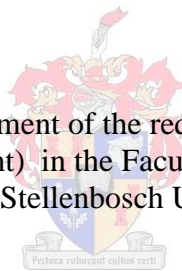


**THE SOCIO ECONOMIC FACTORS IN RUSTENBURG THAT FUEL SEXUALLY TRANSMITTED  
DISEASES (STDs) AND WHICH COULD RESULT IN THE TRANSMISSION OF THE HUMAN  
IMMUNODEFICIENCY VIRUS (HIV)**

By

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Assignment presented in fulfilment of the requirements for the degree of Master of  
Philosophy (HIV/AIDS Management) in the Faculty of Economic and Management Sciences  
at Stellenbosch University



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March 2015

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## **Abstract**

Sexually Transmitted Diseases (STDs) constitute a serious health issue because they play a significant role in the transmission of HIV. STDs are associated with increased risk of either acquiring or transmitting HIV because of the breaks and inflammation they cause on the genital lining and the skin. Prevention or treatment of STDs can significantly lower the risk of HIV transmission.

The purpose of this study is to identify the socio economic factors in Rustenburg that fuel STDs and which could lead to the transmission of HIV among youth of Rustenburg, and to make suggestions on actions that could be taken to mitigate the effects of STDs and HIV infection in the community.

The method used in this study was a qualitative approach. An interview guide with eighteen open-ended questions for semi structured interviews was undertaken amongst Rustenburg youth aged 20 to 35 attending clinic for STDs in two health facilities (Job Shimankane Tabane Hospital and Classic House Clinic) in Rustenburg.

The following socio-economic factors: alcohol use, poverty, concurrent multiple sexual partnership, and commercial sex work were found to be contributing to the spread of STDs and HIV in Rustenburg.

## Opsomming

Seksueel oordraagbare siektes (SOS) bly 'n ernstige openbare gesondheidskwessie as gevolg van die rol wat dit speel in die oordrag van MIV. SOS word geassosieer met 'n verhoogde risiko van beide die verkryging, of oordrag van MIV as gevolg van die breek en inflammasie wat dit veroorsaak op die voering van die geslagsorgane en die vel. Voorkoming of behandeling van seksueel oordraagbare siektes kan die risiko van oordraagbaarheid van MIV aansienlik verminder.

Die doel van hierdie studie is om die sosio-ekonomiese faktore in Rustenburg te identifiseer wat seksueel oordraagbare siektes vererger wat kan lei tot die oordrag van MIV-infeksie onder die jeug van Rustenburg, en om voorstelle te maak oor stappe wat geneem kan word om die gevolge van seksueel oordraagbare siektes en MIV-infeksie te verminder in die gemeenskap.

Die metode wat in hierdie studie gebruik is, was 'n kwalitatiewe benadering. 'n Onderhoudgids met agtien ope vrae vir semi-gestruktureerde onderhoude, is onderneem onder die jeug van Rustenburg tussen die ouderdomme van 20-35 wat die kliniek vir seksuele oordraagbare siektes bywoon in twee gesondheidsfasiliteite in Rustenburg, naamlik (Job Shimankane Tabane-hospitaal en Classic House kliniek).

Daar is gevind dat die volgende sosio-ekonomiese faktore naamlik die gebruik van alkohol, armoede, verskeie gelyktydige seksuele maats en kommersiële sekswerk, bydra tot die verspreiding van seksueel oordraagbare siektes en MIV in Rustenburg.

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### **List of abbreviation**

AIDS: Acquired Immunodeficiency Syndrome

CDC: Centers for Disease Control

CHC: Classic House Clinic

CSW: Commercial sex worker

JST: Job Shimankane Tabane

HIV: Human Immunodeficiency Virus

PID: Pelvic Inflammatory Diseases

STDs: Sexually Transmitted Diseases

WHO: World Health Organization

## Chapter 1

### 1.1 Introduction

This study sets out to establish the socio economic factors in Rustenburg that fuel sexually transmitted diseases which could lead to the transmission of HIV infection, in order to recommend the necessary prevention or treatment interventions that could mitigate the effects of STDs and HIV/AIDS in society.

Wasserheit (1992) demonstrated in his study that the presence of STDs increases the risk of HIV infection by two to five times. People infected with STDs constitute a vulnerable and high risk group in terms of HIV transmission, so prevention or treatment of STDs can reduce an individual's ability to acquire or transmit HIV through sexual intercourse.

Rustenburg (the community in which I have worked as a medical doctor for the past six years) is a town that is growing fast because of the mining industry around it and there are a lot of informal settlements with very poor conditions of living. Its population numbers 549575 people (Rustenburg Local Municipalities, 2011). All communities suffer from very high rates of unemployment and poverty. This is in spite of being located in the one of the richest lands in the country. There are no skill development programs for young people, who spend their days without meaningful employment or anything to do. Families in Rustenburg formerly subsidized their low incomes over the years, through small vegetable gardens and keeping poultry and cattle. However, much of this has been destroyed through the expansion of mining. In addition a small minority in the community obtain business opportunities and are growing wealthy, while the majority of people grow poorer. The mines do not provide housing for the workers, most of whom come from many neighbouring countries such as Mozambique, Malawi, Zimbabwe, and Lesotho, as well as other parts of South Africa such as the Eastern Cape. These workers find cheap accommodation in the villages, which in turn has led to a dramatic increase of the population, with the following consequences: an increase in the number of taverns, alcoholism, drug abuse, prostitution, sexually transmitted diseases, teenage pregnancy and HIV infection (Bench Marks Foundation, 2011)

A study undertaken in Orange Farm, Johannesburg in 2008, pointed out that socio economic factors such as poverty, alcohol use, concurrent multiple sexual partners, sexual violence, commercial sex, sexualized television programs, and drug abuse, contributed to unprotected sex and therefore a greater likelihood of contracting STDs (Hajiyannis & Parker 2008).

Many of these factors can be said to be prevalent in Rustenburg and because of their relevance, they are also examined in this study.

## **1.2 Objectives**

1. To establish the knowledge of youth in the sample area in relation to sexually transmitted diseases
2. To endeavour to establish whether the youth in the sample area appreciate the link between sexually transmitted diseases and HIV transmission.
3. To establish the effects of poverty on sexual behavior among youth in the sample area.
4. To establish the effects of alcohol on sexual behavior among youth in the sample area.
5. To establish the youth of Rustenburg's perceptions of having concurrent multiple sexual partners and the risk of acquiring STDs.
6. To establish the perception of the youth in the sample area on commercial sex and the risk of acquiring STDs.
7. To make recommendations about STDs and an HIV appropriate program for youth in Rustenburg.

## **1.3 Methods and research design**

The method used for this study is a qualitative approach. An interview guide with at least eighteen open-ended questions for semi structured interview was undertaken. The research design utilizes the content analysis of the information obtained during face to face interviews. The inclusion criteria were:

- . -Rustenburg youth, both male and female aged 20 to 35 years, attending the clinic for Sexually Transmitted Diseases or their complications.
- Level of education: Grade 12 minimum.
- Communication language: English.

The interviews were conducted in two healthcare centers in Rustenburg: at Job Shimankane Tabane (JST) Hospital situated on the corner of Heystek and Bosch Street, and at Classic House Clinic (CHC), situated at the corner of Mandela and Mbeki Roads. The data were

collected through face to face interviews with thirty patients. The sampling method was non-probability samples.

This is how I propose to tackle the subject – first, I shall examine the disease, HIV/AIDS. I shall then examine some of the main (common) STDs which could result in spreading HIV more quickly, and also the link between HIV and STDs (Chapter 2). In Chapter 3, I shall examine some of the socio economic aspects that contribute to the spread of STDs, including HIV. In Chapter 4, I shall give the results of the study. The conclusion and recommendations will be set out in Chapter 5.

## **Chapter 2**

In Section A of this chapter, I shall examine the key characteristics of HIV i.e. its definition, mode of transmission, symptoms, and how it destroys the body's immune system and causes AIDS. HIV is examined in this section because it is a non-curable disease which has serious and devastating effects in the society. However it can be prevented if people are empowered with knowledge about it.

In Section B, I shall examine the common STDs (ulcerative and non-ulcerative), because of the role they play in transmission or acquisition of HIV. Ulcerative STDs include examination of syphilis, herpes, and chancroid. Gonorrhea, chlamydia and trichomoniasis are non-ulcerative STDs. The link between HIV and STDs and the mechanisms by which they influence each other are discussed in Section C.

### **Section A**

#### **2.1 Key characteristics of HIV**

##### **2.1.1 Background**

The human immunodeficiency virus (HIV) is a virus that causes acquired immunodeficiency syndrome (AIDS) (Weiss, 1993). It is also called lentivirus because of its slow replication. AIDS is a very serious condition that destroys the defense system of the body and makes it unable to fight the diseases.

HIV can be transmitted through sexual intercourse without protection (vaginal or anal), blood transfusion (blood that is contaminated with HIV) , contact with infected blood or body secretions, sharing of contaminated needles among drug users, and from a mother to her infant during pregnancy, childbirth or breastfeeding (WHO, 2004).

HIV destroys very important cells in the human body called CD4. When CD4 T cells drop below 200, the body becomes progressively more vulnerable to opportunistic infections (infections that do not cause diseases when the body defense system is normal). Any person whose CD4 cells are less than 200 or CD4 percentage less than 14% is considered to be having AIDS. (AIDS.org, 2014)

### **2.1.2 Incubation period**

The incubation period, which is defined as the period from infection with HIV until the development of AIDS, is estimated at approximately ten years for young adults, and this period can be shorter in infants and older adults (Bacchetti & Moss, 1989). In addition the mode of infection affects this period. For instance infection by blood transfusion has a shorter incubation period probably because of the large amount of virus in infected blood transfusions. However this period is not significantly influenced by race or gender.

### **2.1.3 Symptoms**

The symptoms of HIV and AIDS depend on the phase of infection.

#### **Primary infection**

In primary infection or acute HIV infection, many people present the symptoms that are similar to flu, one or two months after the virus enters the body. The main symptoms include: fever, muscle pain, skin rash, headache, painful throat, mouth or genital ulcers, swollen lymph glands, diarrhea, and so on. (Mayo Clinic, 2014).

This is the period where HIV infection spreads more efficiently because the amount of virus in the blood stream is particularly very high.

#### **Clinical latent infection**

In this phase, there are no specific signs and symptoms. However persistent swelling of lymph nodes may occur in some individuals. This phase can last eight to ten years. (Mayo Clinic, 2014).

#### **Progression to AIDS**

In the absence of antiretroviral therapy, HIV infection progresses to AIDS in about 10 years. AIDS develops after the immune system has been severely affected. It can be characterized by night sweats, fever for several weeks, cough and shortness of breath, and chronic diarrhea. (Mayo Clinic, 2014).

### **2.1.4 Risk factors**

HIV/AIDS can infect anyone regardless of their sexual orientation, age, gender, or race. However the risks of infection are greater in cases of sex without protection, anal sex, multiple sexual partners, the presence of other STDs, the use of intravenous drugs when



needles are shared amongst drug users, mother to child transmission, and contact with infected body fluids when there is a cut on the skin. (Chatham Social Health Council 2005).

### **2.1.5 Complications**

HIV weakens the immune system, and the body becomes vulnerable to all kinds of infections and certain cancers. The common opportunistic infections which may affect the body when CD4 falls below critical levels include: tuberculosis, chronic diarrhea, chronic fever, candidiasis, meningitis, kaposi's sarcoma, lymphomas, wasting syndrome, confusion, forgetfulness, depression, anxiety, trouble walking and kidney disease. (Mayo Clinic, 2014).

### **2.1.6 Tests and diagnosis**

HIV is diagnosed by detecting the presence of antibodies or the virus itself in the blood or saliva. Antibody tests can become accurate after at least 12 weeks of infection. There are some new tests that detect the virus in the blood within few days of infection, these are called antigen tests. (Pramod Kumar,2001).

### **2.1.7 Treatment of HIV/AIDS**

HIV/AIDS remains a non-curable disease. However the use of antiretroviral drugs can improve the immune system, suppress viral load and improve quality of life.

Early diagnosis can help the infected individual to take the necessary actions to prevent the progression of the disease to AIDS and all its complications.

### **2.1.8 Prevention of HIV/AIDS**

The prevention of the disease is discussed under the recommendations of the study.

## **Section B**

### **Common Sexually Transmitted Diseases (STDs)**

STDs are infections that are passed through sexual contact. They can cause serious damage to the body and particularly to the reproductive organs. Many people with STDs, particularly women, may not have any symptoms. M.L. Lamb presented the results of a study where he showed that nearly 50% of men infected with STDs were asymptomatic and more than 50% of women were asymptomatic. Therefore, STDs can be still transmitted even in the absence of symptoms. (Highleyman, 2000).

The followings factors increase the risks of contracting STDs: new or multiple sexual partners, exchanging sex for good, money or drugs, not using barrier contraception (condoms) during sexual contact especially with an infected person, use of alcohol or drug in the context of sex, commercial sex and poverty

## **2.2 Genital ulcerative lesions**

### **2.2.1 Syphilis**

#### **2.2.1.1 Background**

Syphilis is an infectious disease caused by *treponema pallidum*, a bacterium. There are two types of syphilis:

- Acquired syphilis that is transmitted mainly by sexual contact, including anal and oral sex, and occasionally by close bodily contact with a syphilis infected sore.

- Congenital syphilis is a syphilis that is passed from a mother to her baby during pregnancy or during labor and delivery (Values et al, 2000). It is not part of our discussion in this research because we are discussing facilitation of HIV infection by STDs.

#### **2.2.1.2 Symptoms**

The disease develops in 4 stages: primary, secondary, latent and tertiary.

#### **Primary stage**

It is characterized by a painless sore called chancre which develops at the entry point of the bacteria in the body. This can occur between 10 to 90 days. During this phase the infected person is very infectious.

The painless sore appears most in men often on the glans or the penile shaft and in female on the outer genitals or on the inner part of the vagina or on the cervix, it can also appear on the tongue or lips in both sexes. (Healthwise Staff, 2014).



Figure 1: Penile chancre, underside of glans

Source: Public Health Agency of Canada (2008)

Available at: [www.cdc.gov/std/training/othertraining.htm](http://www.cdc.gov/std/training/othertraining.htm), accessed on 22/02/2014



Figure 2: chancre on the shaft of the penis

Source: Toney J (2008), Southeast STD/HIV Prevention Training Center

Available at: [www.cdc.gov/std/training/othertraining.htm](http://www.cdc.gov/std/training/othertraining.htm) , accessed on 22/02/2014



Figure 3: Primary stage syphilis chancre in the vaginal opening

Source: Centers for Disease Control and Prevention (2012), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of STD Prevention.

Available at: [www.cdc.gov/std/syphilis/images/chancre-vaginal.htm](http://www.cdc.gov/std/syphilis/images/chancre-vaginal.htm), accessed on 22/02/2014



Figure 4: Primary syphilis chancre on the genital part of a woman

Source: Sowadsky R (2010). What Do the Symptoms of Sexually Transmitted Diseases Look Like? Available at: [www.thebody.com/content/art2307.html](http://www.thebody.com/content/art2307.html), accessed on 22/02/2014





Figure 5: Primary stage syphilis chancre on the surface of a tongue.

Source: Centers for Disease Control and Prevention (2012). National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of STD Prevention.

Available at: [www.cdc.gov/std/syphilis/images/chancre-oral.htm](http://www.cdc.gov/std/syphilis/images/chancre-oral.htm), accessed on 22/02/2014

The sore can sometime be difficult to notice especially if it is in the vagina or on the cervix. Untreated in both men and women, the sore can heal after 3 to 6 weeks leaving sometime a thin scar. However the infected person still has the bacteria and he/she can still infect his or her sexual partner. (Healthwise, 2014).

### **Secondary stage**

Secondary syphilis consists of rash that affects mainly the palms of the hands and the soles of the feet. The infected person is very infectious at this stage because the disease has spread throughout the body. Some symptoms such as fever, sore throat, weight loss, patchy hair loss may be present.

The skin rash may heal within 2 months on its own without scarring, but discoloration of the skin may occur. (Healthwise , 2014).



Figure 6: Secondary stage syphilis sores on the palms of the hands

Source: Centers for Disease Control and Prevention (2012). National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of STD Prevention. Available at: [www.cdc.gov/std/syphilis/images/rash-palmar.html](http://www.cdc.gov/std/syphilis/images/rash-palmar.html), accessed on 22/02/2014





Figure 7: Secondary stage syphilis sores on the feet.

Source: Centers for Disease Control and Prevention (2012). National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of STD Prevention

Available at: [www.cdc.gov/std/syphilis/images/rash-plantar.htm](http://www.cdc.gov/std/syphilis/images/rash-plantar.htm), accessed on 22/02/2014



Figure 8: Secondary syphilis rash on the back.

Source: Centers for Disease Control and Prevention (2012). National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of STD Prevention

Available at: [www.cdc.gov/std/syphilis/images/rash-gbr.htm](http://www.cdc.gov/std/syphilis/images/rash-gbr.htm), accessed on 22/02/2014

### **Latent stage of syphilis**

It occurs if the infected person remained untreated and is characterized by disappearance of the symptoms. It can range from one year to 20 years. This is a stage where the diagnosis can only be made through a person's history, blood test or the presence of congenital syphilis in a child. About 20% to 30% of people with latent syphilis who have been symptom-free can begin to have symptoms again and this is called relapse. Relapse can occur several times. (Healthwise, 2014).

### **Tertiary syphilis**

It is the most devastating stage of syphilis which is characterized by serious damage to the vessels, heart and nervous system.

If not treated, this stage may begin as early as one year after infection. The symptoms depend on the complications that develop. (Healthwise, 2014).

### **2.2.1.3 Complications of syphilis**

Complications of syphilis include: gummata (which are large sores inside the body or on the skin), cardiovascular syphilis (which affects the heart and blood vessels) and neurosyphilis (which affects the nervous system). (Healthwise, 2014).

### **2.2.1.4 Treatment of Syphilis**

Syphilis is a disease that can be cured if diagnosed early. However in advanced stage, the treatment will not repair the damage that has been done. Persons treated for syphilis should abstain from sexual intercourse until the syphilis sores are completely healed, and the sex partner(s) have been tested and treated where necessary. (Healthwise, 2014).

## **2.2.2 Herpes genitalia or genital herpes**

### **2.2.2.1 Background**

Herpes genitalia is a condition caused by Herpes Simplex Virus (HSV). There exist two types of virus: herpes simplex virus type 1 (HSV-1) and type 2 (HSV-2) which are closely related but differ in epidemiology. Type -1 is involved in orofacial disease, while type-2 is involved in genital disease and recurrence of disease is more common with type 2. With the HPS however, location of lesions is not absolutely indicative of viral type. (Salvaggior, 2014).

### **2.2.2.2 Symptoms**

Genital herpes can present as primary infection or secondary infection.

In primary infection the symptoms are severe and prolonged, unlike the secondary infection where the symptoms are less severe and of shorter duration. The symptoms are systemic and local. The incubation of primary genital herpes is 3 to 7 days. However it can range from one day to three weeks. The symptoms may include pain the first 4 days. Locally the patient may experience itching, painful or burning urination, vaginal and urethral discharge, and painful lymph nodes. (Salvaggior, 2014).

### **2.2.2.3 Clinical features in women**

Symptoms of Herpes include vesicles that rupture and leave very tender ulcers, inflammation of the inner lining of the vagina and ulceration of the cervix. Burning urination and urinary retention may be also present. (Salvaggior, 2014).

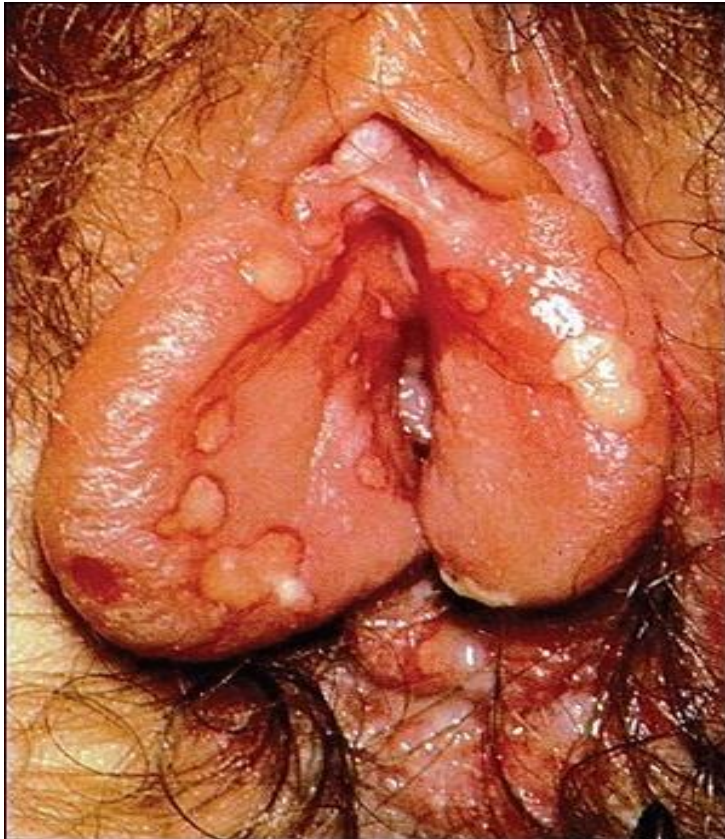


Figure 9: Herpes genitalia lesions in women.

Source: Michelle A R, Mejebi T, Kelechi A U (2012). Diagnosis and Management of Genital Ulcers. American Family Physician. Available at: [www.aafp.org/afp/2012/0201/p254.html](http://www.aafp.org/afp/2012/0201/p254.html), accessed on 21/03/2014

### **2.2.2.4 Clinical features in men**

Lesions of herpes genitalia can affect any part of the penis, scrotum, thighs, and buttocks. In dry areas, the lesions progress to small pus-filled sores then encrust. Burning urination and urethral discharge appear when the urethra is inflamed. Inflammation of the rectum accompanied by painful defecation may also be present. (Salvaggior, 2014).



Figure 10: Herpes genitalia lesions in men

Source: Wikipedia, (2005)

Available at: [wikipedia.org/wiki/File:SOA-Herpes-genitalis-male.jpg](https://wikipedia.org/wiki/File:SOA-Herpes-genitalis-male.jpg), accessed on 21/03/2014

## **Complications of Herpes Simplex**

### **2.2.2.5 Complications**

There are life threatening conditions such as Herpes Simplex encephalitis and acute skin infection. Herpes Simplex encephalitis is more common in patients with severe immune suppression.

### **2.2.2.6 Treatment of Herpes Simplex**

The treatment which is mainly symptomatic, should be initiated by the doctor after consultation. Constitutional symptoms such as fever should be treated symptomatically.

### **2.2.3. Chancroid**

#### **2.2.3.1 Background**

Chancroid is a sexually transmitted disease that is caused by *haemophilus ducreyi*, a bacterium. It is a small highly infective germ which causes painful ulcerations on the genital parts and painful swelling of lymphnodes. Chancroid is part of ulcerative sexually transmitted diseases that play a role in the transmission of HIV. (Arsove, 2003)

#### **2.2.3.2 Symptoms**

The lesion starts after 1 day to 2 weeks of infection, as a small papule at the site of the body that was exposed to the bacteria; the papule may within days, erode and result in a very tender and deep ulceration. The lesion can progress without treatment and get complicated by enlarged lymph nodes that discharge pus. (Arsove, 2003)

The foreskin is the most affected part in men, but other parts of the penis can also be affected.





Figure 11: A chancroid lesion on penis

Source: Wikipedia (2009)

Available at:

[http://en.wikipedia.org/wiki/File:Chancroid\\_lesion\\_haemophilus\\_ducreyi\\_PHIL\\_3728\\_lores.jpg](http://en.wikipedia.org/wiki/File:Chancroid_lesion_haemophilus_ducreyi_PHIL_3728_lores.jpg), accessed on 21/03/2014

Often women experience less specific symptoms such as burning urination, vaginal discharge and pain during sexual intercourse. Their lesions may be located on the cervix, labia and perineum. Some women however do not experience any symptoms at all.( Ngan, 2014)



Figure 12: Ulcerative Chancroid lesion on the perineum in female

Source: Ngan V (2014). Ulcerative chancroid lesion on the perineum in female.

DermNet New Zealand. Available at:

<http://dermnetnz.org/common/image.php?path=/bacteria/img/chanc3.jpg>, accessed on 21/03/2014





Figure 13: Chancroid ulcers.

Source: Michelle A R, Mejebi T, Kelechi A U (2012). Diagnosis and Management of Genital Ulcers. American Family Physician. Available at: [www.aafp.org/afp/2012/0201/p254.html](http://www.aafp.org/afp/2012/0201/p254.html), accessed on 21/03/2014

#### **2.2.3.3 Complications of chancroid**

Complications of chancroid include phimosis (inability to retract the distal foreskin on the glans) in men. Secondary bacterial infection can cause further ulceration in both sex.

#### **2.2.3.4 Treatment of chancroid**

Treatment should be commenced when the diagnosis is suspected on clinical grounds.

Patients presenting with suspected chancroid should be screened for other possible coexisting STDs and receive appropriate treatment to eradicate the bacteria. (Arsove , 2003)

## **2.3 Genital non ulcerative STDs**

### **2.3.1 Gonorrhea**

#### **2.3.1.1 Background**

Gonorrhea is a sexually transmitted disease caused by “neisseria gonorrhea” a bacterium.

It can also be transmitted from mother to child during child birth (Wong, 2014).

For the sake of the study we will focus more on gonorrhea as STD). It is a curable disease, however its complications can cause irreversible damage to the body.

#### **2.3.1.2 Symptoms**

In males, the main symptom of gonorrhea is burning urine and a watery discharge, which a few days later becomes more profuse, and at times, stained with blood. (Wong, 2014)



Figure 14: Penile discharge, gonorrhea

Source: Cincinnati STD/HIV Prevention Training Center (2008)

Available at: [www.cdc.gov/std/training/othertraining.htm](http://www.cdc.gov/std/training/othertraining.htm), accessed on 25/02/201

In women, vaginal discharge from the cervix is usually the main symptom. The discharge is thin, purulent, and malodorous. However, many patients have less or no symptoms from gonococcal cervicitis. Difficulty in passing urine, abnormal vaginal bleeding, pain during sexual intercourse and abdominal pain are also part of the symptoms. (Wong, 2014)

### **2.3.1.3 Complications of gonorrhea**

Early treatment prevents complications with gonorrheal infections. However, untreated gonorrhea can affect other parts of the body and cause serious damage that could be difficult to treat.

#### **Complications in men**

Complications in men include: acute epididymitis (inflammation of the tube that is located at the back of the testicles which stores and carries sperm), urethral strictures, inflammation of prostate, inflammation of the bladder and the inflammation of the rectum. The progression of the infection to the testicles and prostate may result in infertility. (Wong, 2014)

#### **Complications in women**

Gonorrhea can spread to the reproductive organs and cause:

pelvic inflammatory disease (PID), which can result in pelvic pain, ectopic pregnancy (pregnancy outside the womb) and infertility. Gonorrhoea can cause abortion, preterm delivery, and conjunctivitis in the new born.

Left untreated, gonorrhoea can spread (in both men and women) to the other parts of the body such as joints, spinal cord and the heart where it can be life threatening. (Wong, 2014)

### **2.3.1.4 Treatment of gonorrhea**

The treatment of gonorrhoea is simple especially in acute phase of the disease. However when complications have already settled, especially in women the treatment becomes more complicated and there may be need for hospital treatment. (Wong, 2014)

## **2.3.2 Chlamydial genitourinary infections**

### **2.3.2.1 Background**

Chlamidial infection is a sexually transmitted disease caused by chlamidia trachomatis, another bacterial specie. It affects mainly the cervix, urethra, fallopian tubes, uterus, throat, and epididymis. (Qureshi, 2014)

### 2.3.2.2 Symptoms

In most of the cases the infection is asymptomatic and it affects mainly the genital tract. Approximately 80% of infected females and 50% of infected males are asymptomatic. The symptoms can occur after 1 or 3 weeks from the time of infection. In males the infection causes urethritis and cervicitis in females. (Qureshi, 2014)



Chlamydia Urethritis(Male)

15: Chlamydial white/cloudy, watery discharge from the tip of the penis.  
Source: STD Information & Treatment Guidelines (2005). Chlamydia. Available at: [www.std-gov.org/std\\_picture/chlamydia.htm](http://www.std-gov.org/std_picture/chlamydia.htm), accessed on 20/03/2014



Figure 16: Chlamydial infection in female presenting with vaginal discharge and inflammation of the cervix (Cervicitis)

Source: Operational obstetrics & Gynecology (2000). Vaginal Discharge. Available at: [www.operationalmedicine.org/ed2/Enhanced/Discharge.htm](http://www.operationalmedicine.org/ed2/Enhanced/Discharge.htm), accessed on 20/03/2014.

### **2.3.2.3 Complications**

Ascending infection can cause epididimitis in males and pelvic inflammatory diseases in females. Coinfection of chlamidia and gonorrhea is very common. Undiagnosed, chlamydia can progress to pelvic inflammatory disease (PID), which may lead to relative or absolute infertility. (Qureshi, 2014)

### **2.3.2.4 Treatment of chlamydia**

The treatment should begin as soon as the diagnosis of chlamydial infection is suspected to avoid complications that might be very difficult to treat especially infertility with blocked fallopian tubes. The treatment should take into consideration possible coinfection with gonorrhea

### **2.3.3. Trichomoniasis**

#### **2.3.3.1 Background**

Trichomoniasis is a sexually transmitted disease (STD) caused by *trichomonas vaginalis*, a parasite. The organism is most commonly isolated from vaginal secretions in women and urethral secretions in men. (Smith, 2014)



Figure 17: Profuse frothy white or greenish vaginal discharge caused by *Trichomonas*

Source: Operational obstetrics & Gynecology (2000). Vaginal Discharge

Available at: <http://www.operationalmedicine.org/ed2/Enhanced/Discharge.htm>,

accessed on 20/03/2014

#### **2.3.3.2 Symptoms**

Basically, there is vaginal discharge in women and men may experience inflammation of the urethra.

#### **2.3.3.3 Complications**

Trichomoniasis vaginalis is associated with infertility and pelvic inflammatory disease in Women. It can also cause preterm delivery, premature rupture of membranes, and



intrauterine infection. (Smith, 2014)

#### **2.3.3.4 Treatment**

The treatment of trichomonosis vaginalis is simple before the complications settle. It has been associated with other STDs such as chlamydia and gonorrhea. So treatment should take into consideration the presence of other STDs.

### **Section C**

#### **2.4 The link between HIV and STDs**

The transmission of HIV in a population involves many factors that need to be well understood in order to tailor interventions that would mitigate the spread of the disease. There is strong evidence showing that the presence of genital ulcer diseases and of some non-ulcerative STDs enhances the transmission of HIV. In addition, the presence of HIV is known to affect the presentation and clinical course of STDs, and the frequency of treatment failure for some STDs seems to be increased. The inter-relationships between HIV and STDs mean that an understanding of the burden and transmission patterns of STDs is imperative if the control of both STDs and HIV is to be pursued in an informed manner. (Pham-Kanter et al, 1996)

Without treatment, people with STDs are at risk of serious health problems, such as infertility in both men and women, and chronic pelvic pain, in women. In addition the risk of acquiring or transmitting HIV through sexual intercourse is increased in the presence of STDs (Wasserheit,1992)

Treating STDs reduces the HIV viral load in the genital tract and reduces the risk of transmission.

Wang, Mc Clelland, Reilly et al (2001) reported a 3.2-fold reduction in HIV concentrations following the treatment of vaginal infections.

Barroso, Harrison, Gupta, et al (2000), demonstrated in their study that a few male participants (2/18) with HIV viral load suppressed in the genital secretions by antiretroviral therapy, had detectable viral load in their seminal fluid after contracting STD. However, as a

result, this increase in viral load can facilitate the transmission of HIV because of high concentration of the virus in the semen.

Fleming & Wasserheit (1999) also demonstrated the following mechanisms by which STDs increase the risk of HIV infection: breaks that occur in the genital lining or skin and inflammation caused by STDs create an entry point for HIV.

STDs appear to increase also the likelihood of an infected person with HIV to transmit the virus to his or her sex partners. The amount of HIV virus in genital secretions of a person who is infected with both HIV and gonorrhea is more than twice the concentration of HIV in the genital secretions of a person who has HIV infection only. The higher the concentration of HIV in genital secretions, the higher the risk of transmission of HIV to a sex partner. (CDC, 2010).

A study conducted by Boily, Baggaley, Wang et al (2009) confirmed that infection with STDs increases the risk of both acquiring and transmitting HIV. In addition, people with HIV on antiretroviral treatment who have other STDs, such as syphilis, gonorrhea and herpes still have increased viral loads in genital secretions, thus making them more infectious even when taking antiretroviral treatment.

In conclusion, the above studies demonstrate that there is a link between HIV and STDs. HIV and STDs influence the transmission of each other as illustrated above.

Having examined the link between STDs and HIV, I shall now proceed in Chapter 3 to examine the socio economic factors that fuel the transmission of STDs, and which could result in transmission of HIV.



## Chapter 3

In this chapter I shall examine the socio economic aspects that contribute to the spread of STDs, including HIV. Amongst those I discuss are the effects of alcohol and poverty on sexual behavior, concurrent multiple partners and STDs, and commercial sex and STDs.

### 3.1 Effects of alcohol on sexual behavior

Even though some studies could not demonstrate a correlation between alcohol use and unprotected sex (Leigh & Stall 1993), most studies show that both average and extreme alcohol use are associated with high risk of STDs. From 1988 to 1990, 2,896 adults completed the General Social Survey in the United States of America (USA) (Anderson & Dahlberg, 1992). Participants who reported that they sometimes drink "more than they should" were more likely to have had the following outcome variables compared to those who did not: sexual intercourse with more than one partner, and sexual intercourse with a stranger in the past year. In another survey of STD clinic attendees, alcohol use and drug was found to be associated with unprotected sex during their most recent sexual intercourse (CDC, 1990).

Hajiyiannis & Parker (2008) pointed out that alcohol influenced sexual risk taking, both in relation to sexual desire and HIV prevention. In addition, it was demonstrated to have a relation to vulnerability, by virtue of 'losing control'. More importantly alcohol is attributed to diminishing the likelihood of condom use.

A study conducted by WHO (2005), demonstrated that early sexual experiences were linked to alcohol use, and sexual risk behaviors are particularly prevalent in settings such as nightclubs, bars, highway restaurants, motels, and brothels. In addition, alcohol is used commonly to facilitate contact with opposite sex, to improve communication skills, and also as a symbol of masculinity. Furthermore alcohol use exposes women to risky sexual encounters such as rape which may result in unwanted pregnancies, and STDs (WHO 2005). Early sexual experience, a high level of risk taking and alcohol use increase the risk of contracting STDs and HIV among adolescents (WHO 2005).

A further study conducted at University of Illinois at Urbana-Champaign showed the role alcohol played in creating campus problems. This study demonstrated that men and women were both more likely to engage in casual sexual behavior when alcohol was available, and

also that alcohol lowers inhibitions about engaging in sex. In addition, alcohol increases perceptions of attractiveness for both men and women, thus promoting the possibility of engaging in casual sexual behaviors (Grello, Welsh & Harper, 2006).

In their study on sex and alcohol on spring break holiday, Apostolopoulos, Sonmz & Yu (2002), demonstrated that 26% of males and almost 36% of females had unprotected sex with somebody they just met on the holiday. About 50% of the males and 41% of the females reported that they used alcohol just before sex. 38% of women and 49% of men reported to have had sexual intercourse as a direct result of alcohol. 75% of all students reported that they hardly or never used a condom on holiday. Students reported that alcohol use or drug before sex affected negatively their decision. 74% of males and almost 88% of females reported to have rarely been worried about STDs/HIV, even though they were at risk. 48% of participants who had sex under the influence of alcohol regretted the experience.

Kalichman, Simbayi, Jooste et al (2007), pointed out that higher rates of sex without protection were related to alcohol use in sexual contexts. For both men and women alcohol use before sex was related to the number of sex partners. Women reported that alcohol use before sex by their partners was related to high frequencies of sex without condom.

### **3.2 The effects of poverty on sexual behaviour**

Poverty can be said to contribute to a heightened risk of contracting STDs in the following way: even if a poor person found himself or herself at risk for STDs, he or she may not use preventive measures if there are other more threatening and more imminent risks. (Mays & Cochran, 1988). Mays and Cochran (1988:951) point out that poor women of certain ethnic groups face continual danger and have few resources to deal with them: "*Competition for these women's attention includes more immediate survival needs, such as obtaining shelter for the night, securing personal safety or safety of their children, or interfacing with the governmental system in order to obtain financial resources.*" The ability of women to protect themselves is negatively affected by traditional and cultural values that make them to be passive and subordinate in the society. (Eng & Butler, 1997).

Gender inequality, illiteracy, and failure to negotiate safer sex are associated with poverty. (Fenton 2004). Hallman (2004) found in their study that there was strong association between poverty and risky sexual behavior among young men and women in South Africa, and the

same association was also found in other settings. Zulu, Dodoo & Ezeh (2002), found that women living in Nairobi slums in Kenya had significantly higher levels of sexual risk-taking than other women.

Gonzalez, Hendriksen, Collins et al (2009) found that poverty, lack of income due to unemployment and lack of education make it difficult for people to protect themselves from risky sexual behavior. Laumann (1999) also demonstrated that people who have financial struggle, experience circumstances that increase their risk for STDs.

DeNavas, Proctor & Smith (2010) showed that in communities where there is high prevalence of STDs, the chance of encountering an infected partner is higher than in communities where prevalence of STDs is low.

### **3.3 Concurrent multiple sexual partners and STDs**

Concurrent multiple sexual partnership is defined as overlapping sexual partnership in which sexual intercourse with one partner occurs between two acts of intercourse with another partner (Masauso, 2009).

Numerous studies found a high prevalence of concurrency in South Africa, and this kind of partnership is condoned by cultural norms. For instance, the rate of young men aged 15-24 who reported to have had more than one partner in past twelve months, increased from 23% in 2002 to 30% in 2008. (Shisana, Rehle, Simbayi et al, 2009)

Sexual partnerships constitute the building blocks of networks through which HIV and other sexually transmitted infections (STDs) spread. The risk of acquiring or transmitting infection is influenced by the interval between partnerships, the duration of partnership and the frequency of sexual intercourse. (Adaora, James, Wang et al, 2014). People who have concurrent sexual partnerships can more easily transmit infection, especially when condom use is not consistent. All the people an individual is connected with through sexual partnerships at a particular time, constitute a sexual network. It includes his/her sexual partners, his/her partners' other partners, and so on. The more men and women in a society who have more than one sexual partner at the same time, the larger and more densely connected sexual networks become. Even a person who has only one partner is connected to the network if their partner has other partners. When HIV and other sexually transmitted

diseases are present anywhere in a sexual network, everyone who is connected to the network is at risk.

### **3.4 Commercial sex work and STDs**

A commercial sex worker (CSW) is an individual who exchanges sex for money or other goods, such as drugs or food. Scientists prefer to use this term instead of prostitute because it is descriptive rather than judgmental, and not associated with as much negative cultural baggage (Boskey, 2014).

It has been assumed in general that commercial sex work facilitates the spread of STDs in a community. However research suggests that this may only apply in certain settings such as in the developing countries and street sex work, where condom use may not be consistent. (Cusick, 1998).

Women become commercial sex workers (CSWs) for various reasons: some undertake sex work by choice and have access to health services. They may have entered the industry for a specific reason, such as funding higher education costs or to cover family expenses. After achieving their goal, they usually exit the industry and continue with a normal life. Others make it a career and still others are driven into sex industry through drug addiction and have little or no autonomy to leave the career (Spice, 2007).

Another study conducted by Hajiyanis & Parker (2008) revealed that women were seen as vulnerable to unwanted sex because of the need to consider primary material needs. Involvement in sex work was reported to be linked to a lack of alternative employment and poverty. In such circumstances, condom use is inconsistent.

Many women don't enter the sex work industry because they want to do so, but in order to meet basic needs.

In Thyolo District, Malawi, a study was conducted among CSWs attending mobile clinics in order to determine the prevalence and pattern of sexually transmitted diseases (STDs). The study describes the sexual behavior of those who contracted an STD and identifies risk factors associated with 'no condom use'. Out of 1817 CSWs who were enrolled in the study 448 or 25% had an STD. Of these 448 CSWs, 237 or 53% presented with abnormal vaginal discharge, 109 or 24% had pelvic inflammatory disease and 95 or 21% had genital ulcer

disease. Eighty-seven per cent of these CSWs who had STDs had sexual intercourse while symptomatic, and 17% without condoms. (Zacharia, Nkhoma, Harries et al 2003).

Another study conducted by Spice (2007) revealed that the sex industry was exposing workers to the acquisition of sexually transmitted diseases (STDs) such as syphilis, chlamydia, gonorrhea, HIV, human papilloma virus and so on. These infections are acquired mainly through vaginal, anal, or oral sexual intercourse without protection.

### **3.5 Conclusion**

In conclusion, alcohol, poverty, concurrent multiple partnership and commercial sex can expose both men and women to risky sexual behavior such as unprotected sex which in turn can fuel the spread of STDs including HIV.

In chapter 4 I seek to make the link between STDs and the socio-economic circumstances in Rustenburg that could contribute to the spread of HIV. I shall present the methodology I used, the characteristics of the sample, and analyze the content of the information obtained during the face to face interviews. In chapter 5 I will summarize the results of the study, and make recommendations regarding the prevention of STDs and HIV infection in Rustenburg based on the findings of the research.

## **Chapter 4**

### **Results of the study**

#### **4.1 Methodology**

The method used for this study was a qualitative approach. An interview guide with eighteen open-ended questions for semi structured interview was devised (the questionnaire can be found in Appendix A below). The research design utilized the content analysis of the information obtained during face to face interviews. The inclusion criteria for the study was: Rustenburg youth, both male and female, aged 20 to 35 years, attending the clinics for sexually transmitted diseases and/or their complications. The inclusion criteria also specified a level of education of at least Grade 12 (for communication sake, since the most suitable language for communication was English).

The interviews were conducted from 30/03/2014 to 30/06/2014 in two health care centers in Rustenburg: at Job Shimankane Tabane Hospital, situated on the corner of Heystek and Bosch Street and at Classic House Clinic, situated on the corner of Mandela and Mbeki Roads. The data were collected through face to face interviews with 30 patients, 14 males and 16 females. The sampling method was non-probability samples. This sampling method is convenient and inexpensive, however it is difficult to make broad generalizations of the results obtained through the use of such methodology.

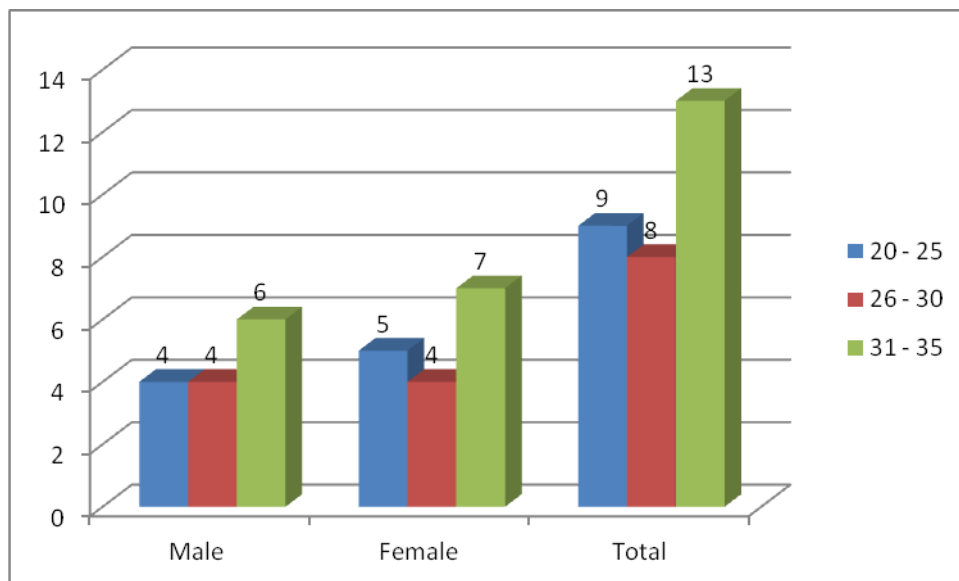
In order to include patients in the study and in order to avoid any inference of exercising undue influence, two nurses were appointed (one nurse in each facility) to select patients according to the inclusion criteria. The interviews took place after the diagnosis of an STD or when complications arising from an STD was confirmed.

All the patients were informed beforehand about the purpose, the aims, the benefit, and the implications of the study in order to obtain informed consent. The selection of people for interview by a nurse was believed to be less intimidating for participants, as they were able to talk to them in confidence and using a simple language that they understood. They were able to assure them about various aspects and tell them that there would not be any consequences if they did not wish to participate, or if they felt uncomfortable doing so, once they had agreed to be interviewed. Anonymity, confidentiality and privacy were assured; permission from all stakeholders was obtained including ethical approval by the University ethical committee and the institutions where the study was undertaken. In addition a waiver of

individual patient consent to access the private medical records of patients for research purposes was requested because the patient's medical records allowed us to ascertain the diagnosis of STDs or their complications.

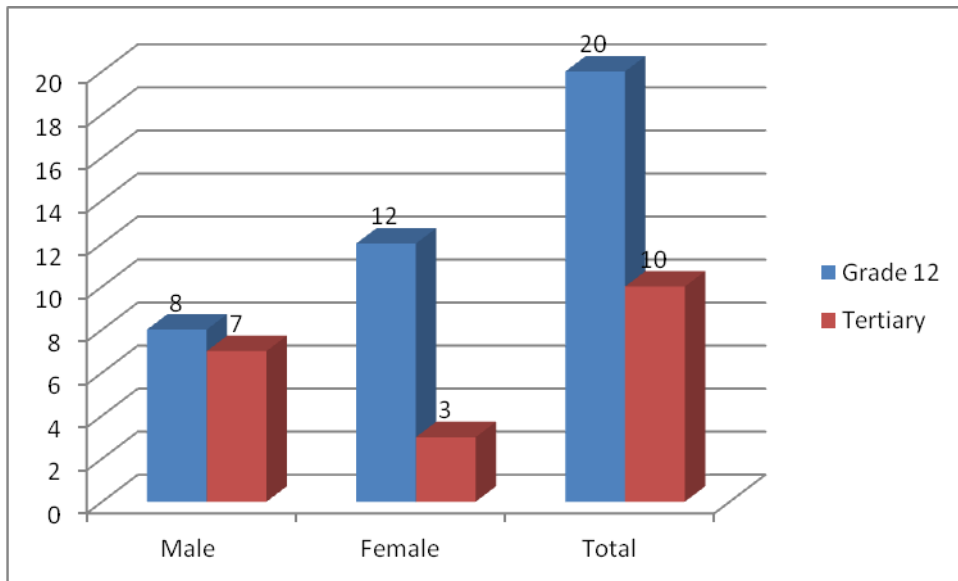
#### 4.2 Characteristics of the sample

**Chart 1: Participants per gender and age group**



The largest proportion of the sample was represented by the age group 31-35 where there were 6 males and 7 females and they represented 47% of participants. It was followed by the age group 20-25, comprising 4 males and 5 females, who represented 30% of the sample. The smallest proportion (27%), was represented by the age group 26-30, which comprised 4 males and 4 females.

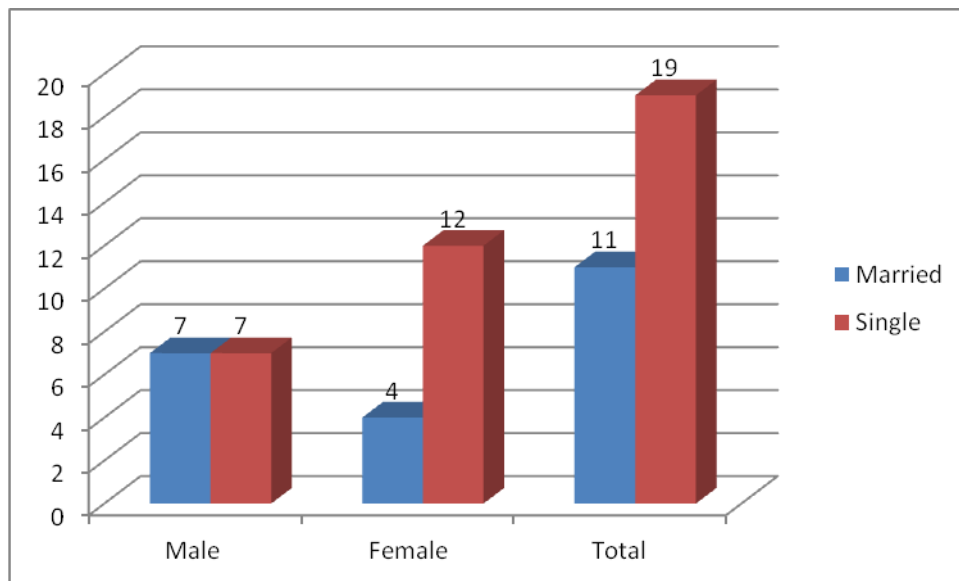
**Chart 2: Participants per gender and education level.**



Grade 12 level represented the biggest proportion of the sample (67%), and it was composed of 8 males and 12 females, whereas tertiary level participants comprised 7 males and 3 females (33% of the sample).

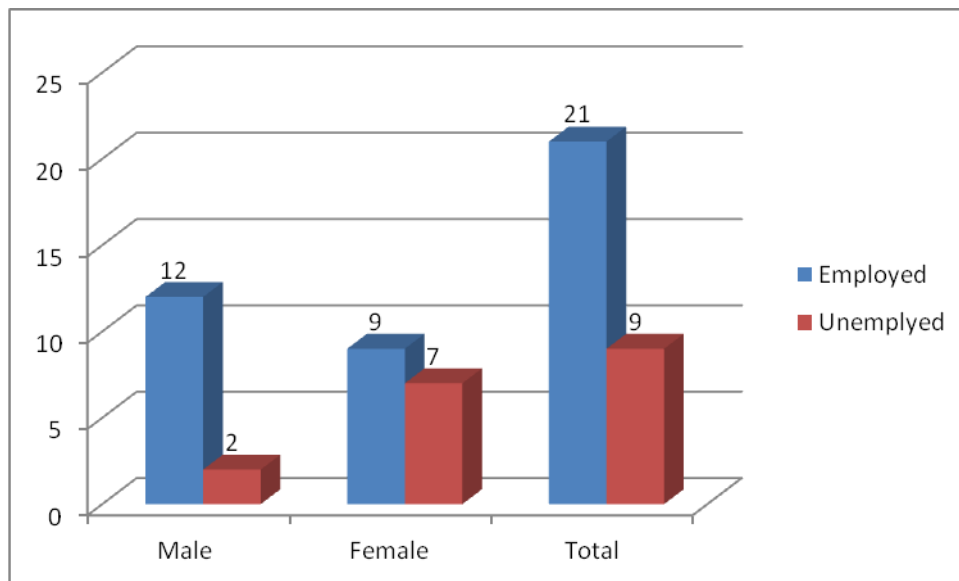


**Chart 3: Participants per gender and marital status**



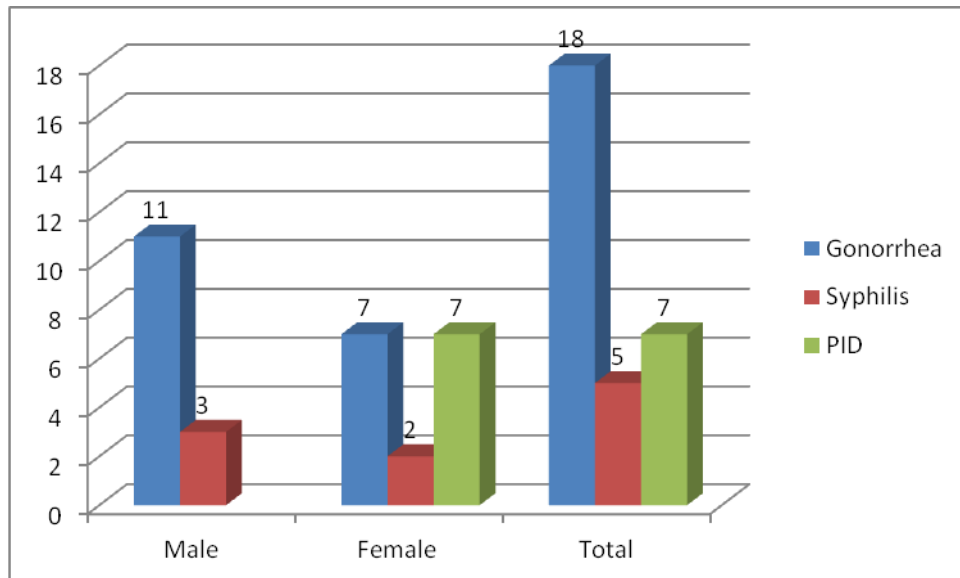
The biggest proportion of the sample (63%) was represented by single participants and was composed of 7 males and 12 females. Married participants numbered 7 males and 4 females representing 37% of the study.

**Chart 4: Participants per gender and employment status.**



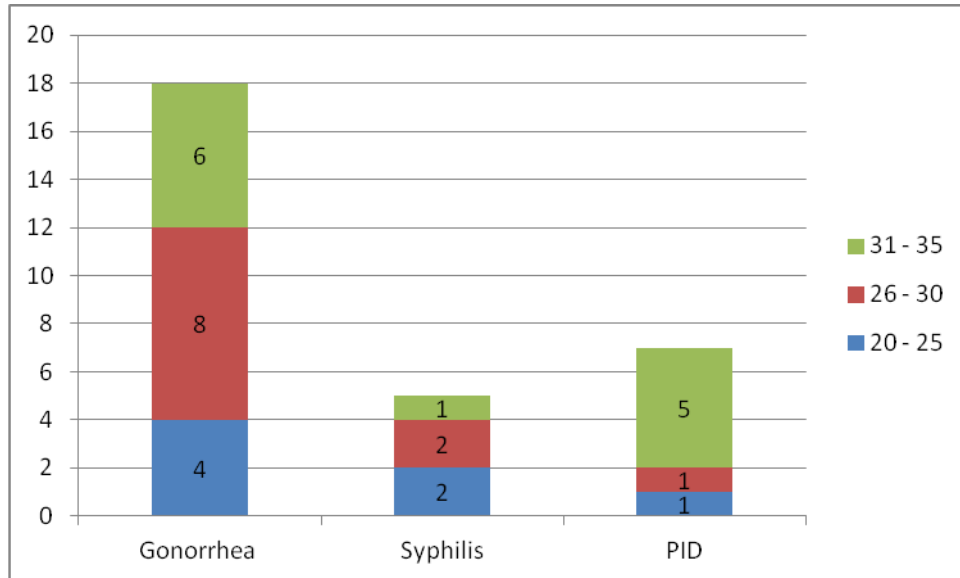
The biggest proportion of the sample (70%) was represented by employed people (12 males and 9 females) whereas unemployed people represented 30% of the sample (2 males and 7 females).

**Chart 5: Participants per gender and medical condition**



Gonorrhea represented the biggest proportion of the sample (53%). This STD affected more male than female participants (11 and 7 respectively), and it was followed by PID which represented 30% of the sample (7 females). PID is not per se, an STD but is caused by STD such as gonorrhea, chlamydia and so on. Syphilis presented as a disease in 27% of the sample, affecting 3 males and 2 females

**Chart 6: Participants per age group and medical condition**



Gonorrhea affected mainly the 26-30 age group, whereas syphilis affected almost equally all the age groups. However PID was seen mostly in the age group 31-35 of females.

### 4.3 Results

#### 4.3.1 Knowledge of youth in the sample area in relation to sexually transmitted diseases.

**Table 1: Knowledge of STDs**

Participants	Male	Female	Total	Percentage
Who knew the meaning of STDs	13	15	28/30	93%
Who named some STDs	4	6	10/30	33%
Who knew the mode of transmission of STDs	13	15	28/30	93%
Who knew the complications of STDs	2	4	6/30	20%
Who knew the implications of treating both partners	12	14	26/30	87%
Who knew the effects of condom use on STDs	13	15	28/30	93%

93% of participants were able to give the meaning of STDs as Sexually Transmitted Diseases.

33% of participants (4 males and 6 females) were able to name some STDs such as syphilis and gonorrhea, however 67% (10 males and 10 females) couldn't name any disease that is sexually transmitted, despite having contracted some of these diseases themselves.

93% knew that STDs are contracted through sexual intercourse with an infected person when sex takes place without protection (without the use of condoms), whereas 7% didn't have a clue of how STDs are transmitted.

20% of participants were able to give some complications of STDs such as infertility and chronic pelvic pain, whereas 80% (12 males and 12 females) didn't have any idea of the complications that could arise from contracting STDs.

93% of participants said that condoms protect against the transmission of STDs, however 7% didn't know the effects of condom use on STDs (but they knew that condoms could prevent HIV infection).

87% of participants said that both partners must be treated for STDs to avoid the risk of re-infection, because treating one partner without the other will result in re-infection of the treated one if sexual intercourse occurs again.

13% of participants (2 males and 2 females) didn't know the benefit of treating both partners for STDs.

#### 4.3.2 Appreciation of the link between STDs and HIV transmission by the Rustenburg youth

**Table 2: Knowledge of the link between STDs and HIV**

Participants	Male	Female	Total	Percentage
Who knew the link between STDs and HIV transmission	5	8	13	43%
Who didn't know the link between STDs and HIV transmission	9	8	17	57%
Who knew the mechanism by which STDs influence HIV transmission	0	0	0	0%

43% of participants said that STDs increase the risk of HIV transmission but they didn't know by which mechanism it does so. However 57% didn't know anything about the link between STDs and HIV transmission. Some said that STDs could become HIV if not treated.

### 4.3.3 The effects of poverty on sexual behavior among youth in the sample area

**Table 3: Knowledge of the effects of poverty on sexual behavior**

Participants	Male	Female	Total	Percentage
Who believe that poverty has an effect on sexual behavior	13	16	29	97%
Who didn't believe that poverty has an effect on sexual behavior	1	0	1	3%

97% of participants said that in their area poverty was affecting more of the female sector of the population than the male.

90% (14 males and 13 females) of the participants stated that young girls in their areas use sex to make money in order to meet the basic needs, and as a result they get pregnant, and or contract STDs (including HIV).

10% of the participants (1 male and 2 females) pointed out that because of poverty in their areas, young girls who don't work get pregnant in order to get a child grant from the government. The more children they have the more money they get as grant.

10% of the participants (three males), stated that poverty affects young men in their areas as well. They go out with older women in order to make money to meet their basic needs.

13% of participants (3 females and 1 male) stated that poverty makes young ladies very vulnerable to STDs and HIV because they don't have a say when negotiating sex with boyfriends, or during one night stand.

3% of participant (1 male) didn't know the effects of poverty on sexual behavior.



**4.3.4 The effects of alcohol on sexual behavior among youth in the sample area.****Table 4: Knowledge of the effects of alcohol on sexual behavior**

Participants	Male	Female	Total	Percentage
Who believed that alcohol has an effect on sexual behavior	14	13	27/30	90%
Who didn't know the effects of alcohol on sexual behavior	0	3	3/30	10%

The main social activities in the area from where the participants (both male and female) live included going to tavern, and sport grounds (to watch games such as soccer, basket and volley ball).

90% of participants said that alcohol use was exposing them to risky sexual behavior such as unprotected sex with all its consequences such as STDs, HIV, and unwanted pregnancies.

23% of male participants believed that they contracted STDs as a result of unprotected sex during one night stand, after alcohol use.

10% of participants (three females) didn't know the effects of alcohol on sexual behavior.

#### 4.3.5 Survey participant's perception of having concurrent multiple sexual partners and the risk of acquiring STDs.

**Table 5: Perception of the youth on concurrent multiple partners and STDs**

Participants	Male	Female	Total	Percentage
Who believed that multiple concurrent partners increases the risk of STDs	14	13	27/30	90%
Who didn't know that multiple concurrent partners increases the risk of STDs	0	3	3/30	10%

90% of participants perceived that concurrent multiple sexual partners increase the risk of contracting STDs because if one is infected, anyone who is part of this sexual network is also at high risk of getting infected, especially if there is sexual intercourse without condom use.

90% of participants stated that a person who has multiple partners probably will not use a condom for each partner, and also he or she doesn't know whether some of his/her partners have also other partners or whether they are using protection, such as condoms on each and every occasion.

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10% of participants (2 males and 1 female) didn't know the risk of contracting STDs that is encountered by a person who has multiple partners.

#### 4.3.6 Perception of Rustenburg youth on commercial sex and the risk of acquiring STDs.

**Table 6: Perception of the youth on commercial sex and the risk of STDs**

Participants	Male	Female	Total	Percentage
Who believed that sex work increase the risk of STDs	13	14	27	90%
Who didn't know that sex work increase the risk of STDs	1	2	3	10%

90% of participants perceive that the sex workers constitute a high risk group of individuals who spread STDs in the community because they don't always use condoms with their clients.

37% of participants (5 males and 6 females) stated that sex workers don't have choice when it comes to condom use as the clients decide whether or not they want to protect themselves. According to these participants, sex without condom is more expensive than sex with condom.

10% of participants (2 males and 1 female) pointed out that some of the sex workers don't have time to get enough condoms as they may sleep with many people per day.

10% of participants (2 males and 1 female) didn't have an opinion on commercial sex and the risk of acquiring STDs.

From my observation and experience, poverty, alcohol use, concurrent multiple sexual partnership, and commercial sex work seem to be fueling STDs and HIV in Rustenburg.

In Rustenburg, poverty seems to be affecting more of the female sector of the society than the male population. This appeared to be confirmed by the participants. For instance, 30% of sample was unemployed. Of these, the majority were women. From Chapter 3 it has been illustrated that where women find themselves in circumstances of poverty, they employ survival strategies, some of which may involve engaging in unprotected sex or risky sexual activity (particularly where women, as in this sample, are single and therefore have no one else upon to rely for basic necessities).

Mays and Cochran (1988:951) pointed out that poor women face continual danger and have few resources to deal with them.

Poverty can compel people, especially young ladies, to use sex in order to make money and meet their basic needs (as stated by most of the participants during the interviews). It can also make young ladies unable to negotiate safe sex. This was indicated by participants and it was also pointed out by Hajiyannis & Parker (2008) in their study, that condom use in circumstances of poverty is not consistent. Engaging in unprotected sex or risky sexual activity and inability to negotiate safe sex may contribute to the fast spread of STDs and HIV.

Few participants (10%) indicated that young girls in their areas would get pregnant in order to access child grant, which would probably help to alleviate poverty. By so doing, they expose themselves and their sexual partners to the risk of acquiring or transmitting STDs and HIV because there is no condom use, since the aim is to get pregnant and access the grant. This practice was also revealed in a three month-study conducted by the Department of Health and Social Development in Limpopo, in which 15.5 % of participants fell pregnant to access child grant (Limpopo Health and Social Department, 2011).

Poverty can also compel men to employ survival strategies: a few participants in my study stated that, some young men in their areas, who find themselves in a situation of poverty, would resort to dating older women to support them financially. This may expose them also to risky sexual behavior which may result in STDs and HIV infection.

Alcohol also seems to be a factor resulting in risky sexual behaviour which may result in STDs and HIV infection. With few recreational activities available in Rustenburg, many people resort to alcohol use. For instance, 7 male participants in the study contracted STDs as

a result of unprotected sex during a one night stand after consuming alcohol. 7 male participants represent 50% of the males in the study, which is a very high proportion. Both males and females can be exposed to risky sexual behaviour after alcohol use, thus confirming the research undertaken by Hajjiyiannis & Parker (2008), that alcohol influences sexual risk taking.

10% of participants who were all female, didn't know the effects of alcohol on sexual behaviour. If these participants who are all sexually active, are exposed to alcohol under any circumstances, they might easily engage in risky sexual activity, and this may expose them to the risk of contracting STDs and HIV.

Multiple concurrent sexual partnership is another factor that exposes people to a risk of contracting STDs. 10% of the sample, all of whom are educated to Grade 12, do not know the risks of having concurrent sexual relationships. The implication is that if these 10% belong to sexual networks, exercising little responsibility and/or intermittent protection, it is not unnatural to assume that STDs will spread rapidly.

Multiple concurrent sexual partnership is very dangerous because there are people who are part a sexual network without knowing it. In Chapter 3 it was demonstrated that, even if a person has only one partner, he/she is connected to the sexual network if his/her partner has other partners. This implies that if STDs or HIV are present in this network, everyone who is part of it is at risk of acquiring or transmitting them.

Commercial sex work seems also to be fueling STDs and HIV in Rustenburg. According to 37% of participants, the choice of using or not using condoms does not depend on CSWs, but on their customers. Even though I did not conduct interview with CSWs, the study undertaken by Hajjiyiannis & Parker (2008) revealed that involvement in sex work was reported to be linked to a lack of alternative employment and poverty, and in such circumstances, condom use is not consistent. Inconsistent use of condoms expose those engaged in sexual activity to the risk of acquiring or transmitting STDs and HIV.

In conclusion, poverty, alcohol use, multiple concurrent sexual partnership and commercial sex work can result in risky sexual behavior, which in turn can fuel the spread of STDs and HIV.

## Chapter 5

### Conclusion and recommendations

#### 5.1 Conclusion

The sample utilized in this survey is very small compared to the population of Rustenburg. Nonetheless the results of the study give us a relative appreciation of the knowledge the youth have on STDs, their link with HIV, and some socio economic factors that contribute to the spread of STDs and HIV.

Knowledge of STDs was superficial amongst the participants, even though 93% of them (13 males and 15 females) could give the meaning of STDs as Sexually Transmitted Diseases. However only 33% (4 males and 6 females) were able to name two STDs namely, gonorrhea and syphilis, whereas there are so many other STDs such as genital herpes, chancroid, chlamydia and trichomoniasis that can affect the body and cause serious damages to many organs.

Only 20% of the participants (2 males and 4 females) were able to name a few complications of STDs such as infertility and Pelvic Inflammatory Diseases, whereas there are so many other complications such as serious blood vessel damage, heart problems, mental disorders, blindness, nerve system problems, and even death that are caused by syphilis in both men and women. Encephalitis (inflammation of the brain) and acute skin infection can be caused by herpes simplex, especially in severely immune compromised patients. Phimosis (inability to retract the distal foreskin on the glans in men) can be caused by chancroid. Urethral strictures, inflammation of prostate, inflammation of the bladder, rectal infection, inflammation of the testicles, meningitis, miscarriage, premature labor and conjunctivitis in newborn babies can be caused by gonorrhoea. Ectopic pregnancy, PID and infertility can be caused by gonorrhea and chlamydia. Low birth weight, intrauterine infection of the fetus, and the risk of cancer can be the result of infection with trichomoniasis.

57% of the participants (9 males and 8 females) were not aware that there is a link between STDs and HIV. However 43% (5 males and 8 females) knew that the presence of STDs increases the risk of acquiring or transmitting HIV. But none of the participants knew the mechanism by which STDs increases the risk of transmitting or acquiring HIV.

The study revealed that poverty, alcohol use, concurrent multiple sexual partnership and commercial sex work were contributing to the fast spread of STDs and HIV in Rustenburg.

## **5.2 Recommendations**

In view of the findings of the study, there is much that can be undertaken to improve the situation in Rustenburg. The following actions can be taken in order to mitigate the spread of STDs and HIV in the community:

### **5.2.1 Awareness campaign on STDs**

I suggest that an STDs awareness campaigns be carried out in Rustenburg in order to empower the community. Such awareness campaigns should concentrate on common STDs that play a role in the transmission or acquisition of HIV, their effects on the reproductive system, skin, nervous system, cardiovascular system, and the complications that could affect an unborn child such as conjunctivitis, respiratory infections, and prematurity. In addition, I would suggest that posters of STDs and their effects on the body be displayed in public areas, such as bus ranks, next to or inside the taverns and in the mall.

Many people with STDs, especially women, do not have any noticeable symptoms, this should be brought to the attention of the community, in order to encourage sexually active individuals to test on regular basis for STDs and HIV. In order to facilitate STDs and HIV testing, clinics must be less intimidating and more customer-friendly. Clinics should offer one to one counseling and health talks on daily basis. In addition staff attitudes must be friendly and non-judgmental, and most importantly, the test results must be issued more quickly to allow for appropriate action (including treatment to be undertaken).

Taverns owners should also be encouraged to make available condoms (both male and female), at all times in their taverns in order to help their clients to prevent STDs and HIV.

Individuals who have concurrent multiple sexual partners and sex workers should be also encouraged to stock up enough condoms in order to protect themselves against STDs and HIV.

### **5.2.2 Educational campaign on STDs**

Most of STDs are preventable and curable. Everyone who is sexually active needs to know the mode of transmission of STDs, their signs and symptoms as mentioned in section B of Chapter 2, along with prevention methods.

An educational campaign targeting specific groups such as youth, women, men and commercial sex workers must be carried out. This campaign should address specific needs according to the group targeted. For instance, vulnerable women such as commercial sex workers and poor young ladies who cannot negotiate safe sex, should be empowered with the knowledge regarding the use of female condoms.

Young men should be also educated on the advantages of condom use, because they are equally at risk of contracting STDs (including HIV) if condoms are not used correctly and on every occasion.

The community should be educated on socio economic factors such as poverty, alcohol use, multiple concurrent sexual partnership and commercial sex work, that contribute to the spread of STDs and HIV, in order to curb the effects of the diseases in society.

Tavern owners should be empowered with the knowledge on STDs, in order to help their clients and disseminate the information regarding STDs and HIV.

### **5.2.3 Formation of peer educators**

Peer pressure is one of the factors that we should consider when it comes to sexuality. We do appreciate the role parents play in raising their children, however many children engage in early sexual activities because of peer pressure. Peer pressure does not apply only to teenagers, but it can apply also to adults. Hence, I encourage the formation of peer educators in the fight of STDs and HIV. The peer educators have the ability to reach out to their peers because they are of the same age, background and generally have the same interests as people in the group. They can therefore disseminate information on STDs and HIV to their peers in a language style that members of their peer group will understand and accept.

Advocates for Youth (1997), demonstrated that young people who abstain from sex tend to have friends who are also abstinent, and those who engage in sexual activities tend to believe that their friends are sexually active as well.

### **5.2.4 Role of mining houses and mining unions**

Housing in Rustenburg is still a challenge for mine workers who usually stay in hostels, without their partners. Those that come from far off places such as the Eastern Cape,



Mozambique, Zimbabwe, Lesotho, and other countries, tend to use the service of sex workers because they don't have their permanent sexual partners living with them. This presents a serious challenge in terms of HIV and STD prevention. I suggest that mining unions be actively involved in finding accommodation for their fellow workers where they can accommodate their families. Through the provision of decent accommodation, mine workers may choose to bring their wives/sexual partners to live with them, and in this way there might be less of a need for mine workers to use the services of CSW, thereby reducing exposure to contraction of STDs. In addition the mining unions should organize educational and awareness campaigns on STDs and HIV for the mine workers on a regular basis.

### **5.2.5 The role of schools, churches and the government**

Schools should use the opportunities that they have to provide information on sex to their students, and to discourage early and risky sexual activities. They should also display the posters of STDs, their mode of transmission, their complications and prevention methods. Prevention methods should focus on abstinence or delay in first sexual intercourse, an increase in condom use, and a reduction in the number of sex partners. In addition, formation of peer groups should be encouraged at school level, in order to reduce the pressure regarding sexuality amongst peers.

Churches should be encouraged to disseminate the information on STDs and address the socio-economic factors (poverty, alcohol use, multiple concurrent sexual partnership and commercial sex work) that fuel the spread of the diseases, as discussed in Chapter 3. They should also encourage their members to remain faithful to their spouses, or abstain from sexual activities if they are not yet married. In addition churches should encourage their members to get married and have stable families where children can be raised and taught moral values.

The government should create more educational and employment opportunities for Rustenburg youth, in order to reduce the risk of acquiring STDs and HIV by young people who use sex to make money in order to meet their basic needs. Young ladies should be encouraged to go to school instead of getting pregnant, in order to access the child grant. In addition, education on STDs and HIV should be offered to the young ladies when they go for collection of child grant. Young men should also be encouraged to go to school and to take their responsibilities seriously by using condoms at all times, and avoiding behaviours, such

as drinking alcohol, which could put them at risk of engaging in unprotected sex. They should also learn to take responsibility for any children that they father.

These recommendations can be of great help only if they are implemented, I therefore encourage everyone in the community to play an active role at their level in the fight against STDs and HIV, and together we will win.

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## Appendix

### Guideline questions for interviews

1 . Where do you come from/ where do you stay?

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.....

2. Are you employed or not? If not what are your sources of income?

.....

.....

3. What is your education level?

.....

.....

4. What is your marital status? ( or do you have a partner?)

.....

.....

5. What are the main sources of income in your area? (what do most people do in your area to make a living)

.....

.....

6. What are the main social activities in your area? (Going out to the park, to the taverns, ect)

.....

.....

7. What are STDs?

.....

.....

8. How does one get infected with STDs?

.....

.....

9. What are the complications of STDs?

.....

.....

10. What do you think are the effects of STDs on HIV transmission?

.....

.....  
11. What do you think are the effects of alcohol on sexual behavior?

.....  
12. What do you think are the effects of poverty on sexual behavior?

.....  
13. What do you think are the effects of drug use on sexual behavior?

.....  
14. What do you think about having multiple partners at the same time and the risk of STDs?

.....  
15. What do you think are the effects of commercial sex on STDs transmission?

.....  
16. What do you think are the effects of condom use on STDs?

.....  
17. Do you think that both partners should be treated at the same time for STDs, if yes or no why?

.....  
18. What actions should be taken to prevent STDs?