CHAPTER 1: INTRODUCTION

1.1 Introduction

According to the World Health Organisation (WHO 2008); worldwide, more than a million people acquire sexually transmitted infections (STIs) daily. Annually, there are 499 million new cases of curable sexually transmitted infections that occur worldwide (WHO, 2008). The burden of STIs in Africa alone is at 93 million and the burden of sexually transmitted infections is highest in low-income countries such as Zimbabwe (WHO 2010).

Of particular public health importance is the fact that STIs can be preventable. Some of the associated health complications, especially due to late and/or untreated STIs are infertility, ectopic pregnancies, increased risk of odds of HIV transmission or acquisition and permanent disability. White et al (2008) carried out a study on the ‘effectiveness of sexually transmitted infections for HIV prevention’ and found that the cost per HIV infection averted ranged between US$321 and US$1665 when there was effective syndromic management of STIs. Governments and health care providers thus stand to benefit from cost savings as some of the reproductive health funding such as for managing STI complications can be reinvested in other health programs and health systems strengthening efforts.
1.2 Background

Sexually transmitted infections are of significant public health importance because their consequences have a bearing on the sexual and reproductive health of an individual. Infection with the human papiloma virus (HPV) virus has been shown to be associated with cervical cancer (WHO 2015). In sub-Saharan Africa, 85% of infertility among women presenting for care in health centres is attributable to untreated STIs such as gonorrhoea and chlamydia (WHO 2008).

Young people are the most vulnerable to sexually transmitted infections because they have limited access to sexual reproductive health information and like experimenting on sex (Stally 2003). According to Sague and colleagues in 2014, adolescent girls have a higher risk of acquiring sexually transmitted infections due to biological and cultural factors that affect them. Generally, adolescent girls have a larger mucosal surface area compared to adolescent boys and they also have sexual relations with older men which puts them at a higher risk of infection with STIs (Sague et al 2014).

1.2.1 Background of study setting

Matabeleland North is a province west of Zimbabwe with a population of 743 871. The Zimbabwe Demographic Health Survey (ZDHS) 2010 states that Matabeleland North province has 52.1% females and 50.6% males who have attained a secondary school level of education or higher. This reflects a high proportion of high school drop outs compared to other provinces.

The study took place in Umguza district. A study by Magombeyi et al (2011) stated that the poverty prevalence of Umguza district is 88.8%. According to the Parliament of Zimbabwe (2011) report, food insecurity is common in Umguza. The district has ten health centres and a
district hospital servicing its population. Hope fountain is 20km away from Bulawayo and the nearest health centre is United Bulawayo Hospitals (UBH) which is 15km away. Arda Balu is 54km away from Bulawayo and people have to travel such a distance to seek health services. Health centres in both wards do not meet the 8km radius which is the standard distance for the nearest health centre according to the Primary Health Care Policy of Zimbabwe.

1.3 Statement of the problem

World Health Organisation states that in developing countries, sexually transmitted infections and their complications rank in the top 5 of diseases which adults seek treatment for. According to the Zimbabwe Demographic Health Survey (2010) Matabeleland North province has the third highest HIV prevalence in the country at 18.3% compared to the national average of 15%. STI prevalence among men in Matabeleland North is the highest in the country at 15.5%. Incidence of STIs was on the increase in Umguza district (Figure 1), and is a possible cofactor in increasing the risk of both HIV acquisition and transmission in Umguza district.

There was need for appropriate research investigations for more data to explain the district STI trends and to support local district health service efforts in addressing this challenge. This has implications for reproductive health research, particularly in sexual behaviour and studies of youth sexuality in Zimbabwe.
Figure 1: Sex aggregated Umguza District STI trends (Jan 2012 - April 2014)

![Umguza STIs trend from January 2012 to April 2014](image)

**Source: National AIDS Council Umguza District (2014)**

The figure above shows the STI trends of Umguza district from January 2012 to April 2014 for the 15 to 49 age group. The graph for men is showing an insignificant decrease of STIs from 1st quarter 2012 to 2nd quarter 2012. There is an increase in STIs in the 3rd quarter which decreases in the 4th quarter and increases in 1st quarter 2013 with insignificant declines in STIs in the following quarters up to a sharp increase in the 1st quarter of 2014.

The graph for women shows a decline in STIs up to 3rd quarter 2012 then an increase in the STIs from 4th quarter, with slight decreases up to 4th quarter 2013 and a sharp increase 1st quarter 2014.

National AIDS Council (NAC) statistics have been reporting on STI data collectively for the 15 to 49 age group. The NAC system started reporting STI statistics for youths as of January 2014.
CHAPTER TWO: LITERATURE REVIEW

2.1 Public Policy factors

Review of Sexual Reproductive Health Strategies relevant to Sexually Transmitted Infections

The government of Zimbabwe has shown commitment in Adolescent Sexual Reproductive health. A number of strategies and policies were formulated to focus on reproductive health. The National Health Strategy for Zimbabwe (2009-2013) is one such strategy that highlights the need to target youth early in STI, HIV and AIDS prevention through awareness programmes. These programmes must include components on consequences of early sexual activity, life skills and include information on acquisition of sexually transmitted infections. The Zimbabwe National HIV and Strategic Plan 2011-2015, has a component that focuses on youths under the social and behaviour change communication. Ministry of Primary and Secondary education has embarked on a programme on life-skills in schools and pupils should have guidance and counselling in their curricula. The National Adolescent Sexual and Reproductive Health strategy is another strategy that has been formulated to resolve challenges pertaining to young people’s sexual reproductive health.

2.2 Individual factors

Females are at a higher risk of contracting HIV and other sexually transmitted infections compared to males. Sague et al (2014) found that women are more prone to STIs because their biological make up. Ramjee and Daniels (2013) added that the reason why females are
at risk of HIV than men was because of economic issues for example women in commercial sex work.

Sexually transmitted infections have been associated with drug use in previous studies for example Hwang et al (2000). A cross-sectional study was conducted on sexually transmitted infections among 407 drug users by Hwang et al (2000). Prevalence of sexually transmitted infections among the drug users were as follows; herpes simplex virus-2 (HSV-2) 44.4%, Hepatitis C (HCV) 35.1%, Hepatitis B virus (HBV) 29.5%, Human Immunodeficiency Virus (HIV) 2.7%, syphilis 3.4%, chlamydia 3.7% and gonorrhoea 1.7%. Transactional sex (either selling sex for money or drugs) among the drug users was significantly associated with syphilis, HBV, HCV and HSV-2. In another study by Winston et al in 2014, adolescents who had tested HIV positive were likely to report drug use, p value=0.02

Hughes et al’s (2000) findings were that teenagers were most likely to suffer from gonorrhoea and chlamydia as compared to older members of their community. The study findings were contradictory to Kapiga et al (2002) who found out that the risk of contracting HIV-1 increased with age (p-value was less than 0.01).

Respondents who were not affiliated to any religion were found to be engaging in sexual activity earlier compared to those respondents who belonged to some religion according to Hallet et al (2007) when they did a study on age at first sex and HIV infection in rural Zimbabwe. Similarly Stephenson et al’s (2014) findings were that youth who had no religious
affiliation tend to indulge in risky sexual behaviour which puts them at risk of contracting STIs.

Several studies have shown the correlation of sexually transmitted infections and wealth. A study by Awusabo-Asare (2008) on wealth status and sexual behaviour concluded that HIV was no longer driven by poverty but wealth and other socio-demographic factors. This was also similar to the findings by Oljira et al (2012) which indicated those adolescents who received more pocket money from home were likely to indulge in premarital sex (Adjusted OR=1.56, CI=1.19-2.04). This was contrary to other studies for example the study by Madise et al (2007) which concluded that poor girls were vulnerable to HIV because they could not negotiate safer sex compared to wealthy ones. The Zimbabwe Demographic Health Survey (ZDHS 2010) states that men who reported having an STI were generally poor and less educated compared to those reporting no STI episode.

Pettifor and colleagues in a study done in South Africa in 2009, on early coital debut and associated HIV risk factors among young women and men highlighted that forced sex was one of the risk factors of HIV transmission. Sero-positive girls in Nairobi were more likely to report transactional sex or forced sex in a study on HIV infection and sexual partnerships and behaviour among adolescent girls done by Rostich et al (2012). The results of the Nairobi study were as follows-HIV prevalence was 7%. Those who were HIV positive were likely to have had early sexual debut (p<0.01), multiple sexual partners (p=0.03) and transactional sex (p=0.01). Similarly a study done in Kenya by Winston and colleagues in 2014 reported that those adolescents who tested HIV positive were more likely to report transactional sex (AOR =3.02, CI=1.05-8.73)
2.3 Interpersonal factors

A study on factors associated with contracting STIs among patients in Zvishavane urban was done by Chadambuka and colleagues in 2007. Having a limited number of partners, consistent and correct use of condoms and being faithful to one partner have been found to reduce the risk of acquiring sexually transmitted infections. The study highlighted that attitudes towards STI preventive behaviours were usually not researched upon.

A study done in rural Jamaica by Ekundayo (2007) on factors associated with teenage sexual activity and depression among adolescents used the socio-ecological model, which was the framework used in this study. The study showed that there was an association between individual factors like age and interpersonal factors like parental control for boys to indulge in sexual activity. The findings were also similar to those by Markham et al (2010) who highlighted that adolescents were less likely to indulge if they had strong parental support. Mazengia and Worku (2009) reported that adolescents less connected to their families were most likely to initiate sex early with an adjusted odds ratio of 2.30 and a confidence interval of 1.35 to 3.91. Ekundayo (2007) also found that; for girls the interpersonal factor that determine early sexual debut was age of partner at first intercourse. Contrary to the findings by Ekundayo, Kinsman and colleagues’ findings in 1998 were that peers influenced early sexual activity in individuals. Mazengia and Worku (2009) reported that those adolescents less connected to their families were most likely to initiate sex early (AOR 2.30, 95%CI (1.35-3.91)).
2.4 Community factors

A study done in Kenya in 2008 by Khasakhala and Mturi on factors associated with risky behaviour among youths out of school highlighted that such studies should be district specific so that interventions may be district specific. The findings of the study were that district of residence influenced risky behaviour in both males and females. Westercamp et al (2010) found that place of residence was not associated with sexual risk behaviours which was contrary to Khasakhala and Mturi’s findings.

Stephenson et al (2014), Sendo and Bedada (2014) found out that those who drank alcohol were more likely to report multiple partner concurrency. This was similar to findings by Khasakhala and Mturi (2008). Bars, beer-halls and other drinking venues were found to be associated with STI contraction. A study done in Hwange District, by Singh et al (2010) recommended that drinking venues which were frequented by adolescent girls should be targeted with prevention messages. Women who spent their free time at drinking venues were more likely to test HIV positive compared to women who did not frequent such venues (Singh et al 2010). Kapiga et al (2002) found out that women working in bars were more likely to report HIV infection compared to other women who did not work there.

In a study in Ethiopia in 2014 by Sendo and Bedada, findings were that students who watched pornography were twice more likely to have multiple concurrent partners which put them a risk of contracting STIs (AOR=2.17, 95% CI= 1.82-5.93). Jonas et al (2014) found
out that those who watched pornography tend to experiment or imitate what they would have watched and practised unsafe sex leading to contraction of infections.

Ohene and Akoto carried out a cross sectional study in 2007 on factors associated with a history of STIs among Ghanaian women. A finding in the study by Ohene and Akoto on risk factors of STIs was that female youth did not know where to get a condom. Those with history of an STI were mostly unlikely to know where to get condoms (p=0.01) but were more likely to have used them in their last sexual encounter.

Pilgrim and Blum in 2012 used the social ecological theory to assess the protective and risk factors associated with adolescent sexual and reproductive health in the English speaking Caribbean. Constructs used were the macrosystem (community factors) and microsystem (individual factors). The authors organized peer reviewed articles on adolescents into Bronfenbrenner’s social ecological theory. The recommendation from the study was that there was need to incorporate a multisystem approach in the adolescent sexual reproductive health programmes (ASRH) since parent-child relationships, cultural attitudes had an association with the adolescents behaviour.

### 2.5 Conceptual Framework

Most public health problems are complex in that they have various inter-related causes which need multiple strategies and multi-dimensional interventions. Human behaviour is influenced by a number of factors beyond the individual’s control. The social ecological theory is one such theory that has multi-dimensional focus (Centre for Disease Control and Prevention-
CDC, 2013) hence its use in this study. This model allowed for investigation beyond the individual factors to other determinants of sexually transmitted infections such as the community factors, public policy factors and organisational factors. A construct on perceived susceptibility from the health belief model was used to complement the individual factors’ component of the social ecological model. According to Green and Kreuter (2005), the health belief model is a model that has been used since the 1950s when it was developed by psychologists for the purposes of predicting health seeking behaviours of individuals.

**Figure 2: Conceptual framework**

The conceptual framework (figure 2) integrated constructs of the Health Belief and the Socio-Ecological Models. The study determined the associations between sexually transmitted infections and the following constructs of the Social Ecological Theory-
Individual factors - age, sex, level of education, socio-economic status, self-efficacy

Interpersonal factors - peers, family, colleagues

Organizational factors - school, workplace

Community factors - media, communication networks, social networks

*From the Health Belief Model*

**Perceived susceptibility** – whereby assessment of participants risk to contracting STIs was done.

The above concepts were constructs for development of the data collection instrument (questionnaire) and were also used to formulate of the study objectives.

### 2.6 Justification

Conducting a social ecological study will help in identifying risk factors for STIs among youths so that this problem is alleviated among Umguza youths. Preventing sexually transmitted infections will result in fewer burdens of preventable disease affecting youths. This will indirectly improve productivity in the districts' work force; hence improve the quality of life of people in Matabeleland North province.

The study will identify factors associated with sexually transmitted infections among youths in this district thereby help inform targeted interventions. Further, new knowledge on STIs in this study may be applied to other similar populations and settings across the country and beyond. It will also address the paucity of evidence for socio-behavioural determinants of STI incidence in local youth populations and form the basis of a pragmatic framework for formulation of local reproductive health policies.
Furthermore, this study's findings will help programmers plan sound interventions whose impact will contribute in the reduction of premature youth sexual activity as well as promote positive health behaviour in this population group of Umguza district.

2.7 Research questions

1. What are the factors related to STIs among adolescents in Umguza?
2. What are the circumstances leading to STIs among youths?
3. What can be done to alleviate or to deal with these factors?

2.8 Study Hypothesis

H₀: Social ecological factors (individual, interpersonal, institutional, community and public policy factors) are not associated with sexually transmitted infections

Hₐ: At least one social ecological factor is associated with sexually transmitted infections among youths
2.9 Objectives of the study

2.9.1 Broad objective

To identify social ecological factors that influence acquisition of STIs among youths in Umguza district

2.9.2 Specific Objectives

To identify intrapersonal characteristics of youth that are associated with STIs in Umguza district

To assess interpersonal factors that are associated with STIs among youths in Umguza district

To determine the community factors that influence the acquisition of sexually transmitted infections

To assess the organizational factors that promote acquisition of STIs
CHAPTER 3: METHODS

3.1 Study design

An analytical cross-sectional study was used to investigate the association between STIs and their risk factors among youths in Umguza district. This type of study enabled the researcher to calculate the prevalence of STIs among the respondents and also enabled the researcher to assess the social ecological factors affecting the youths.

3.2. Study population

The study sample was derived from a population of 87,518 (Table 1 and Table 2), which is the population of Umguza district according to the census of 2012. The reference population was the youth population (15 to 24 years age group). The target population was identified according to the district population profile calculated from the district (Table 2). Statistics were obtained from census 2012 and ZDHS 2010.

Table 1: Calculation of pooled percentage population

<table>
<thead>
<tr>
<th>Age group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19 women</td>
<td>21.2</td>
</tr>
<tr>
<td>15-19 men</td>
<td>24.4</td>
</tr>
<tr>
<td>20-24 women</td>
<td>20.1</td>
</tr>
<tr>
<td>20-24 men</td>
<td>19.3</td>
</tr>
<tr>
<td><strong>Pooled percentage population</strong></td>
<td><strong>21.25%</strong></td>
</tr>
</tbody>
</table>

Table 1 shows how the percentage of youth was calculated using data from the census of 2012.
Table 2: Calculation of youth population in Umguza district

<table>
<thead>
<tr>
<th>District</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Umguza</td>
<td>87518</td>
</tr>
<tr>
<td>Population of youths (22.6%)</td>
<td>87518(21.25%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18597.58</strong></td>
</tr>
</tbody>
</table>

Table 2 above shows how the population of youths was calculated from the Umguza district population.

### 3.3. Study setting

The study was carried out in two wards of Umguza district; namely, ward 1(Hope Fountain) and ward 8(Arda Balu). Hope Fountain is a peri-urban area with mixed settlements which include plots, farms and villages. Arda Balu, a former dairy farm is made up of farms and resettlements. Gold panning is rife in both wards and also both wards have no health centres. People have to travel to Bulawayo to seek health services.

### 3.4 Study sample

Prevalence of STIs was calculated using pooled estimates of STIs in males (15.5%) and females (3.8%) in Matabeleland North obtained from the ZDHS (2010-2011), (Table 3).

Sample size was determined through Stat Cal. The final sample size calculated after factoring non response of 30% was 173. (Non response rate obtained from Fenton et al 2001)
### Table 3: Sample size (Epi Info 7 input)

<table>
<thead>
<tr>
<th></th>
<th>Estimated prevalence of STIs among the youth</th>
<th>Margin of error (At 99% CI)</th>
<th>Population</th>
<th>Required sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youths</td>
<td>9.65%</td>
<td>+/-0.05</td>
<td>18,598</td>
<td>133</td>
</tr>
<tr>
<td>Non-response (30%)</td>
<td></td>
<td></td>
<td></td>
<td>173</td>
</tr>
</tbody>
</table>

#### 3.5 Inclusion/Exclusion criteria

**Unit of Study:**

A young man or woman from the ages of 15 to 24 years old

**Inclusion criteria:**

A young person between 15 to 24 years old who is not married (male or female) and had given an informed consent to participate in the study and not living in with his/her boyfriend/girlfriend

**Exclusion criteria:**

A young person living in with his/ her boyfriend/girlfriend because if they are cohabiting they are classified under married and this study is looking at unmarried youths
3.6 Sampling frame

**Sampling Technique**

Multistage sampling was used (Figure 3). The wards that were selected were ward 1 and ward 8. Five villages were then selected from the two wards. Random tables were used in the selection process.

Figure 3: Multistage sampling

- 1 district was randomly selected out of 7 districts in the province
- 2 wards were randomly selected out of 19 wards in the district
- 173 households were randomly selected from 525 households

Young people between the ages of 15 to 24 years were interviewed in a household. The sampling interval was every 3\textsuperscript{rd} household. Where there were several youths in the household, random tables were used to select one youth. When a house that was in sequence had no youth it was skipped to the next household in sequence.

3.7 Study variables

3.7.1 Dependant variables

The dependant variable in the study was having/having had an STI
3.7.2 Independent variables

The dependent variables were derived from the conceptual framework. Table 4 below shows the independent variables in detail.

Table 4: Independent variables

<table>
<thead>
<tr>
<th>Concept</th>
<th>Variable</th>
<th>Data Collection Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Factors</td>
<td>Sex, Age, Level of Education, Occupation,</td>
<td>Questionnaire</td>
</tr>
<tr>
<td></td>
<td>Religion, Place of residence</td>
<td></td>
</tr>
<tr>
<td>Interpersonal factors</td>
<td>Family relations, Family set up, Age of partner</td>
<td>Questionnaire</td>
</tr>
<tr>
<td>Perceived Susceptibility</td>
<td>Age at first sex, Condom use at first sex, Transactional sex, Forced sex, Knowledge about STIs</td>
<td>Questionnaire</td>
</tr>
<tr>
<td>Organizational Factors</td>
<td>Discussion of Sexual Reproductive Health issues at workplace/school</td>
<td>Questionnaire</td>
</tr>
<tr>
<td>Community Factors</td>
<td>Recreational activities available</td>
<td>Questionnaire</td>
</tr>
</tbody>
</table>

3.8. Data collection

Data collection was done in two weeks (a week in each ward). The respondents were left with the questionnaire so that they could fill in and the questionnaire was then collected after an hour since the questionnaire was self administered.
3.8.1 Data Collection tools
Self-administered questionnaires that were printed in English (Appendix) and Ndebele (Appendix) were used. A respondent was given a questionnaire that had a language they understood best (respondent filled in either a Ndebele or an English questionnaire). The questionnaire was formulated using part of the social ecological model and health belief model constructs. Respondents signed the consent form.

3.9 Pretesting of Data collection tools
Pretesting was done in Ward 1 in Village C which was not part of the wards selected for the study. The questionnaire was modified according to the understanding of the respondents.

3.10 Permission to proceed
Permission to carry out study was sought and approved by the Community Medicine Department, University of Zimbabwe. Permission to proceed was also obtained from the Provincial Medical Directorate Matabeleland North Province (Appendix).

3.11 Ethical approval
Ethical approval was sought and obtained from Joint Ethics and Research Committee (JREC) (Appendix) and Medical Research Council of Zimbabwe (MRCZ) (Appendix).
3.11.1 Informed Consent

An assent form for children under 18 years was available. Parental and adult consent forms were available in both English and Ndebele languages. Respondents were asked to read and understand before signing the forms. An adult was made to consent for the child and also the child had a part to sign on the assent form as they had the right to refuse to participate in the study even if their guardian was willing that they participated.

3.11.2 Confidentiality

The respondents were assured of confidentiality. No name was asked in the course of the interview. The questionnaires were kept under lock and key and after data entry and analysis were incinerated.

3.11.3 Harm to participants

There was minimal harm done to participants and all were treated fairly and equally.

3.11.4 Beneficence

One respondent who was presenting with signs and symptoms of STIs was referred to (Zimbabwe National Family Planning Council) ZNFPC for treatment. Those respondents who had questions were allowed to ask when the interviewer was collecting the questionnaires.

3.12 Data Processing and analysis

Questionnaires were checked for completeness and consistency of responses. Where there were blanks, the respondents were asked to fill in. Four questions were incomplete because when the interviewer went to collect questionnaire the respondents had left the homestead leaving a partly filled questionnaire. There was no means of verifying such questionnaires.
Data were entered and analyzed using Epi Info version 3.5.1. Characteristics of the respondents were analysed through obtaining frequencies and proportions. Variables with p value less than 0.05 were considered to be of statistical significance. Bivariiate and multivariate analysis were done.
CHAPTER 4: RESULTS

4.1 Introduction

A total of 173 young people were recruited into the study. There were two refusals and four incomplete questionnaires. A total of 167 (96.5%) questionnaires were analysed. There were a total of 82 (49.1%) females and 85 (50.9%) males in the study.

The median age of the respondents was 19 years (Q1=15years; Q3= 22years) . The minimum age of the respondents was 15 years whilst the maximum age was 24 years.

A total of 59 (35.3%) respondents were in some form of employment compared to 108 (64.7%) respondents who were unemployed.

4.2 Individual factors

Table 5 is showing the individual factors of the respondents according to whether they reported having an STI or not. 56.6% females reported having had an STI as compared to 43.4% males. Among the respondents who reported an STI episode, 22.6% were aged below 20. I. All respondents indicated they had once attended school, with 39.5% of those without STIs being in school compared to only 7.5% of those who had had an STI being in school at the time the study was conducted. Respondents who resided at Arda Balu were twice more likely to report an episode of an STI compared to those who resided at Hope fountain. Of those who reported an STI, 67.9% were from Arda Balu compared to 32.1% from Hope Fountain. The youths highlighted that during pay days, there were prostitutes who were hired
from Bulawayo to offer services at the mine for workers. One youth highlighted this in the recommendations,

‘Umnikazi wemine akayekele ukusidingela amawule ukuzogida mhla wepay day ngoba kusilethela imikhuhlane lokusiqedela imali’

Which translates to; ‘the mine owner should stop hiring prostitutes on pay days because this brings about diseases and also people end up spending money recklessly’.

Youths affiliated to a certain religion and reported an episode of an STI were 64.2% compared to 76.3% youths affiliated to a certain religion and reported no episode of an STI.
Table 5: Individual factors for the respondents

<table>
<thead>
<tr>
<th>Variable</th>
<th>Those reporting an episode of Sexually Transmitted Infections</th>
<th>Those reporting no episode of Sexually Transmitted Infections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>(%)</td>
</tr>
<tr>
<td>Sex: Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>30</td>
<td>56.6</td>
</tr>
<tr>
<td>Female</td>
<td>23</td>
<td>43.4</td>
</tr>
<tr>
<td>Age: 15-19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>12</td>
<td>22.6</td>
</tr>
<tr>
<td>20-24</td>
<td>41</td>
<td>77.4</td>
</tr>
<tr>
<td>Level of education: Primary incomplete</td>
<td>7</td>
<td>13.2</td>
</tr>
<tr>
<td>Primary Complete</td>
<td>14</td>
<td>26.4</td>
</tr>
<tr>
<td>Secondary incomplete</td>
<td>12</td>
<td>22.6</td>
</tr>
<tr>
<td>O’ level</td>
<td>14</td>
<td>26.4</td>
</tr>
<tr>
<td>A level</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>College incomplete</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>College complete</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Still at school</td>
<td>4</td>
<td>7.5</td>
</tr>
<tr>
<td>Employment Status: Employed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>23</td>
<td>45.1</td>
</tr>
<tr>
<td>Self employed</td>
<td>8</td>
<td>15.7</td>
</tr>
<tr>
<td>Unemployed</td>
<td>20</td>
<td>39.3</td>
</tr>
<tr>
<td>Religion: Adventist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dutch reformed</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Methodist</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Muslim</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pentecostal</td>
<td>15</td>
<td>28.3</td>
</tr>
<tr>
<td>Apostolic sect</td>
<td>6</td>
<td>11.3</td>
</tr>
<tr>
<td>Roman Catholic</td>
<td>2</td>
<td>3.8</td>
</tr>
<tr>
<td>No Religion</td>
<td>19</td>
<td>35.8</td>
</tr>
<tr>
<td>Place of residence: Arda Balu</td>
<td>36</td>
<td>67.9</td>
</tr>
<tr>
<td>Hope fountain</td>
<td>17</td>
<td>32.1</td>
</tr>
</tbody>
</table>
Table 6: Median of continuous variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Episode of an STI reported</th>
<th>No episode of an STI reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at First Sex:</td>
<td>Median = 16 (Q1=15;Q3=17)</td>
<td>Median = 16 (Q1=15;Q3=19)</td>
</tr>
<tr>
<td>Age left school</td>
<td>Median = 12.5 (Q1=12;Q3=16)</td>
<td>Median = 16 (Q1=15;Q3=17)</td>
</tr>
<tr>
<td>Number of boy/girl friends ever</td>
<td>Median = 2 (Q1=1;Q3=3)</td>
<td>Median = 2 (Q1=1;Q3=3)</td>
</tr>
<tr>
<td>had</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 above is showing the median of continuous variables. The median age at first sex of those reporting an episode of an STI and those reporting no episode of an STI was 16 years. There was no difference between the median of number of boy/girl friends ever had for those reporting an episode of an STI and those not reporting an STI. The respondent used their own aggression to define an STI. Assumption was that those who had had a syndrome knew it was an STI.

4.3 Univariate analysis of individual factors

Prevalence of STIs was 31.7% among the respondents. 56.6% of those reporting an episode of an STI were female.

Figure 4 shows most recent signs and symptoms of STIs presented by the cases. The most reported signs and symptoms were foul smelling discharge which did not clear on its own (35.8%) and genital ulcers (20.8%).
Of the 53 respondents that reported an STI episode, 33 (62.26%) highlighted seeking treatment as follows; clinic 17 (51.5%), hospital 8(24.2%) and traditional healer 8(24.2%). Twenty (20) respondents did not seek any medical treatment. The reasons they gave for not seeking treatment were as follows; no reason at all 4(20%), had no money 4 (20%), was afraid of being seen 5 (25%), health centre far 3(15%), it was not serious 3(15%) and it cleared on its own 1(5%) 

There were 80(47.9%) respondents who indicated they did not reside with their parents. Reasons given were as follows; they were deceased 38(47.5%), live in another area 40(50%), in prison 1(1.3%) and did not know where they were 1(1.3%). Youths were asked to rate the way they got along with their family. 91 (54.49%) of the youth said their relations were good,36 (21.56%), excellent,33(19.76% ), average,3(1.8%), bad and very bad 4(2.4%).
4.3.1 Knowledge about STIs

Some respondents expressed ignorance on what STIs were [34.1 %( 57)]. Eighty nine (53.2%) respondents highlighted that they did not know the signs and symptoms of STIs (Figure 5).

Figure 5: Knowledge of STIs by respondents

The majority of the respondents preferred to discuss sexual matters with peers 60(39.5%) and their aunt 40(26.3%). One hundred and nineteen (71.7%) of the respondents highlighted discussing sexual reproductive health issues at school or at their workplaces. The topic that was discussed the most was HIV by 43 (39.1%) of the respondents.
Table 7: Myths and misconceptions about STIs among youths in Umguza district

<table>
<thead>
<tr>
<th>Statement</th>
<th>Reporting an episode of an STI</th>
<th>No STIs episode reported</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Bathing soon after sex can protect you from getting an STI</td>
<td>1 (1.9%)</td>
<td>37 (69.8%)</td>
</tr>
<tr>
<td>Vaccination can protect you from STIs</td>
<td>4 (7.5%)</td>
<td>17 (32.1%)</td>
</tr>
</tbody>
</table>

4.3.2 Perceived Risks

A total of 101 (62.73%) young people had had sexual intercourse before. Only 28 (27.72%) had a high risk perception of being infected with STIs since they were indulging in sex. Only (26)25.74% of those who had had sex had used a condom the first time they had sexual intercourse.

Of those 28(17.1%) who highlighted were at risk of catching an STI the reasons they cited were that they had multiple sexual partners 10 (24.4%) and that their partner engaged in unprotected sex 6 (14.6%).
### 4.4 Bivariate Analysis

Table 8: Bivariate analysis of Interpersonal Factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>STIs</th>
<th>No STIs</th>
<th>POR (95% CI)</th>
<th>P value</th>
<th>Confidence Interval</th>
<th>Risk/Protective Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you take Alcohol: Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>63.8% (33)</td>
<td>31.3% (15)</td>
<td>10.89</td>
<td>0.0000</td>
<td>5.00 – 23.81</td>
<td>Risk factor</td>
</tr>
<tr>
<td></td>
<td>16.8% (20)</td>
<td>83.8% (99)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you ever had multiple concurrent partners: Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>50% (20)</td>
<td>50% (20)</td>
<td>2.3043</td>
<td>0.03</td>
<td>1.046-5.076</td>
<td>Risk factor</td>
</tr>
<tr>
<td></td>
<td>30.3% (23)</td>
<td>69.7% (53)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you Smoke: Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>60% (9)</td>
<td>40% (6)</td>
<td>3.68</td>
<td>0.013</td>
<td>1.20 – 10.9</td>
<td>Risk factor</td>
</tr>
<tr>
<td></td>
<td>28.9% (44)</td>
<td>71.1% (108)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transactional Sex: Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>76.5% (13)</td>
<td>23.5% (4)</td>
<td>5.91</td>
<td>0.002</td>
<td>1.7 – 20</td>
<td>Risk factor</td>
</tr>
<tr>
<td></td>
<td>35.5% (22)</td>
<td>64.5% (40)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have a boy/girl friend: Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>37.2% (51)</td>
<td>62.8% (86)</td>
<td>8.3023</td>
<td>0.0005</td>
<td>1.89- 36.32</td>
<td>Risk factor</td>
</tr>
<tr>
<td></td>
<td>6.7% (2)</td>
<td>93.3% (28)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forced Sex: Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>57.1% (4)</td>
<td>42.9% (3)</td>
<td>1.8</td>
<td>0.3573</td>
<td>0.38-8.496</td>
<td>Risk Factor (insignificant)</td>
</tr>
<tr>
<td></td>
<td>42.6% (40)</td>
<td>57.4% (54)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom: Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>26.9% (7)</td>
<td>73.1% (19)</td>
<td>0.3968</td>
<td>0.057</td>
<td>0.15 -1.047</td>
<td>Protective Factor (insignificant)</td>
</tr>
<tr>
<td></td>
<td>48.1% (39)</td>
<td>51.9% (42)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age group : 15-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24</td>
<td>13.2% (12)</td>
<td>86.8% (79)</td>
<td>0.1297</td>
<td>0.0000</td>
<td>0.06 - 0.273</td>
<td>Protective factor</td>
</tr>
<tr>
<td></td>
<td>53.9% (41)</td>
<td>46.1% (35)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 8 shows results of bivariate analysis of the interpersonal factors of the study. The prevalence odds ratios were calculated to show the strength of the association. P-values and confidence intervals were calculated to test for statistical significance of the associations. Age proved to be a protective factor against contraction of an STI. The odds of contracting an STI when one was below 20 were 0.12 with a prevalence odds ratio (POR) of 0.00, 95% CI (0.06-0.273). Those who drank alcohol were 10.89 times likely to report having had an episode of an STI, (p =0.000, 95% CI=5.00-23.81) compared to those who did not drink alcohol. Of those who drank alcohol, 19 reported they once regretted drinking it for the following reasons; 8(42.1%) became violent, 4 (21.1%) engaged a prostitute, 4 (21.1%) had unprotected sex, 1(5.3%) was hit by a car and 2(10.5%) slept outside.

Having multiple concurrent partners was another significant risk factor for having an episode of an STI with a POR of 2.30, CI of 1.04-5.08 and a p value of 0.03.

Forced sex is this study was insignificant as the confidence interval contained a 1 and the p-value which was 0.3573 was greater than 0.05. Respondents who reported an episode of an STI were likely to have been involved in transactional sex compared to those who did not report any episode of an STI; POR=5.91, p =0.002, 95% CI(1.7-20).
4.4.1 Bivariate analysis of community factors

Bivariate analysis of community factors was done as shown in Table 9. Youths who frequented night clubs were likely to report an episode of an STI (OR=3.26; 95% CI=1.6-6.79 and p= 3.26). Young people who went to bars were also likely to report an STI episode [85.7% versus (vs.) 14.4%] at an OR of 23.36, 95% CI (7.49-73.81) and p =0.0000. Those who were employed were likely to report an STI episode at OR=4.65, CI=2.29-9.42 and p= 0.00001. Youths who resided at Arda Balu were more likely to report having had an STI compared to youths who resided at Hope Fountain(43.4% vs. 20.2%). Being still at school was a protective factor for the youths not to acquire an STI (8.2% youths in school who had ever acquired an STI vs.41.5% youths out of school who had acquired an STI) at p= 0.0000, CI( 0.04-0.37) and OR 0.1252. Finally, watching pornographic material was another risk factor for acquiring an STI (OR=3.61, 95% CI=1.75-7.43 and p=0.0003). The youths highlighted that they watched pornography from their own cell phones 35(42.2%), television 27(32.5%), peers 17(20.5%), relatives 2(2.4%), computer at internet cafe 1(1.2%) and strip shows at the mine 1 (1.2%).

Religion was of no significance as it had a p-value of 0.101.
Table 9: Bivariate analysis for community factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>STIs</th>
<th>No STIs</th>
<th>OR (95% CI)</th>
<th>P value</th>
<th>Confidence Interval</th>
<th>Risk/Protective Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clubbing:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>52.4% (22)</td>
<td>47.6% (20)</td>
<td>3.26</td>
<td>0.0026</td>
<td>1.6 – 6.79</td>
<td>Risk factor</td>
</tr>
<tr>
<td>No</td>
<td>25.2% (30)</td>
<td>74.8% (89)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bars:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>85.7% (24)</td>
<td>14.3% (4)</td>
<td>30.67</td>
<td>0.0000</td>
<td>9.4-99.09</td>
<td>Risk factor</td>
</tr>
<tr>
<td>No</td>
<td>16.4% (18)</td>
<td>83.6% (92)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>28.1% (34)</td>
<td>58.7% (27)</td>
<td>1.8007</td>
<td>0.1014</td>
<td>0.89- 3.66</td>
<td>Risk Factor (insignificant)</td>
</tr>
<tr>
<td>No</td>
<td>41.3% (19)</td>
<td>71.7% (87)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>52.5% (31)</td>
<td>47.5% (28)</td>
<td>4.65</td>
<td>0.00001</td>
<td>2.29 – 9.42</td>
<td>Risk factor</td>
</tr>
<tr>
<td>No</td>
<td>19.2% (20)</td>
<td>80.8% (84)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Place of residence:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arda Balu</td>
<td>43.4% (36)</td>
<td>56.6% (47)</td>
<td>3.019</td>
<td>0.0013</td>
<td>1.52- 5.996</td>
<td>Risk factor</td>
</tr>
<tr>
<td>Hope fountain</td>
<td>20.2% (17)</td>
<td>79.8% (67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Still at school:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8.5% (4)</td>
<td>91.7% (43)</td>
<td>0.2525</td>
<td>0.035</td>
<td>0.066-0.966</td>
<td>Protective factor</td>
</tr>
<tr>
<td>No</td>
<td>26.9% (7)</td>
<td>73.1% (19)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching Pornographic material:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>43.4% (36)</td>
<td>56.6% (47)</td>
<td>3.61</td>
<td>0.0003</td>
<td>1.75 – 7.43</td>
<td>Risk factor</td>
</tr>
<tr>
<td>No</td>
<td>17.5% (14)</td>
<td>82.5% (66)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 10: Recommendations from the respondents on how to prevent STIs

<table>
<thead>
<tr>
<th>Recommendations of preventing STIs from the respondents</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education on STIs</td>
<td>37</td>
<td>45.1</td>
</tr>
<tr>
<td>Instil value for life in young people</td>
<td>20</td>
<td>24.4</td>
</tr>
<tr>
<td>Parents should be role models</td>
<td>4</td>
<td>4.9</td>
</tr>
<tr>
<td>Prostitution to stop</td>
<td>2</td>
<td>2.3</td>
</tr>
<tr>
<td>Children below 18 should not be allowed in bars</td>
<td>3</td>
<td>3.7</td>
</tr>
<tr>
<td>Young girls should not date gold panners</td>
<td>2</td>
<td>2.3</td>
</tr>
<tr>
<td>Youth friendly corners</td>
<td>14</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>82</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The respondents highlighted the following as recommendations of preventing sexually transmitted infections (Table 10):

- awareness campaigns on STIs in their community
- life skills that include instilling values should be taught
- parents should lead by example, take the lead in living a good life.
- local bars were to deny entry to young patrons (those below 18 years old)
- young girls were not supposed to date gold panners
- establishment of youth friendly corners
4.5 Multivariate analysis

A model was created through initially starting with the variable that had the least p value in the bivariate analysis which was drinking alcohol. All variables which were significant in the bivariate analysis were then added one by one.

After controlling for confounding variables in logistic regression, the factors that were found to be associated with STIs among youths in Umguza were sex (whether one is male or female), frequenting bars, drinking alcohol and watching pornography (Table 11). Males were less likely to suffer from STIs than females (OR=0.35, 95% CI=0.13-0.93 and p value 0.036); young people who frequented bars were more likely to report an episode of an STI (OR=18.79, 95% CI=3.72-94.72 and p value 0.0004); youths who watched pornography were more likely to report an episode of an STI (OR=2.87, 95% CI 1.10-7.49 and p value 0.03) and those who drank alcohol were more likely to report an STI episode (OR=3.14, 95% CI=1.01-9.65 and p-value 0.016).

Table 11: Multivariate Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
<th>95% C.I.</th>
<th>Coefficient</th>
<th>S. E.</th>
<th>Z-Statistic</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>0.35</td>
<td>0.13-0.93</td>
<td>-1.05</td>
<td>0.50</td>
<td>-2.10</td>
<td>0.036</td>
</tr>
<tr>
<td>Frequenting Bars</td>
<td>18.79</td>
<td>3.72-94.72</td>
<td>2.933</td>
<td>0.83</td>
<td>3.55</td>
<td>0.0004</td>
</tr>
<tr>
<td>Drinking alcohol</td>
<td>3.14</td>
<td>1.01-9.65</td>
<td>1.14</td>
<td>0.57</td>
<td>1.99</td>
<td>0.016</td>
</tr>
<tr>
<td>Watching pornography</td>
<td>2.87</td>
<td>1.10-7.49</td>
<td>1.05</td>
<td>0.41</td>
<td>2.16</td>
<td>0.03</td>
</tr>
<tr>
<td>Constant</td>
<td>*</td>
<td>*</td>
<td>-2.07</td>
<td>0.544</td>
<td>-3.80</td>
<td>0.0001</td>
</tr>
</tbody>
</table>
CHAPTER 5: DISCUSSION

5.1 Individual factors

Females were more likely to report an episode of an STI compared to males. Sague et al (2014), Ramjee and Daniels (2013) support this finding. They highlight that women are more vulnerable to contracting HIV because of reasons which are biological and behavioural. Women have a larger mucosal surface area than men and also women tend to have transactional sex and thus have lower negotiating power to use a condom in such a case which leaves them vulnerable to STIs.

Young people who were under the age of twenty were less likely to report an episode of an STI compared to those twenty and above. Kapiga et al (2002) revealed the same findings that chances of contracting HIV-1 increased with age. On the contrary, findings by Hughes et al (2000) found out that teenagers were more likely to suffer from gonorrhoea compared to their older counterparts. The reason for STI risk increasing with age will be that most of the young people under twenty were still at school as this proved to be protective. They spent most of their time at school.

Although, those who had had STIs seemed to know more about what STIs were; their signs and symptoms, this did not protect them from acquiring STIs. In this study, knowledge levels about STIs did not seem to be a protective factor against them as supported by a study by Chadambuka et al (2007). Knowledge about STIs may have been there after they had
contracted them or before. Given the type of study, temporality between an STI episode and knowledge of STIs could not be ascertained.

5.2 **Interpersonal factors**

Transactional sex in females was noted to have an association with acquisition of STIs. Rositch et al (2012) echoed the same sentiments. Hwang et al (2000) in a study among drug users found out the same and Susanna et al (2014) also highlighted that transactional sex was associated with HIV seropositivity. Transactional sex was a risk factor because negotiating power for safer sex is removed once the sexual act involves an exchange of gifts or money. Transactional sex in men was inconclusive in this study compared to findings by Chadambuka et al in 2007 which showed paying for sex was a risk factor for contracting STIs in men.

Multiple sexual concurrencies were associated with STI episodes in this study; similarly multiple sexual partner concurrencies were correlated to alcohol and drug abuse in a study by Senn et al in 2009. Multiple concurrent sexual partners put one at a higher risk on infections compared to a person with one mutual partner.

Forced sex was found to be of no association with acquiring an STI which is contradictory to a study by Pettifor et al (2009). Condom use was a protective factor which insignificant in this study as compared to other studies. The results for condom use and forced sex might have been inconclusive because of the sample size of this study.
5.3 Community factors

Alcohol consumption and hanging out at bars were strong associations for STIs. Young people who drank alcohol were likely to become violent; engage prostitutes or in unprotected sex. This was similar to the findings by Seth et al (2011), Endalew and Bedada (2014) who highlighted that alcohol use was associated with risky sexual behaviour and STIs. Khasakhala and Mturi (2008) also had findings similar to this study. Their findings were that alcohol use influenced risky behaviours in males.

Drinking venues (bars) were found to be risk factors for contracting STIs in this study. This was confirmed by studies by Singh et al (2010) and Kapiga (2002). Young people who spent their free time at bars were more likely to report an STI episode. Drinking venues serve as places of socialization and where people meet sexual partners (Kalichman 2010). That is why frequenting bars is a risk factor for STI contractions as prostitutes frequent these places to meet clients.

Place of residence was also a risk factor for acquisition of STIs. Youths who resided in Arda Balu were more likely to have STIs compared to youths who resided in Hope Fountain. This might be because most young people at Arda Balu are not in school, as the area is a new resettlement and there are no secondary schools nearby.

Khasakhala and Mturi (2008) found out that district of residence influenced risky behaviour which confirmed our findings. This was contradictory to findings by Westercamp et al (2010) who found no association between sexually transmitted infections and geographical distribution. The difference in findings may be the sample sizes of both studies. Westercamp et al’s study conducted a spatial cluster analysis which this study did not conduct.
Religion was found to be of no association with acquisition of sexually transmitted infections as opposed to the findings by Hallet et al (2007). The differences in findings can be attributable to the sample size and the type of study design.

Pornography was another risk factor for contracting STIs. Youths who watched pornography were more likely to indulge in risky sexual behaviours compared to those who did not. This was confirmed by a study by Endalew and Bedada in 2014 which showed that youths who watched pornography were twice more likely to engage in multiple partner concurrency. Jonas and colleagues in 2014 found that people tend to experiment on what they watch in the pornographic films limiting the use of condoms hence the contraction of STIs.

5.4 Limitations of the study

The study was an analytical; cross sectional study. Recall bias may have been a limitation in the study. To eliminate recall bias people presenting with STIs at time of study should be enrolled. Causality could not be assessed since temporality could not be ascertained in such a study.
CHAPTER 6: RECOMMENDATIONS AND CONCLUSIONS

6.1 Conclusions
The study sought to investigate factors associated with STIs among youths in Umguza. Therefore, we reject $H_0$ and conclude that at $\alpha=0.05$ there is at least one social ecological factor associated with sexually transmitted infections among youths in Umguza District.

In conclusion, there are a number of factors that are associated with Sexually Transmitted Infections among youths which are namely multiple concurrent sexual partnerships, watching pornography, frequenting bars, being female, transactional sex and drinking alcohol.

The respondents highlighted the need for youth friendly corners in their areas. These corners would serve as edutainment sites for the youth. Awareness campaigns on sexual reproductive health for different target groups in the community were to be held as young people confided and got advice from different people about sexual matters.

Health centres were far making those who acquired STIs to be unable to get treatment because of distance as highlighted. A health centre in every ward approach or in every 5 km radius will be one of the ways to prevent STIs.

Staying in school was another protective factor that was highlighted in the study. Those who were at school were likely to have no STIs as compared to those who were out of school. Youth should stay in school as long as possible. When in school, youths should be taught life skills so that they are prepared for life ‘after school’.
Creation of recreational facilities in the areas was going to be another way of stopping the spread of HIV since the only source of entertainment in these areas were bars and hanging around the shops.

Watching of pornography was influencing risky sexual behaviour leading to unprotected sex. Parents and guardians should censor what young people are exposed to in their phones and on television since most young people highlighted that they watched pornography on television and from their cellphones.

### 6.2 Recommendations

- Government and stakeholders should create income generating projects for females as they are involved in transactional sex which put them at risk of STIs
- Stakeholders to work together to address recreational activities lacking in the communities
- Schools should add life skills that prepare young people for the ‘outside world’ in their curricula
- DHE (District Health Executive), ZNFPC, NAC and other AIDS serving organisations should focus education at alcohol serving areas and where youths spend their free time
- workplaces should provide sexual reproductive health programmes to workers.
- Future studies should be longitudinal studies focusing on life-skills that are being given in schools and how they will be of impact
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APPENDICES

INCWADI YEMVUMO EYOMZALI

Isiqokoqela: Imbangela yemikhuhlane yemacansini kubontanga esigabeni seUmguza eMatabeleland North

Umxwayisisi: Busisiwe Mzyece

Inombolo zocingo: +263771775970 or +263735068734

Iinform leli elokucela imvumo lihlose ukukwazisa wena njengomzali womntwana ozaphatheka esixwayisiweni injongo, ububi lenzunzo ekhona kulesi sixwayisiso.

Isiqalo: Mina ibizo lami nginguBusisiwe Mzyece. Ngifunda eUniversity of Zimbabwe iMPH(HP). Opkwakhathesi ngisemsebenzini eZNFPC, Matabeleland North Province. Ngenza isixwayisiso sembangela yemikhuhlane yemacansini kubontanga esigabeni seUmguza.

Injongo:

Uyacelwa ukuba uvumele umtanakho ukuthi aphiathake kuhlelo lolu oludinga ukuhlolisisa imbangela yemikhuhlane yemacansini kubontanga. Okuzatholakala kulesi sixwayisiso kuzasetshenziswa ekutholeni amaqhinga azena kube lewmpilakahle kubontanga.

Imfihlo:

Akula mabizo azabalha kulolugwalo njalo akula muntu ozenelisa ukubona ukuthi okulotshiweyo kubhalwe ngumtanakho. Konke esizakuthola kulesisixwayisiso kuzaphathwa njengemfihlo.

Inzuzo

Lesixwayisiso sizagoqela ukubuza imizo mayelana lomtanakho. Lokukuzathatha ingxenye yehola

Ukwelatshwa

Akula kwelatshwa okuzenzakala kulesixwayisiso.

Indleko

Umtanakho kasoze abelendleko ekuphathekeni kulesixwayisiso.

Ukuphatheka kuloluhlelo akubanjwa ngamandla

Kuzabaqotho nxa umtanakho engasipha impendulo ezeqiniso, nxa engenelisi uyavunyelwa ukutsho ukuthi angeke atsho. Uyavunyelwa umtwana nxa sesiphakathi kwemibuzo ukuthi atsho ukuthi kasenelisi ukuqubekela phambili. Wena njengomzali womntwana ungakasayini lolugwalo kuqakathekile ukuthi uzewisise ubuze lapho ongzwisisanga khona.

Isivumelwano:
Ukusayina kwakho lolu gwalo kutshengisela ukuthi ubalile wazwisisa konke okulotshiweyo kulolugwalo, njalo imibuzo yakho iphenduliwe njalo uzavumeza umtanakho ukuthi aphatheke kulesisixwayisiso. Ilanga ozalisayina elanamuha, kumele libephakathi laphakathi kwamalanga abhaliweyo esitempini esisegwalweni.

Ibizo lomzali…………………………………… Ilanga………………
Isiginetsha yo yomzali…………………………………… Isikhathi………………
Ubudlelwano lomntwana……………………………………
Isiginetsha kamxwayisisi…………………………………….. Ilanga………………

Uma ufuna ukwazi okunengi ngalesi sixwayisiso, ungalobela ekhelini engaphansi:

University of Zimbabwe
College of Health Sciences
Department of community medicine
PO Box A178, Avondale
Harare
Zimbabwe

UZAPHIWA ELINYE IPHEPHA LALESI SIVUMELWANO UKUTHI ULIGCINE

Nxa ulemibuzo mayelana lalesi sixwayisiso ngokungaphgezulu kwalo ophethe uhlelo ulakho ukukhuluma labanhye abungayisibo abakulesi sixwayisiso. Khululeka ukufonela eMedical Research Council of Zimbabwe kunombolo zocingo ezilandelayo(-04)791792/791193
PARENT CONSENT FORM

Title: Factors associated with STIs among youths in Umguza district, Matabeleland North province

Principal investigator: Busisiwe Mzyece

Phone number: +263771775970 or +263735068734

This consent form is meant to inform you as the Guardian of a potential research participant the purpose, risks, and benefits of this research.

Introduction:

I am Busisiwe Mzyece. I am an MPH(HP) trainee with the University of Zimbabwe attached to Matabeleland North Province, ZNFPC conducting a research on Factors associated with Sexually Transmitted Infections in youths in Umguza district, Matabeleland North province.

Purpose:

You are being asked to allow your child to participate in a research study of social ecological factors associated with youth sexuality. Information obtained from this study will be used to improve the quality of life of the youths.

Confidentiality:

No names will be written on this questionnaire and no one else will be able to link the information your child will provide to her/him. All the information from this study will be treated with utmost confidentiality. All the information in the report will be anonymous.

Risk/Discomforts or Benefits

This research will involve asking of personal questions about your child. It will take about 30 minutes to complete our interview.

Alternative Procedures or Treatments

There are no interventions or treatments that will be done in this study.

Additional costs

Your child will not incur any expense for participating in this study.

Voluntary Participation:
It would be appreciated if your child can give honest answers to the questions and if she feels she is unable to give a correct answer it is allowed to say so. Your child is able to terminate the interview if she is not comfortable with proceeding with the interview at any time during the course of the interview. Before you as the Guardian of the child signs this form, please ask any question on any aspect that might be unclear to you. You may take as much time as necessary to think it over.

**Authorization:**

Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to allow your child to participate. The date you sign this document to enroll your child in this study, that is, today’s date, MUST fall between the dates indicated on the approval stamp affixed to each page.

Name of Parent (please print)………………………… Date………………

Signature of Parent or legally authorized representative……………………………………

Time ……………

Relationship to the Participant ………………………

Signature of Researcher…………………………………… Date……………………

For any further information pertaining to this study, please feel free to contact me at:

University of Zimbabwe

College of Health Sciences

Department of community medicine

PO Box A178, Avondale

Harare

Zimbabwe

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP

If you have any questions concerning this study or consent from beyond those answer by the investigator, including questions about the research, your child rights as a research subject or research-related injuries: or if you feel that you have been treated unfairly and would like to talk to someone other than a member of the research team, please feel free to contact the Medical Research Council of Zimbabwe on telephone 04-791792 or 791193.
INCWADI YEMVUMO EYOMNTWANA

Isiqoqoqela: Imbangela yemikhuhlane yemacansini kubontanga esigabeni seUmguza eMatabeleland North

Umxwayisisi: Busisiwe Mzyece

Inombolo zocingo: +263771775970 or +263735068734

Injongo

Uyacelwa ukuba uphatheke khuhlelo lolu oludinga ukuhloliisa imbangela yemikhuhlane yemacansini kubontanga. Okuzatholakala kulesi sixwayisiso kuzasethenziswa ekutholeni amaqhinga azenza kule lemipilakahle kubontanga njalo imibono ezatholakala izanceda ukuba ontanga babe lekusasa elihle elingela mikhuhlane yemacansini.

Isikhathi ozasithatha

Nxa ungavuma ukuphatheka kuloluhlelo, uzathatha isikhathi esingange g xenye yehola ukuthi uphendule imibuzo ekhona

Inzuzo

Ngeke sithembise ukuthi lizathola lutho olubambe kayo ngalesiphiyise imibuzo

Okungasoke kwakupaththa kahle

Eminye imibuzo ebuzwa encwadini le yimbuzo yezumfihlo ngawe. Ulakho ukubalenhlondi uma usuyiphendula limbuzo. Nxa ungasaphathhekanga, ukhulu lekile ukungayiphenduli imibuzo.

Imfihlo

Nxa ungavuma ukuphatheka kuloluhlelo ngokusayina egwalweni, konke esikuthole kulesiphiyise umquhakhombisa ukuthi ngawe ophathekileyo kuzageinakala kuyimi fihlo, akusoze kwazakale emphakathini.

Ukuphatheka kuloluhlelo akubanjwa ngamandla

Ukuphatheka kuloluhlelo akubanjwa ngamandla, umuntu uya zikhethela. Ungakhetha ukuphatheka kulesiphiyise ukhulu ukhuluma ukuthi awusenelisi ukuphatheka noma usuphakathi kohlolo kungela hlupho.

Imvumo yokuphatheka kuloluhlelo

51
Ngenze isiqumo sokuphatheka kuloluhlelo ngingabanjwanga ngamandla. Ngiphiwe ithuba lokubuza imibuzo mayelana lalesi sixwayisiso, njalo ngaphiwa ifomu engilisayinileyo lokucina.

Ibizo………………  Ilanga………………  Isikhathi………………

Isiginetsha yakho……………………

Ibizo lomxwayisisi…………………………
CHILD ASSENT FORM

Title: Factors associated with STIs among youths in Umguza district, Matabeleland North province

Principal investigator: Busisiwe Mzyece

Phone number: +263771775970 or +263735068734

Purpose

You are being asked to participate in a research study of social ecological factors associated with youth sexuality. Information obtained from this study will be used to improve the quality of life of the youths. The study seeks solutions to a generation free of sexually transmitted infections.

Duration

If you decide to participate, you will spend about 30 minutes on the questionnaire which you are going to fill in.

Benefits

We cannot and do not guarantee or promise you that you will receive any benefits from this study.

Risks and Discomforts

Some of the questions asked are sensitive and you may feel embarrassed to respond to them. However if you become very uncomfortable, feel free to decline answering any question.

Confidentiality

If you indicate your willingness to participate in this study by signing the document, information obtained in this study that can be identified with you will be kept confidential.

Voluntary Participation

Participation in this study is voluntary. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without penalty.

Acceptance of Child to Participate

I have made an informed decision to be a study participant in this research study without being forced in any way. I was given an opportunity to ask questions about this research. I have been given a consent form to keep.

Name of respondent…………… Date……………. Time…………..
Signature of respondent………………………….

Name of interviewer………………………….
INcwadi yemvumo eyabadala

Isiqokoqela: Imbangela yemikhuhlane yemacansini kubontanga esigabeni seUmguza eMatabeleland North

Umxwayisisi: Busisiwe Mzyece

Inombolo zocingo: +263771775970 or +263735068734

Injongo

Uyacelwa ukuba uphatheke kuhlelo lolu oludinga ukuhlolisisa imbangela yemikhuhlane yemacansini kubontanga. Okuzatholakala kulesi sixwayisiso kuzasetshenziswa ekutholeni amaqhinga azenza kube lewmpilakahle kubontanga.

Isikhathi ozasithatha

Nxa ungavuma ukuphatheka kuloluhlelo, uzathatha isikhathi esingange gxenye yehola ukuthi uphendule imibuzo ekhona

Inzuzo

Ngeke sithembise ukuthi lizathola lutho olubambekayo ngalesisixwayisiso

Imfihlo

Nxa lingavuma ukuphatheka kuloluhlelo ngokusayina egwalweni, konke esikuthole kulesisixwayisiso okungakombisa ukuthi nguwe ophathekileyo kuzagcinakala kuyimfihlo, aakusoze kwazakale emphakathini.

Ukuphatheka kuloluhlelo akubanjwa ngamandla

Ukuphatheka kuloluhlelo akubanjwa ngamandla, umuntu uyazikhethela, Ungakhetha ukuphatheka kulesisixwayisiso, ukhululekle ukukhulumu ukuthi awusenelisi ukuphatheka noma usuphakathi kohlelo kungelahlupho.

Isignetsha

Isiqokoqela: Imbangela yemikhuhlane yemacansini kubontanga esigabeni seUmguza eMatabeleland North

Ungakasayini ungaba lemibuzo yini

Isivumelwano

Wenza isinqumo sokuphatheka loba sokungaphatheki kulesisixwayisiso. Ungasayina kutsho ukuthi ubalile, wazwisisa konke okulotshiweyo phezulu, njalo imibuzo phathelana lalesi sixwayisiso obulayo iphenduliwe njalo usukubone kulungile ukuthi uphatheke ehlwelweni lolu.

____________________________________________________________________
Ibizo lomuntu ophethe isixwayisiso

Ilanga

55
Isiginetsha kalo ophathekesixwayisisweni

Ilanga
ADULT CONSENT FORM

Title: Factors associated with STIs among youths in Umguza district, Matabeleland North province

Principal investigator: Busisiwe Mzyece

Phone number: +263771775970 or +263735068734

Purpose

You are being asked to participate in a research study of social ecological factors associated with youth sexuality. Information obtained from this study will be used to improve the quality of life of the youths.

Duration

If you decide to participate, you will spend about 30 minutes on the questionnaire which you are going to fill in.

Benefits

We cannot and do not guarantee or promise you that you will receive any benefits from this study.

Confidentiality

If you indicate your willingness to participate in this study by signing the document, information obtained in this study that can be identified with you will be kept confidential.

Voluntary Participation

Participation in this study is voluntary. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time without penalty.

Signature Page

Title: Factors associated with STIs among youths in Umguza district, Matabeleland North province

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you.

Authorization

You are making a decision whether or not to participate in this study. Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to participate.

___________________________________________________  __________
Name of Research Participants (please print)  Date
Signature of participant

Date
# Isigaba Sokuqala : Imibuzo ngawe

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### 1.2a) Uleminyaka emingaki eyokuzalwa

| (phana iminyaka osuyikwanisile) |

### 1.2b) / Uzelwe nini

| --/--/----- |

### 1.3 Wake wangena esikolo yini

| Yebo |
| Hatshi |

### 1.4) Wafunda wacina kusibanga siphi?

| Eprimari kodwa angiqedanga : | 01 |
| EPrimari ngaqed : | 02 |
| Esekondari kodwa angiqedanga : | 03 |
| Esekondari ngaqeda : | 04 |
| KuO’ Level: | 05 |
| KuA’ level: | 06 |
| eKholeji kodwa angiqedanga: | 07 |
| eKholeji ngaqeda: | 08 |
| Imfundo engaphezulu, ipostgrajuweti : | 09 |
| Ngisasesikolo | 10 |

### 1.5) Wawuleminyaka emingaki ucina isikolo

### 1.6) What was your reason for leaving school?/

Yisizatho bani esakwenza watshiya isikolo

### 1.7) Do you work for pay/

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1.8) Wenza msebenzi bani

1.9) Ukhonza ngaphi

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**Isigaba sesibili:Okwabaseduzane lami**

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| 2.1b) Uhlala lobani |   |

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<td><strong>Sowaba lamasoka amangaki empilweni yakho?</strong></td>
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**Bengicela ukwazi okulandelayo ngesoka/iboy/girl friend lakho olalo khathesi**

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<td><strong>Ngubani owenza baphela</strong></td>
<td><strong>Yimi</strong></td>
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<td></td>
<td><strong>YiBoy/Girl friend</strong></td>
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<td><strong>Sonke sobabili</strong></td>
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<td>Question</td>
<td>Response 1</td>
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<tr>
<td>2.13) Ngesikhathi ulegirl/boyfriend wawulenye inkazana loba</td>
<td>Yebo</td>
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<tr>
<td>2.14) Ungathi ubudlelwano bakho legirl/boyfriend yakho bunjani</td>
<td>Yibudlelwano obungayi ndawo</td>
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<td></td>
<td>kasikhangelanga ukuthathana</td>
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<td>ukuthathana</td>
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<td>2.15) Yona iboy/girl friend yakho ibubona njani ubudlelwano benu</td>
<td>1. Yibudlelwano obungayi ndawo</td>
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<td>2. Yibudlelwano obuqinisekileyo kodwa</td>
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<td>3. Obuqakathekileyo ngoba sifuna</td>
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<td>2.16) Selake labambana, loba ukuqabuzana yini?</td>
<td>Yebo</td>
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<tr>
<td>2.17) Selake laya emacansini yini</td>
<td>Yebo</td>
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<td>Hatshi</td>
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<td>2.17a) Sowake waya emacansini yini</td>
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<td>2. Hatshi</td>
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<td>Kulabo asebekaya emacansini</td>
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<td>2.18) Cabanga isikhathi sakuqala usiya emacansini ungathi, –</td>
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<td>2. Ngamcenga</td>
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<td>3. Ngancengwa</td>
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<td>4. Ngabanjwa ngamandla</td>
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<td>5. Savumelana</td>
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<td>(b) Ngamcenga</td>
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<td>(c)</td>
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<td>Ngancengwa</td>
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<td>(d) Ngabanjwa ngamandla</td>
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<td>Question</td>
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<td>2.19</td>
<td>Ungathi lalikuhleli lekumbe kwalijuma</td>
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<td>2.20</td>
<td>Kwakuyisikhathi sakuqala sokuya emacansini</td>
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<td>2.21</td>
<td>Wawuleminyaka emingaki uqala ukuya emacansini</td>
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<tr>
<td>2.22</td>
<td>a) Wazisola yini ngemva kokukwenza lokhu</td>
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<td>2.22b</td>
<td>Ngenxa yani</td>
</tr>
<tr>
<td>2.23</td>
<td>Ngalesosikhathi lasebenzisa icondom yini?</td>
</tr>
</tbody>
</table>
| 2.28    | Wawungesabi ukuthi ungakhona ukuthola ingulamakhwa loba omunye umkhuhlane wemacansini | 1. Ngangisesaba  
2. Ngangisesaba kancane  
3. Ngangingesabi lutho |
<p>| 2.29    | Abanyontanga babanjwa ngamandla ngabanye abantu besiya emacansini, sokwave kwenzakala kuwe? | Yebo Hatshi |
| 2.30    | Sowabanjwa ngamandla ngabantu                                            | Inombolo |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>2.32) a. Abanye ontanga babhadala ngemali loba kumbe bayabhadalwa ngemali ukuya emacansini, sokwake kwenzakala kuwe yini?</td>
<td>Yebo Hatshi</td>
</tr>
<tr>
<td>2.32 b) Abanye ontanga bathola imali loba izipho ngemva kocansi</td>
<td>Yebo Hatshi</td>
</tr>
<tr>
<td>2.33) Bangaki</td>
<td>Inombolo</td>
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<tr>
<td>Lapha ngifuna ukuzwa imicabango yakho</td>
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</tr>
<tr>
<td>2.34) Kuyini imikhulane yemacansini?</td>
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</tr>
<tr>
<td>2.35) Yiyiphi imikhulane oyaziyo a. Syphilis</td>
<td>Yebo 1 Hatshi 2</td>
</tr>
<tr>
<td>b. Gonorrheoa</td>
<td>1 2</td>
</tr>
<tr>
<td>c. Genital Warts</td>
<td>1 2</td>
</tr>
<tr>
<td>d. Trichomonas Vaginalis</td>
<td>1 2</td>
</tr>
<tr>
<td>e. Monilla</td>
<td>1 2</td>
</tr>
<tr>
<td>f. Genital Sores Ulcers</td>
<td>1 2</td>
</tr>
<tr>
<td>g. angazi</td>
<td>1 2</td>
</tr>
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</table>
### 2.36) Tshono izibonakaliso ozaziyo

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>a) isisu esibuhlungu</td>
<td>1 2</td>
</tr>
<tr>
<td>b) ukubulawa yingaphasi yesisu</td>
<td>1 2</td>
</tr>
<tr>
<td>c) Ubuhungu nxa uchama</td>
<td>1 2</td>
</tr>
<tr>
<td>d) ukukhipha idotiidisitshaji</td>
<td>1 2</td>
</tr>
<tr>
<td>e) izilonda</td>
<td>1 2</td>
</tr>
<tr>
<td>f) angazi</td>
<td>1 2</td>
</tr>
<tr>
<td>g) okunye ke,</td>
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</tr>
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</table>

### 2.37) Kuyini ongakwenza ukuzivikela emikhuhlaneni yemacansini

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>a) ngibe lomngane oyedwa emacansini</td>
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<tr>
<td>b) ukusebenzisa ikhondomu</td>
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<tr>
<td>c) ukungayi emacansini</td>
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<tr>
<td>d) Ukusokwa</td>
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<tr>
<td>e) okunye ke...............</td>
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<tr>
<td>f) angazi....</td>
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Ngifuna ukuzwa imicabango yakho

### 2.38) Caza ukuba uzibona usengozi engananiki ukuthola imikhuhlane yemacansini

<p>| | |</p>
<table>
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<td>2. Ngisengozini kancane</td>
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<td>3. Ngisengozini kakhulu</td>
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<td>4. Angazi</td>
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### 2.39) Kungani usithi awukho usengozi

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. Kangiyi emacansini</td>
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<td>2. Ngisebenzisa amakhondomu</td>
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<td>3. Ngilomngane oyedwa emacansini</td>
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<td>4. Okunye ke.........................</td>
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### 2.40) Kungani usengozi yokuthola imikhuhlane yemacansini

<p>| | |</p>
<table>
<thead>
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</thead>
<tbody>
<tr>
<td>a. Umngane wami emacansini ulabangane abanengi emacansini</td>
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</tr>
<tr>
<td>b. Ngilabangane abanengi emacansini</td>
<td></td>
</tr>
</tbody>
</table>
c. Ngiya emacansini ngingazivikelanga
d. Umngane wami emacansini uya emacansini engazivikelanga

Caza impendulo yakho ngempendulo ezilandelayo


| a. Abantu abagula imikhuhlane yemacansini bazidingela imikhuhlane le | 2  | 3 |
| b. Ukubulawa yimikhuhlane yemacansini yisijeziso esivela kuNkulunkulu | 2  | 3 |
| c. Wonke umuntu engathola imikhuhlane yemacansini | 2  | 3 |
| d. Indoda uqotho kumele igule imikhuhlane yemacansini | 2  | 3 |
| e. Uma ufuna ukusila emikhuhlaneni yemacansini kumele uye emacansini lentombi nto, | 2  | 3 |
| f. Ukuhlaba amajekiseni kuyasivikele emikhuhlaneni yemacansini | 2  | 3 |
| g. Ukugeza ngemva kokuya emacansini kuyasivikela ekutholeni imikhuhlane le | 1  | 2  | 3 |

**Isigaba sesithathu: Okwenhlanganiso**

<p>| 3.1. Esikolo loba emsebenzini liyaxosisana ngezempilakahle yemacansini yini | Yebo | Hatshi | Skip to 3.4 |
| 3.2) Nxa liyaxosisana, liyaxosisana ngani | 1. Ngobulili |
|   2. Ngemikhuhlane yemacansini |
|   3. ngengulamakhwa |
|   4. ngezidakwamiswa |
|   5. okunye,ke |</p>
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<tr>
<th>Q4.1a</th>
<th>3.3a.) Imfundiso le yanele na?</th>
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<th>Hatshi</th>
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<td>3.3b) Nxa ingeneli kungenziwani</td>
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<td>3.4) Imfundiso le ungathatha ukuyithola ngaphi</td>
<td>1. Kurediyo</td>
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<td></td>
<td>2. Kuthelevishini</td>
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<td>3. ephephandabeni</td>
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<td>4. ezihlobeni</td>
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<td>6. esikolo</td>
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<td>7. esontweni</td>
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<td>3.5) uleselifoni yini</td>
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<td>Hatshi</td>
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<tr>
<td>3.6) ule intanethi yini</td>
<td>Yebo</td>
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<td>3.7) Ujwayele ukuthola I intanethi ngaphi</td>
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<td>3. kukhomputha esitolo seintanethi</td>
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<td>4. okunye, caca..........</td>
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<td>3.8) Sowake wabukela iphono yini</td>
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<td>Hatshi</td>
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<td>3.9) Ngaphi</td>
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<td>3. esitolo se intanethi</td>
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<td>4. Kuthelevishini</td>
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<td>5. Ebanganini</td>
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<td>6. Ezihlobeni</td>
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<td>3.11) Nxa kunguyebo ku3.10, yiziphi izibonakaliso owawulazo__________</td>
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<td>3.12) Wadinga ukwelatshwa yini</td>
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<td>Hatshi</td>
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<td>3.12a) Nxa impendulo kunguyebo, ngaphi</td>
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<td>2. esibhedlela</td>
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<td>3. enyangeni</td>
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<td>3.12b) Nxa ungayanga,kungani</td>
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<td>2. Ngangisesaba ukubonwa</td>
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<td>4. ngangingela mali</td>
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<td>5. okunye ke..........</td>
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</table>

**Isigaba sesine: Okwesigabeni**

| 4.1a) Wenzani ngesikhathi sakho sokuphumula | 1. Ngivakatshela abangane |
|                                             | 2. Ngiya ezitolo |
|                                             | 3. Ngiyabhukutsha |
|                                             | 4. Ngiyabe ngilesoka lami(ibo/girl friend yami) |
|                                             | 5. Ngiya esontweni |
|                                             | 6. Ngiya ebhawa |
|                                             | 7. Okunye ke...... |

| 4.1b) Ujwayele ukutshona ngaphi | 1. Ezitolo |

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<table>
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<th>Question</th>
<th>Answer</th>
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<td>2.Ebhawa</td>
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<td>3.EPhakhi</td>
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<td>4.Okunye ke............</td>
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<td>4.2a) Uyake uhambe emaphathini loba emaklabhini lapho ontanga abazikholisisa khona</td>
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<td>Hatshi</td>
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<td>4.2b) Nxa kungu Yebo, kangaki inganga edluleyo?</td>
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<td>4.3 a) Uyanatha utshwala yini?</td>
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<td>Hatshi</td>
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<td>4.3b) Nxa kungu Yebo kangaki inyanga ezidluleyo</td>
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<td>4.3 c) Sowake wenza into owazisola ngayo ngemva kokunatha utshwala</td>
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<td>2. Hatshi</td>
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<td>hatshi</td>
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<td>4.5a) Wake waya emabhayisikopo</td>
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<td>Hatshi</td>
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<tr>
<td>4.5b) Kangaki ensukwini ezedleleyo?</td>
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</tr>
</tbody>
</table>

**Isigaba sesihlanu: Okwemitetho**

69
5.1) Kuyini okungenziwa ukuthi ontanga bengatholi imikhuhlane yemacansini
### Questionnaire

Circle what is appropriate

#### SECTION 1: Individual factors

1. **Sex**
   - 1. Male
   - 2. Female

2. **1.2a) How old are you?**
   (give age at last birthday)
   - Number

3. **1.2b) What is your date of birth?**
   
   --/--/--

4. **1.3) Have you ever attended school**
   - Yes
   - No

5. **1.4) Highest level of education attained**
   - Primary incomplete: 01
   - Primary complete: 02
   - Secondary incomplete: 03
   - Secondary Complete: 04
   - O’ Level: 05
   - A’ level: 06
   - College Incomplete: 07
   - College Complete: 08
   - Postgraduate: 09
   - I’m still at school: 10

6. **1.5) How old were you when you left school**

7. **1.6) What was your reason for leaving school**

8. **1.7) Do you work for pay**
   - Unemployed - Skip to Q1.9
   - Employed
### SECTION 2: Interpersonal factors

<table>
<thead>
<tr>
<th>2.1a) Where do you live</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>2.1b) Who do you live with</td>
<td></td>
<td></td>
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<tr>
<td>2.2) If not living with parents ask:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where are your parents</td>
<td>Live in another area</td>
<td></td>
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<tr>
<td>Deceased</td>
<td>Other, specify............</td>
<td></td>
</tr>
<tr>
<td>2.3) How do you rate the way you get along with your family</td>
<td>Excellent</td>
<td>Q2.5</td>
</tr>
<tr>
<td>Good</td>
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<td>Average</td>
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<tr>
<td>Very Bad</td>
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<tr>
<td>2.4) If 2.3 answer is 3, 4 and 5 ask why?</td>
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<td></td>
</tr>
<tr>
<td>2.5) Who do you discuss sex related matters with</td>
<td>mother</td>
<td></td>
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<tr>
<td>father</td>
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</table>
2.6) Have you ever had a girl/boy friend? By girl/boy friend, I mean someone to whom you were sexually or emotionally attracted and whom you 'dated'

<table>
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<tr>
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<th>guardian</th>
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<th>siblings</th>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.7) How many girl / boy friends have you had?

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ask the following sequence of questions about CURRENT (MOST RECENT) girl / boy friend

2.8) How old is your current boyfriend/girlfriend?

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.9) When you started your relationship, was girl/boy friend single, married, divorced or separated

<table>
<thead>
<tr>
<th></th>
<th>Single</th>
<th>Married</th>
<th>Divorce</th>
<th>Separated</th>
<th>Do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.10) How many months or years ago did you first 'date' girl/boyfriend?

<table>
<thead>
<tr>
<th></th>
<th>Months ago</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td>Years ago</td>
</tr>
</tbody>
</table>

2.11) Has the relationship ended?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Options</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2.12) Who decided to end the relationship</td>
<td>You</td>
</tr>
<tr>
<td></td>
<td>Boy/Girl friend</td>
</tr>
<tr>
<td></td>
<td>Both of you</td>
</tr>
<tr>
<td>2.13) During the time you were/have been 'dating' boy/girl friend,</td>
<td>Yes</td>
</tr>
<tr>
<td>did you 'date'/have you ‘dated’ anyone else?</td>
<td>No</td>
</tr>
<tr>
<td>2.14) How would you describe your relationship with boy/girl friend?</td>
<td>a casual friendship;</td>
</tr>
<tr>
<td></td>
<td>a serious relationship but with no intention of marriage;</td>
</tr>
<tr>
<td></td>
<td>an important relationship that might lead to marriage</td>
</tr>
<tr>
<td>2.15) How would boy/girlfriend describe your relationship ?</td>
<td>a casual friendship;</td>
</tr>
<tr>
<td></td>
<td>a serious relationship but with no intention of marriage;</td>
</tr>
<tr>
<td></td>
<td>an important relationship that might lead to marriage</td>
</tr>
<tr>
<td>2.16) Did you and boy/girl friend have any physical contact, such</td>
<td>Yes</td>
</tr>
<tr>
<td>as holding hands, hugging or kissing?</td>
<td>No</td>
</tr>
<tr>
<td>2.17) Did you and girl/boyfriend have penetrative sex</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>2.17a) Have you ever had sex before?</td>
<td>1. Yes</td>
</tr>
<tr>
<td></td>
<td>2. No</td>
</tr>
<tr>
<td>For those who have experienced penetrative sex</td>
<td></td>
</tr>
<tr>
<td>2.18) Think back to the first time you had sex with boy/girl friend</td>
<td>I forced</td>
</tr>
<tr>
<td></td>
<td>I persuaded</td>
</tr>
<tr>
<td>Question</td>
<td>Option 1</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Would you say, READ OUT</td>
<td>Boy/girl friend persuaded</td>
</tr>
<tr>
<td>(a) I forced boy/girl friend to have intercourse against her/his will</td>
<td>Both willing</td>
</tr>
<tr>
<td>(b) I persuaded boy/girl friend to have intercourse</td>
<td></td>
</tr>
<tr>
<td>(c) Boy/girl friend persuaded me to have intercourse</td>
<td></td>
</tr>
<tr>
<td>(d) boy/girl friend forced me to have intercourse</td>
<td></td>
</tr>
<tr>
<td>(e) We were both equally willing</td>
<td></td>
</tr>
<tr>
<td>2.19) And would you say it was planned or unexpected?</td>
<td>Planned</td>
</tr>
<tr>
<td>Planned</td>
<td></td>
</tr>
<tr>
<td>Unexpected</td>
<td></td>
</tr>
<tr>
<td>2.20) Was this the first time that you had full sexual intercourse in your life?</td>
<td>Yes</td>
</tr>
<tr>
<td>2.21) How old were you at the time you first had sex?</td>
<td>Number</td>
</tr>
<tr>
<td>2.22) a) Did you regret having intercourse with boy/girl friend on that first time?</td>
<td>Yes, regretted</td>
</tr>
<tr>
<td>2.22b) Why?</td>
<td></td>
</tr>
<tr>
<td>2.23) On that first time did you or boy/girl friend use a condom to protect yourself from STI?</td>
<td>Yes</td>
</tr>
<tr>
<td>Question</td>
<td>Options</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------</td>
</tr>
</tbody>
</table>
| 2.28) Were you ever concerned that you might catch HIV or another sexually transmitted disease from boyfriend/girl friend? | 1. Concerned  
2. Somewhat concerned  
3. Not concerned |
| 2.29) Some young people are forced to have sexual intercourse against their will by a stranger, a relative or an older person. Has this ever happened to you? | Yes  
No |
| 2.30) How many different strangers, relatives or older persons have forced you to have sex against your will? | Number |
| 2.31) How would you rate the frequency of the happenings? | 1. Rarely  
2. Often  
3. Sometimes |
| 2.32) a. Some young people pay money or gifts in exchange for sexual intercourse. Has this ever happened to you? | Yes  
No |
| 2.32 b) Some young people receive money or gifts in exchange for sexual intercourse. Has this ever happened to you? | Yes  
No |
2.33) How many women/men have you had sex with for money or gifts?  Number

In this section, I now want to find out your views

2.34) What are Sexually transmitted infections?

<table>
<thead>
<tr>
<th></th>
<th>1. Correct</th>
<th>2. Incorrect</th>
</tr>
</thead>
</table>

2.35) What type of STIs do you know?

<table>
<thead>
<tr>
<th>Condition</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syphilis</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Genital Warts</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Trichomonas Vaginalis</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Monilla</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Genital Sores Ulcers</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I don’t know</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Others specify..........</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

2.36) Mention any signs and symptoms of STIs you know

<table>
<thead>
<tr>
<th>Symptom</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>abdominal pain</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Lower abdominal pain</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Burning sensation when passing urine</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Discharge</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Genital sores/ ulcers</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>I don’t know</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>other, specify</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.37) What can you do as an individual to prevent yourself from contracting STIs

<table>
<thead>
<tr>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stay with one partner</td>
</tr>
<tr>
<td>Section</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>b. Use a condom</td>
</tr>
<tr>
<td>c. Abstain from sex</td>
</tr>
<tr>
<td>d. Male circumcision</td>
</tr>
<tr>
<td>e. Other, specify</td>
</tr>
<tr>
<td>f. I don’t know</td>
</tr>
<tr>
<td><strong>Now i want to hear your perceptions</strong></td>
</tr>
<tr>
<td>2.38) May you please indicate the degree of risk you think you have of getting an STI</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2.39) Why do you think you have no risk of getting STIs</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2.40) Explain why you are at risk of getting STIs</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Indicate your response on the following statements using the given scale 1.Agree 2. Disagree 3. Not sure</td>
</tr>
<tr>
<td>a. People who get STIs deserve it</td>
</tr>
<tr>
<td>b. Getting an STI is God’s punishment</td>
</tr>
<tr>
<td>c. STIs can affect anyone</td>
</tr>
<tr>
<td>d. A real man should suffer from an STI</td>
</tr>
<tr>
<td>e. If you want to cleanse yourself from STIs you should have sex with a virgin</td>
</tr>
<tr>
<td>f. Vaccination can protect you from STIs</td>
</tr>
<tr>
<td>g. Bathing soon after sex can protect you from getting an STI</td>
</tr>
</tbody>
</table>

**SECTION 3: Organizational factors**

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<table>
<thead>
<tr>
<th>Question</th>
<th>Response Options</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1. At your school/workplace, do you discuss on sexual reproductive health matters</td>
<td>Yes, No, Skip to 3.4</td>
<td></td>
</tr>
<tr>
<td>3.2) If yes, what topics do you discuss</td>
<td>1. Sex and sexuality, 2. STIs, 3. HIV, 4. Substance abuse, Other, specify......</td>
<td></td>
</tr>
<tr>
<td>3.3a.) Is the information you are getting enough</td>
<td>Yes, No</td>
<td></td>
</tr>
<tr>
<td>3.3b) If it is not enough, what do you recommend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5) Do you own a cell phone</td>
<td>Yes, No</td>
<td></td>
</tr>
<tr>
<td>3.6) Do you have access to internet?</td>
<td>Yes, No</td>
<td></td>
</tr>
<tr>
<td>3.8) Have you ever watched or accessed pornographic material</td>
<td>Yes, No</td>
<td>Q4.1a</td>
</tr>
</tbody>
</table>
### SECTION 4: Community Factors

| 3.9) From where | 1. Cell phone  
|                 | 2. Computer at work/home/school  
|                 | 3. Computer at internet cafe  
|                 | 4. Television  
|                 | 5. Peers  
|                 | 6. Relative  

| 3.10) Have you ever suffered from an STI? | Yes  
|                                            | No  

<table>
<thead>
<tr>
<th>3.11) If yes, what were the most recent signs and symptoms of the STIs?</th>
</tr>
</thead>
</table>

| 3.12) Did you seek treatment for the STI | Yes  
|----------------------------------------| No  

| 3.12a) If yes, where | 1. Clinic  
|                      | 2. Hospital  
|                      | 3. Traditional Healer  

| 3.12b) If no, why not... | 1. It was not serious  
|                          | 2. was afraid to be seen  
|                          | 3. Health centre far  
|                          | 4. Had no money for hospital fees  
|                          | 5. Other specify............  

| 4.1a) And now I have some questions about your social activities. How do you often spend your free time | 1. Visiting friends  
|                                                                                              | 2. Shopping  
|                                                                                              | 3. Swimming  
|                                                                                              | 4. Spend time with boy/girl friend  
|                                                                                              | 5. Go to church  

6. Go to bar  
7. Other specify.......  

### 4.1b) Where do you often hang out?  
1. Shops  
2. Bars  
3. Park  
4. Other, specify...........  

### 4.2a) Do you ever go to clubs or parties where young people entertain themselves?  
- Yes  
- No  

### 4.2b) IF YES. How many times in the last month?  
- Number  

### 4.3a) Do you ever drink alcohol?  
- Yes  
- No  

### 4.3b) IF YES. On how many days in the last month have you drunk alcohol?  
- Number  

### 4.3 c) Have you ever done anything you regret when you were under the influence of alcohol  
1. Yes  
2. No  

### 4.4 If yes, what was it?  

### 4.4a) Do you ever smoke cigarettes?  
- Yes  
- No  

### 4.4 b) IF YES. How many have you smoked in the last 7 days?  
- Number  

### 4.5a) Do you ever go to the movies  
- Yes  
- No  

---

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<table>
<thead>
<tr>
<th>4.5b) IF YES. How many times in the last month?</th>
<th>Number</th>
</tr>
</thead>
</table>

**Section 5: Public Policy Factors**

5.1) What do you think can be done to help youth not acquire STIs?
Reference: MINISTRY OF HEALTH AND CHILD WELFARE
PROVINCIAL MEDICAL DIRECTOR
(MATEBELELAND NORTH)
Mbalenhela Building
10th Avenue/Basch Street
P.O. Box 441
Bulawayo, Zimbabwe

1 August 2014

The Medical Research Council of Zimbabwe

REQUEST TO CARRY OUT A STUDY BUSISIWE MTSECE: 84-017356484: UMGUZA DISTRICT

Authority is hereby granted for Busisiwe Mtsece to carry out a study in Umguza District in Matabeleland North province, on Factors Associated with STIs Among the Youth, provided this office will be given a copy of the study.

DR M PADINGANI
for PROVINCIAL DIRECTOR (MATEBELELAND NORTH)
JREC APPROVAL LETTER

Date: 15th September 2014

Names of Researchers: Busisiwe Mzyece
Address: University of Zimbabwe, Department of Community Medicine

Re: Factors Associated With Sexually Transmitted Infections Among Youths In Umguza District.

Thank you for your application for ethical review of the above mentioned research to the Joint Research Ethics Committee. Please be advised that the Joint Research Ethics Committee has reviewed and approved your application to conduct the above named study. You are still required to obtain MRCZ approval and if required by the nature of your study, RCZ approval as well, before you commence the study.

- APPROVAL NUMBER: JREC/204/14
- APPROVAL DATE: 15th September 2014
- EXPIRY DATE: 14th September 2015

This approval is based on the review and approval of the following documents that were submitted to the Joint Ethics Committee:

a) Completed application form
b) Full Study Protocol
c) Informed Consent in English and/or appropriate local language
d) Data collection tool version:

After this date the study may only continue upon renewal. For purposes of renewal please submit a completed renewal form (obtainable from the JREC office) and the following documents before the expiry date:

a. A Progress report
b. A Summary of adverse events.
c. A DSMB report
• MODIFICATIONS:

Prior approval is required before implementing any changes in the protocol including changes in the informed consent.

• TERMINATION OF STUDY:

On termination of the study you are required to submit a completed request for termination form and a summary of the research findings/ results.

Yours faithfully,

[Signature]

Professor M.M. Chidzonga
JREC Chairman
MRCZ APPROVAL LETTER

Ref: MRCZ/B/706  26 September, 2014

Basitwe Manyere
University Of Zimbabwe
College Of Health Sciences,
Dept of Community Medicine
Harare

RE: Application For Ethical Review and Approval of Study Entitled: -Factors Associated With Sexually Transmitted Infections Among Youths In Umguza District.

Thank you for the above titled proposal that you submitted to the Medical Research Council of Zimbabwe (MRCZ) for review. Please be advised that the Medical Research Council of Zimbabwe has reviewed and approved your application to conduct the above titled study. This is based on the following:-

a) Study Protocol
b) Study Summary
c) English and Shona Informed Consent Forms
d) Data Collection Tools

- APPROVAL NUMBER  : MRCZ/B/706
- TYPE OF MEETING      : Expedited review
- APPROVAL DATE        : 26 September, 2014
- EXPIRATION DATE      : 25 September, 2015

After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the MRCZ Offices should be submitted one month before the expiration date for continuing review.

- SERIOUS ADVERSE EVENT REPORTING: All serious problems having to do with subject safety must be reported to the Institutional Ethical Review Committee (IERC) as well as the MRCZ within 3 working days using standard forms obtainable from the MRCZ Offices.
- MODIFICATIONS: Prior MRCZ and IERC approval using standard forms obtainable from the MRCZ Offices is required before implementing any changes in the Protocol (including changes in the consent documents).
- TERMINATION OF STUDY: On termination of a study, a report has to be submitted to the MRCZ using standard forms obtainable from the MRCZ Offices.
- QUESTIONS: Please contact the MRCZ on Telephone No. (04) 791792, 79193 or by e-mail on mrcz@mrcz.org.zw.

Others:
- Please be reminded to send in copies of your final research results for our records as well as for the Health Research Database.
- You are also encouraged to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study.

Yours Faithfully

MRCZ SECRETARIAT
FOR CHAIRPERSON
MEDICAL RESEARCH COUNCIL OF ZIMBABWE

PROMOTING THE ETHICAL CONDUCT OF HEALTH RESEARCH