 2016: 156; UNAIDS, 1999: 5). According to Harrison 2000 (cited in Van Dyk *et al.*, 2017: 210) an effective peer education programme is less intimidating and more accessible in that it transfers the control of knowledge from the hands of experts to ordinary community members.

At Rhodes University, PEP is a SHARC-led programme for RU students and Grahamstown community members infected and affected by the HIV. PEP goes beyond HIV education to the development of critical thinking, lecturing, distributing materials such as condoms, counselling, making referrals to services and providing support (HEAIDS, 2016: 3). Student members of SHARC are the link between the students and the RU Health Care Center, and they are responsible for health promotion. In 2009 SHARC trained approximately 90 peer educators, which included a 3-day camp named *Youth for the Education and Activism of HIV/AIDS* that trained about 35 high school learners to become peer educators in their respective schools (RU, 2017). PEP training has enjoyed tremendous success, from a mere 337 trained peer educators in 2013 to a massive 7 072 university and college peer educators in 2016 (HEAIDS; 2016: 14).

However, a study conducted by Mason-Jones and Mathews (2011) titled *Can peer education make a difference? Evaluation of a South African adolescent peer education program to promote sexual and reproductive health*, found that peer education did not have any effect on the age of sexual debut, use of condom, decision-making or future orientation on students. Another study titled *Evaluating the effectiveness of peer education programme at Rhodes University: what works and what doesn't*, found that the programme had no significant effect on STI infections, but it was moderately effective on condom distribution and reducing

unplanned pregnancies (Mzizi, 2017). In contrast to these studies, a study by Gazu, Mudenda and Govender (2008) titled *An evaluation of health promoters' peer education programme administered at the Durban University of Technology*, declared that peer education is an effective and immediate strategy adopted by institutions in addressing HIV/AIDS related issues. Kalunga's (2016) study titled *The effect of a peer education programme on peer educators of the HIV/AIDS unit of the Cape Peninsula University of Technology (CPUT)* also found that the peer education programme successfully achieved most of its goals, especially positive changes in HIV/AIDS, STIs and TB knowledge, as well as attitudes, practices and beliefs.

2.13.2 Staff Peer Education Group

It is every company's or institution's responsibility to assess its needs and capacity to set-up programmes that promote health and wellness for its employees (Van Dyk *et al.*, 2017: 690). They further suggest that for a workplace operational plan to succeed it should at least include assessing the needs, the knowledge levels and attitudes of the employees, analyse the needs assessment and use the results to inform the prevention programme. This should include all the management team assisting in identifying the strengths, weaknesses, opportunities and threats (SWOT) of the company to clearly make visible the capacity, expertise and personnel to successfully develop. In line with this, Rhodes University has an employees' health awareness and prevention programme that is integrated with other institutional programmes. The RU Staff Peer Education group is an employees' HIV programme that aims to provides HIV/AIDS education to staff, and access to RU HIV/AIDS policy (Rhodes University, 2017). This programme works collaborates with the SHARC as they share similar objectives.

2.14 Conclusion

This chapter discussed various HIV/AIDS policy initiatives and prevention programmes in South Africa and at Rhodes University. Since 1994, South African government administrations have held different perspectives on the HIV/AIDS epidemic, and therefore have responded differently. For example, many people died under the Thabo Mbeki administration due to HIV denialism and a lack of an effective response for both prevention strategies and treatment. In contrast, the Jacob Zuma administration implemented National Strategic Plan (NSP) to combat the HIV epidemic and had some success in reducing AIDS-related deaths. However, although South Africa has many HIV programmes and has been able to adopt new interventions such as PrEP, the rate of new HIV infections, especially among the youth in higher education institutions, is on the rise. This is due to their engagement in risky sexual behaviours, such as

less condom usage, and their lack of knowledge on or indifference to HIV policy in their institutions. This suggests that the Zuma administrations' NSP implementation is not yet as successful as it was hoped. This means that there is a lot that still needs to be done.

It is noteworthy to recognise the success of the Department of Health's prevention methods such as PMTCT, and PrEP, which will help in reducing the high HIV infection rate. Education campaigns on PrEP is a must if the HIV negative status of the public is to be maintained.

Chapter 3: Data analysis

3.1 Introduction

This study adopted a qualitative research method and used thematic analysis method to interpret and discuss the data. The study objectives were to explore students' and staffs' knowledge of the Rhodes University HIV policy; to investigate students' and staffs' awareness of HIV prevention programmes; and to explore how PrEP is being implemented at Rhodes University. As stated earlier, the total number of participants was fifteen, which included five female and four male students, and six staff members. The staff consisted of one institutional wellness specialist, three healthcare centre nurses, and two staff peer-education group members. The analysis starts with the participant's knowledge of the HIV policy and programmes at Rhodes University.

3.2 Knowledge of Rhodes University HIV policy

In line with Section 27 of the Constitution of South Africa, access is paramount for health-related issues, as it stated that everyone has the right to access healthcare services and social security. In this regard, HIV policy is included in the health-related issues as it is about rights and treatment for both the infected and affected individuals. Therefore, it is important for students and staff at Rhodes University to have access and knowledge of the institutional HIV policy. In response to the first objective which was to explore the participants' knowledge of the RU's policy on HIV, all participants said that they are aware of the university's HIV policy and that it is available for everyone to access. As a result, all staff participants had extensive knowledge of the policy, and they also knew that it includes the management of HIV/AIDS, as a staff participant shows:

The policy entails the management of HIV in the workplace that means that people need to know that they can access treatment at the Rhodes health care centre. People need to know that there is going to be support for them from the management section and they need to know that we are trying to eradicate the stigma surrounding HIV. So, we are giving them options, we are giving them information, and we are giving them education. The policy was developed at RU when the current HIV/AIDS officer or wellness specialist came, so the policy was developed here so that the people who are here on the ground, the workers and the students, they should know everything surrounding their rights and how HIV will be managed at Rhodes.

(Thuli, Rhodes University, 2018).

Another staff participant confirmed that everyone at Rhodes University can access this information, because:

The policy has been reviewed and it is available in three languages, it was written in English, and then it was translated into IsiXhosa and Afrikaans.

(Melusi, Rhodes University, 2018).

Moreover, four other staff and student participants agreed with Thuli that the institution's policy exists to ensure that HIV is well managed at the institution. As one student participant confirmed that there is support for those who are infected with HIV:

HIV positive students are not forced to but are encouraged to disclose their status. They're supposed to be respected and they are not supposed to be discriminated, especially when there are being registered or hired as teaching assistants or as tutors.

(Tom, Rhodes University, 2018).

Tom's views are in line with the institution's earlier discussed policy objectives, which are to promote human-rights based approach to HIV/AIDS, and to use appropriate measures to discourage discrimination and stigma (RU HIV/AIDS policy, 2006).

3.2.1 Exposure to the policy

Although most respondents demonstrated awareness and basic knowledge of the policy, some respondents highlighted that they were not aware of the policy. To explain why the lack of awareness, a student participant said that an HIV policy is not just something you are interested in unless you are directly affected and want to know what your rights are. As he explained:

Unless a policy is flashed out to you for whatever reason, it's not something that you just going to look for. For instance, I knew about the policy because I had to do an assignment.

(Melusi, Rhodes University, 2018).

This means that the policy was is not readily available to some participants as one participant said:

I don't know about the policy because I was never exposed to it, even when I go to the health care centre, they never mentioned it.

(Ziki, Rhodes University, 2018).

A similar sentiment came from another participant, who said:

I have never seen it and it has never been presented to me although I have gone to the health care centre.

(Terry, Rhodes University, 2018).

This shows that not all Rhodes University students are aware of the HIV policy. Therefore, the health care centre nurses need to promote the policy when they are dealing with information on HIV-related issues. For example, someone who is diagnosed with HIV is supposed to be aware that they are protected against discrimination and stigma at Rhodes University (RU HIV/AIDS policy, 2006). Although student participants are aware of the policy, they said that they are not eager to read it thoroughly. Unlike student participants, staff participants due to their work, know the HIV policy in detail. When asked how they knew about the policy, a staff participant said:

I think as a person who is in a supervisory position I should be aware of certain policies that the institution has.

(Mary, Rhodes University, 2018).

The knowledge of HIV policy among participating staff does not mean that other staff at Rhodes University know about the policy. However, due to the study sample, only health care staff were selected as participants, the findings of this study cannot be generalised to all academic and administration staff members at Rhodes University.

3.2.2 The amendment of the 2006 HIV policy

Rhodes University have had an HIV policy since 2006, but the policy needed an update to include the management of HIV. For example, 2006 policy was only concerned with encouraging people to get tested and any individuals tested positive would be referred to the local clinics and the hospital. This was pointed out by one of the staff participants, who said:

I was involved with HIV from the beginning because when I started working here in 2010 there was hardly any HIV management. People had to go to the clinics in town or to the hospital in order to access management and treatment. The only thing that we did, is test HIV and if we found that a person is positive we referred them to one of the clinics, because we didn't have access to medication or anything. So, it was just testing that was done here, and then we referred to the local clinics or the local hospital depending on what we found. So, when Thandi worked here at the health care centre we sort of started this process together. HEAIDS came on board, that is an NGO that works with all the tertiary institutions, so they came on board and they also helped to bring this whole policy on its legs.

(Thuli, Rhodes University, 2018).

Two other staff participants agreed with Thuli's point that the current health care centre staff and the institutional wellness specialist were instrumental in informing the Rhodes University's HIV policy to cover management and treatment of HIV/AIDS. They confirm that students and staff now access treatment at the RU healthcare centre. This indicates that Rhodes healthcare providers understand that the provision of chronic medication within the institution contributes

positively to the wellness of the RU community. As the UNAIDS (2004) states that effective prevention and management of HIV requires policies that assist in reducing the vulnerability of individuals. Thus, it is important to create a legal, social and economic environment in which prevention and treatment is possible.

The amendment of the RU's HIV policy worked to the institution's advantage. As a staff participant said:

Rhodes University benefits greatly by working together with the community's health facilities and providing treatment at Rhodes Health Centre.

(Candice, Rhodes University, 2018).

This means that HIV is well managed regardless of the challenges that the institution face in promoting HIV wellness. To further understand the strategies used to manage the HIV prevalence rate, participants were asked to name the prevention methods that they know. Health care staff and student participants who had previously been involved in the peer-education programme demonstrated good knowledge and awareness of HIV programmes. The rest of the participants demonstrated slight knowledge of these programmes, as one international student mentioned that he only knows of HIV awareness programmes in his home country, and not South African and Rhodes University programmes. Nearly all participants agreed that these programmes are not as effective, and one of the reasons given was that behaviour is a major blockage to the effectiveness of these programmes.

3.2.3 Peer-education and First Things First programmes

Many participants, especially students, said that they were aware of the students' peer-education programme (PEP), and all staff participants showed a thorough knowledge of more than one programme. As mentioned above, the 2006 Rhodes HIV policy was updated to include the treatment and management of AIDS, and to show how this has also improved HIV programmes a staff participant said:

In the olden days we used to focus on people who were really sick or who might display symptoms of HIV or illness, so we would do HIV testing according to that. Nowadays we encourage everyone to know their status through regular campaigns.

(Athi, Rhodes University, 2018).

This was a clear indication that Rhodes University is trying to fulfil its policy obligations and commitments to implement and support HIV awareness programmes. As a result, the HIV testing method has shifted from the one mentioned by Athi above to voluntary testing. Thuli,

another staff participant confirmed this when she said: “the fact is that we are testing on a daily basis.”

When asked about HIV awareness programmes at Rhodes University, Mary a staff participant responded:

On the staff side we’ve got Treatment Action Campaign (TAC) but it is no longer active because peer-education came along.

(Mary, Rhodes University, 2018).

A student participant had the following to say on RU HIV programmes:

In the past we used to have a programme called SHARC which was more like a society that spread awareness about things that are related to HIV/AIDS.

(Candice, Rhodes University, 2018).

The above participants speak to a shift from TAC and SHARC to PEP and HEAIDS first-things-first (FTF) programmes that are currently active and known at Rhodes. As illustrated by a staff participant who stated that “there’s a FTF campaign that is run by the HIV office quarterly, that’s the programme I know” (Lethu, Rhodes University, 2018), and by a student participant who said:

Currently Rhodes has the peer-education programme which basically consists of students helping other students in terms of information. Giving out condoms, giving out information about the various prevention methods that are available. This is also the case with staff member because we have both students and staff peer-education programme. In terms of services, most of it happens at health care centre besides the distribution of condoms because peer-educators and the house committee are responsible for that.

(Candice, Rhodes University, 2018).

As earlier noted, only the international student participant stated that he was not aware of PEP or FTF, or other HIV campaigns and programmes in South Africa and at Rhodes University. The rest of the participants had knowledge of either all RU programmes (staff) or some such as PEP and FTF (students).

3.2.4 How effective are HIV programmes?

To evaluate the effectiveness of the programmes, participants were asked if they thought that the programmes are raising HIV awareness at Rhodes University. Although participants were aware of these programmes, most of them strongly stated that these programmes are not effective, especially the peer-education-programme. As one student participant illustrates:

I know of the peer-education programme, but I have never seen them active around campus.

(Ruth, Rhodes University, 2018).

Another student said:

I think because I don't know more than the peer-education-programme, they are not effective because if they were, then most students would know and see them around most of the time. The only time we see anything about AIDS is when they are testing, they never teach us about it, but they just make us test and that's it.

(Betty, Rhodes University, 2018).

Most student participants support Ruth's point that PEP is not visible on campus, and they also support Betty's point that the programmes are not effective. As one student participant further stated:

Considering that I am a third-year student I should at least be knowing about these programmes without me having to dig them up.

(Lebo, Rhodes University, 2018).

The above sentiments are similar to other studies that found that PEP had no significant effect on the student population (Mason-Jones & Mathew, 2011; Mzizi, 2017). However, one student participant contradicted the other student participants in stating that PEP is beneficial:

I think they are very active because they are also in residences doing talks and posting on social media.

(Luka, Rhodes University, 2018)

However, another student participant challenged Luka by saying:

Posting on social media is not something that happens frequently except when the FTF campaign is about to happen.

(Ruth, Rhodes University, 2018).

Luka's view is nonetheless supported by other studies that found that the PEP successfully achieved most of its goals, especially positive changes in HIV/AIDS, STIs and TB knowledge, as well as attitudes, practices and beliefs (Kalunga, 2016; Gazu *et al.*, 2008). The above discussion means that it is possible for programmes to be both effective and ineffective depending on the support and energy of those that are responsible or involved in it. This confirms Whiteside *et al.*'s (2000) view that awareness programmes require support as there is none that can be successful on its own.

3.2.4 Personal responsibility

Based on the above findings, some participants emphasise that it is not a matter of the programmes not being effective but rather it is a matter of personal responsibility or change of behaviour. According to some participants, such as Ruth a member of staff, “enough is being done to create awareness around HIV” and a student participant agreed by saying that “nowadays, everybody is aware and has information on HIV/AIDS”. And another staff participant said, “people just choose to be ignorant” (Lethu, Rhodes University, 2018).

These remarks show that individuals lack self-discipline, and that not all individuals take advantage of these programmes. This was confirmed in the studies commissioned by HEAIDS which found that students engage in risky sexual behaviours with less or no condom use (Child, 2017). This shows that “HIV is still a challenge” (Thuli, Rhodes University, 2018). This is why Smith *et al.* (2011) argue that HIV/AIDS should continue to be treated as exceptional.

In addition, the fact that people are still diagnosed with HIV and STIs, including unplanned pregnancies, is a clear indication that “behaviour needs to change” (Thuli, Rhodes University, 2018). A staff participant confirmed this by citing Rhodes University 2017-8 report:

The current institution’s reports (2017-8) on the prevalence of STIs have gone up including the number of pregnancies among students. This means that students are not using condoms when having sex and this makes them very vulnerable in terms of contracting HIV.

(Melusi, Rhodes University, 2018)

This supports the HEAIDS suggestion that students should be target recipients of PrEP (Child, 2017). The above views led to a staff participant remarking that “there should be more programmes, but I don’t think they will be effective at this University” (Mary, Rhodes University, 2018). And as Whiteside *et al.* ’s (2000) suggest that HIV programmes should start at an early age and should focus on behaviour. This was supported by a staff participant who said that “parents need to become involved and teach their children from an early age that there is reality of HIV/AIDS and STIs” (Thuli, Rhodes University, 2018). This means that it is not only the duty and responsibility of the government or the institutions of higher learning to provide health education, but it is also the responsibility of the family.

Related to the question of the effectiveness of the HIV programmes, some student participants mentioned lack of interest and interesting ways of promoting programmes:

I don't think the programmes are effective because people are not paying attention. Students are not interested in these things maybe because they are not interesting, or many people have information about HIV/AIDS.

(Lethu, Rhodes University, 2018).

Another student said:

I don't think people should be pushed in understanding these things because this could be the reason they don't find them interesting.

(Lebo, Rhodes University, 2018).

And another added:

Although the FTF campaign comes to the students, they pitch their tents in places that do not interest students, such as at the Steve Biko lawns, no one usually goes there.

(Ruth, Rhodes University, 2018).

According to these students, HIV awareness programmes should venture more into places that will spark the interest of the students. Therefore, there is a great need for promotional skills of these campaigns. As Van Dyk *et al.*'s (2017) suggestion that it is critical for programme promoters to be able to identify the weaknesses in their activities to ensure successful operational plans or programmes.

3.3 HIV prevention methods at Rhodes University

Prevention methods are strategies that are used to manage the spread of HIV. Although most participants stated that HIV awareness programmes are not as effective as they should be, Rhodes University has one of the lowest prevalence rates of HIV compared to other higher education institutions in South Africa (Mzizi, 2017). Rhodes University has adopted various strategies to combat HIV, and participants were asked to mention what prevention methods they know.

3.3.1 Abstain, Be-faithful, Condomise, Delay and Educate

The Abstain, Be-faithful, Condomise, Delay and Educate (ABCDE) strategy is an amendment strategy of the Abstain, Be-faithful, Condomise (ABC) strategy, and they both focus on behaviour change. Most participants indicated that they were aware of this ABCDE strategy, as one student participant said:

I know that one must have one partner, like be faithful, abstain and use condoms during sex.

(James, Rhodes University, 2018).

Unfortunately, as discussed in Chapter 2, in South African as is the case in most countries, sex is closely linked to systems of power, vulnerability to HIV infection and disempowerment (Moodley, 2007: 3). The study by Moodley (2007) found that many South African young people do not abstain nor delay sexual activities, and they have multiple partners. Statistics also show that the HIV prevalence rate, especially among young adults is very high (Statistics South Africa, 2018).

Nearly all participants stated that they know that condoms are distributed by the HIV office. As Whiteside *et al.* (2000) suggest that condoms should be readily available for young adults, one staff participant emphasised that “we are condom kings, so I know condoms” (Mary, Rhodes University, 2018). However, some student participants indicated that they do not use condoms because they trust their sexual partners, and that they do not see why they should use them:

I know about condoms, but I don't use them because I know my partner's status. I don't feel like I'm at risk of HIV, and other things like STIs and pregnancy are small waters for me, what I am scared of is HIV.

(Luka, Rhodes University, 2018).

Although condoms may be the long-preferred strategy to prevent HIV and STIs, it can be argued that this is a preferred strategy by the government and not necessarily by the citizens, or students in this case (Jaspal & Daramilas, 2016; Kelly, 2000; Simelela & Venter, 2014). As the HEAIDS studies found that condom use among students is very low (Child, 2017). The fact that the prevalence rate of HIV infection is low at Rhodes may be due to the fact that condom use is higher than in other education institutions.

With regard to abstinence, some participants indicated that they know that abstinence is one of the HIV prevention methods, but they doubted its feasibility. As one student participant said, “I know of abstinence, but I am not sure how feasible that is” (Candice, Rhodes University, 2018), and another one said, “I know abstinence which I don't know if people practice it” (Ruth, Rhodes University, 2018). Yet another said, “I am reluctant to say abstinence is an HIV prevention strategy because I myself do not practice it”. These students' expressions are supported by Whiteside *et al.*'s (2000) finding that young people, just like adults engage in sexual activities. With this evidence, abstinence remains a questionable strategy to reduce new HIV infections. This confirms Burman *et al.*'s (2015) finding that abstinence is a strategy that was relevant in the past, and that is not successful today.

3.3.2 Post-Exposure Prophylaxis & Pre-Exposure Prophylaxis

Many studies have concluded that in the absence of a cure for AIDS, prevention remains the best option (Child, 2017; Kelly, 2000; Moodley, 2007; Mzizi, 2017). In so saying, it is encouraging to know that the Rhodes University HIV policy includes several prevention methods. The post-exposure prophylaxis is one of the prevention methods, and most student participants are aware of this method. This is a prevention method that is used in rape cases, accidental contact with HIV contaminated blood, or after unprotected sex with a suspicious partner or casual sex. In such incidents post-exposure prophylaxis is provided within 72 hours to protect the victims from contracting HIV. Pre-exposure prophylaxis on the other hand is a prevention method that is taken before sexual contact.

Participants were asked if they know what PrEP is, and if it is one of the HIV prevention methods at Rhodes University. Only three of the nine student participants knew what PrEP is, as one said that “PrEP is a drug that prevents you from getting HIV depending on how many times you take it” (Luka, Rhodes University, 2018).

However, the students who said that they know PrEP had limited knowledge of how and when it is taken. This means that even though this strategy is available at Rhodes University, it is not promoted to the student body, and maybe the rest of the academic and administration staff. This can be confirmed by my supervisor who stated that she had limited knowledge of PrEP at the start of this study. However, all the staff participants had extensive knowledge on PrEP. One of them said that PrEP “is a new HIV prevention method that was introduced for HIV-negative people”. Another participant said:

PrEP is used by HIV-negative individuals who feel that they are at a greater risk of contracting HIV. This method is just to prevent them from contracting HIV basically. So, we look at people that have many sex partners, that don't condomise, men who have sex with men, etc. But it's actually for anyone that feels they need to protect themselves from getting HIV.

(Mary, Rhodes University, 2018).

One participant elaborated on the procedure that is followed before PrEP is administered, as she said:

PrEP is a programme that includes testing for HIV first to see if you're negative. We also do extensive counselling on STIs. We have to do base-line blood tests to check your kidney and liver functions. Then we give you the PrEP medication for a month, after one month you come back and then we run the same tests again. And if you're still HIV-negative and your kidneys and liver are functioning well then, we give you a three months treatment.

(Melusi, Rhodes University, 2018).

Another staff participant said:

What I also know is that it is not like a condom, you cannot take it now and have sex, you have to take it for about 21-28 days. If I'm not mistaken for it to start being effective and you have to take it every day. However, if you want to stop it, you cannot just stop it like you're taking any other tablet. If you want to stop, you have to take it another 28 days before you can stop.

These participants' explanations are evidence that health care staff at Rhodes University have good knowledge of and understanding on how to use PrEP. This is in contrast to the earlier discussed lack of knowledge among student participants, as one of them states, "I don't think I would've known about PrEP if I had not gone to the health care centre to test" (Terry, Rhodes University, 2018). This suggests that there is a great need to promote PrEP at Rhodes University. There is also a need to train health care providers on PrEP as one peer education programme student said that the health specialist and the health care centre staff had received PrEP training from another institution and they shared the information with health workers and peer educators at Rhodes. A staff participant, who is a nurse, also confirmed the lack of PrEP training at Rhodes University, when she said that "I first heard about PrEP when I attended the HIV/AIDS International Conference in Durban" (Melusi, Rhodes University, 2018). Another one confirmed that she was trained by chance at the same conference, she said:

As an employee of the health care centre, I was also invited to a PrEP training that the nurses were invited to, so I knew about it then.

(Athi, Rhodes University, 2018).

The fact that most staff members only learned about PrEP at the Conference in 2017 means that Rhodes University need to train health care providers and promote it on campus. However, some staff and student participants who were involved in the peer-education programme said that this is a good programme as they share knowledge amongst members. For example, a staff PEP participant said:

I knew about it through peer-education when they came back from the training and briefed us about it. And they also told us that it is not available in other clinics but only at the Rhodes clinic and the Nelson Mandela University.

(Ruth, Rhodes University, 2018).

This was confirmed by a student PEP participant who said, "I knew about PrEP through the peer-education programme." This shows that some programmes at Rhodes University are good and benefiting members, and those they educate. It is important to also acknowledge that

Rhodes University has adopted HEAIDS recommendation that universities and colleges integrate HIV/AIDS in the curriculum (Rau & Coetzee, 2008). The benefit of this was confirmed by a student participant, who said “since I am a pharmacy student we get taught like a few things in relation to HIV, so I knew about PrEP in class”.

3.3.3 Target population – Who should use PrEP?

Most HIV strategies and treatments are usually piloted on target populations (Bui *et al.*, 2016). Study participants were asked who the target population for PrEP should be. All staff participants and some student participants said that PrEP should be made available to everyone. As one staff participant said:

Because we are diagnosing homosexuals, we are diagnosing married couples, we are diagnosing children from as early as 16 years, so anyone who is in a sexual relationship should have access. But I think at the stage of SA’s history there is no money to roll it out to the wider community.

(Thuli, Rhodes University, 2018).

Another staff participant said:

Obviously, there are target groups, but I think it’s best if anyone can have access to PrEP, just as everyone has access to ARVs, to TB medication, to PEP, it would be best if everyone could have access to this PrEP.

(Sipho, Rhodes University, 2018).

Two other staff participants agreed with the above sentiments and confirmed that PrEP should in fact be taken from the ages of 16 years or 18 years. They also noted that it is not only, for example, sex workers who are vulnerable to contracting HIV, but everyone is. A student participant held similar views:

I think if we were talking about 20 or 30 years ago, I would say maybe sex workers should be the ones who take it, but I think the way the society has moved now it’s everyone that needs it. This is a programme that should be introduced from high school, let’s say from the age of 16 right up until to the oldest person, because the high HIV infection rate means that this is not only a problem for sex workers. So, everyone should access PrEP.

(Terry, Rhodes University, 2018).

In addition, a staff participant pointed out that PrEP is still a new strategy which should not be given to just anyone, she said:

Although PrEP is for everyone that is negative, we however, do assess the risks, because somebody who is not sexually active does not really need to use the medication because

it's basically for sexually active people. Nonetheless, we do have people who are on PrEP just because they want to protect themselves.

(Athi, Rhodes University, 2018).

With regard to vulnerable populations, most participants maintained that even though PrEP is for everyone, only people who consider themselves to be at high risk of contracting HIV should be considered for PrEP. It is limited and would not be fair for people to take it when they actually do not need it. This was emphasised by a student participant who said:

I think it should be used by serodiscordant couples not just anyone because they are excited about a drug that prevents them from contracting HIV and possibly want to have unprotected sex.

(Ruth, Rhodes University, 2018).

A staff participant had a similar view:

People who are in a relationship and do not know or do know their sexual partner's status should take PrEP for them to not be infected.

(Melusi, Rhodes University, 2018).

Nearly all participants agreed with the above statements, as a student participant summed up:

I think it should be taken by anyone who feels they need it, but most vulnerable groups such as sex workers and nurses should take it.

(Ziki, Rhodes University, 2018).

Participants showed a considerate attitude towards rolling out PrEP, which is in line with WHO's (2015) recommendations that PrEP should be targeted at vulnerable populations. However, these recommendations should not limit those who feel that they are at risk to access PrEP.

3.4 Challenges to HIV strategies and programmes

One of the major challenges in South Africa is the high unemployment rate, which means that many people cannot afford private health care (Ebi, 2016). Access to public health care is also limited to most communities, and this is why the South African government is a signatory to seventeen Sustainable Development Goals (SDGs) which it needs to meet (UN, 2015). The human development approach also focuses on people's health rather than economic growth (UNDP, 1999; Sen, 1999). Most participants, staff and students, spoke about the cost of some of the HIV treatment, specifically PrEP. For example, two staff participants noted that in Eastern Cape Province, PrEP is only available at two institutions of higher education, Rhodes

University and Nelson Mandela University. And one staff participant raised concerns that she would not be able to refer students who are receiving PrEP at Rhodes University:

Some of our students who are on PrEP are finishing off at Rhodes and we do not know where to refer them because it is not yet available to the wider community. So, unfortunately, they will have to go to the private doctors to get it, and it costs about R700-800.

(Thuli, Rhodes University, 2018).

Similar to other PrEP studies' findings, such as those by Koechlin *et al.* (2017) and Wang *et al.* (2018), some participants were also concerned about the side effects of PrEP, as demonstrated by a student who said that "as good as PrEP sounds, it can also be as dangerous" (Betty, Rhodes University, 2018). As two students said:

I would consider using PrEP after having thorough information about it. But if some of its side effects include destroying some of my vital organs then I probably wouldn't.

(Ziki, Rhodes University, 2018).

Without proper education a lot of people are going to use PrEP for all the wrong reasons. So, I think the success of this strategy is dependent on deep knowledge especially in South Africa, villages to be specific.

(Terry, Rhodes University, 2018).

This supports (Sheth *et al.*, 2016) finding that willingness to use PrEP is directly linked to its knowledge. Therefore, it is necessary for all health care providers including those who are not HIV specialists to have thorough knowledge about PrEP if it is to succeed.

Clinical studies on the side effects of PrEP found that there are mild side effects such as headache and nausea, but the long-term harm is not yet known (Neishlos & D'Ambrosio, 2017). However, despite its mild side effects, it is necessary for health care providers to have a good doctor-patient relationship in order to monitor these side effects regardless of how minor they might be (Bekker, 2017; Liu, 2014). Married staff participants indicated that they do not take PrEP because they are married, and they do not consider themselves at risk of contracting HIV. However, one of these participants stated that "we make a mistake of holding on to the thought that HIV can only be contracted sexually" (Mary, Rhodes University, 2018). Other staff and student participants said that they would consider taking PrEP, as one said, "depending on the nature of my relationship" (Candice, Rhodes University, 2018).

Some student and staff participants who are in sexual relationships did not only have a problem with PrEP but also with condoms. Most female participants indicated that their partners associated these methods with people who have more than one sexual partner. This revealed that gender issues are common in many relationships, which means that HIV strategies and prevention programmes need to target individuals privately, and not just focus on public campaigns. HIV need to be fought not just in public, but it must be fought privately.

3.5 How to improve HIV programmes

Most student participants noted that HIV programmes at Rhodes University could be presented more creatively. For example, one participant suggested that HIV campaigns should link up with the Drama Department, as there are performances by drama student that could include HIV education. The participant also suggested that Rhodes Health Centre nurses and other HIV officials should be involved in the residence performances to welcome and introduce themselves to the first years. Speaking on including HIV related issues in drama performances, one student said:

I think peer-educators should include HIV programmes and prevention methods in the plays they do for first years in the drama department. From the get go people should know that they will be exposed to behaviours that might put them in danger of contracting HIV.

(Terry, Rhodes University, 2018).

Nearly all student mentioned that they are at the university for formal education and sharing HIV information formally is boring and does not help, as they would rather focus on their studies than HIV. As a result, they said that they would prefer HIV information also included in drama. And one student said:

Informing students through plays is more relaxing, because sometimes in your mind you are just watching, little do you know that you are learning unconsciously. I feel that works because there are things I didn't know which I learnt through those plays and I still remember them clearly compared to those I read somewhere.

(Luka, Rhodes University, 2018)

Similar to presenting HIV messages in drama, one participant suggested that RU health workers and HIV officials:

Should be creative, they should go to the students instead of just pitching their tents and expect students to show interest by default. Health promoters must use all the platforms available and educate people about these preventions because HIV is a matter of life and death.

(James, Rhodes University, 2018).

Other researchers have found that successful HIV prevention programmes are those that are easily accessible and creative (Van Dyk, Tlou & Van Dyk, 2018). As a student said, “whoever is promoting PrEP should go to venues that students go to most” (Ruth, Rhodes University, 2018). Another student suggested including information on HIV in the registration pack that is given to first year students, and this should “include dates for residence HIV talks, and this must also be included in the year planners that are given to all students” (Terry, Rhodes University, 2018).

The students also said that some RU health care providers are not HIV specialist and they are not comfortable to talk to students about HIV and STIs. One student even suggested that this could be a possible driver of HIV and STIs among students. A study found that HIV specialists, compared to primary health care workers, were much more informed about and willing to provide PrEP (Turner *et al.*, 2018).

3.6 Conclusion

The aim of this study was to examine Rhodes University’s HIV policy and its awareness programmes, with a specific focus on PrEP. This chapter presented and discussed the research findings of the study. Participants, especially students said that there is a lack of knowledge for both the HIV policy and PrEP at Rhodes University. The ABCDE strategy is well known, only one international student said that he did not know much about the South African and Rhodes University HIV prevention programmes. However, two married participants said that there is a belief that condom use is an indication of multiple sexual partners. This is a barrier to the condomise prevention strategy. The study found that there were a few perceived benefits of taking PrEP, and some participants said that the lack of knowledge hindered them from considering it. Nearly all participants considered themselves as belonging to a low risk group and they did not see the need for taking PrEP.

The Rhodes University’s HIV policy was implemented in 2006, and it was focused on voluntary testing. Those found HIV positive were referred to clinics or the hospital for treatment or further counselling. The 2006 HIV policy was amended and made available in three languages - Xhosa, Afrikaans and English. This made it easier for most people to read and understand the policy. The amended policy included HIV management, which means that HIV positive students and staff get treatment from the Rhodes Health Centre.

Although the policy was amended and made available to everyone at Rhodes University, most student participants were not familiar with it, but the staff participants were knowledgeable.

The students said that they were not interested in the HIV policy and this is the main reason why they are not familiar with it. On the other hand, what motivated some staff members was their supervisory positions, which requires extensive knowledge of institutional policies, especially HIV policy.

The study also found that HIV awareness programmes that the student participants were most familiar with were the peer-education programme and the first-things-first programme. However, the staff participants knew more than these two HIV awareness programmes. Staff noted that other programmes were no longer active because the peer-education programme had taken over. This means that there is only one HIV awareness programme at Rhodes University which is the peer-education programme, run by students for students, and by staff for staff. Participants viewed the peer-education programme as not effective, and not flexible. For example, a student participant pointed out that he only knew the name 'peer-education programme' and not the services it offers. Another student participant said that she has never seen peer-educators promote it anywhere on campus. This may explain the lack of HIV prevention methods among student participants.

It was also found that participants knew how HIV is transmitted, and the benefits of condoms in protecting HIV and other sexually transmitted infections (STIs). However, some participants did not view themselves as at high risk of contracting HIV. They said that when sexual partners or couples are faithful, then they are safe from contracting HIV. One participant even boasted that he was not threatened by STIs. A conclusion is that behaviour is a contributing factor to the ineffectiveness of the HIV programmes and prevention methods such as condoms. The evidence of this ineffectiveness is that new HIV infections, unwanted pregnancies and other STIs are still occurring, and South Africa has the highest HIV prevalence rate in the world.

Student participants said that the HIV programmes were not promoted or presented in interesting and creative ways. They suggested that promotion of HIV prevention methods and treatment should be included in drama. This was viewed as an appealing and effective way of learning about HIV prevention methods.

3.6.1 Study Limitation

This was a qualitative study with few participants, therefore findings cannot be generalised to the rest of the Rhodes University population or other institutions of higher education in the Eastern Cape Province or the rest of the country.

Bibliography

- Akinsanya, O.S., Wiseberg-Firtell, J.A., Akpomiemie, G., Adeniyi, O.V. & Kaswa, R.P. (2017). Evaluation of the prevention of mother-to-child transmission programme at a primary health care centre in South Africa. *South African Family Practice*, Vol. 59 (2), pp. 56-60.
- Aminde, L.N., Takah, N.F., Noubiap, J.J.N., Tindong, M., Jingi, A.M., Kengne, A.P. & Dzudie, A. (2015). Awareness and low uptake of post exposure prophylaxis for HIV among clinical medical students in a high endemicity setting. *BMC Public Health*, Vol. 15 (1104), pp. 1-9.
- Auerbach, J.D., Kinsky, S., Brown, G. & Charles, V. (2015). Knowledge, attitudes, and likelihood of Pre-Exposure Prophylaxis (PrEP) use among US women at risk of acquiring HIV. *AIDS Patient Care and STDs*, Vol. 29 (2), pp. 102-110.
- Baah-Odoom, D. (2003). The link between social representations of HIV/AIDS and sexual behaviour amongst young people in Ghana and the U.K. Unpublished Ph.D. Thesis. United Kingdom: University of Birmingham.
- Babbie, E. (2007). *The practice of Social Research* (eleventh edition). USA: Thomson Learning. Inc.
- Bauer, M. & Gaskell, G. (2008). Social representation theory: A progressive research programme for social psychology. *Journal of the theory of social behaviour*, Vol. 38 (4), pp. 335-353.
- Bekker, L.G., Gill, K. & Wallace, M. (2015). Pre-exposure prophylaxis for South African adolescents: What evidence?. *South African Medical Journal*, Vol. 105 (11), pp. 907-911.
- Bekker, L.G., Rebe, K., Venter, F., Maartens, G., Conradie, F., Wallis, C., Black, V., Harley, B. & Eakles, R. (2017). Southern African guidelines on the safe use of pre-exposure prophylaxis in persons at risk of acquiring HIV-1 infection. *Southern African Journal of HIV Medicine*, Vol. 17 (1), pp. 1-11.
- Berger, P.L. & Luckman, T. (1996). *The social construction of reality*. USA: Penguin Books.
- Blanche, M.T., & Dhurrheim, K. (2002). *Research in practice: Applied Methods for the Social Sciences*. South Africa: University of Cape Town Press.
- Boyce, C., Neale, P. (2006). *Conducting in-depth interviews: A guide for designing and conducting in-depth interviews for evaluation input*. USA: Pathfinder International.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, Vol. 3 (2), pp. 1-41.
- Breakwell, G.M. (1992). Social Representations and Social Identity. Position paper presented at the *First International Conference on Social Representations*. University of Surrey Guildford, 1992 October.
- Breakwell, G.M. (1993). Social representations and social identity. *Papers on Social Representations*, Vol. 2 (3), pp. 1-217.

- Bui, D.D., Mesquita, F., Do, T.H., Kato, M., Van Nguyen, T.T., Nguyen, T.M.T. & Poon, A. (2012). Treatment 2.0 pilot in Vietnam-early progress and challenges. *World Journal of AIDS*, Vol. (2), pp. 64-70.
- Buldeo, P. & Gilbert, L. (2015). Exploring the Health Belief Model and first-year students' responses to HIV/AIDS and VCT at a South African university. *African Journal of AIDS Research*, Vol. 14 (3), pp. 209-218.
- Burman, C.J. & Aphane, M. (2016). Community Viral Load Management: Can Attractors Contribute to Developing an Improved Bio-social Response to HIV Risk-reduction?. *Nonlinear Dynamics, Psychology, and Life Sciences*, Vol. 20 (1), pp. 81-116.
- Burman, C.J., Aphane, M. & Delobelle, P. (2015). Reducing the overall Hiv-burden in South Africa: is reviving ABC an appropriate fit for a complex, adaptive epidemiological HIV landscape?. *African Journal of AIDS Research*, Vol. 14 (1), pp. 13-28.
- Chikutsa, A. & Maharaj, P. (2015). Social representations of male circumcision as prophylaxis against HIV/AIDS in Zimbabwe. *BioMed Central Public Health*, Vol. 15 (603), pp. 1-9.
- Child, K. (2017). HIV prevention now available to students. Sunday Times. 26 September.
- Chitamun, S. & Finchilescu, G. (2015). Predicting the South African female students to engage in premarital sexual relations: An application of the theory of reasoned action. *South African Journal of Psychology*, Vol. 33 (3), pp. 154-161.
- Collier, K.L., Colarossi, L.G. & Sanders, K. (2017). Raising awareness of Pre-Exposure Prophylaxis (PrEP) among women in New York City: Community and provider perspectives. *Journal of Health Communication*, Vol. 22 (3), pp. 183-189.
- Cowan, F.M., Delany-Moretlwe, S., Sanders, E.J., Mugo, N.R., Guedou, F.A., Alary, M., Behanzin, L., Mugurungi, O. & Bekker, L. (2016). PrEP implementation research in Africa: What is new?. *Journal of the International AIDS Society*, Vol. 19 (6), pp. 1-11.
- Davis, S.M., Hines, J.Z., Habel, M., Grund, J.M., Ridzon, R., Baack, B., Davitte, J., Thomas, A., Kiggundu, V., Bock, N., Pordell, P., Cooney, C., Zaidi, I. & Toledo, C. (2018). Progress in voluntary medical male circumcision for HIV prevention supported by the US President's Emergency Plan for AIDS Relief through 2017: longitudinal and recent cross-sectional programme data. *British Medical Journal Open*, Vol. 8 (8), pp. 1-9.
- Day, J.H., Miyamura, K., Grant, A.D., Leeuw, A., Munsamy, J., Baggaley, R. & Churchyard, G.J. (2003). Attitudes to HIV voluntary counselling and testing among mineworkers in South Africa: Will availability of antiretroviral therapy encourage testing?. *AIDS Care*, Vol. 15 (5), pp. 665-672.
- Dehne, K.L., Dallabetta, G., Wilson, D., Garnett, G.P., Laga, M., Benomar, E., Fakoya, A., Baggaley, R.C., Nelson, L.J., Kasedde, S., Bermejo, A., Warren, M. & Benedikt, C. (2016). HIV prevention 2020: A framework for delivery and a call for action. *The Global Prevention Focal Point Group*, Vol. 3, pp. 323-332.
- Department of Health. (2016). National Policy on HIV Pre-Exposure Prophylaxis (PrEP) and Test and Treat (T&T). Available at: www.sahivsoc.org. [Accessed 28 May 2018]
- Doda, Z. (2005). Introduction to Sociology. [Lecture notes]. Debub University, June.

- Eakle, R., Venter, F. & Rees, H. (2018). Pre-exposure prophylaxis (PrEP) in an era of stalled HIV prevention: Can it change the game?. *Retrovirology*, Vol. 15 (29), pp. 1-10.
- Eaton, L.A., Driffin, D.D., Bauermeister, J., Smith, H. & Conway-Washington, C. (2015). Minimal awareness and stalled uptake of Pre-Exposure Prophylaxis (PrEP) among at risk, HIV-negative, black men who have sex with men. *AIDS Patient Care and STDs*, Vol. 29 (8), pp. 423-430.
- Ebi, E.A.O. (2016). *Enforcing the right of access to healthcare services in South Africa*. Unpublished MA. Thesis. Preoria: University of South Africa.
- Eweka, I., Fleuriscar, J., Fleuriscar, J., Adeyemi-Jones, A., Dillon, B. & Albritton, T. (2018). Medical students reflect on the future of Pre-Exposure Prophylaxis use among adolescents and young adults. *Preventive Medicine*, Vol. 113, pp. 122-123.
- Ferris, K. & Stein, J. (2010). *The real world: An introduction to sociology* (second edition). United States of America: Norton & Company.
- Fischer, A. & Madden, D. (2011). The origins and evolution of HIV. Available at: www.dnadarwin.org. [Accessed 03 September 2018]
- Gazu, A.W., Mudenda, P.M. & Govender, A. (2008). An evaluation of health promoters' peer education programme administered at the Durban University of Technology. Unpublished Degree. Proposal. Durban: University of KwaZulu-Natal.
- Gillepsie, A. (2008). Social representations, alternative representations and semantic barriers. *Journal for the theory of social behaviour*, 38 (4), pp. 375-391.
- Goethals, G., Sorenson, G. & MacGregor, J. (2004). *Qualitative Research*. London, Thousand Oaks CA, New Delhi: SAGE Publications
- Goga, A., Chirinda, W., Ngandu, N.K., Ngoma, K., Bhardwaj, S., Feucht, S., Davies, N., Ntloana, N., Mhlongo, O., Silere-Maqetseba, T., Moyo, F. & Sherman, G. (2018). Closing the gaps to eliminate mother-to-child transmission of HIV (MTCT) in South Africa: Understanding MTCT case rates, factors that hinder the monitoring and attainment of targets, and potential game changers. *South African Medical Journal*, Vol. 108 (3), pp. 17-24.
- Govender, K. (2016). South Africa's adoption of the World Health Organisation's 'test and treat' guidelines: Are we too ambitious?. *South African Medical Journal*, Vol. 106 (10), pp. 952.
- Haffejee, F., Maughan-Brown, B., Buthelezi, T. & Kharsany, A.B.M. (2018). Perceived HIV related stigma among university students in South Africa: implications for HIV testing. *African Journal of AIDS Research*, Vol. 17 (2), pp. 109-118.
- HEAIDS programmes. (2018). Available at: www.heaids.ac.za/programmes/. [Accessed on: 19 September 2018]
- HEAIDS. (2018). Future beats. Available at: <http://www.heaids.ac.za/programmes/future-beats/>. [Accessed 30 October 2018]
- HEAIDS. (2018). Lesbian gay bisexual transgender and intersex. Available at: <http://www.heaids.ac.za/programmes/lgbti>. [Accessed 30 October 2018]

- HEAIDS. (2018). Men health and empowerment programme. Available at: <http://www.heaids.ac.za/programmes/brothers-for-life/>. [Accessed 30 October 2018]
- HEAIDS. (2018). The women's health and empowerment programme. Available at: <http://www.heaids.ac.za/programmes/zazi/>. [Accessed 30 October 2018]
- Jaspal, R. & Daramilas, C. (2016). Perceptions of pre-exposure prophylaxis (PrEP) among HIV-negative and HIV-positive men who have sex with men (MSM). Available at: <http://dx.doi.org>. [Accessed 28 May 2018]
- Jaspal, R. & Nerlich, B. (2016). A 'morning-after' pill for HIV? Social Representations of Post-Exposure Prophylaxis for HIV in the British Print Media. *Health, Risk and Society*, Vol. 18 (5-6), pp. 225-246.
- Joffe, H. (1998). Social representations and the AIDS field. *Psychology in Society*, Vol. 24, pp. 21-39.
- Johnson, L.F. (2012). Access to antiretroviral treatment in South Africa. *The Southern African Journal of HIV Medicine*, Vol. 13 (1), pp. 22-27.
- Jutas's Statutes Editors. (2016). Constitution of the Republic of South Africa 1996 (14th edition). South Africa: Juta Law.
- Kalichman, S., Eaton, L.A. & Pinkerton, S. (2007). Circumcision for HIV prevention: Failure to fully account for behavioural risk compensation. *Public Library of Science One*, Vol. 4 (3), pp. 137-138.
- Kalichman, S., Mathews, C., Kalichman, M., Eaton, L.A. & Nkoko, K. (2018) Male circumcision for HIV prevention: Awareness, risk compensation, and risk perceptions among South African women. *Global Public Health*, Vol. 13 (11), pp. 1682-1690.
- Kalunga, M.J.B. (2016). *The effect of a peer education programme on peer educators of the HIV/AIDS unit of the Cape Peninsula University of Technology (CPUT)*. Unpublished Degree. Thesis. Cape Town: Cape Peninsula University of Technology.
- Kanda, L. & Mash, R. (2018). Reasons for inconsistent condom use by young adults in Mahalapye, Botswana. *African Journal of Primary Health Care & Family Medicine*, Vol. 10 (1), pp. 1-7.
- Kelly, M.J. (2000). *Planning for education in the context of HIV/AIDS*. France: United Nations Educational Scientific Cultural Organization.
- Kharsany, A.B.M. & Karim, Q.A. (2016). HIV infection and AIDS in Sub-Saharan Africa: Current status, Challenges and Opportunities. *The Open AIDS Journal*, Vol. 10, 34-48.
- Klinck, D.R. (2011). *The constitutional right to healthcare: National health insurance as a mechanism to increase access?*. Occupational Health Southern Africa. Available at: http://www.occhealth.co.za/?/download/articles_214_1268/The+constitutional+right+to+healthcare%3A+National+Health+Insurance+as+a+mechanism+to+increase+acc+ss%3F.pdf. [Accessed 12 November 2018]
- Koechlin, F.M., Fonner, V.A., Dalglish, S.L., O'Reilly, K.R., Baggaley, R.G., Grant, R.M., Rodolph, M., Hodges-Mameletzis, I. & Kennedy, C.E. (2016). Values and preferences on the use of oral Pre-Exposure Prophylaxis (PrEP) for HIV prevention among multiple populations: A systematic review of the literature. *AIDS Behaviour*, Vol. 21, pp. 1325-1335.

- Liu, A., Cohen, S., Follansbee, S., Cohan, D., Weber, S., Sachdev, D. & Buchbinder, S. (2014). Early experiences implementing Pre-exposure Prophylaxis (PrEP) for HIV prevention in San Francisco. *Public Library of Science Medicine*, Vol. 11 (3), pp. 1-8.
- Louise, V. (2018). <https://www.ru.ac.za/facultyofhumanities/>. [Accessed 05 November 2018]
- Mack, N., Wong, C., McKenna, K., Lemons, A., Odhiambo, J. & Agot, K. (2015). Human resource challenges to integrating HIV Pre-Exposure Prophylaxis (PrEP) into the public health systems in Kenya: a qualitative study. *African Journal of Reproductive Health*, Vol. 19 (1), pp. 51-62.
- Maffoli, E.M. (2017). Is traditional male circumcision effective as an HIV prevention strategy? Evidence from Lesotho. *Public Library of Science One*, Vol. 12 (5), pp. 1-15.
- Maguire, M. & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. *All Ireland Journal of Teaching and Learning in Higher Education*, Vol. (3), pp. 1-14.
- Mason-Jones, A., Mathews, C. & Flisher, A.J. (2011). Can peer education make a difference? Evaluation of a South African adolescent peer education program to promote sexual and reproductive health. *AIDS and Behaviour*, Vol. 15 (8), pp. 1605-1611.
- McGillen, J.B., Anderson, S.A. & Hallett, T.B. (2015). PrEP as a feature in the optimal landscape of combination HIV prevention in sub-Saharan Africa. *Journal of the International AIDS Society*, Vol. 19 (6), pp. 1-8.
- McNeil, J. (2012). The HIV crisis emerges: Responses of the apartheid government. South Africa History Online Public History Internship. Available at: <https://www.sahistory.org.za/topic/history-official-governments-hiv-aids-policy-south-africa>. [Accessed 17 September 2018]
- Meyer, E.D. (2010). *Access to health care in South Africa: An ethical and human rights obligation*. Unpublished Degree. Thesis. Johannesburg: University of Witwatersrand.
- Michael, S., Lewis-Beck, C., Bryman, A. & Liao, T.F. (2004). Purposive sampling. In: The SAGE Encyclopedia of Social Science Research Methods, pp. 885.
- Mills, A.J., Durepos, G. & Wiebe, E. (2010). Thematic analysis. In: *Encyclopedia of case study research*, pp. 926-927. Thousand Oaks: SAGE Publications.
- Mnyipika, N. (2014). Exploring factors that influence condom use among high school teenagers aged between 16 and 18 years in Dutywa District, Eastern Cape, South Africa. Unpublished MA. Thesis. Dutywa: University of South Africa.
- Mohlabane, N., Tutshana, B., Peltzer, K. & Mwisongo, A. (2015). Barriers and facilitators associated with HIV testing uptake in South African health facilities offering HIV Counselling and Testing. *Health South Africa Gesondheid*, Vol. 21, pp. 86-95.
- Moodley, E.M. (2007). *An assessment of students' perceptions of the ABC prevention strategy: Toward students' participation in HIV/AIDS message design at the University of KwaZulu-Natal*. Published MA Thesis. Durban: University of KwaZulu-Natal.
- Moorhouse, M. (2014). Closer to zero: Reflections on ten years of ART rollout. *South African Journal of HIV Medicine*, Vol. 15 (1), pp. 9.

- Moscovici, S. & Duveen, G. (2000). *Social representations: Exploration in social psychology*. United Kingdom: Polity Press.
- Moscovici, S. & Markova, I. (1998). Presenting social representations: A conversation. *Culture and Psychology*, Vol. 4 (3), pp. 371-410.
- Moscovici, S. (1984b). The phenomenon of social representations, in Farr, R M & Moscovici, S (eds) *Social representations*. Cambridge: Cambridge University Press.
- Motjane, K., Dlamini, S. & Dandara, C. (2018). Truvada (emtricitabine/tenofovir) pre-exposure prophylaxis roll-out among South African university students: Lots of positives but let us keep an eye on possible surprises. *South African Medical Journal*, Vol. 108 (2), pp. 79-81.
- Moyo, K. Realising the right to health in South Africa.
<https://www.fhr.org.za/files/7215/1247/1732/Health.pdf> [Accessed 12 November 2018]
- Mzizi, T. (2017). Evaluating the effectiveness of peer education program at Rhodes University: What works and what doesn't. Paper presented at HEAIDS conference. Durban, 09 June.
- National Department of Health. (2004). National antiretroviral treatment guidelines. Available at: https://www.gov.za/sites/default/files/artguidelines_0.pdf. [Accessed 24 October 2018]
- Nattrass, N. (2005). *AIDS policy in post-apartheid South Africa*. Available at: https://www.google.com/search?q=Nattrass%2C+N.+%282005%29.+AIDS+policy+in+post+apartheid+South+Africa&rlz=1C1EKKP_enZA790ZA790&oq=Nattrass%2C+N.+%282005%29.+AIDS+policy+in+post+apartheid+South+Africa&aqs=chrome..69i57j69i60.2120j0j8&sourceid=chrome&ie=UTF-8. [Accessed 12 November 2018]
- Ncube, N.B.Q., Meintjes, M.A.J. & Chola, L. (2014). Knowledge and attitudes of non-occupational HIV post-exposure prophylaxis amongst first- and second-year medical students at Stellenbosch University in South Africa. *African Journal of Primary Health Care and Family Medicine*, Vol. 6 (1), pp. 1-9.
- Neishlos, A. & D'Ambrosio, M. (2017). The Other Pill: Expanding Access to Pre-Exposure Prophylaxis to Prevent HIV Transmission among Minors in New York, 44 Fordham: Urb. L.J. 725-766.
- Nyberg, E.B. (2016). *Complications of the South African response to HIV*. Unpublished Bachelor. Thesis. Sweden: Umea University.
- Okware, S., Kinsman, J., Onyango, S., Opio, A. & Kaggwa, P. (2005). Revisiting the ABC strategy: HIV prevention in Uganda in the era of antiretroviral therapy. *Postgraduate Medical Journal*, Vol. 81 (960), pp. 625-628.
- Parker, W. & Birdsall, K. (2005). HIV/AIDS, stigma and faith-based organisations: A review. Available at: https://www.researchgate.net/publication/263235144_HIVAIDS_stigma_and_faith_based_organizations_A_review. [Accessed 23 October 2018]
- Patient, D. & Orr, N. (2017). The new A-3B-4C-T of HIV prevention and the failure of ABC approach. Available at: <https://www.hivsharespace.net/blog/new-3b-4c-t-hiv-prevention-and-failure-abc-approach>. [Accessed 23 October 2018]

- Patton, M.Q. & Cochran, M. (2002). A Guide to Using Research Methodology, Medecines Sans Frontiers. Available at: http://evaluation.msf.org/sites/evaluation/files/a_guide_to_using_qualitative_research_methodology.pdf. [Accessed 5 July 2018]
- Peltzer, K., Matseke, G., Mzolo, T. & Majaja, M. (2009). Determinants of knowledge of HIV status in South Africa: results from a population-based HIV survey. *BioMed Central*, Vol. 9 (174), pp. 1-11.
- Peterson, J.L. & DiClemente, R.J. (2000). *Handbook of HIV prevention*. New York: Academic/Plenum Publishers.
- PrEP implementation pack: South Africa (2016-2017, Current Research, para. 1)
- Rau, A. & Coetzee, J.K. (2008). Curriculum as a space for shaping students' attitudes to and perceptions of HIV/AIDS. Paper presented at the *High Education as Social Space Conference*. Rhodes University, 30 November-3 December.
- Reddy, P. & Frantz, J. (2011). HIV/AIDS knowledge, behaviour and beliefs among South African university students, SAHARA-J: *Journal of Social Aspects of HIV/AIDS: An Open Access Journal*, Vol. 8 (4), pp. 166-170.
- Rhodes University. (2006). HIV/AIDS Policy. Available at: www.ru.ac.za [Accessed 04 September 2018]
- Rhodes University. (2017). Staff peer education group. Available at: <https://www.ru.ac.za/hiv-aids/prevention/staffpeereducationgroup/> [Accessed 04 September 2018]
- Rhodes University. (2017). Student Programmes. Available at: www.ru.ac.za [Accessed 04 September 2018]
- Roger, P. (2015). PrEP. Available at: www.aidsmap.com. [Accessed 05 June 2018]
- San Francisco AIDS Foundation. (2015). PrEP Facts: Truvada take one pill by mouth. Available at: <http://prepfacts.org>. [Accessed 05 June 2018]
- Section27. The Constitution and public health. <https://section27.org.za/wp-content/uploads/2010/04/Chapter2.pdf> [Accessed 12 November 2018]
- Seidman, D., Weber, S., Carlson, K. & Witt, J. (2018). Family planning providers' role in offering PrEP to women. *Contraception*, Vol. 97, pp. 467-470.
- Sen, A. 1999. *Development as freedom*. Oxford: Oxford University Press
- Serenata, C. (2014). Ten years of ART in South Africa – how far we have come. *South African Journal of HIV Medicine*, Vol. 15 (1), pp. 14-15.
- Shete, S. (2013). Current trends in HIV/AIDS. *Journal of HIV/AIDS and Infectious Diseases*, Vol. 1 (102), pp. 1-2.
- Sigh, S., Darroch, J.E. & Bankole, A. (2004). A, B and C in Uganda: The roles of abstinence, monogamy and condom use in HIV decline. *Reproductive Health Matters*, Vol. 12 (23), pp. 129-131.
- Simelela, N.P. & Venter, W.D.F. (2014). A brief history of South Africa's response to AIDS. *South Africa Medical Journal*, Vol. 104 (3), pp. 249-251.

- Smith, J., Ahmed, K. & Whiteside, A. (2011). Why HIV should be treated as exceptional: arguments from sub-Saharan Africa and Eastern Europe. *African Journal of AIDS Research*, Vol. 10 (1), pp. 345-356.
- South African National AIDS Council. (2017). National Strategic Plan 2017-2022. Available at: sanac.org.za/about-sanac/the-national-strategic-plan-nsp-2016-2016-in-a-nutshell/. [Accessed 19 October 2018]
- South African National AIDS council. (2017). National Strategic Plan 2017-2022. Available at: sanac.org.za/wp-content/uploads/2017/05/NSP_FullDocument_FINAL.pdf. [Accessed 19 October 2018]
- Sowicz, T.J., Teitelman, A.N., Coleman, C.L. & Brawner, B.M. (2014). Considerations for implementing Oral Pre-Exposure Prophylaxis: A literature review. *Journal of the Association of Nurses in AIDS Care*, Vol. 25 (6), pp. 496-507.
- Statistics South Africa. (2018). *Mid-year population estimates, 2018*. Available at: www.statssa.gov.za/publications/P0302/P03022018.pdf. [Accessed 31 July 2018]
- Tallalin, D., Maznavi, K., Bredeek, U.F. & Hardy, W.D. (2013). Pre-Exposure Prophylaxis (PrEP) for HIV infection: Results of a survey of HIV healthcare providers evaluating their knowledge, attitudes, and prescribing practices. *AIDS Patient Care and STDs*, Vol. 27 (10), pp. 553-559.
- TEN81 Centre. (2017). It's finally here! Free PrEP for MSM available in PTA. Available at: <https://www.out.org.za/index.php/what-s-hot/news/516-it-s-finally-here-free-prep-for-men-who-have-sex-with-men-available-in-pta>. [Accessed 29 October 2018]
- Thigpen, M.C., Kebaabetswe, P.M., Paxton, L.A., Smith, D.K., Rose, C.E., Sgolodi, T.M., Henderson, F.L., Pathak, S.R., Soud, F.A., Chillag, K.L., Mutanhaurwa, R., Chirwa, L.I., Kasonde, M., Abebe, D., Buliva, E., Gvetadze, R.J., Johnson, S., Sukalac, T., Thomas, V.T., Hart, C., Johnson, J.A., Malotte, K., Hendrix, C.W. & Brooks, J.T. (2012). Antiretroviral preexposure prophylaxis for heterosexual HIV transmission in Botswana. *The New England Journal of Medicine*, Vol. 367 (5), pp. 423-434.
- Thomas, V.T., Hart, C., Johnson, J.A., Malotte, K., Hendrix, C.W. & Brooks, J.T. (2012). *The New England Journal of Medicine*, Vol. 367 (5), pp. 423-434.
- Turners, L., Roepke, A., Wardell, E. & Teitelman, A.M. (2018). Do you PrEP? A review of primary care provider knowledge of PrEP and attitudes on prescribing PrEP. *Journal of the Association of Nurses in AIDS Care*, Vol. 29 (1), pp. 83-92.
- UNAIDS. & WHO. (2003). A history of the HIV/AIDS epidemic with emphasis on Africa. Paper presented at the workshop on HIV/AIDS and adult mortality in developing countries. United Nations Secretariat-New York, 8-13 September.
- UNAIDS. (1999). Peer education and HIV/AIDS. Available at http://www.unaids.org/sites/default/files/media_asset/jc291-peereduc_en_0.pdf [Accessed on 16 November 2018]
- UNAIDS. (2018). Global HIV & AIDS statistics- 2018 Fact sheet. Available at <http://www.unaids.org/en/resources/fact-sheet> [Accessed on 17 November 2018]
- United Nations Development Programme (1996). About Human Development. Available at

<http://hdr.undp.org/en/humandev> [Accessed on 10 November 2018]

- Underhill, K. & Mayer, K.H. (2013). Sexual behaviour among users of antiretroviral Pre-Exposure Prophylaxis. *The Lancet Infectious Diseases*, Vol. 13 (12), pp. 996-997.
- Unitaid. (2018). MTV SHUGA launches three new campaigns in South Africa and Cote d'Ivoire focusing on HIV prevention and self-testing. Available at: <https://unitaid.org/news-blog/mtv-shuga-launches-three-new-campaigns-in-south-africa-and-cote-divoire-focusing-on-hiv-prevention-and-self-testing/#en>. [Accessed 19 November 2018]
- Van Dyk, A., Tlou, E. & Van Dyk, P. (2017). *HIV AND AIDS Education, Care and Counselling* (sixth edition). South Africa: Pearson.
- Vrazo, A.C., Sullivan, D. & Phelps, B.R. (2018). Eliminating Mother-to-Child Transmission of HIV by 2030: 5 Strategies to Ensure Continued Progress. *Global Health Science and Practice*, Vol. 6 (2), pp. 249-256.
- Wang, X., Bourne, A., Liu, P., Sun, J., Cai, T., Mburu, G., Cassolato, M., Wang, B. & Zhou, W. (2018). Understanding willingness to use oral pre-exposure prophylaxis for HIV prevention among men who have sex with men in China. *Public Library of Science One*, Vol. 13 (6), pp. 1-15.
- Whiteside, N. & Sunter, C. (2000). *AIDS: The Challenge for South Africa*. South Africa: Human & Rousseau Cape Town: Tafelberg Publishers.
- Whitfield, T.H.F., John, S.A., Rendina, J., Grov, C. & Parsons, J.T. (2018). Why I Quit Pre-Exposure Prophylaxis (PrEP) A Mixed-Method Study Exploring Reasons for PrEP Discontinuation and Potential Re-Initiation Among Gay and Bisexual Men. *AIDS Behavior* Vol. 22 (11), pp. 3566-3575
- World Health Organisation. (2018). Treatment and care. Available at: <https://www.who.int/hiv/topics/treatment/en/>. [Accessed 24 October 2018]
- Wilson, J. (2011). Post-Exposure Prophylaxis (PEP). Available at: https://www.catie.ca/gpdf.php?file=sites/default/files/pep_0.pdf. [Accessed 02 November 2018]
- World Health Organisation. (2017). WHO Implementation Tool for Pre-Exposure Prophylaxis (PrEP) of HIV Infection. Available at: <http://who.int/hiv/pub/prep/prep-implementation-tool>. [Accessed 28 May 2018]

Appendices

Interview Schedule

1. Introductory remarks
2. What HIV prevention methods do you know?
3. Do you know Rhodes University's policy on HIV prevention?
4. Do you know what PrEP is? If yes...
5. How did you know about PrEP?
6. Do you know how long it takes for PrEP to work after consumption?
7. What do you think would be the best way to promote PrEP at Rhodes University?
8. Who do think should use PrEP?
9. Which age group do you think PrEP would be most effective on?
10. If given an option, would you use PrEP?

Participant Consent form (Interviews)

Name of researcher: Throny Ntshinga

Brief description of the research topic: A sociological study to explore the knowledge of Pre-Exposure Prophylaxis at Rhodes University.

Declaration

1. I confirm that the purpose of the research and the nature of my participation have been explained to me verbally or in writing.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason - however I commit myself to full participation unless some unusual circumstances occur, or I have concerns about my participation which I did not originally anticipate.
3. I understand that data collected during the study, will be used by the researcher and that my personal details gathered during this research, especially my name or identity, will be kept private.
4. I agree to be interviewed and to allow audio or video recordings and transcriptions to be made of the interview.
5. I have been informed by the researcher that the tape recordings will be erased once the report is written.

Signature of participant:

Signature of the researcher:

Date: