

**FACTORS ASSOCIATED WITH THE RESURGENCE IN HIV INCIDENCE AMONG
YOUNG WOMEN PRESENTING AT DR GEORGE MUKHARI ACADEMIC HOSPITAL**

by

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DECLARATION

I declare that **FACTORS ASSOCIATED WITH THE RESURGENCE IN HIV INCIDENCE AMONG YOUNG WOMEN PRESENTING AT DR GEORGE MUKHARI HOSPITAL** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.



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18 February 2016

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ABSTRACT

Previous studies have reported a high prevalence of HIV and AIDS among adolescent girls. It is estimated that there are 5,24 million people living with HIV/AIDS (PLWHA). These estimates would mean that about 2.36 million people living with HIV/AIDS would be young women and girls aged 15-24 years. The latest household survey conducted by the Human Science Research Council (HSRC) revealed that the prevalence of HIV is three to seven fold in girls and young women aged 15-24 than boys and young men (HSRC 2014) This resurgence in HIV incidence is occurring at a time when it is believed the epidemic has reached a plateau following aggressive behavioural, biomedical and structural interventions by the Department of Health, Non-Governmental Organizations (NGO) and civil society in general. A probability sampling method, involving a random selection of elements was used to select 130 young women and girls aged 18-24 presenting at Dr George Mukhari Academic Hospital by simple random sampling. Data were collected by self-administering questionnaires.

High unemployment and greater age-disparity in the relationships were found to have a direct correlation with HIV incidence in the population under study. This study also shows that inconsistent condom use, low rate of medical male circumcision of male partners, coupled with lower HIV counselling and testing than the national average, was associated with new HIV infections, in spite of high level of condom availability, knowledge of HIV issues and an exposure to an array of behavioural change communication interventions.

Key words

Adolescents; condom; factors; HIV incidence; resurgence; young women.

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Dedication

To the fellow healthcare workers who have dedicated their lives to providing care to the multitudes of people living with HIV and AIDS in Africa and beyond, may this work be a contribution, no matter how small, to countless unanswered questions that keep us working daily.

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LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BCC	Behaviour Change Communication
HAART	Highly Active Antiretroviral therapy
HIV	Human Immunodeficiency Virus
HSRC	Human Sciences Research Council
NDOH	National Department of Health
NIDA	National Institute on Drug Abuse
NSP	National Strategic Plan
PLWHA	People Living with HIV and AIDS
PMTCT	Prevention of Mother to Child Transmission
SAfAIDS	Southern Africa AIDS Dissemination Service
SANAC	South African National AIDS Council
STATSSA	Statistics South Africa
VMMC	Voluntary Medical Male Circumcision
USAID	United States Agency for International Development
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNESCO	United Nations Organization for Education Science and Culture
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children Fund
UNIFEM	United Nation Entity for Gender Equality and the Empowerment of Women
WHO	World Health Organization

CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

In the first chapter, the background of the study is given which outlines a high number of females aged between 18 to 24 years presenting with symptoms and signs of Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS), as well as the objectives pursued in the study in investigating factors associated with this resurgence of new HIV infection. The chapter highlights the epidemiology of HIV and AIDS in South Africa with a particular focus on young women and girls aged 18 to 24 as the target group for the study. It lays down the core issue central to the study with questions the study sets out to answer and the theoretical foundation.

1.2 BACKGROUND INFORMATION

The advent of HIV and AIDS pandemic about four decades ago has had a broad societal impact in South Africa (Booyesen, Geldenhuys & Marinkov 2003:5). Women have borne the brunt of the pandemic. They are life carriers, breadwinners for their families and also contribute actively to the economic production of all sectors of society. It is well documented that women are three times more likely to be infected with HIV than men (UNESCO 2008:1); that women, in particular young girls and adolescents are more vulnerable to HIV and AIDS than their male counterparts of the same age group (Kharsany, Mlotshwa, Frohlich, Yende Zuma, Samsunder, Abdool Karim & Abdool Karim 2012; Essex, Mboup, Kanki, Marlink, Tlou 2002; UNAIDS 2013:1). Many women get infected by HIV almost around their sexual debut at the onset of adolescence (Khutsoane 2008:35). Adolescence is considered a critical developmental period for establishing sexual behavior (Peterson 2005:1233-1248).

HIV and AIDS is prevalent among adolescent youths in South Africa, particularly among adolescent girls (Hunter 2013; Khutsoane 2008:35) with an estimated 5,24 million people living with HIV/AIDS (PLWHA) countrywide (STATSSA 2011:6). These estimates would mean that about 2.36 million people living with HIV/AIDS are young

women and girls aged 18-24 years (see Annex 1). The latest household survey conducted by the Human Sciences Research Council (HSRC) revealed that the prevalence of HIV is three to seven fold in girls and young women aged 15-24 than boys and young men (HSRC 2014). In the present study, resurgence is used to mean a rising again of the HIV new infections. This resurgence in HIV incidence is occurring at a time when it is believed the epidemic has reached a plateau following aggressive behavioural, biomedical and structural interventions by the Department of Health, Non-Governmental Organizations (NGO) and civil society in general, altogether under the umbrella of the South African National AIDS Council (SANAC).

Such interventions have wonderful outcomes, such as the decline in neonatal and infant HIV incidence because of countrywide implementation of prevention of mother-to-child transmission (PMTCT) (UNFPA 2013). The Department of Health has overseen in the recent past a turnaround in treatment of HIV/AIDS by increasing the availability of highly active antiretroviral therapy (HAART) through the public health institutions after an initial denialism a decade ago, but the incidence of HIV still remains high in South Africa compared to other Sub-Saharan countries.

1.3 PROBLEM STATEMENT

In the fight against the epidemic, many health organisations such the WHO in collaboration with UNAIDS have put in place strategies for the reduction of the incidence of HIV/AIDS (WHO 2011:7). The South African National Strategic Plan 2011-2016 (NSP) highlights broadly the country approach to achieve at least 50% reduction of new infections of HIV and TB (NDOH 2012). Despite all those strategies, South Africa, compared to other Sub Saharan countries, may not be able to achieve the target of 50% reduction of HIV incidence by 2016 because of the resurgence of HIV incidence in young women and girls who contribute about 30% of HIV incidence in Sub-Saharan Africa (UNAIDS 2015).

At Dr George Mukhari Academic Hospital (DGMAH), there is a high number of females aged between 18 to 24 years presenting with symptoms and signs of HIV/AIDS; the majority of medical consultations are HIV/AIDS related ailments. Recently, media reports related to resurgence of HIV incidence estimated at about 28% among young girls of this age range compared to about 4% for the boys of the same age group

(Hunter 2013). This is against the background of an intense public prevention campaign with countrywide condom distribution, ABC media messaging, the world most extensive public HAART roll out, and very aggressive media health education. There is not enough explanation to the recent rise in new HIV infections in young girls, despite all the prevention interventions that the South African Government has put in place. This study set out to find the drivers of this resurgence of HIV incidence.

1.4 RESEARCH QUESTIONS

The study aims at answering the following question:

- What are the factors contributing to the recent resurgence of the incidence of HIV and AIDS among young females at DGMAH?

1.5 RESEARCH PURPOSE

The purpose of this study is to investigate the key factors, known or new that are associated with the recent resurgence of the incidence of HIV infection among young females aged 18-24 years consulting at DGMAH.

1.6 RESEARCH OBJECTIVES

This study aims at:

- Assessing awareness and knowledge of HIV and AIDS risk factors among young women aged 18 to 24 years.
- Determining what HIV prevention programmes are accessible to young women and girls aged 18 to 24 years consulting at DGMAH.
- Determining hindrances to healthy life style and implementation of preventive of HIV and AIDS interventions among young women and girls.

1.7 RATIONALE FOR THE STUDY

The outcome of this study will help to improve HIV prevention programmes and increase knowledge of HIV and AIDS risk factors in order to assist young women and

girls in making informed decisions to protect themselves and their loved ones against HIV and AIDS.

1.8 HIV PREVENTION THEORIES

Since its advent in the early 1980s, HIV and AIDS has had a huge impact on healthcare sciences and has earned the position of the top global public health priority for the past three decades. As a result of the pandemic, the World Health Organization has created an entire agency dedicated to deal with it. In spite of enormous resource mobilisation in terms of human and financial resources on the research for a cure, HIV and AIDS is still a non-curable disease. Hence, the most efficient approach to dealing with it is prevention.

In order to preserve health, the first step is the prevention of a disease from occurring. Should prevention fail, then measures aimed at restoring good health as treatment or secondary prevention are taken. In health promotion or prevention of diseases, the main approach is to spread messages aimed at increasing awareness of factors that can lead to the loss of good health or disease and to encourage people to adopt appropriate behaviors and lifestyle in order to conserve that state of complete well-being. The two approaches can be referred to respectively as social marketing and psycho-social behavioural interventions.

1.9 SCOPE OF THE STUDY

This study focused on drivers of new HIV and AIDS incidence among young women and girls aged 18 to 24 years at DGMAH in North West Gauteng. A random sample of 130 individuals was selected and data were collected by administering a questionnaire. The small size of the sample in comparison to the general population under study makes inferences of the result to the entire population studied questionable.

1.10 ORGANISATION OF THE DISSERTATION

This dissertation is divided into the following chapters:

Chapter 1: Introduction and background information of the study

Chapter 2: Literature review

Chapter 3: Research methodology

Chapter 4: Results and discussion

Chapter 5: Summary and conclusion

1.11 CONCLUSION

This chapter provides an overview of the study, including an introduction to the chapter, background information, research problem, research purpose, research objectives, rationale for the study, HIV prevention theories and scope of the study.

CHAPTER 2

LITTERATURE REVIEW

2.1 INTRODUCTION

This chapter provides a brief historical perspective of the HIV/ AIDS pandemic, contextualised in South Africa and elaborates on key drivers of HIV infection in Southern Africa. It also elaborates on the HIV prevention theories applied in the study. Relevant electronic sources and journal articles as well books were used in the review of the literature with particular focus on the work done in Southern African. The outline of the chapter is as follows:

- Brief history of HIV/AIDS
- South African demographic profile
- HIV/AIDS in South Africa
- HIV/AIDS prevention theories
- Key drivers of HIV incidence among young females aged 18 to 24 years

2.2 BRIEF HISTORY OF HIV/AIDS

HIV/AIDS is a disease of the human immune system caused by human immunodeficiency virus which destroys the immune system (UNAIDS 2011); it is mainly sexually transmitted but can also be transmitted from mother to child during birth, breastfeeding, through blood transfusion, sharing of infected sharp object, and many other ways (WHO 2010). Once one gets infected, the virus remains in the person's body for the rest of his or her life and causes opportunistic diseases and ultimately death (NIDA 2012:1). There is no cure for HIV/AIDS as the treatment is palliative and helps to improve the quality of life. Palliative treatment refers to care that aims at improving the quality of life by providing relief from symptoms and stress related to an illness in the absence of a complete cure.

The virus was described first in 1981 by a French virologist, Luc Antoine Montagnier, who isolated it from a blood sample from a gay patient said to be suffering from a new

syndrome known as 'Gay-related immune deficiency disease in Paris'. Later on an American virologist Robert Gallo found that the HIV was the cause of immunodeficiency syndrome seen in the gay community and called it "AIDS". Both health experts are well known today for the discovering of HIV/AIDS. According to 2015 survey, the world has around 36.9 million people living with AIDS (PLWHA); there is a 35% decline of new infection globally from 3,1 million in 2000 to 2 million in 2014 and a decline of AIDS related death from 42% in 2004 to 1.2 million in 2014 (UNAIDS 2015:1-2). However, the rate of new infections in young women and girls is dramatic as 'every hour, there are about 34 young African females who are infected with HIV (UNAIDS 2015:12).

From a death sentence, HIV/AIDS has become today a chronic disease that is more manageable. This is as a result of the availability of new and affordable drugs that can maintain an infected patient with an undetectable viral load and decrease the frequency of opportunistic diseases. Therefore people can live a longer and better life. However, biomedical interventions alone are limited in their impact on the epidemic .It is now generally accepted that an effective approach is a combination of biomedical, socio-behavioural and structural interventions.

2.3 SOUTH AFRICA DEMOGRAPHIC PROFILE

South Africa is a country located at the southern tip of Africa with a territory of approximately 1.2 million square kilometers (South Africa.info 2016). South Africa has a population estimated at 52,386,000 with a life expectancy at birth for male 56 years and female 62 years with a probability of dying between 15 and 60 years m/f (per 1 000 population, 2012) of 463/350 (WHO 2014). A multiracial and multicultural country with a majority of black African estimated at 79.2%, South Africa has eleven ethnic groups of which white are 8.9%, colored 8.9%, Asian at 2.5%. The majority of the population, about 12 272 273 or 23.43%, live in Gauteng province (STATSSA 2012:18-28)

South Africa, since the end of apartheid in 1994, has undergone a tremendous economic, financial growth and cultural change that has impacted positively on socio-economic development. It has become a destination country for international migration. Despite all this progress, the socio-economic inequalities are still very visible, the Gini coefficient that measures the income inequality is 0.69, general unemployment of 25.1% with youth unemployment (15-24 years) of 51.3% (Hoj & Lewis 2015:7). These statistics

paint a picture of a country with very high socioeconomic inequalities in the world and higher youth unemployment compared to other emerging economies. However, the majority of people have access to water, sanitation, education and health services (SAG 2015).

2.4 HIV/AIDS IN SOUTH AFRICA

The story of HIV/AIDS in South Africa has been that of political controversies. From its recognition in 1987 by the apartheid regime, there has been a long period of denial under President Thabo Mbeki who was insistent that HIV did not cause AIDS. There was subsequent delay of providing antiretroviral treatment to the PLWHA that led to a high mortality and morbidity rate due to AIDS. With the change of administration in 2009, under President Jacob Zuma, the government embarked on provision of free HAART through the public health system. With the development of the NSP 2007-2011 by different stakeholders representing government and civil society, the country has seen tremendous progress. However, South Africa ranks first in HIV incidence in the world. HIV prevalence in 2014 was 6,8 million persons (UNAIDS 2015:1) meaning 1,2 million more than in 2008 (10,6% or 5,2 millions) and this differed in each province (HSRC 2014:25). People living in rural areas are more affected than those living in the urban areas. The distribution by province shows that the top four HIV prevalence provinces are, in decreasing order, KwaZulu-Natal, Mpumalanga, Free State and the North West, the lowest prevalence provinces being Western Cape, Northern Cape, and Limpopo. The distribution by sex, race, locality and age shows that in general, the prevalence is high among black, rural and informal settlement residents, female aged 30-34 and male age 35-49. In the teenage group the female prevalence was 8 times higher than male of the same age (HSRC 2014).

In Southern Africa, young women aged 15-24 years constitute 30% of all new HIV infection in the region and in South Africa this percentage translates to 113,000 new HIV infection per year more than 4 times the number contributed by their counterpart males (Dellar, Dlamini & Karim 2015:64). This may be explained by the fact that girls aged 15-19 are more likely to have sex not with their peers but with much older male sexual partners and they lack skills to negotiate the use of condom (Avert 2013; UNICEF 2013; Saad, Subramaniam & Tan 2013:202).

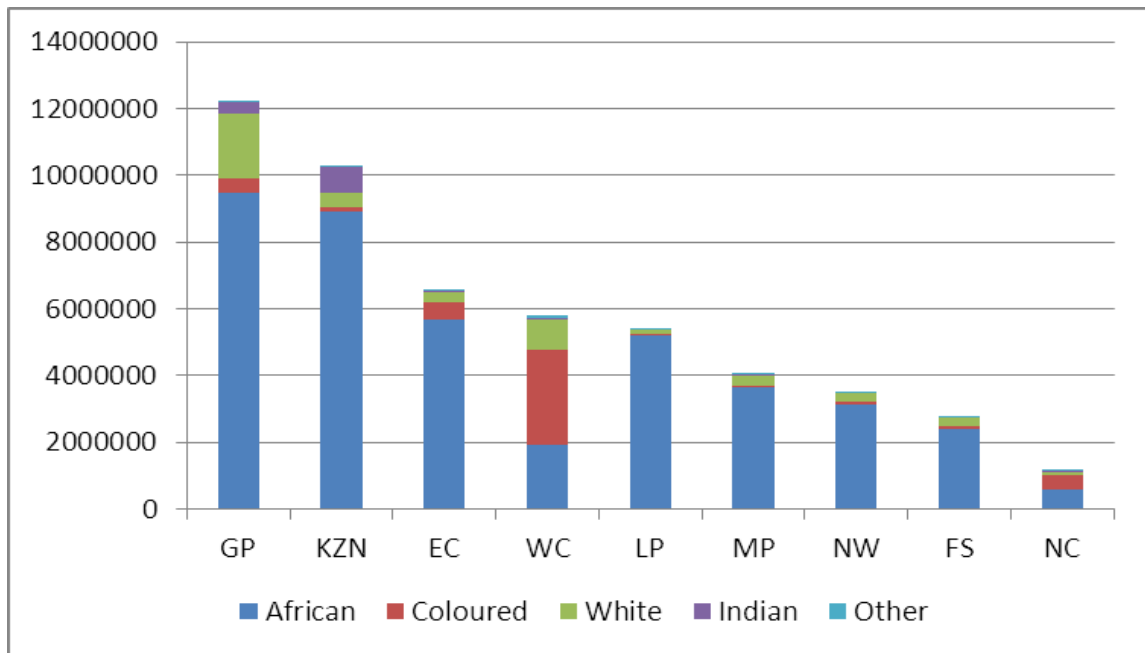


Figure 1.1: Distribution of the population by province and population group
(STATSA 2012:27)

The race distribution shows high prevalence in HIV/AIDS in black followed by colored, Indian and white constitute less than 1% (HSRC 2014:25-26); this difference by race may be explained by the fact that more blacks live in rural areas whereas urban areas are predominantly white populated.

2.5 THE BURDEN OF HIV AND AIDS IN ADOLESCENTS

Worldwide, 35.3 million people were living with HIV at the end of 2012; and 2.1million were adolescent aged between 10 and 19 years and more than 50% of these adolescents were female adolescents ((UNICEF 2013:3). These numbers include adolescents who acquired HIV vertically and those that acquired HIV through sex.

The majority of the HIV infections are in Sub-Saharan Africa and Southern African countries have higher HIV/ AIDS prevalence (UNICEF 2013:4). Across the Southern African countries adolescence marks the beginning of an increase in the prevalence of HIV (Idele, Gillespie, Porth, Suzuki, Mahy, Kasede & Luo 2014:S146). The researcher has also observed a resurgence of HIV infections among adolescents at her workplace, DGMAH, and this prompted this study.

2.6 HIV/AIDS PREVENTION THEORIES

The constitution of the World Health Organization states that “health is state of complete well-being, physical, mental and social and not only the mere absence of a disease or infirmity” (WHO 1962:1). It goes further to underline that “the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition” (WHO 1962:1). In order to preserve health, the first step is the prevention of disease from occurring. Should prevention fail, then measures aimed at restoring good health as treatment or secondary prevention are used. In health promotion or prevention of diseases, the main approach is to spread messages aimed at increasing awareness of factors that can lead to the loss of good health or disease and to encourage people to adopt appropriate behaviours and lifestyle in order to conserve that state of complete well-being. The two approaches can be referred to respectively as social marketing and psycho-social behavioural interventions.

2.6.1 Social marketing theory

Social marketing is a behavioural economics discipline that can be traced back to the 1970s using marketing principles to address issues of public interest in communities such as public health issues, i.e. malaria prevention, tobacco consumption, HIV and AIDS, and environmental issues (Kotler & Lee 2011:8). It aims at disseminating information about barriers to positive behavior in the hope that increased awareness will result in positive behavioural change because knowledge is power, as the common saying goes. Availability of information about a product or a service is a prerequisite to a good decision and subsequent appropriate action for a consumer whether to purchase the product or service. Such information will include benefits or advantages offered by the service or the use of the product as well as the loss of not using it, and how and where to acquire the service or product. This approach is widely used in everyday life by all traders in doing business. It is equally a commonly used approach in public health interventions in disseminating particular aspects of an intervention in health education and promotion to influence desired behavior change. Behavior change communication campaigns (BCC), like the ABC interventions, make use of the social marketing approach which is “the use of marketing principles to promote the adoption of behaviors

that improve the health or well-being of the target audience or of society as a whole” (Kotler & Lee 2011:8).

For the incidence in HIV and AIDS in young women and girls to increase again after substantial decrease following a decade of BCC campaigns like the ABC means that there were barriers to the BCC campaigns. In processing information related to their health, people are more inclined to accept or reject a particular message depending on ‘perceived’ benefits they would derive from acting in tune with the content of that message. Such a perception is usually associated with health seeking behavior, meaning people would tend to be more receptive to the message and subsequently align their behavior positively with the intended outcome in the message. Although all aspects of health promotion approaches would have the notion of perceived benefits as the main reason for the uptake of particular health information, this particular social marketing approach is still seen as a model on its own, referred to as ‘Health Belief Model’ (Lefebvre 2000). Other models have a component of applied psychology technique and were predominantly used by psychologists rather than social scientist.

2.6.2 Psycho-social theory

In the transmission of HIV infection, there is a strong behavioural component, meaning transmission occurs with associated ‘high risk’ behaviour. Such behavior emanates from individual who willingly engage in sexual contact with others oblivious of their HIV status and or without protecting themselves against the possibility of transmission of sexually transmissible infections, including HIV. For one to arrive at such behavior, it takes a free will consideration of the intended action and a decision of engaging in such an action. This decision-making process with subsequent behavioural changes may be influenced by socio-cultural factors that contribute to the formation of a certain mind-set inclined to making decisions that are inconsiderate of risks. Different combinations of cognitive-perceptual variables have given birth to different models of understanding health behavior changes (Rohleder, Swartz, Kalichman & Simbayi 2009:105-118).

2.6.2.1 Health Promotion Model (HPM)

This model is an application of the social marketing approach in public health; it is a self-actualisation model characterised by behavior seeking to achieve higher levels of well-being through a combination of the following factors (Galloway 2003:251).

- *Modifying factors*: biological and demographic characteristics, situational factors, interpersonal influences.
- *Behavioural factors*: person's prior experiences with a given activity whereby prior experience can influence subsequent participation to an activity.
- *Situational factors*: role of the environment in constraining behavioural change is spite of one's willingness to embrace change.
- *Interpersonal influences*: social support and expectation; one's social support and expectations from family, friends, colleagues are determinant in one's behavioural change.
- *Influence of demographic characteristics*, such age, gender, income, ethnic, race and education in behavioural changes; for instance, the process of actualisation people go through from childhood behavior into teen age and adulthood.

An application of this approach is the ZAZI campaign that targets young women and girls by boosting their self-esteem, self-confidence and personal value. ZAZI is a Nguni word that means 'know yourself' (ZAZI 2016). This com campaign, driven by South African National AIDS Council (SANAC) and the Department of Justice, focuses on modifying individual personal factors to be consistent with a healthy lifestyle. Poor uptake of such intervention will result in risky lifestyles leading to a resurgence of new infections.

2.6.2.2 Trans Theoretical Model (TTM)

This model was intended to describe smokers' behavioural, stemming from the analysis of leading theories of psychotherapy and behavior change and it has identified ten distinct processes of change grouped in two dimension (Galloway 2003:252):

- *Stage of change*: temporal, motivational and constancy aspects of change.
- *Action*: pre-contemplation, contemplation, preparation (action) and maintenance.

In this process, it is suggested that some interventions are more appropriate than others to move people through specific stages of consciousness raising by increasing awareness of the causes, consequences and cure for a problem, then self-reevaluation, social liberation with support from helping relationships.

In this model, an individual circle of relationships constitutes a support social structure in lifestyle change to healthier behaviors. In this study, a particular focus was made on the source of HIV knowledge and the role of relationships such as family and friend in the process of positive behavioural change to prevent HIV transmission.

2.6.2.3 Diffusion theory

In investigating factors associated with the resurgence of HIV, categorising people in terms of their response to BCC campaign is useful. This model describes how information is disseminated and categories of individuals depending on their response to new idea/product (Galloway 2003:252).

- *Innovators*: quickly interested in a new idea
- *Early adopters*: those who consider and then follow
- *Early majority*: increasing numbers of early adopters
- *Late majority*: requiring the largest degree of prompting
- *Late adopters*: similar to the precedent

In this study, the conceptual approach will be based on 'Health Promotion Model' that focuses on explaining Health promoting behavior using a wellness orientation as a response to BCC campaigns that have been widely implemented by the Department of Health in the past two decades or so. Health Promotion model consists of activities directed toward developing resources that maintain or enhance a person's well-being (Polit & Beck 2004:121). The lateness or failure of uptake of some of these activities by individuals in the society may be associated with the resurgence of HIV incidence.

2.7 KEY DRIVERS OF HIV INCIDENCE AMONG YOUNG FEMALES AGED 18 TO 24 YEARS

HIV incidence is the number of new infection registered during a certain period of time. Different factors inform the epidemiology and incidence of HIV/AIDS. Gender based violence and inequalities, limited access to health care and education coupled with systems and policies that do not address girls' needs are obstacles that expose them to HIV infection (UNAIDS 2012:136). HIV is the leading cause of death and disease among females of reproductive age 15-49 years old worldwide.

2.7.1 Young females and HIV/AIDS

Young females are given particular focus in the study because they constitute one of the most vulnerable groups to be infected by HIV compared to their male peers. Globally there are about 380 000 new infection every year among young females and half of them occur between the age of 15-24 years, which constitutes 15% of all females infected and 80% of them live in Sub-Saharan Africa (UNAIDS 2014:135). In understanding the high predilection of young females to HIV infection, it is important to note that "due to the diversity of the epidemic within and between the countries in order to develop more efficacious youth focused prevention intervention it is important to understand the each local epidemiology trend and bio behavioural nexus that render adolescent or better young female more vulnerable to HIV" (Dellar et al 2015:68). Factors explaining the vulnerability of young females are categorised as socio-demographic and behavioural.

2.7.2 Socio-demographics factors

- **Residential areas**

The living areas (formal, informal or urban, rural) are strongly associated with the risk of contracting HIV. South Africa has a racial difference according to residential areas. Black Africans (39,1%) are less likely than other races (>85%) to live in urban formal areas which is reminiscent of the apartheid era. A significant proportion of black Africans (48,8%) compared to all other group live in a rural informal areas and an additional 9,6% live in urban informal areas. A total of 57,6% of black South Africans

live in the informal areas of the country which are under-sourced and lack basic necessities and infrastructures such as housing, water, sanitation and access to preventive health services: “poor condition meaning poverty” (HSRC 2014:49-51). Rural young people have limited educational, vocational opportunities and poor access to health care. They also live under more restrictive social, cultural and gender norms that impact their sexual behavior. They have a lower level of HIV prevention, and transmission knowledge and are more likely to engage in behavior that can compromise their sexual health compared to those living in urban areas.

- **Household economic status**

There is an inverse relationship between household economic status and HIV status; HIV infection is strongly correlated with wealth (Fox 2010:20). Households with poor background have higher HIV prevalence than those with an opulent life (HSRC 2014:51-52). The poor are more disadvantaged and have difficulty in accessing the basic health services, HIV information, testing and treatment; 57.5 % of women are living more in poverty compared to man 42,5% (Wabiri & Taffa 2013:1).

In Vhembe district in the Limpopo province, 56% of female aged 15-24 years unmarried were likely to have sexual intercourse without protection in return for money (SAfAIDS 2011:2).

- **Marital status**

The marital status is also associated with the risk of contracting HIV infection. It is documented that married young females had lowest HIV incidence around 0,6%; those who are not married, living together with a sexual partner report high incidence of 3,1% compared to those who are single 2,3%. Looking at the number of sexual partners, individuals who had only one sexual partner in the past year had lower incidence (1,7%) compared to those with 2 or more partners (2,4%) (HSRC 2014:66-68).

- **Race**

The incidence of HIV varies according to race. Black African females have highest incidence followed by colored, white then Indian and Asians (HSRC 2014).

- **Male circumcision**

Circumcision is the removal of the prepuce or foreskin of the penis either by surgery or using a device; this procedure has shown to be partially effective in reducing HIV transmission through the keratinised gland. Voluntary medical male circumcision (VMMC) is a biomedical intervention that is part of the combination prevention package adopted by the Department of Health in South Africa (UNAIDS 2012:1). Males in informal areas have reported high circumcision rate compared to those in formal areas (HSRC 2014: 60-61).

2.7.3 Behavioural determinants of HIV incidence

Worldwide, young people are at the Centre of HIV/AIDS epidemic due to their behavior and AIDS is shattering young people's opportunities for a healthy adult life (Saad, Subramaniam & Tan 2013:198).

There are behaviours that expose one to HIV infection, among them:

- **Condom use**

A condom is a barrier device or a contraceptive method made with latex to prevent an exchange of body fluid during intercourse which reduces the possibility of pregnancy, the risk of contracting and spreading HIV and other sexual transmitted infection.

A consistent condom use has shown to reduce significantly the risk of HIV (80%), sexually transmitted infections (STIs) and pregnancy. It is one of the most efficient tools in HIV prevention among males and females. The non-use of condom during coerced or forced intercourse is highly predisposing to STIs, pregnancies and HIV infection (USAID 2013:1-2).

There are two types of condoms male and females. South Africa has made condoms more available all over the country. However the use of condom has fallen in South Africa as the HIV fear has decreased (HSRC 2014:71-80). Half of new HIV infections occur in young girls of 15 -24 years who are in need of contraception and teenagers in

South Africa are exposed to the risk of unwanted and unintended pregnancies as a result of ineffective and non-use of contraceptive services. In Namibia, a high proportion of female adolescents (83.3%) who had their sexual debut at 16 reported 38.6% use of condom on their sexual debut (Ntumba, Scott & Igumbor 2012). In Limpopo Province, 60% of female adolescents were generally dissatisfied with health services and had limited usage of contraception services and condom use due to distance, cultural, equity barriers, attitude of nurses and health care professionals, negative perceptions toward contraceptives, (Ramathuba, Khoza, Mutshinyalo & Netshikweta 2012).

Health services must adapt to the need of adolescent girls and women. As many adolescents of this age having sex for the first time there is a need of the health care system to adapt its system in order to meet the need of this population group with access to health education, contraceptives methods, HIV testing (UNAIDS 2014:139).

- **Age of sexual debut**

Early sexual debut is defined as having first sexual intercourse before age of 15 years meaning at the beginning of adolescence. Adolescence marks the onset of sexual maturity and most young people start exploring their sexuality at that stage. They are easily influenced by their friends' "Peer Pressure". Young females tend to have early sexual debut due to peer pressure from their boyfriends, social network. They also fear to be stigmatised, so early sexual debut become a trend in many societies (SAfAIDS 2011:1). They have challenge to maintain their identity, to accept their own body, their own life style; they are at a stage where they are discovering themselves and developing their own personality. They face challenges such as self-esteem, self-acceptance, and self-efficacy in using condom. They are not matured enough to make a reasonable decision or choice, and they have tendency of copying or doing things that they did not intend to do. As they are growing and acquiring maturity, they are able to make reasonable decisions and protect themselves and older girls were more likely to use condoms than younger girls, from 8% at age 13 to 100% at age 19 (Ntumba et al 2012:1).

Elsewhere, it was shown that peer pressure influences sex initiation and sexual behaviour; the risk of HIV infection increase when young females are surrounded by friend who are already sexual active (Cherie & Berhane 2012).

Parental pressure also plays a big role in determining the age of sexual debut (SAfAIDS 2011:1). Parenthood is a very important factor that determines the young female's age of sexual debut: it has been reported that parental-adolescent communication is fundamental. It means that when parent and children discuss openly about puberty, relationship, delayed sex, this impacts positively the age of sexual debut. Adolescents who reported a good relationship with their parent and those who reported their parents to know their friends were found to have lower rate of engaging in early sexual debut (SAfAIDS 2011:2). Orphanhood leads to lack of parenting on life skills, communication and education on sex. Orphans often lack financial support making them vulnerable to transactional sexual relationships and early school drop-outs (SAfAIDS 2011:2).

It is reported that young males are three times more likely than females to have sex for the first time before the age of 15 years, by the end of their childhood 42% of female and 63% of males had become sexually active (HSRC 2014:65), meaning "women HIV acquisition is strongly associated with male's infectiousness" (Ramjee & Daniels 2013:3). Adolescents, specifically young females, are more vulnerable to HIV/AIDS due to multiple factors that can predispose them to an early sexual debut such as early orphan hood before the age of 10, divorced of parent, low level of education, early marriage, and poverty (Richter 2004:14).

- **Gender-based violence (GBV) and intimate partner violence (IPV)**

In South Africa, reports have shown that women who experience violence are more likely to be involved in multiple partners' relationships (WHO 2004:2). Forced and coerced sexual intercourse with an infected partner is one of the routes of transmission of HIV and other STI (sexual transmitted infection), and young women with older partner are 1,5 times more likely to experience physical and sexual violence than women with partners in their peer age group (WHO 2014:3).

- **Multiple sexual partners**

Young females who are involved in a multiple sexual relationship are at a higher risk of contracting. The prevalence of HIV is higher in black females, followed by colored women than white and Indian women (HSRC 2013). In Vhembe district in Limpopo province, a predominantly inhabited by black African, 81,4% of women had one or two

sexual partners in a period of three months, 14% of them had three to four partners, 5% had 5 and more partners in the preceding month (Maluleka 2010).

- **Age-disparate relationship**

This refers to a five-year gap or more between sexual partners (Harling, Newell, Tanser, Kawachi, Subramanian & Bärnighausen 2014:446). Although there are consensual sexual relationships involving young women and girls with older men, there is a higher proportion of transactional sexual relations of young women and girls with multiple older male partners for financial gain (HSRC 2014:66-67) (WHO 2004:3). In such relationships, the balance of power is against the female partner preventing her from successfully negotiating condom use during sexual intercourse (WHO 2004:2) (Jewkes, Wood & Duvhuri 2010:1080). Some cultural beliefs encourage sexual intercourse with virgin girls for presumably healing purpose (WHO 2004:2-3).

- **Substance abuse**

The use of alcohol and illicit drugs such as cannabis, tobacco, heroin, cocaine, mandrax, LSD, ecstasy, hallucinogens is associated with a higher risk of having sex without condom in both females and males 13 to 24 years (Peltzer, Friend-du Preez, Ramlagan & Anderson 2010:3). Alcohol and drugs consumption in South Africa is higher at 4/5 in males and at 3/5 in females. In other words, "South African drinkers rank in the top five riskiest drinkers in the world, with approximately 33% to 40% of drinkers consuming alcohol at risky levels" (Corrigal & Mazopoulos 2013:104). The easy availability of alcohol in the shebeens, bottle stores, supermarkets, and of drugs among youth constitutes a huge concern as they have been targeted as the new market for drug industry. In South Africa around 5.8% of youth over 15 years are involved in illicit drugs; sexually active young girls and street children are the most vulnerable and high risk group to get into illicit substances abuses and alcohol (Seggie 2012; Mazibuko 2000). Alcohol and illicit drug abuse lead to impaired cognition and impaired ability to make a reasonable judgement resulting in high risk behaviors such as sharing needles with infected person, having unprotected sex or transactional sex for financial benefit that predispose to HIV infection (NIDA 2012:3).

- **Awareness of HIV status**

In 2012, the NDOH launched a massive campaign, the HCT/VCT campaign providing sexual information, skills development, availability of health services, with a movie like Soul City, door to door campaign on HIV counselling and testing in order to extend the HIV awareness and testing centers. Surveys done in 2008 reported that awareness messages were well received by 15-24 years (HSRC 2014). HIV status awareness was higher in females at 55% of females compared to 45% males (HSRC 2012:86). In Vhembe district in Limpopo, it was reported that youths are no longer perceiving HIV as a danger due to the availability of antiretroviral therapy; 99% of them are not aware of their own HIV status, while 76% of them are not aware of their partner status (Maluleka 2010).

- **Knowledge and beliefs about HIV/AIDS**

It is important to assess the knowledge and belief of participants about HIV/AIDS; a person's knowledge and belief do influence his or her attitude toward health (Tlou 2009:11). The majority of people believe that they cannot get HIV if they are consistently using condoms, abstain from sex, are faithful to one partner and, trust their partner status whereas a minority says they can contract HIV if they are sexually active, not using condom, not trusting their partner (HSRC 2012:90). In Africa, young women and girls' knowledge of contraceptives in relation to HIV exposure is lower at 34% compared to global knowledge. This may be associated with prevalent conservative African cultures where sex and sexual matters are still a taboo (SAfAIDS 2011; UNAIDS 2010:2).

Therefore education is crucial for girls or women because for every additional year in school, girls are well equipped to make decisions affecting their sexual life and they have higher potential earning, factors that has been proven to lower the risk of HIV transmission (UNAIDS 2010:2). The risk of getting infected with HIV is less than half for young people particularly girls who stayed at school and complete their basic education (UNAIDS 2010:2).

2.8 CONCLUSION

The HIV and AIDS epidemic is driven by an array of factors ranging from socio-demographic to those pertaining to lifestyles and socio-behavioural factors. It is almost impossible to single out one factor as being the one most responsible for the transmission of HIV infection as enumerated in this chapter. This chapter covered the history of HIV/AIDS, South African Demographic profile, HIV/AIDS in South Africa, HIV/AIDS prevention theories and key drivers of HIV incidence among young females aged 18 to 24 years.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter provides an outline of how the research was carried out and how data were collected and analysed. It takes an in-depth look at the methodology, which includes the study design, population, sampling, and research instruments. The Research ethics and the control measures taken to ensure validity and reliability are also discussed. The main purpose of this study was to explore factors that contribute to a high incidence of HIV infection among adolescents.

3.2 RESEARCH DESIGN

A research design is a 'plan that describes how, when and where data are to be collected and analyzed' (Parahoo 2006:138). This design process helps the researcher to structure his or her approach to conducting the research in order to meet the objectives of the study.

The study was a quantitative cross sectional study. The context was DGMAH and the target population was adolescents aged 18-24 years. This design fits the study since it was used to explore factors associated with the incidence of HIV among adolescents.

In investigating these factors, information was obtained from a representative sample of the target population in order to establish distribution and interrelations of a phenomenon within the population group under study (Polit & Beck 2012:264).

3.2.1 Quantitative research

Quantitative research is a formal, objective and systematic process in which numerical data are used to obtain information about the world (Burns & Grove 2011:347). Quantitative research design is rooted in post positivism with the philosophy that reality can be discovered using the deductive approach in which ideas or concepts are

deduced into variables (Polit & Beck 2010:314; Burns & Grove 2009:157). The quantitative approach provided a method to collect statistical data for analysis and reporting. Haber and Lobiondo-Wood (2006:206) are of the view that the main purpose of scientific research is to explore the association among primary variables in an effort to gain a better understanding of the phenomena under study.

3.2.2 Cross-sectional study

A cross-sectional study is a research study that collects data on subjects at one point in time (Brink, Van der Walt & Van Rensburg 2012:16). A cross-sectional hospital-based design using quantitative methods was employed in this study to explore the incidence of HIV infection among adolescents aged between 18-24 years.

3.3 RESEARCH METHODS

The researcher used a structured questionnaire with closed-ended questions to collect data through face-to-face interviews to minimise the risk of missing data associated with open-ended questions with no interviewer (Reja, Manfreda, Hlebec & Vehovar 2003:175).

3.3.1 Study population

Research population is defined as a particular group of individuals or elements, who are the focus of research (Burns & Grove 2011:342). The target populations in this study are young women aged 18 to 24 years old infected with HIV/AIDS living in South Africa who access healthcare services at DGMAH.

3.3.2 Inclusion criteria

The criteria that specifies the characteristics of an individual to be classified as a member of the study population are the eligibility or inclusion criteria (Polit & Beck 2012:274). This study included female patients aged 18 to 24 years, who gave informed consent, consulting at DGMAH during year 2015 presenting with signs and symptoms of HIV and AIDS contracted sexually.

3.3.3 Exclusion criteria

The criteria that specifies the characteristics of an individual not to be classified as a member of the study population are the exclusion criteria (Polit & Beck 2012:274). Young females 18 to 24 years old who have contracted HIV through vertical transmission meaning infection transmitted from mother to child during pregnancy, child birth and breastfeeding as well as through transfusion of blood products, were not included in this study.

3.4 SAMPLING

Sampling is a process of selecting subjects who are representative of the population being studied (Burns & Grove 2011:343). The criteria that specifies the characteristics of an individual not to be classified as a member of the study population are the exclusion criteria (Polit & Beck 2012:274). Young females 18 to 24 years old who have contracted HIV through vertical transmission meaning infection transmitted from mother to child during pregnancy, child birth and breastfeeding as well as through transfusion of blood products, were not included in this study.

A sample is defined as a subset of the population under study that constitutes a unit of the study population from which inferences can be made about this population. In the same vein, sampling is the process of selecting this unit representing the study population (Polit & Beck 2012:275). At the time of this research, the hospital statistics showed 504 patients visiting the wards and clinics monthly, or a total of 1512 in the three months period that the study occurred. A sample size of 187 average 200 respondents was estimated at 95% confidence interval with prevalence of 16.7%. This estimation was performed on Epi Info™. However, the delay in obtaining the final clearance from Sefako Makgatho Ethics Committee to conduct the study led to a shortening of the survey period from three months to seven weeks, limiting the number of participants to 130 instead of 187 sample size determined.

Probability sampling method, involving a random selection of elements, was used to select 130 young women and girls by simple random sampling. The population was identified according to the inclusion criteria, in collaboration with nurses registering patients that book for consultation.

Informed consent was obtained from every prospective respondent to participate in the study; after giving consent, respondents were asked to meet with the interviewer for about fifteen minutes after their routine consultation. A questionnaire was then administered to them. Efforts were made not to interrupt the daily work at the clinics and wards.

3.4.1 Participant's recruitment process

The Research and Ethics Committee from the Department of Health Studies, Unisa issued an ethical clearance (Annexure 1) which enabled the researcher to start requesting permissions to do the study. The recruitment process of the participants started immediately after the permission was granted by Sefako Makgatho Health Sciences University Ethics Committee (Annexures 2, 3). It also started after approval by the Chief Executive Officer and different Heads of Departments (Internal Medicine, Family Medicine and Gynecology and Obstetric Departments) at DGMAH (Annexure 4). Participants were recruited from wards 1, 30, 31, 32 and 33, the Antenatal clinic, Tshepang clinic, Family Practice outpatient. These areas were distributed as follows: Internal Medicine (includes Tshepang clinic or wellness clinic), Family Practice (includes ward 1, Family Practice outpatient) and Gynecology and Obstetric (includes wards 30, 31, 32, 33 and the Antenatal Clinic). In each clinic and ward, randomly selected female participants aged 18-24 years from the ward or the clinic register with positive HIV result were briefed about the purpose of the research, provided with a consent form and informed of a possibility to withdraw from the research, confidentiality ensured.

3.5 DATA COLLECTION

The researcher collected data by administering questionnaires. A questionnaire offers an advantage of increased response rate. It is cost effective and allows a researcher to assist those who cannot read (Talbot 1995:230).

One hundred and thirty female participants (130) aged 18 to 24 years were recruited in the clinics and the wards and gave consent to participate in the research (Appendix 6). Numeric data was collected by self-administering questionnaire, distributed to respondents in the wards, in outpatient consultation (Annexure 5). The majority of the questionnaires, about 80%, were administered by the researcher herself, and 20% by

two trained counselors at the Tshepang HIV Clinic. Care was taken to ensure privacy and confidentiality during the data collection. The questionnaire was given in English; for those who could not speak, read or understand English, the researcher translated the questions in their languages, mostly Setswana.

3.5.1 Bias

This study made use of a questionnaire. This can lead to two types of bias.

3.5.1.1 Selection bias

As the study was limited to three specific departments of participants who are consulting in DGMAH, it will be very difficult to generalise the findings of the study due to the small size of the sample on national proportion.

3.5.1.2 Information bias

Questionnaire development can be very complex and may acquire less information from the subjects because there is less contact between the person administering the questionnaire and the subject (Talbot 1995:229-230). In the course of data collection in this study, with Setswana speaking only respondents, there were instances whereby information collected was limited due to language barrier.

3.5.1.3 Response bias

The researcher encountered participants who are illiterate and had difficulty reading and comprehending the questionnaires.

3.6 DATA ANALYSIS

Data collected on questionnaires were computed on an excel book from which descriptive statistics were calculated to get percentages, frequency distribution, cross-tabulation.

3.7 VALIDITY

The validity of findings was ensured by the removal of all systematic errors that can lead to a distortion of the instrument of data collection as described above.

3.7.1 Internal validity

All influences that produce a distortion in this study were controlled by ensuring that the only constant factors that influence HIV infection in selected respondents was sexual transmission of the infection; other risk factor like blood transfusions, sharing sharp objects, mother to child transmission object were excluded.

3.7.2 External validity

Participants were selected using simple random sampling in order to give to anyone the chance of participating in the study.

3.8 RELIABILITY

The accuracy and consistency of information obtained in this study were ensured by administering the same questionnaire to all the respondents. Consistency was realised by making sure that the participant's immediate surrounding was calm and allowed her to be relaxed, be emotionally, psychologically and clinically stable (Talbot 1995:275).

3.9 ETHICAL CONSIDERATION FOR THE STUDY

The right to confidentiality is the cornerstone of this research because of the sensitivity of the subject. Therefore, four components of ethics were considered: autonomy, justice, beneficence, non-maleficence were taken into consideration throughout the study.

3.9.1 Autonomy and Informed consent

Respondents were fully informed on the subject, the reason of the research, the benefit and risk to participate on the research and the institution under which the research is

undertaken, how the research would contribute to the respondent's life and to the entire target population, the right to participate or not to the study and to withdraw at any time (Annexure 7). Autonomy of the respondents was observed. This is paramount in the overall process; the researcher respected patient freedom in all decision, to participate or not to participate, to withdraw at any time from the research. Respondents were treated with courtesy and given respect on all their decisions without coercing or bribing them. Confidentiality was ensured by providing respondents with privacy in the research, so no personal identification was taken from them and no information was disclosed to a third party (other health care worker, parent or relative) without their expressed permission.

3.9.2 Non-maleficence

Measures were taken to protect patients against any psychological harm such as stress, fear, fatigue, vulnerability, discrimination, and stigmatisation.

3.9.3 Justice

Respondents were approached using the same questionnaire. There was no discrimination in the choices of the respondents like race, level of education, socio-economic or language spoken.

3.9.4 Beneficence

The outcome of the research in informing and improving HIV/ AIDS programmes and services was presented as an ulterior benefit to respondents.

3.10 CONCLUSION

In this chapter, the methodology used in this research, including data collection techniques and analysis, was elaborated. The next chapter will present the results of the research, their interpretation and the conclusion.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 INTRODUCTION

In this chapter, data management, results from the study and the discussion of the results are presented.

4.2 DATA MANAGEMENT

Data collected through the questionnaires were checked for errors, entered into a Microsoft office excel book and descriptive statistics of the responses was conducted to get categorical data as percentages and frequencies. Cross-tabulation was done to group some variables in order to find possible association between factors. Fisher's Exact Test was used to assess differences between frequencies and Pearson Chi-square to assess central tendencies.

4.3 RESULTS

4.3.1 Socio-demographic factors

4.3.1.1 Age distribution

The sample of 130 respondents was composed of 82 young women or 63.1% and 48 adolescents or 36.9% (figure 4.1).

4.3.1.2 Residence, employment, marital status

Respondents originated from the residential areas in the proximity of DGMAH in formal and informal townships; 98 of them or 75.38% lived in formal dwelling whereas 32 of them or 24.61% lived in informal dwellings. The majority of them, 80.76% were unemployed, single or not in a committed relationship (80.15%) (figure 4.1).

4.3.1.3 Marital status

The majority of respondents, 113 or 86.9%, were single whereas only 13.1% were cohabitating with a male partner (figure 4.1).

4.3.1.4 Occupation

An overwhelming majority of respondents, 103 or 79.2%, were unemployed (figure 4.1).

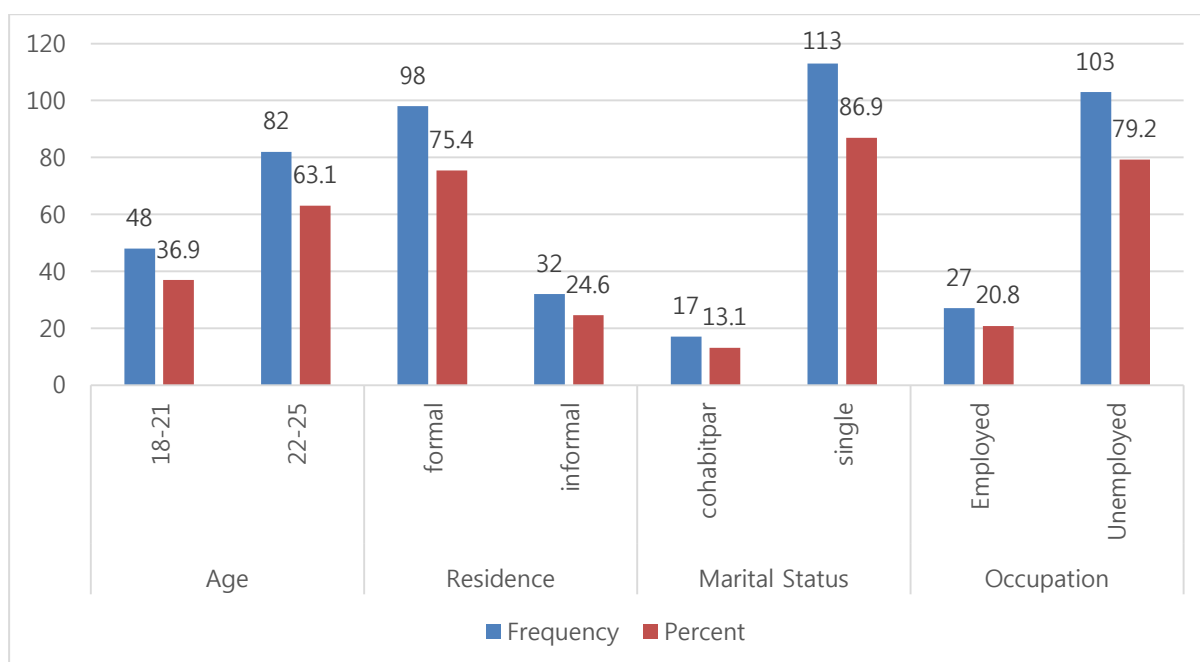


Figure 4.1 Socio-demographic factors (N=130)

4.3.2 Socio-behavioural factors

4.3.2.1 Age of sexual debut

Most young women, 96 or 73.85%, have their sexual debut between the ages of 15 and 19; 16 or 12.30% at the age of 20 and above whereas a small proportion of 18 or 13.8% were sexually active before the age of 15 (table 4.1).

Table 4.1: Age of sexual debut

Age of sexual debut		Frequency	Percent	Valid percent	Cumulative percent
Valid	<15	18	13.8	13.8	13.8
	>20	9	6.9	6.9	20.8
	15	13	10.0	10.0	30.8
	16-19	65	50.0	50.0	80.8
	19	18	13.8	13.8	94.6
	20	7	5.4	5.4	100.0
	Total	130	100.0	100.0	

4.3.2.2 Age disparity in sexual relationship

The majority of participants 52.3% reported an age disparity of 5 to 10 years between them and their male sexual partners and a 23.1% a gap of less than 5 and a similar proportion of 28.4% a gap of more than 10 (table 4.2).

Table 4.2: Relationship age disparity

Relationship age disparity		Frequency	Percent	Valid percent	Cumulative percent
Valid		1	0.8	0.8	0.8
	<5	30	23.1	23.1	23.8
	>10	30	23.1	23.1	46.9
	>5	1	0.8	0.8	47.7
	5-10 years	68	52.3	52.3	100.0
	Total	130	100.0	100.0	

4.3.2.3 Number of sexual partners

When asked about the number of sexual partners they had in the previous 12 months prior to the interview, 72 respondents or 55.38% had only one male sexual partner, 31 or 23.84% had more than two sexual partners and 27 or 20.76% had two sexual partners. Of these respondents, 43.84% reported that they believed it was through the unfaithfulness of their sexual partners that they have contracted HIV (table 4.3).

Table 4.3: Number of sexual partners

Number of sexual partners		Frequency	Percent	Valid percent	Cumulative percent
Valid	>2	31	23.8	23.8	23.8
	1	70	53.8	53.8	77.7
	2	29	22.3	22.3	100.0
	Total	130	100.0	100.0	

4.3.3 Condom use and partner circumcision status

4.3.3.1 Condom use

The majority of respondents, 76 or 58.5% had inconsistent condom use and 54 or 41.5% never used condoms (figure 4.2).

4.3.3.2 Condom availability

Most of the times these condoms, were collected from stores like tuck-shops, 58.5% and local clinics, 32.3 % (figure 4.2).

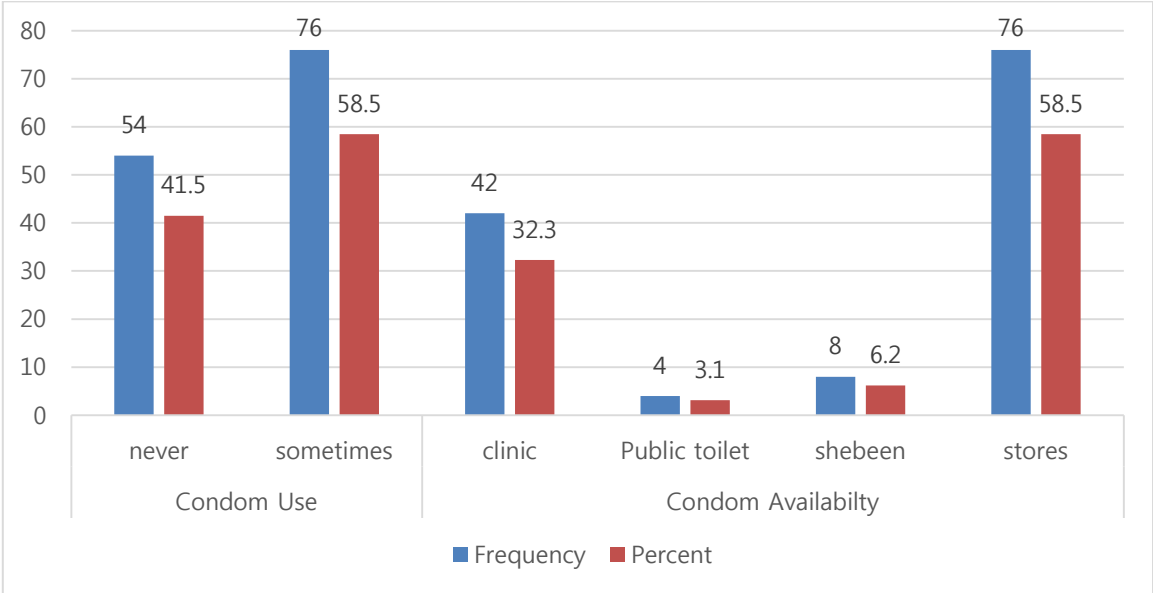


Figure 4.2: Condom use and availability (N=130)

4.3.3.3 Partner circumcision

The majority of respondents, 89 or 68.46% reported having uncircumcised male partners (table 4.4).

Table 4.4: Partner circumcision status

Partner circumcision status		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	89	68.5	68.5	68.5
	yes	41	31.5	31.5	100.0
	Total	130	100.0	100.0	

4.3.4 Literacy level, knowledge and awareness of HIV

4.3.4.1 Literacy level

Respondents reported a form of education received through the formal schooling system with only 41.5% of matriculants. The majority of respondents, 58.5%, were non-matriculated (figure 4.3).

4.3.4.2 Knowledge about HIV

HIV is a well-known disease nowadays among the general population. The following was found to support it (figure 4.3):

- Ninety-eight (98) respondents or 75.4% did not know their HIV status before the last sexual intercourse; only 32 or 24.6% knew their HIV status of which 30 or 23.07% were HIV negative before their last sexual intercourse.
- Seventy-two (72) respondents or 55.4% did not know their partners' HIV status and these partners did not think of taking an HIV test.
- Hundred and twenty-three (123) respondents or 94.6% demonstrated good knowledge of the definition of HIV.

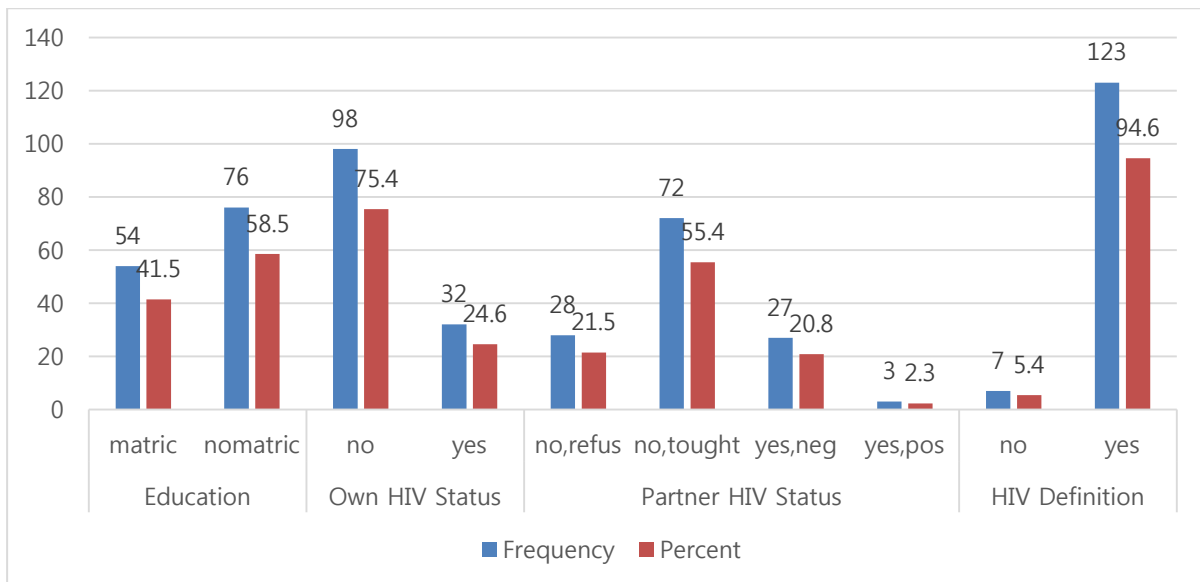


Figure 4.3: Education, HIV status and HIV definition (N=130)

Hundred and eighteen (118) respondents or 90.8% knew about modes of transmission of HIV infection, for example, sexual intercourse, blood products, needles, mother to child (figure 4.4).

Ninety-six (96) respondents or 75.4% knew that there is no cure for HIV while 24 or 18.5% responded that they believed that there was cure for HIV and AIDS.

Ninety-three (93) respondents or 71.5% knew about prevention methods against HIV.

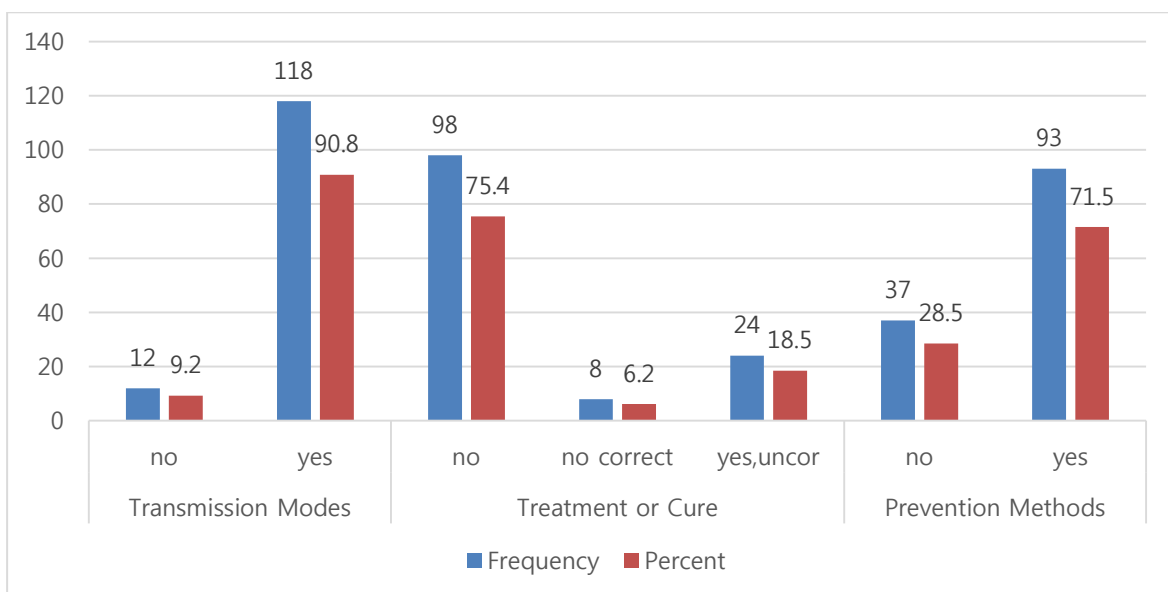


Figure 4.4: Knowledge of transmission, treatment and prevention methods (N=130)

4.3.4.3 HIV awareness and sources of knowledge

Most respondents, 43 or 33%, had heard of HIV at school and at their local clinic, 20%, through the media 19%. A good proportion, 19%, had heard of HIV through their parents.

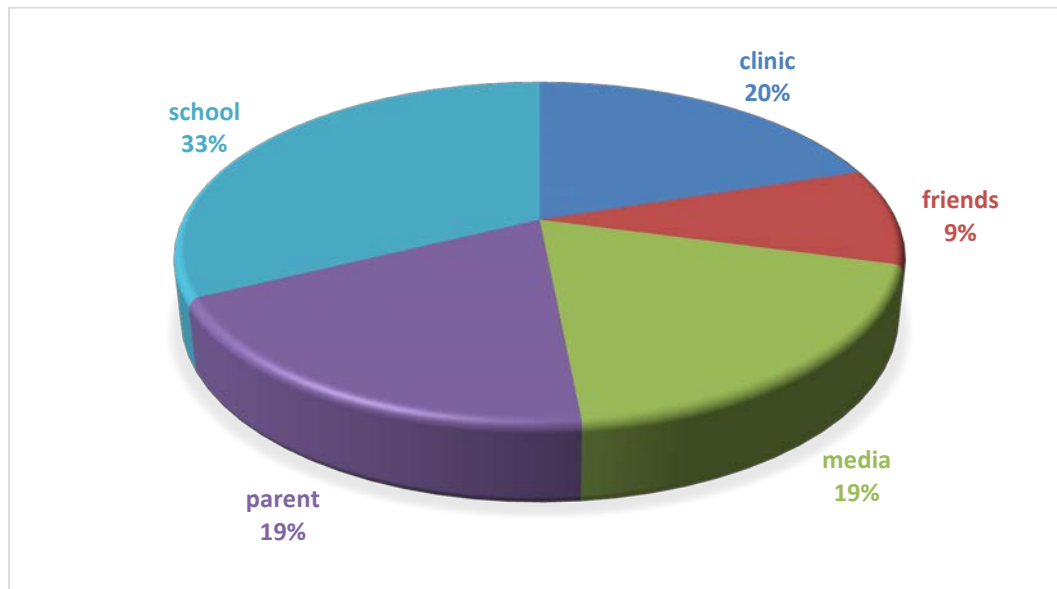


Figure 4.5: Source of knowledge of HIV (N=130)

4.3.5 Others

Most respondents reported unfaithfulness (33.1%), poverty (16.9%), peer pressure (16.2%) as predisposing factors in their getting infected with HIV whereas a smaller number of respondents reported sexual coercion (1.5%), and substance abuse (3.1%) such as alcohol and nyaope (0.8%) as predisposing factor in their getting infected with HIV.

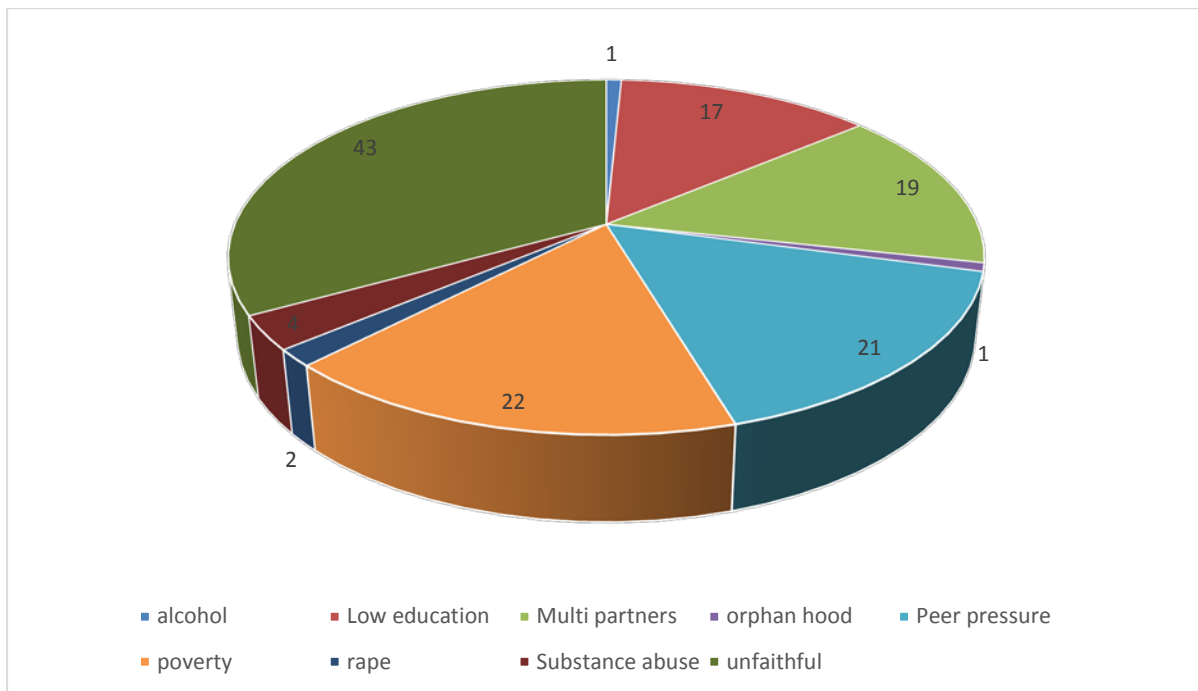


Figure 4.6: HIV exposure (N=130)

4.4 DISCUSSION

HIV and AIDS epidemic is driven by multiple factors and unveiling these complex factors can be a very challenging task. This study targeted young women and girls living in the townships areas surrounding DGMAH which were predominantly classified as ‘informal settlement’ even though in the last ten years or so formal urbanisation has been underway in the North Western areas of Pretoria. These areas include Ga-Rankuwa, Mabopane, Soshanguve. These areas have predominant features that would be classified as informal settlements.

4.4.1 Socio-demographic

Informal settlements are a feature of urban settings in South Africa. Urban informal settlements have an estimated HIV prevalence of 19.9% compared to 10.1% for urban formal settlements. In 2012, in South Africa HIV incidence among young black women (aged 15-24 years) was extremely high at 4.5%, and the same survey estimated HIV incidence among urban informal settlement residents to be more than twice the rate (2.5% vs 1.1%) of urban formal settlement residents (HSRC 2014:113).

Since the dawn of the current democratic dispensation, there has been a concerted effort by the Government to improve housing especially in the formerly underprivileged areas. Structural interventions have been implemented around the country to correct historical heritage that perpetuate social imbalances. Housing has been formalised in these areas with fewer and fewer shacks or informal dwellings. This is attested to by the majority of the respondents identifying their residences as formal.

There are structural drivers of HIV transmission in South Africa, of which unemployment, with its socio-economical and historic roots, is an important one. The link between transaction sex, commercial sex and HIV infection is well documented. The high level of unemployment of 80.76% of respondents, coupled with the high prevalence of multiple sexual partners, is a strong predisposing factor to transactional sex and commercial sex (SANAC 2014:43-47).

4.4.2 Knowledge of HIV and AIDS

The inaugural national HIV testing campaign to test a million people in South Africa just over five years ago appears ages ago. There appears to have been a fading of energy to get people to know their HIV status in spite of universal availability of testing tools at most primary health care facilities in the fifty-two districts in the country. The national HIV survey reported a national HIV status awareness of 65.5% (HSRC 2014:84). It is therefore a serious concern that 98 respondents or 75.4% did not know their HIV status; worse, 78, or 60%, did not even think about testing. This is in spite of the fact that the entire pool of respondents demonstrated good knowledge and understanding of HIV as a non-curable disease way above the 28.6% national average in the same age segment.

The level of education influences one's exposure to HIV infection as it determines attitudes with regard to adopting healthy lifestyles and uptake of HCT (Dellar et al 2015:6). Consequently, the compound effect of low education and risky lifestyle, i.e. substance abuse, multiple partner relationship, would heighten the risk of HIV infection as found in this study.

Table 4.5a: Crosstab: Level of education and HIV exposure

Level of education and HIV exposure	HIV exposure									Total
	alcohol	education	Multiple partners	Orphan hood	Peer press	poverty	Rape	Substance abuse	unfaithfulness	
Matriculant	0	4	5	0	9	12	1	1	22	54
Non-matriculant	1	13	14	1	12	10	1	3	21	76
Total	1	17	19	1	21	22	2	4	43	130

Table 4.5b: Chi-square tests

Chi-square tests	Value	df	Asymptotic Significance (2-sided)
Pearson chi-square	9.202a	8	.326
Likelihood ratio	10.169	8	.253
N of valid cases	130		

8 cells (44.4%) have expected count less than 5. The minimum expected count is: .42.

4.4.3 Socio-behavioural factors

The following factors were found to be associated with new HIV infections in this study:

4.4.3.1 Age of sexual debut

Early sexual debut is defined as initiating sexual activity before the age of 15. The majority of respondents, 63.9%, initiated their sexual life between the ages of 16 and 19 with only 23.85% who had an early onset of sexual activity. This is consistent with finding of the latest national HIV survey which reported that young male are three times more likely than female to have sex for the first time before the age of 15years, by the end of their childhood 42% of female and 63% of males had become sexually active (HSRC 2014:65) (table 4.6).

Table 4.6a: Crosstab: Age*Sexual debut

Age	Sex debut						Total
	<15	>20	15	16-19	19	20	
18-21	8	1	5	20	12	2	48
22-25	10	8	8	45	6	5	82
Total	18	9	13	65	18	7	130

Table 4.6b: Chi-square tests

Chi-square tests	Value	df	Asymptotic significance (2-sided)
Pearson chi-square	11.129a	5	.049
Likelihood ratio	11.357	5	.045
N of valid cases	130		

4 cells (33.3%) have expected count less than 5. The minimum expected count is 2.58.

4.4.3.2 Inconsistent condom use

A condom is an efficient barrier device that prevents effectively, when consistently used, the twin scourge of unwanted pregnancy and sexually transmitted disease. The Department of Health has set the target of one billion male condoms to be distributed annually. Such increased availability would hopefully translate into increased usage. It is a concern that all the respondents did not use condoms consistently with 40.76% never used even when they are available and accessible at secondary distribution outlets such as public health clinics and stores, including tuck-shops. This finding is worse than that of the national HIV survey that reported about a quarter of respondents, 27.4%, used condoms consistently (HSRC 2014:118). It will be consistent with findings in Limpopo province where 60% of female adolescents were found to be generally dissatisfied with health services and had limited usage of contraception services and condom use due to distance, cultural, equity barriers, attitude of nurses and health care professionals, negative perceptions toward contraceptives (Ramathuba et al 2012:3). It will be consistent with findings in Namibia where a high proportion of female adolescents (83.3%) who had their sexual debut at 16 reported 38.6% use of condom on their sexual debut (Ntumba et al 2012:4).

However, taking into consideration the age- disparity relationships, the inconsistent use of condom in the majority of respondents, 59.23% could be a reflection of power dynamics in the relationships where these young women may not have been able to successfully negotiate condom usage.

4.4.3.3 Age-disparity relationships

A number of studies have shown that young people who had sex with a partner aged 5 years more or older were at a greater risk of contracting HIV infection (HSRC 2014:116). Moreover, 19.8% of young women and girls aged 15-24 years were found to be in such relationships where male partners aged 5 years or older (HSRC 2014:116). However, in this research it was found that the majority of respondents, 80%, were in sexual relationships with men who were 5 years or older, thereby increasing their risk of HIV infection.

Table 4.7a: Crosstab: Age*Age disparity in sexual relationship (count)

Age	Age disparity				Total	
		<5	>10	>5		5-10 years
18-21	0	13	10	1	24	48
22-25	1	17	20	0	44	82
Total	1	30	30	1	68	130

Table 4.7b: Chi-square tests

Chi-square tests	Value	df	Asymptotic Significance (2-sided)
Pearson chi-square	3.066a	4	.547
Likelihood ratio	3.679	4	.451
N of valid cases	130		

4 cells (40.0%) have expected count less than 5. The minimum expected count is .37.

4.4.3.4 Marital status and multiple sexual partnerships

A lifestyle that entertains multiple sexual partners exposes one to the risk of sexually transmissible diseases and HIV. The national HIV survey found that 22.4% of young people aged 15-24 years had 2 or more concomitant sexual partners (HSRC 2014:70). However, this research found that 44.6% of respondents had 2 or more concomitant sexual partners. It was not possible to discriminate whether these multiple relationships included other forms of transactional sexual relationships due to the scope of the research. However, taken together with age-disparity and unemployment, there could be an association of these factors to drive new HIV infections as there is a 5.7 to 6.7 fold increase risk in HIV infections associated with poverty or lack of money (HSRC 2014:51) (figure 4.7).

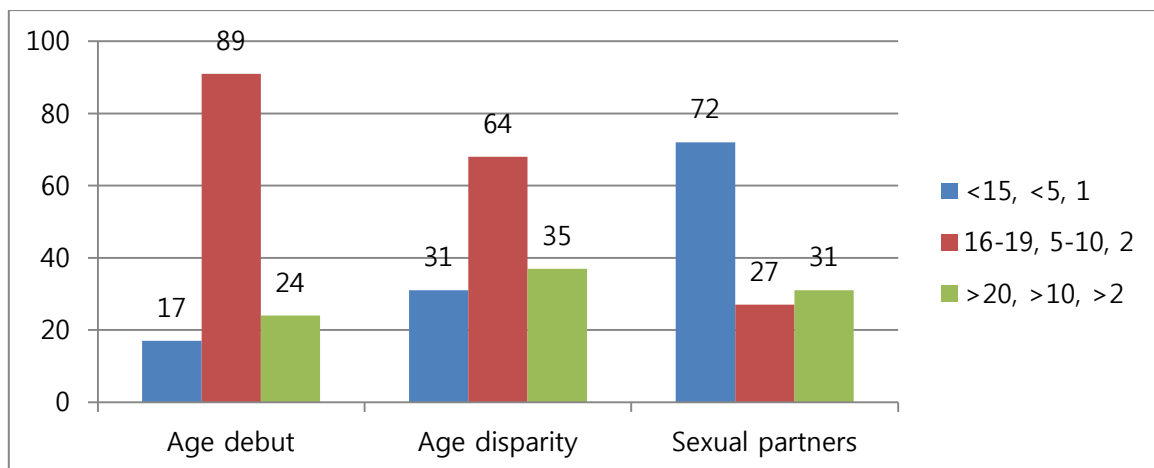


Figure 4.7: Marital status and multiple sexual partnerships (N=130)

4.4.3.5 Partner circumcision status

As part of the package of biomedical interventions, Voluntary Medical Male Circumcision (VMMC) is available and accessible at most public primary healthcare facilities in the country. It is alarming that the great majority of male partners of the respondents, 89 or 68.46%, were uncircumcised (Figure 4.8).

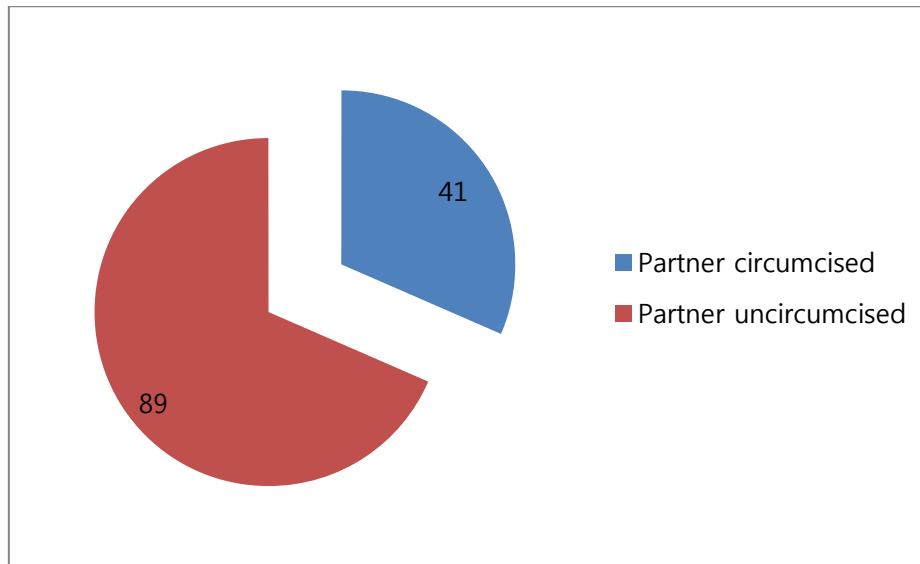


Figure 4.8: Partner circumcision status (N=130)

4.5 CONCLUSION

This chapter presented the data management, data analysis and the results of the study and their discussion. This study found that early sexual debut of the majority of respondents, highly prevalent inconsistent use of condoms in spite of their availability in public places, high rate of uncircumcision of the respondents' male partners added to high unemployment of young women and girls were associated with the resurgence of HIV incidence in young women and girls presenting at DGMAH.

The next chapter presents a summary of the study and its conclusion.

CHAPTER 5

SUMMARY, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The purpose of this study was to investigate the key factors, known or new that have contributed to the recent resurgence of the incidence of HIV infection among young females aged 18-24 years consulting at DGMAH. This chapter presents conclusions based on results of the study.

5.2 SUMMARY OF THE FINDINGS OF THE STUDY

The burden of the HIV epidemic in Sub-Saharan is borne by black, poor women. Furthermore in South Africa, the epidemic is said to have the face of young, black, single, unemployed women and girls dwelling in informal settlements (HSRC 2014). After an initial denialism about the cause of HIV and the treatment thereof, South Africa has spearheaded a turn-around approach to addressing the HIV and AIDS epidemic in the last decade. The roll out of the most expansive public lead Highly Active Antiretroviral Therapy coupled with different structural, behavioural and biomedical prevention intervention have borne some success in turning the tide and reducing HIV incidence.

In keeping with the national HIV survey, high unemployment and greater age-disparity in the relationships were found to have a direct correlation with HIV incidence in young women and girls presenting at DGMAH. However, alarmingly, it was found that there is very low condom use coupled with low HIV counselling and testing than the national average in spite of high level of condom availability and knowledge of HIV issues and an exposure to an array of behavioural change communication interventions. High rate of non-circumcision of male partners was also found to be associated with these new infections.

5.3 CONCLUSION IN RELATION TO THE MAIN FINDINGS OF THE STUDY

The study investigated the factors associated with the resurgence of HIV and AIDS among young women and girls aged 18 to 24 presenting at DGMAH in the North-West Gauteng province. The objectives of the study were pursued and met to a certain degree.

The study determined that awareness and knowledge of HIV and AIDS risk factors among young women aged 18 to 24 years is well above national average. However, it was found that there was an unprecedented low personal HIV status and lower male partner's circumcision rate.

Some HIV prevention programmes, particularly the behavioural change programmes and biomedical programmes, such as condoms and ART, were accessible to young women and girls consulting at DGMAH. However, the study found with concern that the usage of condom was particularly low.

Moreover, structural factors such as a high level of poverty, unemployment and low education coupled with behavioural factors such as unfaithfulness and multiple sexual relationships were found to be hindrances to healthy life style and implementation of preventive of HIV and AIDS interventions among young women and girls.

5.4 LIMITATIONS OF THE STUDY

There are limitations that prevent the generalisation of the findings of this study:

The study was carried out on young women and girls presenting at DGMAH which is a tertiary referral institution for two other provinces, Limpopo and North West, outside the North West suburbs of Pretoria; so this might have limited the generalisability of the findings to the general population of young women and girls of these provinces.

Participants in this survey needed a certain level of literacy as they had to complete the questionnaires themselves; therefore, there might be limitations to generalising the findings of the study to the entire target population that include illiterate young women and girls as well.

5.5 RECOMMENDATIONS FOR FURTHER STUDIES

The following recommendations, arising from the results, are made.

Conducting same study at selected primary health care institutions in the two provinces referring to DGMAH and North West of Pretoria.

Investigating the correlations between the different drivers associated with new HIV infection in order to ascertain which ones are determinant in the resurgence of HIV and AIDS in young women and girls in the locality of this study.

5.6 CONCLUSION

The findings of this study indicate the need to reinforce some health promotion programmes, particularly HCT, VMMC and condom usage of which the uptake has decreased (Strauss, Rhodes & George 2015:2). The persistence of structural factors such as high level of poverty, unemployment and low education underscores the need for a combination HIV prevention approach.

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ANNEXURES

**ANNEXURE 1: ETHICAL CLEARANCE CERTIFICATE FROM HEALTH STUDIES
HIGHER DEGREES COMMITTEE, UNISA**



**UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE**

HS HDC/296/2013

Date: 15 January 2014 Student No: 4526-695-6
Project Title: Factors determining the HIV incidence among young females (18-24 years old) presenting at a Public Hospital in Gauteng Province.
Researcher: Paola Bulungu Kabongo
Degree: Masters in Public Health Code: DLMPH95
Supervisor: Prof GB Thupayagale-Tshweneagae
Qualification: D Tech
Joint Supervisor: -

DECISION OF COMMITTEE

Approved



Conditionally Approved



**Prof L. Roets
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE**


**Prof MM Moleki
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES**

pp

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

ANNEXURE 2: PERMISSION REQUESTED TO CONDUCT THE STUDY

Dr PAOLA KABONGO
Master in Public Health Student
University of South Africa

Pretoria, April 3rd, 2014

TO: The Chair
Ethics Committee
Dr George Mukhari Hospital
Gauteng

Dear Madam/ Sir,

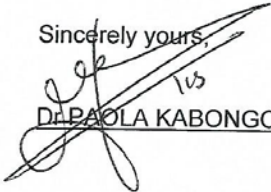
Re: AUTHORISATION TO CONDUCT RESEARCH IN THE HOSPITAL

I hereby apply for an authorization to do research in your institution. I am a student at UNISA doing a Master in Public Health General since 2010 and currently I am doing my dissertation on the topic "Factors determining HIV infection among young females aged from 18 to 24 years old". As an intern in this institution, I have observed a high number of young girls infected with HIV/AIDS. This raised a concern in me to investigate the factors associated with the risk of new HIV infection among this population in this institution.

During this research, I will be committed to uphold high scientific integrity standard toward respondents, the hosting institution (Dr George Mukhari Hospital), UNISA, the research topic and my own research.

A sponsorship will be sought in order to cover any compensation or gift and services that will be required during the study. Dr George Mukhari Hospital will not be responsible to finance this research.

Sincerely yours,


Dr PAOLA KABONGO

ANNEXURE 3: ETHICAL CLEARANCE CERTIFICATE FROM SEFAKO MAKGATHO HEALTH SCIENCES UNIVERSITY



Dr P Kabongo
Department of Internal Medicine
P.O Box 240
Medunsa, 0204

Dear Dr Kabongo

RE: FACTORS ASSOCIATED WITH THE RESURGENCE OF HIV INCIDENCE AMONG YOUNG FEMALES PRESENTING AT DR GEORGE MUKHARI ACADEMIC HOSPITAL

SMUREC NOTED a letter dated 01 July 2015 requesting permission to conduct at Dr George Mukhari Academic Hospital.

Study Title:	Factors associated with the resurgence of HIV incidence among young females presenting at Dr George Mukhari Academic Hospital
Researcher:	Dr PB Kabongo
Supervisor:	Prof GB Thupayagale-Tshweneagae
University:	UNISA, college of human sciences
Qualification:	Master's degree in Public Health
Ethics Reference No:	HSHDC / 296 / 2013
Approval date:	15 January 2014

SMUREC APPROVED and GRANTED the researcher permission to conduct the above mentioned study at Dr George Mukhari Academic Hospital

Yours Sincerely,

PROF GA OGUNBANJO
CHAIRPERSON SMUREC



SEFAKO MAKGATHO
HEALTH SCIENCES UNIVERSITY
SMU Research Ethics Committee
Chairperson
Date: 06/08/2015

06 August 2015

dr

ANNEXURE 4: PERMISSION TO CONDUCT RESEARCH FROM DR GEORGE MUKHARI ACADEMIC HOSPITAL



GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Dr. George Mukhari Academic Hospital

Office of the Director Clinical Services
Enquiries : Dr. P. Shembe
Tel : (012) 529 3880
Fax : (012) 560 0099
Philly.mabusela@gauteng.gov.za
Kedibone.matsimela@gauteng.gov.za

To : Dr. Paola Kabongo
: Department of Internal Medicine
: University of Limpopo
"P.O. Box 222
: MEDUNSA
: 0208

Date : 03 February 2015


PERMISSION TO CONDUCT RESEARCH

The Dr. George Mukhari Hospital hereby grants you permission to conduct research on "Factors determining the HIV incidence among adolescent girls(18 to 24 years old) presenting" at Dr. George Mukhari Academic Hospital."

This permission is granted subject to the following conditions:

- That you obtain Ethical Clearance from the Human Research Ethics Committee of the relevant University
- That the Hospital incurs no cost in the course of your research
- That access to the staff and patients at the Dr George Mukhari Hospital will not interrupt the daily provision of services.
- That prior to conducting the research you will liaise with the supervisors of the relevant sections to introduce yourself (with this letter) and to make arrangements with them in a manner that is convenient to the sections.

Yours sincerely


DR. P.M.T. MABUSELA
ACTING DIRECTOR CLINICAL SERVICES

ANNEXURE 5: HIV PREVALENCE ESTIMATES AND THE NUMBER OF PEOPLE LIVING WITH HIV, 2001–2010

Year	Population 15-49 years		Percentage of the total population	Total number of people living With HIV (in millions)
	Percentage of women	Percentage of population		
2001	18,7	15,4	9,4	4,10
2002	19,2	15,8	9,6	4,38
2003	19,4	16,1	9,8	4,53
2004	19,6	16,3	9,9	4,64
2005	19,7	16,5	10,0	4,74
2006	19,7	16,6	10,1	4,85
2007	19,7	16,7	10,2	4,93
2008	19,7	16,9	10,3	5,02
2009	19,6	17,0	10,3	5,11
2010	19,7	17,3	10,5	5,21

(Source: STATSSA 2011:6)

ANNEXURE 6: QUESTIONNAIRE

FACTORS ASSOCIATED WITH THE RESURGENCE IN HIV INCIDENCE AMONG YOUNG WOMEN PRESENTING AT DR GEORGE MUKHARI ACADEMIC HOSPITAL

General instructions

This questionnaire has 3 sections: socio-demographic characteristics, knowledge on HIV (mode of infection and prevention) and personal information.

Please answer all questions consistently and honestly.

Note that anonymity and confidentiality will be observed. Therefore your identification is not required.

Indicate with an "X" clearly to the applicable answer

Part 1: Socio-Demographic information

Age	18-21 yrs	22-24 yrs		
Primary residence	Gauteng	Outside Gauteng		
Marital status	Single/ No relationship/No sexually active	Married/ One partner/ Cohabiting one partner	Multiple partner	
Level of education	Not matriculated	Matriculated	Tertiary education	
Occupation	Student	Matriculated/Graduate unemployed	Employed	

Part 2: Knowledge on HIV/AIDS

1. HIV is an immunodeficiency virus that can affect a human being? YES or NO
2. How did you come to that knowledge? (Tick correct answer)

parent	friends	school	media	other(specify)
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3. How can someone get infected with HIV

- Unprotected coerced or forced sex? YES or NO
- Infected blood? YES or NO
- Kissing, sharing food or swimming pools with an infected person? YES or NO

4. To Prevent HIV transmission?

- A condom must be used for every intercourse. YES or NO
- Abstaining from sex. YES or NO
- Having fewer sexual partner. Yes or NO
- Faithfulness to one partner? Yes or NO

5. Treatment

- Can HIV and AIDS be cured? Yes or NO
- Are antiretroviral accessible and available to all? Yes or No

PART 3: Personal information

6. What is the average age of your first sexual experience
7. What was the average age of First sexual partner?
8. Were you aware of your own HIV status before engaging sexually with your partner? Yes or No
9. If yes to the previous answer what was the result. Positive or Negative
10. Which year do you found about your HIV positive result
11. Were you aware of your partner HIV status before engaging to any sexual activity with him? IF
 - Yes: Positive or Negative
 - No: He refused to test /you did not think about it

12. What makes you engaging sexually with partner without knowing his status?

- Partner pressure
- Peer pressure
- Fear to lose him
- Trusted him

13. Did you had sexual intercourse during the past 12 month? Yes or No?

14. What is the average number of you sexual partner for the past 12 month? One or

15. Are you involved in an abusive or forced sexual relationship? Yes or No?

16. Do you have sexual intercourse under influence of substances such as drugs, alcohol? Yes or No.

17. Do your sexual partner having sexual intercourse with you under the influence of alcohol or other drugs? Yes or No

18. How often are you using condom during sexual intercourse:

Never

Always

Sometimes

19. Do you have an easy access to condom? Yes or No

20. Where did you get it from?(Tick the correct answer)

- clinic or other medical institutions?
- Shops
- Public toilet
- Recreational place such as shebeens

21. What has exposed you to HIV?

- Poverty?
- Orphan hood (lack of parental guidance)?
- Multiple partners?
- Low level of education?
- Substances abuses (alcohol, nyaope)?
- Peer pressures?
- Unfaithful partner?

ANNEXURE 7: CONSENT FORM

TITLE OF RESEARCH:

FACTORS ASSOCIATED WITH THE RESURGENCE IN HIV INCIDENCE AMONG YOUNG WOMEN PRESENTING AT DR GEORGE MUKHARI ACADEMIC HOSPITAL

Ihereby acknowledge that I have been asked to participate in this research by answering a questionnaire. I have been made aware of the purpose and objective of this research and I am satisfied that this is solely done for academic purpose. I have not been coerced or pressurized anyhow into participating in this research. I have the right to withdraw at any time from this study.

Therefore, I freely give consent to participate in this research.

Signed.....at.....on...../...../2014

Signature of witness.....at.....on...../...../2014

Signature of investigator.....at.....on...../...../2014