

**KNOWLEDGE, ATTITUDES AND RISK BEHAVIOURS REGARDING SEXUALLY  
TRANSMITTED INFECTIONS AMONG LEARNERS AT A SELECTED HIGH  
SCHOOL IN COLLINS CHABANE MUNICIPALITY**

**BY**

**CHAUKE ISHMAEL NTSAKO  
(MASTER OF PUBLIC HEALTH)**

**UNIVERSITY OF VENDA**

**2018**

**Knowledge, Attitudes and Risk Behaviours Regarding Sexually Transmitted  
Infections among Learners at a Selected High School in Collins Chabane  
Municipality**

**BY**

**Chauke Ishmael Ntsako**

**Student number: 11620561**

*A mini-dissertation submitted in partial fulfilment of the requirements for the degree:*

**Master of Public Health (MPH)**

**Department of Public Health**

**School of Health Sciences**

**University of Venda**

**SUPERVISOR: DR. TSHITANGANO T.G**

**2018**

## DECLARATION

I, **CHAUKE ISHMAEL NTSAKO** hereby declare that the research titled “**Knowledge, Attitudes and Risk Behaviours Regarding Sexually Transmitted Infections among learners at a selected High School in Collins Chabane Municipality**” for the degree of Master of Public Health at the University of Venda, School of Health Sciences, Department of Public Health is my original work and has not been previously submitted to this institution or any other institution for consideration. I further declare that this work is my contribution and that I have properly acknowledged all the materials consulted.

**Chauke Ishmael Ntsako**

---

**Date**

---

## ABSTRACT

The prevalence of sexually transmitted infections (STIs) among High Schools has reached an epidemic level, calling for public health intervention. The study purpose was to investigate the knowledge, attitudes and risk behaviours related to STIs among learners at a selected high school in Collins Chabane Municipality. A quantitative-descriptive study was carried among 2018 officially registered high school learners in Malamulele. Malamulele West was conveniently selected because of the accessibility and Photani High School was selected purposefully. A simple-random sampling technique was used to select 252 respondents. Data collected with self-administered questionnaires was analysed using SPSS software version 25.0, the response rate was 100%. Chi-square test was used to determine the relationships between more categorical variables. Statistical significance level was set at  $p < 0.05$ . Majority (63.1%) of the respondents never knew of STIs. Majority of respondents (31%) incorrectly identified the types and causative organisms of STIs. Poor knowledge on the modes of transmission was found amongst 73% of the population. Majority of the respondents (67%) did not know that STIs are infections. A large proportion (54%) had a positive attitude on STIs as they emphasised the importance of STI screening. Misconceptions regarding STIs is rife, 61% and 59.9% of the respondents believed preventing STIs by going to church every Sunday and sleeping with virgins respectively. 95.6%) were sexual active and 29% of the respondents had poor knowledge on risk sexual behaviours. Respondents had adequate knowledge regarding treatment as 56% of the respondents reported knowing where to seek treatment. However, 92.1% respondents reported bad treatment by nurses. Each high school should be allocated a social worker and a nurse for the coordination of awareness campaigns on STIs. Churches should offer formal programs regarding STIs to their congregants in collaboration with universities and clinics.

**Key words:** High School, Knowledge, Attitudes, Learners, Sexually Transmitted Infections

## ACKNOWLEDGEMENTS

The author would like to acknowledge and thank the following for their contributions:

- God Almighty for grace, guidance, protection and the matchless love He has been showing me.
- My mentor and role model, Prophet Shepherd Bushiri (Major 1) for his words of wisdom, prayers, love and enormous blessings.
- My supervisor, Dr Tshitangano T.G for encouraging, believing and equipping me with all the knowledge needed in completing my masters (including the research project) in record time.
- The Department of Public Health at the University of Venda, for offering me a place and helping me achieve my dream.
- My mother (Mabasa Florah), Father (Sithole Phillip) and grandmother (Mabasa Mbhazima) for their unconditional love, financial support and for believing in me.
- My lovely sister (Sithole Tiyani Teressa) for her enormous love, support and guidance.
- My uncle(s) (Sithole Risimati Thomas and Sithole Sonnyboy) and aunt (Sithole Mikateko Hilda) for their continuous support.
- My wife to be, Mavundza Zandile for her constant care, support and her indestructible love. This study would never have been a success without her presence and contribution.
- My Forex mentor (Nukeri Jabu Prince), my former lecturer/now a friend (Dr. Manganye Bumani Solomon) and a friend (Chavalala Lazarros) for their words of encouragement, patience and corrections in all aspects of life.
- Limpopo Department of Education for granting me the permission to conduct the study.
- National Research Foundation (NRF) for reliability, administrative gifts and funding my studies.
- Respondents for their patience and completion of questionnaires on time.
- My proof reader (Dr. Maluleke) for proof reading and correcting my work.

## **DEDICATION**

*The researcher dedicates this mini-dissertation with deep gratitude and appreciation to all high school learners in Collins Chabane Municipality and the headmaster of Photani high school. This study would not have been possible without them.*

## LIST OF ABBREVIATIONS AND ACRONYMS

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>CDC</b>	Centers for Disease Control and Prevention
<b>HBM</b>	Health Belief Model
<b>HIV</b>	Human Immunodeficiency Virus
<b>HIV/AIDS</b>	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
<b>HIV/STIs</b>	Human Immunodeficiency Virus/Sexually transmitted infections
<b>HPV</b>	Human Papilloma Virus
<b>KAP</b>	Knowledge, Attitudes and Practices
<b>NYRBS</b>	National Youth Risk Behaviour Survey
<b>SPSS</b>	Statistical Package for Social Sciences
<b>STI</b>	Sexually Transmitted Infection
<b>STIs</b>	Sexually transmitted infections
<b>TB</b>	Tuberculosis
<b>UNAIDS</b>	Joint United Nations Program on HIV/AIDS
<b>USA</b>	United States of America
<b>WHO</b>	World Health Organisation

## Table of Contents

Declaration.....	i
Abstract.....	ii
Acknowledgements.....	iii
Dedication.....	iv
List of abbreviations.....	v
Table of contents.....	vi
<b>List of figures.....</b>	<b>x</b>
List of tables.....	xi
<b>CHAPTER 1.....</b>	<b>1</b>
<b>INTRODUCTION AND BACKGROUND.....</b>	<b>1</b>
1.1 Background to the study.....	1
1.2 Problem Statement.....	3
1.3 Rationale for the study.....	3
1.4 Significance of the study.....	4
1.5 Purpose of the study.....	4
1.5.2 Objectives.....	4
1.6 Definition and operationalization of concepts.....	4
<b>CHAPTER 2.....</b>	<b>6</b>
<b>LITERATURE REVIEW.....</b>	<b>6</b>
2.1. Introduction.....	6
2.2. Knowledge of sexually transmitted infections.....	6
2.2.1 Knowledge on the types of STIs.....	7
2.2.2 Knowledge on the routes of transmission.....	9
2.2.3 Complications of STIs.....	10
2.2.4 Prevention/Preventative practice of STIs.....	10
2.3 Attitudes of high school learners regarding sexually transmitted infections.....	10
2.3.1 The use of condoms.....	10
2.3.2 Seeking treatment.....	10
2.3.3 Religious beliefs and taboos.....	11
2.3.4 Misconceptions.....	11
2.4 Risk sexual behaviours contributing to STIs among high school learners.....	11
2.4.1 Injecting drugs.....	11
2.4.2 Unprotected sex.....	12
2.4.3 Substance abuse.....	12
2.4.4 Multiple sexual partners.....	13
2.4.5 Age at first sexual Intercourse.....	13



2.5 Barriers to effective sexually transmitted infections care and treatment for high school learners.....	14
2.5.1 Lack of access and knowledge of where to seek treatment for STIs.....	14
2.5.2 Fear of parents.....	14
2.5.3 Asymptomatic Infections .....	14
2.5.4 Inadequate sources of information .....	15
2.6 Conceptual framework.....	15
2.6.1 Knowledge, Attitudes and Practice (KAP) model.....	15
2.7 Conclusion .....	16
<b>CHAPTER 3 .....</b>	<b>17</b>
<b>RESEARCH METHODOLOGY.....</b>	<b>17</b>
3.1 Introduction .....	17
3.2 Study Design.....	17
3.3 Study Setting.....	17
3.4 Study Population and Sampling .....	18
3.4.1 Study Population .....	18
3.4.2 Sampling .....	18
3.4.2.1 Sampling of Schools .....	19
3.4.2.2 Sample Size.....	19
3.4.2.3 Sampling of the respondents.....	20
3.4.2.4 Sampling Frame.....	20
3.5 Measurement Instrument .....	20
3.6 Validity and Reliability .....	21
3.6.1 Validity.....	21
3.6.2 Reliability .....	21
3.7 Pre-test .....	22
3.8 Plan for data collection.....	22
3.9 Plan for data management and analysis .....	22
3.10 Ethical considerations .....	23
3.10.1 Permission to conduct the study .....	23
3.10.2 Informed Consent .....	23
3.10.3 Justice .....	23
3.10.4 Confidentiality .....	24
3.10.5 No harm to respondents. ....	24
3.11 Plan for dissemination and implementation of results .....	24
3.12 Conclusion .....	24
<b>CHAPTER 4 .....</b>	<b>25</b>
<b>ANALYSIS AND PRESENTATION OF DATA.....</b>	<b>25</b>

4.1 Introduction .....	25
4.2 Demographic Information of respondents.....	25
4.2.1 Age of respondents.....	25
4.2.2 Gender .....	26
4.2.3 Religion .....	26
4.2.4 School grades of the research respondents.....	27
4.3 Knowledge on Sexually Transmitted Infections .....	27
4.3.1 Respondent's grades versus whether they have ever heard of STIs.....	27
4.3.2 Which of the following is an STI? .....	28
4.3.3 Causative organism of STI.....	29
4.3.4 Mode of Transmission .....	29
4.3.5 Complications of STIs.....	30
4.3.6 You can prevent STIs by using a mosquito net.....	31
4.3.7 You can prevent STIs by abstaining from sex .....	31
4.3.8 You can prevent STIs by using injection .....	32
4.3.9 You can prevent STIs by avoiding sexual contact with multiple sexual partners .....	32
4.4 Attitudes of High School Learners Regarding Sexually Transmitted Infections .....	33
4.4.1 STIs are infections.....	33
4.4.2 STIs are syndromes.....	34
4.4.3 Condoms protect high school learners from STIs .....	34
4.4.4 One cannot get STIs if they go to church every Sunday .....	35
4.4.5 STIs have nothing to do with age, they affect everyone .....	35
4.4.6 Screening for STIs is very important .....	36
4.4.7 Vulnerability and severity of STIs.....	36
4.4.8 Can STIs be removed by having sex with a virgin? .....	37
4.4.9 Do your cultural beliefs prohibit you from using a condom? .....	38
4.5 Risk Sexual Behaviours Contributing to Sexually Transmitted Infections among High School Learners.....	38
4.5.1 Are you sexual active?.....	38
4.5.2 How many sexual partners do you have? .....	39
4.5.3 How often do you read or watch pornographic materials?.....	39
4.5.4 It is important to use a condom.....	40
4.5.5 It is risky to have sex while drunk.....	40
4.5.6 Is it good to have multiple sexual partners? .....	41
4.5.7 Sharing injection needles is not risky .....	41
4.6 Barriers to effective sexually transmitted infections care for high school learners.....	42
4.6.1 Association between asymptomatic STIs acting as barriers to care and treatment versus demographic factors.....	42

4.6.2 Do you know where to seek treatment? .....	43
4.6.3 If you were infected with STIs who would you tell? .....	44
4.6.4 Items on barriers to care and prevention of STIs .....	44
4.6.5 What is your source of information? .....	45
4.6.6 Do you talk about STIs with your partner? .....	46
4.7 Conclusion .....	46
<b>CHAPTER FIVE.....</b>	<b>49</b>
<b>DISCUSSION, SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS..</b>	<b>49</b>
5.1 Introduction .....	47
5.2 Discussion.....	47
5.2.1 Demographic information.....	47
5.2.2 Knowledge on Sexually Transmitted Infections.....	47
5.2.3 Attitudes of High School Learners Regarding Sexually Transmitted Infections .....	50
5.2.4 Risk Sexual Behaviours Contributing to Sexually Transmitted Infections among High School Learners .....	52
5.2.5 Barriers to effective sexually transmitted infections care and treatment for high school learners .....	54
5.3 Limitations.....	56
5.4 Conclusion .....	56
5.5 Recommendations .....	57
List of references .....	58
Appendix 1: Time line.....	64
Appendix 2: Budget.....	65
Appendix 3: Research questionnaire.....	66
Appendix 4: Letter to the limpopo department of education.....	69
Appendix 5: Permission to conduct the study by Limpopo department of education.....	70
Appendix 6: Letter to photani high school.....	72
Appendix 7: Permission to conduct the study by photani high school.....	73
Appendix 8: Pthical clearance certificate.....	74
Appendix 9: Consent form.....	75
Appendix 10: Information sheet.....	76
Appendix 11: Assent form for children.....	78
Appendix 12: A letter from the proofreader.....	79

## List of figures

<b>Figure 3.1: A map showing Collins Chabane Municipality</b>	<b>18</b>
<b>Figure 4.1: Gender of the respondents</b>	<b>26</b>
<b>Figure 4.2: Respondents' religion</b>	<b>26</b>
<b>Figure 4.3: Respondents' grades in school</b>	<b>27</b>
<b>Figure 4.4: Responses on the distribution of Infections/Diseases</b>	<b>28</b>
<b>Figure 4.5: Responses on causative organisms of STIs</b>	<b>29</b>
<b>Figure 4.6: Responses on mode of transmission</b>	<b>30</b>
<b>Figure 4.7: Responses on prevention of STIs through a mosquito net</b>	<b>31</b>
<b>Figure 4.8: Responses on prevention of STIs through abstinence</b>	<b>32</b>
<b>Figure 4.9: Responses on prevention of STIs through avoiding sexual contact with multiple partners</b>	<b>33</b>
<b>Figure 4.10: Responses on whether STIs are infections</b>	<b>34</b>
<b>Figure 4.11: Responses on whether STIs are syndromes</b>	<b>34</b>
<b>Figure 4.12: Respondent's attitudes on going to church and STIs</b>	<b>35</b>
<b>Figure 4.13: STIs having nothing to do with age</b>	<b>36</b>
<b>Figure 4.14: Responses on whether screening is very important</b>	<b>36</b>
<b>Figure 4.15: Responses on whether STIs can be removed by sleeping with a virgin</b>	<b>38</b>
<b>Figure 4.16: Distribution on cultural beliefs and condom usage</b>	<b>38</b>
<b>Figure 4.17: Distribution on sexual active status</b>	<b>39</b>
<b>Figure 4.18: Respondents' responses on the number of partners they have</b>	<b>39</b>
<b>Figure 4.19: Responses on reading or watching pornographic materials</b>	<b>40</b>
<b>Figure 4.20: Responses on whether it is important to use a condom</b>	<b>40</b>
<b>Figure 4.21: Responses on whether it is risky to have sex while drunk</b>	<b>41</b>
<b>Figure 4.22: Responses on the number of multiple sexual partners</b>	<b>41</b>
<b>Figure 4.23: Responses on whether a sharing injection needles is risky</b>	<b>42</b>
<b>Figure 4.24: Responses on whether respondents know where to seek treatment</b>	<b>44</b>
<b>Figure 4.25: responses on who respondents would tell if they were infected with STIs</b>	<b>45</b>
<b>Figure 4.26: Responses on sources of information</b>	<b>46</b>
<b>Figure 4.27: Responses on whether high school learners talk about STIs with their partners</b>	<b>47</b>

## LIST OF TABLES

<b>Table 3.1: A table indicating sample size per grade</b>	<b>20</b>
<b>Table 4.1: Age distribution of the respondents</b>	<b>25</b>
<b>Table 4.2: Responses on the association of the respondent's grades and whether they have ever heard of STIs</b>	<b>27</b>
<b>Table 4.3: Distribution on the complications of STIs</b>	<b>30</b>
<b>Table 4.4: Responses on prevention of STIs by injection</b>	<b>32</b>
<b>Table 4.5: Responses on condoms protecting high school learners from STIs</b>	<b>34</b>
<b>Table 4.6: Distribution on the vulnerability and severity of STIs</b>	<b>36</b>
<b>Table 4.7: Association between respondents' demographic factors and asymptomatic STIs acting as barriers to care and treatment</b>	<b>42</b>
<b>Table 4.8: Responses on barriers of STIs</b>	<b>44</b>

## CHAPTER 1

### INTRODUCTION AND BACKGROUND

#### 1.1 Background to the study

Sexually transmitted infections (STIs) are considered a major health-threatening problem affecting a very large number of young people, not only in poor countries, but also in some developed countries such as Australia, Germany, Switzerland, the United States of America, and United Kingdom (Saamkange-Zeeb, Spallek & Zeeb, 2011). According to Kejela and Saboka (2014), STIs are infections or diseases that can be passed from one person to another through sexual contact and sometimes through genital contact. Centers for Disease Control and Prevention (CDC, 2013) reports that high school learners are more vulnerable to STIs than adults. High school learners transmit the infection to their peers through unprotected sexual activity, such as oral, vaginal and anal sex due to lack of knowledge and negative attitudes.

Human Immunodeficiency Virus (HIV) is a life-threatening pandemic and incurable sexually transmitted infection (STI), HIV does not only attack those that have unprotected sex with infected people, but also those who have a direct contact with the infected blood. World Health Organization (WHO, 2016) states emphatically that STIs are a global concern because over 100 million cases of STIs occur mostly among people younger than the age of 25 each year globally. It has also been revealed by the United Nations Programme on HIV/AIDS (UNAIDS, 2009) that approximately 11.8 million people aged 15 to 24 years were HIV positive in 2015. Furthermore, the total number of people living with HIV were 7 000 000 in South Africa alone, and from that total, 19.2% (1 300 000) were young adolescents aged 14 and above.

WHO (2015) asserts that STIs have an overwhelming effect on sexual and reproductive health and continue to create major burdens of the disease. The author further reports that about 357 million new cases of STIs take place every year globally, with one of the following STIs: chlamydia, gonorrhoea, syphilis, genital warts, herpes and HIV among adolescents aged 15 to 49 years, without the inclusion of HIV due to limited knowledge on STIs. UNAIDS (2009) reports that in Sub-Saharan Africa, the percentage of school-going adolescents living with HIV is over 20% in each country. Doyle, Mavedzenge, Plummer and Ross (2012) highlight the vulnerability of school going adolescents aged between 15 and 19-years by indicating that majority of them are victims of STIs and pregnancies which are not planned because of multiple partnerships and a very low rate of use of condoms and other contraceptives. The authors also assert that the reason behind this vulnerability is that high

school learners do not seem to have adequate knowledge and information on STIs, more-especially those from poor countries, like Uganda, Ethiopia, Mali and Burundi. In 2008, above two thirds (67%, 22.4 million) of all the people who were living with the virus (HIV) and almost three quarters (72%) of Acquired Immunodeficiency Deficiency Syndrome (AIDS) were found in Sub-Saharan Africa (UNAIDS, 2009).

Takebe, Uerishi and Li (2015) report that at least 9% of young male adolescents and 9% of young female adolescents get infected with STIs every year with a discharge (49% with equal numbers of men and women), ulcers only (36% men & 14% women) and pelvic inflammatory diseases (18% women). WHO (2016) reports that a study conducted in Lilongwe in Malawi showed that about 25% of the total number of women in the reproductive age group had at least one STI (sexually transmitted infection) every year and they appear to be having unsatisfactory knowledge on STIs, they only know of HIV. Johnson, Coetzee and Dorrington (2008) highlight that South Africa is at the midpoint of STIs such as warts, herpes, gonorrhoea and Human Papilloma Virus (HPV) because the majority of high school adolescents only know about HIV, but no other STIs and that they indulge in unprotected sexual activities.

Hoque and Ghuman (2014) argue that over half of high school learners are sexually active, some have multiple partners and are unable to use condoms effectively, furthermore, they use hazardous substances and end up engaging in sexual activities without protecting themselves, therefore putting them at a risk of acquiring STIs. Nel, Mabude, Smit, Kotze, Arbuckle, Wu, van Niekerk and van de Wijgert (2005) and Hoque and Ghuman (2014) agree that STIs are prevalent in South Africa and that in Kwazulu-Natal most of the cases were reported among high school learners aged 15 to 24. Sharma and Sherkhane (2017) argue that STIs such as chlamydia and HPV do not present symptoms. However, they still result in fatal conditions like pelvic inflammatory diseases, leading to ectopic pregnancies and infertility.

The World Health Organisation (WHO, 2016) points out that Syphilis in pregnant school-going women results in 1.5 prenatal deaths every year, gonorrhoea results in tubal pregnancy and infertility since it causes a severe damage to the fallopian tubes. (WHO, 2016) further indicates that liver-associated problems, such as liver cancer and liver failure, may be caused by Hepatitis B, while genital herpes and genital ulcer is responsible for excess HIV transmission. Knowledge of STI and their complications is therefore important

for adequate prevention and treatment, as people who do not know the symptoms may fail to recognize their need and so may not seek help (Musa and Adegun, 2015).

## **1.2 Problem Statement**

Limpopo Province is one of the few provinces with low rates of HIV in South Africa, which is about 7% (Mothiba & Maputle, 2012). However, Lebese, Davhana-Maselesele and Obi (2010) report that Vhembe District has a very high rate of STIs and teenage pregnancies due to lack of knowledge, the minimal use of condoms and other contraceptive tools. The researcher served as an intern in one of the clinics. Through the interaction with some stakeholders, he learnt that about 60% of high school learners do not make use of the free condoms distributed by the government. In some cases, these learners visit the clinic to consult about STI infections and teenage pregnancy.

A register of one of the clinics at Malamulele showed that 40% of high school learners who were using the clinic were diagnosed with STIs in 2015. The researcher observed the maladaptive behavioural patterns displayed by those who abuse substances, especially when they are under the influence of drugs during recess, public holidays and weekends. If this problem is not solved, many high school adolescents will continue suffering the consequences of STIs such as tubal pregnancies, infertility and pelvic inflammatory problems. It is thus crucial to gather scientific evidence to understand high school learners' knowledge, attitudes and behaviours at a selected high school in the Collins Chabane Municipality.

## **1.3 Rationale for the study**

A study on awareness and knowledge of STIs among school-going adolescents in Europe was conducted by Saamkange-Zeeb, Spallek and Zeeb in 2011. Another study titled "knowledge of sexually transmitted infections among younger subjects of the city of Messina (Sicily)" was conducted in Italy by Visalli and colleagues in 2014. Very few studies have been conducted in African countries, including South Africa. To the knowledge of the researcher, no study has been conducted on the knowledge, attitudes and risk behaviours regarding STIs among high school learners in Limpopo Province.

A slightly different study which was conducted in Limpopo Province was done by Mulaudzi in Vhembe District in the year 2005. It was titled "Attitudes, Beliefs and Practices of the Vhavenda about Sexually Transmitted Diseases". While many studies in European countries have been previously conducted on the knowledge, attitudes and behaviours of learners on STIs, this topic is far from being exhausted as a research area. Without such research, and



the subsequent development of effective prevention programmes, South African high school learners are likely to continue suffering because of lack of knowledge, bad attitudes and risk behaviours.

#### **1.4 Significance of the study**

It is envisaged that the study findings will assist stakeholders in making informed decisions to develop effective measures that will help reduce risk behaviours contributing to the prevalence of STI infections. Furthermore, they may assist in the provision of knowledge related to health issues like STIs and HIV to the respondents. This will help learners coming from the study location and Limpopo Province at large. It is also anticipated that the study findings will help South Africa and different organizations in the world, such as WHO and CDC, in introducing new programs and strengthening the ones that already exist. The Department of Health might also benefit significantly because this study will serve as an alert, meaning that they will ensure that they reach those places which are vulnerable to STIs and provide health education, channel the information through the establishment of awareness campaigns.

#### **1.5 Purpose of the study**

The purpose of the study was to investigate the knowledge, attitudes and risk behaviours regarding sexually transmitted infections among learners at a selected high school (Photani) in Collins Chabane Municipality.

##### **1.5.2 Objectives**

- To assess the level of knowledge regarding sexually transmitted infections among high school learners
- To describe attitudes of high school learners regarding sexually transmitted infections
- To describe risky sexual behaviours that contribute to STIs among high school learners
- To identify barriers to effective sexually transmitted infection services for high school learners

#### **1.6 Definition and operationalization of concepts**

##### **1.6.1 Knowledge**

Takebe, Ueshiri and Li (2015) define knowledge as facts, information, and various skills that one gets through education and the way in which one understands a chosen subject. For the purpose of this study, knowledge is used to give a description of the awareness of learners on STIs.

### **1.6.2 Learners**

A learner refers to a pupil or a person who attends a secondary educational institution, which is sometimes called a high school (Petrie & McGee, 2012). In this study, learners are all pupils from grade 8 to grade 12, enrolled for the academic year 2017 at a selected high school in the Collins Chabane Municipality.

### **1.6.3 Sexually transmitted infections**

Kejela and Saboka (2014) define STIs as infections that are transmitted from an individual to another through sexual contact and sometimes by genital contact. For the purpose of the study, STIs are all the infections that can be transmitted from an individual to another through unprotected sexual intercourse with an infected person.

### **1.6.4 Attitudes**

According to Folasayo, Oluwasegun, Samsudin, Saudi, Osman, and Hamat (2017), attitudes can be defined as continuing organisation of beliefs, feelings and behavioural tendencies towards socially important objects, groups, events or even symbols. In this study, perception refers to the way in which something is regarded, understood, or interpreted by high school learners at a selected high school in the Collins Chabane Municipality.

### **1.6.5 Behaviours**

Behaviours refer to the way in which an individual behaves or acts (WHO, 2016). For the purpose of this study, behaviours are the beliefs and actions of regarding respondents' health and well-being on STIs.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1. Introduction

Literature review refers to the assortment of documents, whether published or not on a particular issue, that have certain facts, ideas, evidence and the evaluation of these documents in relation to the topic under investigation (Gray 2009). This chapter covers the knowledge of high school learners on STIs, attitudes of high school learners regarding STIs, risk sexual behaviours contributing to STIs among high school learners and barriers to effective sexually transmitted infection care and treatment for high school learners.

#### 2.2. Knowledge of sexually transmitted infections

According to Kejela and Saboka (2015), STIs are diseases that are transmitted from an individual person to another by means of sexual contact, which includes vaginal, oral and anal sexual contact with an infected person. They also stated that the term sexually transmitted infection has a broader range of meaning in that a person may be having the infection and potentially infect others without showing any symptoms. Rahman, Kabir and Shahidullah (2009) point out that the likelihood of HIV transmission is fuelled by the presence of other STIs which lead to some serious health consequences, such as chronic lower abdominal pain, life-threatening ectopic pregnancies and infertility, more-especially when people do not have adequate knowledge.

Kejela and Saboka (2015) confirmed that STIs spread very fast among school-going adolescents because learners are not knowledgeable enough since they do not discuss STIs with their parents due to some cultural and religious reasons. WHO (2017) asserted that there are STIs that can be cured and those that cannot be cured, and that from those two types of STIs, at least one third of the 333 million cases of curable STI happened among people under the age of 24. A study conducted among 550 high school adolescents in Nigeria found that 92.4% respondents had heard about STIs before and 80% of them only knew of HIV as an STI, as they never knew of other STIs such as syphilis, HPV and genital warts (Amu and Edegun, 2015).

CDC (2013) reported that in the year 2001, about 40 million people globally were living with HIV, of which about the quarter was constituted by young people, meaning that they bear a special burden in STIs. A study conducted by Rahman, Kabir and Shahidullah (2009) on STIs revealed that high school learners were also vulnerable to STIs and unplanned pregnancies, compared to adults, because they engaged in risk behaviours, such as unprotected sex, multiple sexual partners and sharing needles. The study also revealed that

the reason why high school learners were the most vulnerable group to STIs was due to inadequate knowledge. Furthermore, WHO (2015) reported that about 357 million infections occurred every year among high school learners, with one of the following STIs: chlamydia, gonorrhoea, syphilis and trichomoniasis. Adolescents' sexual health has gained recognition in the past 20 years, although sexual education in high schools is inadequate. Sexual health is also an agenda of ministries of health in many countries. However, proper implementation is still weak for sexual health aspects because school adolescents are not being imparted with the skills to help protect themselves against the risk of STIs (Dehne and Riedner, 2005).

Dehne and Riedner (2008) maintain that most school-going adolescents in the world, more-especially the ones in high school, are sexually active, thus in other words they engage in sexual activities without using condoms. Hence they are at a greater risk of contracting STIs. Furthermore, school adolescents do not usually use condoms, like adults do, because of lack of access and failure to insist on condom use. They further report that STIs in high school adolescents may be the consequence of unprotected sexual intercourse with multiple partners because of poverty (Dehne and Riedner, 2008).

Gupta, Anjum, Bhardwaj, Srivastav and Zaidi (2013) affirmed that the level of knowledge on different modes of transmission of STIs was observed in a study conducted in one of the African countries, Egypt, and it was found that only 30.8% of the learners at high school had adequate knowledge of HIV. The authors further reflected that a study done in a high school in India found that 95.1% of the female learners only knew about HIV, but they have never heard of some of the STIs. This indicates that most high school learners do not know about other types of STIs, and this put them at a great risk of getting infected. This is because most of them are believed to be sexual active. Chandra-Mouli (1999), as quoted by Dehne and Riedner (2008), discovered that most young people were vulnerable to STIs because of lack of knowledge on the symptoms of STIs.

### **2.2.1 Knowledge on the types of STIs**

According to CDC (2013), chlamydial infection is a continuously reported infectious disease in the United States, and it is more prevalent among high school girls below the age of 24. Its prevalence is due to lack of knowledge on STIs. The increased rate of chlamydia trachomatis infection among adolescents is also due to poor knowledge and negative attitudes (WHO, 2016). High school learners also do not seem to know much about gonorrhoea. Dehne and Riedner (2008) define gonorrhoea as an STI caused by the bacterium *Neisseria gonorrhoea*. The authors further contended that the infection (gonorrhoea) could be passed from one person to another through the act of unprotected

sexual intercourse with an infected person. Therefore, the only way to prevent it is through the use of condoms or totally abstinence.

WHO (2013) indicates that data on gonorrhoea among adolescents, more especially high school learners is very limited. A study done by Dehne and Riedner in 2015 in USA on gonorrhoea discovered that the prevalence of gonorrhoea among high school learners was very low, compared to the ones for chlamydia. This was because it was less than 10%. The exceptions were in the study among high school adolescents hospitalised in Namibia and USA where it was evident that 11% and 13% were found to have gonorrhoea.

Syphilis is the other most contagious infection that primarily spreads through sexual activity, including vaginal, oral and anal sex (CDC, 2013). The author adds that syphilis can also be passed through prolonged kissing and direct contact with infected blood. WHO (2013) posits that some data concerning HIV and syphilis for the age group 15 to 19 years is available and that in 2009 the incidence of statistics among the group was 1.1 per 100 000, whereas in 2010 the number grew to 1.4 per 100 000 inhabitants, meaning that the virus was spreading. Syphilis is not well known, compared to HIV. As a result, majority of high school learners lack knowledge on syphilis. Often, people do not know they have the infection and may unknowingly pass it to others because they usually do not show any signs (CDC, 2013).

According to Mukthi, Priyanka, Hepsiba, Durga, and Sneha (2017), Human Papilloma Virus (HPV) refers to an STI which can be passed through genital and skin to skin contact. The author also maintain that each number of HPV is assigned a name due to its type and this can lead to some severe health conditions such as cervical cancer, anal cancer and pharyngeal cancers. In a survey conducted by Ifner and colleagues in Berlin, which included 1692 women aged 10 to 30 years, it was found that 22% of the woman tested positive for HPV and from those women who tested positive, 57% were women under the age of 23 years.

The lowest percentage which was observed in the age group of 10 to 15 years was 11.6%, whereas the highest was 28.3%, composed of high school learners aged 20 to 22 years meaning that HPV grows with age (Ifner, Eberle, Ifner, Holz, Banik, Quint and Straube, 2010). In a similar vein, CDC (2013) also indicates that after reviewing all the studies conducted in Germany among young adolescents, the realization of lack of knowledge on HPV among young adolescents was highly prevalent. Therefore, there must be health educational programs designed to help reduce HPV cases.

Folasayo et al., (2017) affirm that HIV refers to the STI that attacks the immune system which then destroys white blood cells while making copies in those cells, breaking down an individual's immune system. The reason for high school learners' vulnerability to STIs is lack of sex education, including education on the prevention of STIs (Dehne and Riedner, 2005). In addition, Tenkorang (2013) points out that in a study done by Oyo and colleagues in Nigeria, on awareness about HIV/AIDS, it was found that awareness was created through the media, workshops, and peer education and printed materials. They further report that about 181 (31.2%) of the school going adolescents knew nothing about the aetiological agents of HIV. However, the majority, 522 (90%) had an idea that HIV and other STIs were transmitted through unprotected sexual intercourse.

## **2.2.2 Knowledge on the routes of transmission**

### **(a) Sexually transmission**

Mukthi et al., (2017) revealed that the first route of STI transmission is through an unprotected sexual intercourse with an infected person. WHO (2016) offers that some STIs, like chlamydia, among high school learners may be acquired through unprotected oral sex, vaginal and anal sex as well as through the pharynx and rectum. A study conducted by Amu and Adegun in Nigeria found that the most popularly known mode of transmission was unprotected sex 473 (87.6%). Sexual intercourse is well-known and documented as the primary course of the health-threatening pandemic infection called HIV. Gonorrhoea is also passed on from one person to another through the act of unprotected sexual intercourse (Folasayo et al., 2017).

### **(b) Vertical transmission**

The acquisition of genital herpes in pregnancy is closely linked with an increased risk of spontaneous abortion and premature delivery, especially when herpes is acquired in the third trimester among high school girls. The risk of transmission of primary herpes to an infant during delivery is estimated at about 50% (Dehne & Riedner, 2008). Some STIs can be passed to the eye by a hand or other body parts moistened with infected secretions, while some are passed from a woman infected with chlamydia to her baby during delivery (Dimbuene, Emina and Sankoh, 2014).

### **(c) Blood transfusion**

Dehne and Riedner (2008), as quoted by Mukthi et al., (2017), report that the act of sharing contaminated needles used to inject drugs or using contaminated body piercing and tattooing equipment can transmit some infections, such as HIV or hepatitis B and C. The author further reports that sexual transmission can also be caused through sharing of an

injection in the hospital, wherein you find that high school girls will go there when they want to prevent pregnancy using injection. Amu and Adegun (2015) discovered that 446 (82.6%) learners from a high school in Nigeria knew that sharing infected sharps is one of the routes of transmission of STIs. Whereas 395 (73.1) learners knew that infected blood and blood products were some of the factors responsible for the transmission of STIs.

### **2.2.3 Complications of STIs**

According to WHO (2013), STIs may come with complications such as persistent abdominal pain, menstrual changes and deep dyspareunia. WHO (2017) also reports that the majority of high school learners, more-especially females, do not know about the complications of STIs and they confuse them with other diseases. Sometimes STIs may lead to infertility, with the risk being 10–20%, climbing to 50–75% after the third episode, due to treatment delays. CDC (2013) asserts that 70% of the high school learners from the school where the study was conducted in Nigeria, did not know that cervical cancer is one of the complications of HPV in females and cancer of the penis in males.

### **2.2.4 Prevention/Preventative practice of STIs**

Kejela and Saboka (2014) report that a study conducted in Ethiopia about factors associated with preventive practices among high school learners found that learners who had a good knowledge of STIs were 1.76 times more likely to practice prevention of STIs than the ones with poor knowledge when it comes to STIs. The study also found that the majority of youth appeared to have adequate knowledge on the preventative practices of STIs because they emphasised abstinence and condom use.

## **2.3 Attitudes of high school learners regarding sexually transmitted infections**

### **2.3.1 The use of condoms**

Feldman (1997), as quoted by Dehne and Riedner (2008), contends that school-going adolescents have negative attitudes towards the use of condoms, and that this puts them at a great risk of getting HIV and STIs. A cross-sectional study done among high school learners at Shone Town in Ethiopia, by Kejela and Saboka (2015), reveals that there was a correlation between bad attitude and STIs because 14% of the learners who had a bad attitude towards the use of condoms were found to have one of the STIs. This shows a relationship between bad attitude towards the use of condoms and STIs.

### **2.3.2 Seeking treatment**

Dehne and Riedner (2008) assert that high school going learners experience guilt and shame after realising that they are infected with STIs and that they do not disclose this to

their friends and family members. The authors further assert that these high school learners with STIs end up not seeking treatments from health care facilities. In contrast, a study conducted by Kejela and Saboka in (2014) found that 12.90% of learners had a history of STIs, 58.97% went for treatment in private and public facilities and the remaining 41.3% got treatment from traditional healers.

### **2.3.3 Religious beliefs and taboos**

Salama (2011) conducted a study among Xhosa-speaking children in Cape Town, South Africa. The research sought to address if the quality of parent-child relationship and parental involvement were related to risk factors, including sexual attitudes among high school learners. The findings revealed that children who had poor relationships with their parents and other care-givers were at a greater risk of infection with HIV and other STIs. The author further stated that children's attitudes to early sexual debut and sex with older adults are loosely linked with the quality of the relationship between parents and their children. Many parents shy away from talking about sexual issues with their children in communities because it is regarded as a taboo. Similarly, Shelton (2009) points out that some cultural practices have emerged as a significant factor when studying sexual behaviours in multitudes of communities.

### **2.3.4 Misconceptions**

Tenkorang (2013) maintains that misconceptions about STIs, including HIV, are still prevalent in Sub-Saharan Africa, despite the recent significant improvements in public awareness of different types of diseases. The author further indicates that in Kenya and Ghana, some high school learners believed that a person can get HIV virus through mosquito bites and by sharing food. Similarly, a study done by Kejela and Saboka (2015) found that despite the high level of knowledge there were still misconceptions and speculations, such as mosquito bites transmit STIs, and that sleeping with a virgin removes STIs from an infected person,

## **2.4 Risk sexual behaviours contributing to STIs among high school learners**

### **2.4.1 Injecting drugs**

Flisher, Mathews, Mukoma and Lombard (2006) believe that psychoactive substances are easily accessible and widely used by adolescents. These are a very big public health problem because they lead to intentional, unintentional injuries and transmission of STIs. The study further indicates that the injection of drugs put adolescents at a greater risk of getting infected with STIs, more-especially high school learners. This is because when



educators are not in class, they go out and share drugs with their friends, and some of these drugs include the ones that are administered through an injection.

#### **2.4.2 Unprotected sex**

Gender Health (2004) reports that unprotected sexual intercourse is one of the leading factors associated with the spread of STIs in the whole world among high school learners. It is further reported that numerous studies conducted in Africa have identified heterosexual sex as one of the major risks of HIV transmission and some other STIs. This is because consistent use of condoms lowers the risk of acquiring STIs by 87%. Kejela and Saboka (2015) argue that in Ethiopia, it was found that the majority of high school learners reported to be aware of the fact that unprotected sexual intercourse would put them at a greater risk of HIV and other STIs, even though they did not know the types of STIs.

A study conducted by Tabane (2004) in Botswana shows that the rates of condom use among school going young adults from the age 14 to 24 was very high, with 84.4% for men and 77.2% for women, in their last sexual activity. The author reasons that this was because condoms were widely available in health care facilities and retail stores. However, the focus group done in South Africa by Campbell in 2001 discovered that condom use was not high, compared to the use of condoms by young adults of Botswana. This could be due to some hindering factors such as lack of perceived risks and peer norms promoting unprotected sex.

#### **2.4.3 Substance abuse**

A systematic review and meta-analysis of African studies conducted by Fisher, Bang and Kapiga (2007) reflect that sexual risk behaviours increased in adolescents who used alcohol. Furthermore, the number was high among learners who used marijuana, cocaine, prescription drugs, sedatives, opioids, stimulants and other illicit drugs. Kann, McManus, Harris, Shanklin, Flint, Hawkins, Zaza (2016) point out that the National Youth Risk Behaviour Survey (NYRBS) found that exactly 41% of high school learners reported not to be sexual active while 31% reported to be sexual active. Furthermore, they believed that drugs could enhance sexual performance.

According to Kapiga (2007), high school adolescents not abusing substances are unlikely to engage themselves in sexual-risk taking and that those from poor countries abuse substances and have sexual activities because of the low asking price. A study conducted in Limpopo Province, South Africa at Vhumbedzi circuit by Tshitangano and Tosin (2016) reveals that the abuse of substances by adolescents has been a concern due to its effects or the effects linked to the abuse of substances such as cigarettes, cannibals and dagga on

individual wellbeing. The study also shows that the abuse of substances by high school learners may lead to serious health problems, such as unplanned pregnancies and increased STIs, cervical cancer, personality disorders and sometimes suicide.

#### **2.4.4 Multiple sexual partners**

According to Amon, Angelina, Godfrey, Khadija, Godfrey and Honorati (2011), multiple sexual partnerships are characterised by early sexual activities, greater number of lifetime partners, more frequent coitus and unprotected coitus. These authors further highlight that high school learners with two or more sexual partners do not use condoms, compared to the ones with only one sexual partner. This acts as a vehicle for the spread of STIs. Olaniran, Persson and Oyekanmi (2013) confirm that having two or more sexual partners in a dense network facilitates the spread of STIs, by letting the virus spread more rapidly. The authors also state that in relationships where there is a presence of non-overlapping sequential partners, a delay between ending one relationship while starting another one plays a role in the reduction of the probability of STIs.

Dimbuene, Emina, and Sankoh (2014) maintain that school adolescents get themselves in multiple sexual relationships. They do this as a way of choosing who to marry from a 'pool', compared to the ones with only one sexual partner. Female adolescents should thus be more cautious than male adolescents when it comes to the issue of having multiple sexual partners, as it would reduce their chances of getting married, and that an individual's risk of contracting HIV/STIs depends on his or her own sexual behaviour (Dimbuene, Emina and Sankoh, 2014).

#### **2.4.5 Age at first sexual Intercourse**

Fatusi and Blum (2008) state that early onset of sexual intercourse is associated with increased lifetime prevalence of sexual partners, where the one side increases the risk of exposure to STIs and teenage pregnancy among school going learners. According to Kar, Choudhury, Pratap and Hum (2015), the timing of one's first sexual activity is a problem exposing high school-going adolescents to risk behaviours, sometimes leading to poor school performance, psychological and other health-associated problems.

The physiological vulnerability that places adult women at a higher risk than men at acquiring STIs/HIV from an infected partner during a single act of vaginal intercourse is heightened among young adolescent girls, especially when intercourse is initiated prior to menarche or soon thereafter (Moore & Rosenthal, 2006). Kar et al., (2015) points out that a

study conducted in an STI clinic in Dar es Salaam on risk sexual practices, found that majority of youth had debuted sex at the age of 14 years.

## **2.5 Barriers to effective sexually transmitted infection care and treatment for high school learners**

### **2.5.1 Lack of access and knowledge of where to seek treatment for STIs**

Cherie and Berhane (2012) contend that lack of knowledge on where to seek treatment, the feeling of shame and stigmatization are some of the factors leading to high rates of STI cases globally. They further indicate that high school learners from underdeveloped and developing countries mostly do not know which health facilities treat sexually transmitted infections. The problem is that they do not consult their peers and people who are knowledgeable enough for fear of embarrassment in their respective communities. Dehne and Riedner (2008) assert that lack of knowledge on STIs, tendency not to take STIs' treatment and fear of embarrassment, are all compounded by difficulties experienced by adolescents in accessing STI services.

### **2.5.2 Fear of parents**

A survey conducted in 2011 by Cherie and Berhane (2012) shows that 87.3% of sexually experienced high school learners aged 15 to 17 years and 18 to 25 years could not seek health advice from their parents due to fear. It was also reported by the same author that these high school adolescents were afraid their parents would stop taking care of them. Finally, the study reveals that this was closely associated with low prevalence of chlamydia testing.

### **2.5.3 Asymptomatic Infections**

One of the main challenges encountered when controlling STIs among young adolescents is the fact that some infections in girls and many in boys do not show symptoms until serious consequences occur (Cherie & Berhane, 2012). More than two thirds of non-ulcerative STIs (such as gonorrhoea, chlamydia and trichomoniasis) are either asymptomatic or occur only with nonspecific symptoms, like minor vaginal discharge, vulva itching and urethritis. In some settings, the proportion of infections considered asymptomatic may be even higher, as women may perceive certain, commonly-experienced STI symptoms as normal. Thus, the proportion of asymptomatic chlamydia infection in women may reach 80%, though for gonorrhoea the proportion is usually lower. The only possibility of detecting asymptomatic infections is the use of laboratory tests (Dehne & Riedner, 2005).

#### **2.5.4 Inadequate sources of information**

According Dehne and Riedner (2008), adolescents learn about sex, reproduction, contraception and STIs from a range of sources, including peer groups, radio, television, print media, gossip and observation of others. However, parents and relatives do not talk about such issues, and many do not feel comfortable giving advice, thus putting their children at a risk of acquiring STIs. As a result, young people often do not prefer parents to be the main source of information for adolescents about sexuality and reproductive health (Dehne & Riedner, 2008).

#### **2.6 Conceptual framework**

There are many models designed to examine young adolescents' knowledge, attitudes and behaviours on STIs, including HIV. The Knowledge, Attitudes and Practice (KAP) Model is one of the models, which goes hand in hand with the AIDS Risk Reduction Model. For the purpose of this study, the researcher looked at the KAP Model because it is closely linked with the topic under investigation.

##### **2.6.1 Knowledge, Attitudes and Practice (KAP) model**

The study objectives, literature review and research methodology were influenced by the KAP model. Furthermore, the entire study has diligently followed the context of KAP model that has been employed from the 1960s in the field of health promotion and education. In the field of health promotion and education, the KAP model helps in communities to refrain from bad behaviours that can bring about negative consequences to the individual level, groups and communities. Khan, Sarraf and Mully (2014) report that the cognitive (knowledge) learning focuses on the knowledge and the ability and realisation whilst the effective (attitude) learning refers to the ability to change one's attitudes and norms to adjust themselves through hygiene education. Furthermore, the psychomotor (practice) learning deals with the cultivation of learners' health behaviours.

According to Lai (2006) as quoted by Mambanga (2016), psychomotor requires high school learners to have acquired some skills whilst practices require the changing of behaviours as a target. For the purpose of this study, the KAP model was used as a research model because the researcher found it more suitable in exploring the knowledge, attitudes and risk behaviours regarding STIs among high school learners. Related studies found that knowledge has a direct impact on the attitude and practice except that the level of impact that knowledge affects practice through attitude is better than that of knowledge directly affecting practices (Khan, Sariff and Mully, 2014). For example, if high school learners have

sufficient knowledge on STIs and their consequences they are more likely to develop a positive attitude and change their way of doing things.

## **2.7 Conclusion**

This chapter presented the literature that was reviewed from various journal articles and books in relation to the topic under investigation and its objectives. This included the knowledge of high school learners on STIs, attitudes of high school learners regarding STIs, risk sexual behaviours contributing to STIs among high school learners and barriers to effective sexually transmitted infection care and treatment for high school learners. A conceptual framework, KAP model was also discussed.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter presents the research methodology used in the current study. The chapter will discuss the study design, study setting, study sampling and population, methods of data collection, data analysis and ethical considerations.

#### 3.2 Study Design

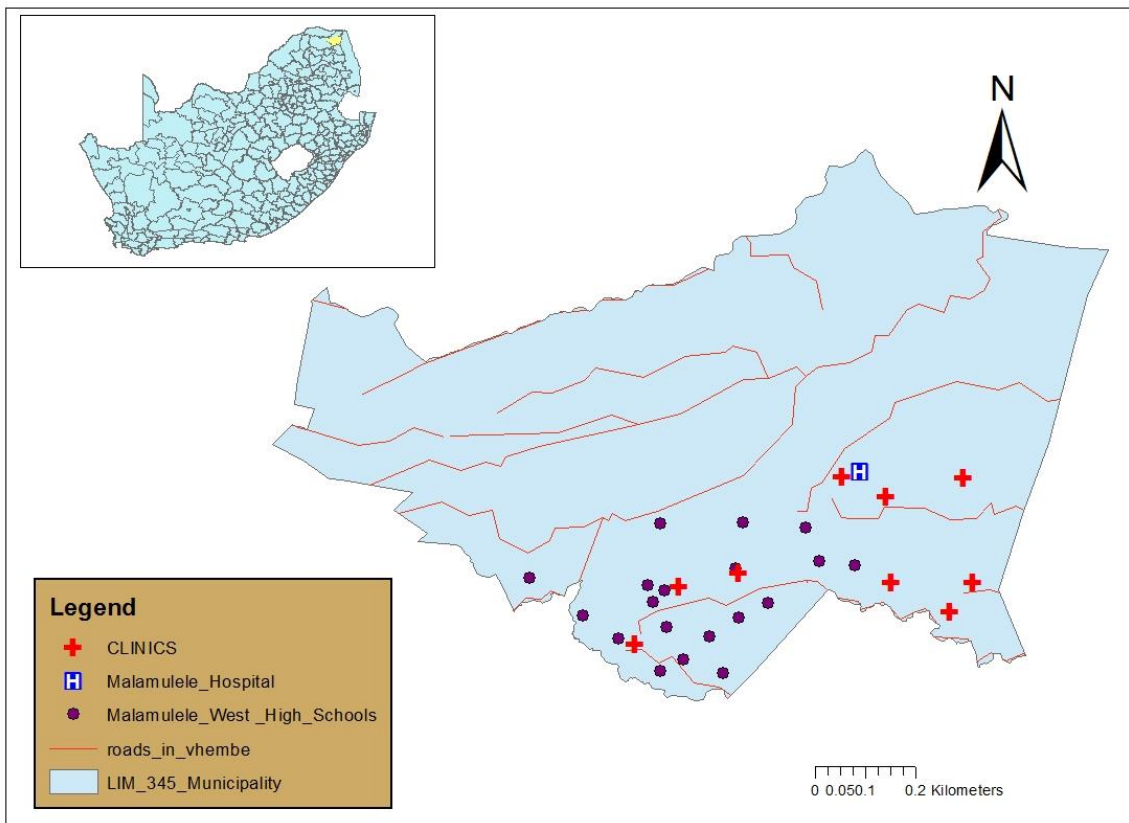
A quantitative descriptive research design was used in this study. Grover, Gray and Burns (2015) highlight that quantitative research is a formal methodological inquiry which primarily focuses on the collection of data in the form of numbers, the examination of relationships and descriptions of various associations. The researcher opted for a quantitative approach. This was because it would help him regarding the large quantities of data that had to be collected from the respondents.

A descriptive research design was employed. Hewstone, Stroebe and Jonas (2015) define descriptive research design as the procedure for conditions for collecting and analysing data as a way that seeks to combine relevance to the research purpose with economy in procedure. A quantitative descriptive design made it possible for the exploration of further information about the knowledge, attitudes and risk behaviours regarding STIs among learners at Photani High school in Collins Chabane Municipality.

#### 3.3 Study Setting

Study setting can be defined as the study environment including the location, geography of the area, climate and other geographical features. The study was conducted at Photani High School. Photani High School, Mulamula Village which is found in the Malamulele West, Collins Chabane Local Municipality, in Vhembe District of Limpopo Province, South Africa. Statistics South Africa (2011) reveals that the area is exactly 243 km from Polokwane, 453 km from Pretoria and 508 km from Johannesburg. Mulamula Village has one high school and two primary schools. Adolescents travel a long distance to access health care services at Malamulele Hospital and clinics located in neighbouring villages because there is no clinic at Mulamula village.

Malamulele West



**Figure 3.1: A map showing Collins Chabane Municipality**

(<http://www.malamulele.gov.za>)

### 3.4 Study Population and Sampling

#### 3.4.1 Study Population

Hewstone, Stroebe and Jonas (2015) define a population as the entire groups of people or objects that are of interest to the researcher. For the purpose of this study, the population was all high school learners at Malamulele West Circuit officially registered for the academic year 2018. Registered learners from schools outside Malamulele did not form part of the study. Malamulele West has the total of 13 high school and approximately 36 556 learners who are registered for the academic year 2018.

#### 3.4.2 Sampling

According to Grover, Gray and Burns (2015), sampling refers to the process of selecting a certain portion of something or people out of the entire population and use that selected segment to represent the whole population. For the purpose of this study, probability sampling was used to select the participants. Probability sampling involved giving all respondents the same chance to be included in the sample.

### 3.4.2.1 Sampling of Schools

Out of the total of 13 High schools at Malamulele West Photani High School was selected using purposive sampling technique because it falls under Malamulele West, which is the circuit that reported high rates of STIs in Malamulele. The selected school had a total student enrolment of 550.

### 3.4.2.2 Sample Size

The sample size was calculated using Slovin's simplified formula. 'N' is the total population, 'n' represents the number of samples and 'e' represents an error margin. Based on Slovin's formula, for the purpose of this study 'N' is the number of high school learners at Photani High School which was 550, n represents the sample size which was 229 and e represents the accepted level of error which was 0.5. The sample was selected using Slovin's simplified formula for calculating sample size (n), according to Israel (2013) is as follows:

$$n = \frac{N}{1 + Ne^2}$$

n= sample size of adjusted population

N= population size

e= accepted level of error usually set at 0.05

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

$$n = \frac{550}{[1 + (550 \times 0.05)^2]}$$

$$n = \frac{550}{(1 + 1.4)}$$

$$n = \frac{550}{2.4}$$

$$n = 229$$

$$n = 229$$

$$n = 229$$

$$n = 229$$

An extra 10% of the sample size, which is equal to 23 respondents, was be added to the sample size so that it would cater for non-response, meaning that the questionnaires were issued to 252 learners.



### 3.4.2.3 Sampling of the respondents

Stratified random sampling was employed to select the respondents, the representation sample size was 252 Learners were grouped based on their grades, this was done by treating each of the five grades (8, 9, 10, 11 and 12) as a stratum, based on the total population of 550 and a sample size of 252 as well as a sampling interval of  $K = 550/252 = 2.18 \approx 2$ . This implies that every second learner was selected; and this was done by using class registers of each grade in the school.

### 3.4.2.4 Sampling Frame

**Table 3.1: A table indicating sample size per grade (N=252)**

Grade	Number of learners	Sample size per grade	Percentage (%)
Grade 8	80	37	15
Grade 9	85	39	15
Grade 10	147	67	27
Grade 11	148	68	27
Grade 12	90	41	16
<b>Total</b>	<b>550</b>	<b>252</b>	<b>100</b>

### 3.5 Measurement Instrument

The self-administered questionnaires were used as a data collection instruments to gather data patterning to knowledge, attitudes and behaviours of high School learners on STIs. Questionnaires are advantageous because they reach a large number of people within a very short scope of time. Furthermore, they allow individuals to choose whether they agree, strongly agree, disagree or strongly disagree. In addition, they are economically friendly and help save time. However, Grover, Gray and Burns (2015) believe that they also have their own limitations because they have very low response rates, lack of resources for large scale research and the fact that respondents cannot express themselves.

The questionnaire was divided into the following five sections:

Section A: Demographic information

Section B: Knowledge on Sexually transmitted infections

Section C: Attitudes of high school learners regarding sexually transmitted infections

Section D: Risk sexual behaviours contributing to sexually transmitted infections among high school learners

Section E: Barriers to effective sexually transmitted infection care for high school learners

Close-ended questionnaires were used which according to Kothari (2011), refer to those kinds of questions which are conclusive, they do not need the respondents to explain but to choose the answer which best describes their answers based on the knowledge they have. The questions which appeared on the questionnaire also gave an opportunity to the respondents to choose the option which best suited their answers.

The questions allowed respondents to tick the most appropriate answer based on their knowledge, some questions required them to agree, strongly agree, disagree or strongly disagree. These close ended questionnaires were written in English which is the medium of instruction, they were understandable and were at the level of high school learners. The researcher helped explain them in case respondents had difficulties. The questionnaire consisted of 40 items.

### **3.6 Validity and Reliability**

#### **3.6.1 Validity**

According to Mourssi (2012), validity of an instrument refers to the extent to which it measures what it is supposed to measure. Weathington, Cunningham and Pittenger (2010) and Cohen, Manion and Morrison (2011) argue that internal validity is the cause and effect relationship between the independent variable and the dependent variable. The authors further agree that internal validity aims to show that an explanation of a certain event provided by research can be sustained by the data, whereas external validity is all about the extent to which research results can be generalised to the wider population or a setting.

Face validity which checks whether the instrument is measuring exactly what it was designed to measure was used. The researcher achieved this by reviewing various journal articles and books related to the topic under study. This involved both national and international literature.

#### **3.6.2 Reliability**

Mohammed, Sulaimanb, Sern and Sallehd (2016) argue that reliability means that the scores of an instrument are stable and consistent. In order to ensure that the scores remained the same, a test-retest method was used with the same respondents who were involved in pretesting to make it a point that the instrument gave similar results. The questionnaire was evaluated and it was found that it was difficult for some learners to understand. As a result, the researcher with the help of a supervisor made some amendments on the questionnaire to make it easier for respondents to understand and complete. The results from T1 and T2 were the same and the test-retest-reliability coefficient (coefficient of stability) was achieved.

### **3.7 Pre-test**

Pretesting plays an important part in identifying and reducing measurement error that damages statistical estimates at the population level. It also endangers comparability across different populations in multinational, multiregional as well as multicultural surveys (Caspar et al., 2016). For the purpose of this study, pre-testing was done through the administration of the questionnaires by the researcher to the recommended parentage which is 10% of the respondents. Pre-testing was done at PP Hlungwani High School, among learners who did not form part of this study.

### **3.8 Plan for data collection**

Data was collected at Photani High School. The researcher started by submitting the letters to the Department of Education in Polokwane, Vhembe District, and Malamulele Circuit office, as well as Photani High School. The researcher contacted the head master of Photani High School prior to data collection. Thereafter, the researcher had the opportunity to be introduced to the school teachers and learners by the head master at the assembly point during Morning Prayer session. The researcher collected data after school, and the meetings took place in a school hall. This lasted for four consecutive days. The researcher collected the data from two grades (grade 8 and 9) in a day (Monday), due to the small number of learners (76), one grade (10) on Tuesday with 67 learners, one grade (11) with 68 learners on Wednesday and the remaining grade (12) on Friday with the total of 41 learners.

Consent forms and information booklets were given to learners before distributing questionnaires. Learners were asked to go through the information letters and were advised to ask questions before consenting to form part of the study. For those learners who are under 18 years, their parents were asked to give written assent forms on their behalf. All minors were advised to voluntarily participate. They should not feel compelled because their parents have signed assent forms. The researcher then distributed questionnaires to the study respondents who were willing to participate. Respondents were asked to complete the questionnaires anonymously without writing their names. Questionnaires were completed in the presence of the researcher who was there to give clarity where needed.

### **3.9 Plan for data management and analysis**

Statistical Package for Social Sciences (SPSS) version 24.0 software was used. Descriptive statistics which contained frequencies was used to analyse data. Chi-square test was used to establish if relationships existed among two or more categorical variables; such as the association between school grades and knowledge on STIs. Statistical level of significance was set at 5% (i.e.  $p < 0.05$ ). Data was presented using graphs and tables.

### **3.10 Ethical considerations**

#### **3.10.1 Permission to conduct the study**

The research proposal was submitted to the Ethics Committee of the University of Venda for ethical clearance. Permission was obtained from the following institutions and bodies before data collection: School of Health Sciences' Higher Degree Committee, University of Venda's Higher Degree Committee, Department of Basic Education in Limpopo Province, and Photani high school.

#### **3.10.2 Informed Consent**

According to Brink, Van der Walt and Van Rensburg (2006), the ethical principles of voluntary participation and protecting respondents from harm are formalised into the concept of informed consent. It is further reported by the authors that this covers the element of information needed from the respondents or research aspects, the degree of understanding that the participant must have to give consent. These authors also indicate that for the researcher to obtain the respondents' consent, respondents must be furnished with the clear information regarding their participation in the study.

The researcher explained the topic, purpose and objectives of the research to the respondents, without omitting any information which would have made them unwilling to participate. Each study respondent was given an information sheet detailing every procedure which had to be followed. The researcher distributed consent letters and consent forms to the respondents. Assent forms were also issued to guardians of minors.

#### **3.10.3 Justice**

Brink, Van der Walt and Van Rensburg (2006) point out that the principle of justice refers to the respondents' right to fair selection and fair treatment. This implies that the researcher has to ensure that he fairly selects research subjects from the entire population for a reason directly related to the research problem and not just because the respondents are available.

For the purpose of the study, the researcher selected the study respondents fairly. Every learner at Photani high school was given the same chance as others to be selected in the sample. Sampling bias was not tolerated. Fair selection of respondents was achieved through the use of the simple random sampling technique. As it is not possible to include everyone in the study, the study respondents who were sampled represented the school.

### **3.10.4 Confidentiality**

According to Babbie and Mouton (2016), a research project guarantees confidentiality when the researcher can identify a given person's responses but promises not to do so publicly. In this study, respondent's information will be kept safe because the researcher knows that his respondents have the right to privacy. Respondents' identifying particulars were not used. All completed questionnaires, information sheets, consent letters, consent forms and assent forms were locked into the closet to protect the information.

### **3.10.5 No harm to respondents.**

Social research should not harm the people being studied, regardless to whether they volunteer to be study respondents or not (Babbie and Mouton, 2016). The 'no harm to respondents' principle was used because this study was not meant to harm respondents but to get information from them. The researcher encouraged a good working relationship with the respondents. Respondents were not harmed emotionally, physically or anyhow. Respondents were not judged based on the answers they gave. The researcher watched his tone when addressing respondents to make sure they remain in a good state until they finish participating in the study.

### **3.11 Plan for dissemination and implementation of results**

The dissemination of results is an important academic process and it can be done through journal publications, conference presentation and the production of posters. The researcher planned to disseminate the results or findings of the study through the submission of the dissertation to the Department of Public Health at the University of Venda and to the University's library's special collection.

Another copy will be submitted to the Department of Basic Education in Limpopo Province. The researcher also planned to publish his study online. This will help disseminate the information contained in the study to different people in different settings. The researcher also hoped to present his study in both national and international conferences sponsored by the University of Venda or other external organisations.

### **3.12 Conclusion**

This chapter discussed the research methodology used in this research project. The discussed methodology includes study design, study setting, study population and sampling, measurement instrument, validity and reliability, pre-test and plan for data collection. Plan for data management and analysis, ethical considerations, plan for dissemination and implementation of results were also discussed.

## CHAPTER 4

### ANALYSIS AND PRESENTATION OF DATA

#### 4.1 Introduction

This chapter presents the findings of the study. The findings are presented as follows: demographic characteristics of respondents, knowledge on STIs, attitudes of high school learners regarding STIs, risk sexual behaviours contributing to STIs among high school learners and barriers to effective care and treatment of STIs among high school learners.

#### 4.2 Demographic Information of respondents

Two hundred and fifty two (252) questionnaires were distributed to respondents and all of them were fully completed and returned to the researcher by the respondents, meaning that the response rate was 100%. The researcher captured responses into frequency tables, converted them into percentages and presented them in charts and graphs.

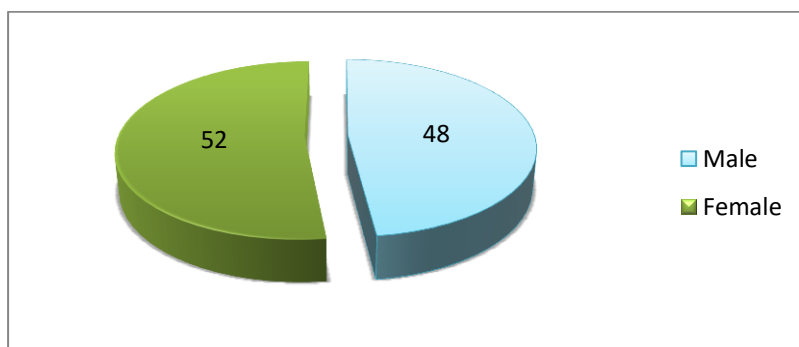
##### 4.2.1 Age of respondents

**Table 4.1: Age distribution of the respondents (N=252).**

Age category	Frequency	Percentage (%)
1. 13-16	35	13.9%
2. 17-20	101	40.1%
3. 21-23	98	38.9%
4. 24>	18	7.1%
<b>Total</b>	<b>252</b>	<b>100%</b>

Table 4.1 above shows the age distribution of the respondents who took part in the study. A total of 252 (100%) respondents have participated in the study. The range of age distribution was 101 (40.1%) for respondents who were aged 17-20 and it was the highest, followed by 98 (38.9%) respondents who were aged 21-23. The third group, 35 (13.9%) respondents were aged 13-16 whereas only 18 (7.1%) respondents were aged 24 and above making it the lowest number.

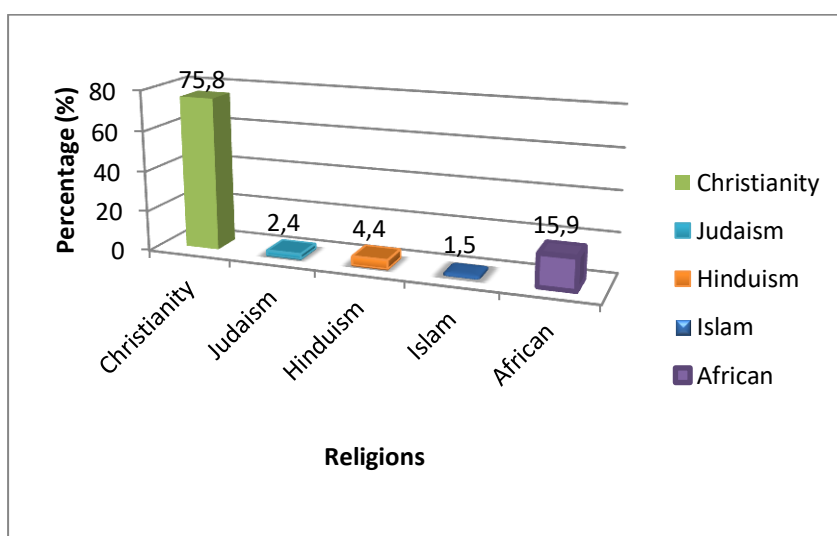
### 4.2.2 Gender



**Figure 4.1: Gender of the respondents (N=252)**

Figure 4.1 highlights that 252 (100) respondents answered this section. The analysis shows that slightly over half, 132 (52%) respondents were female high school learners whereas 120 (48%) respondents were male high school learners. This shows that the study involved both genders, all procedures were followed during the selection of the sample and that the study is free from bias.

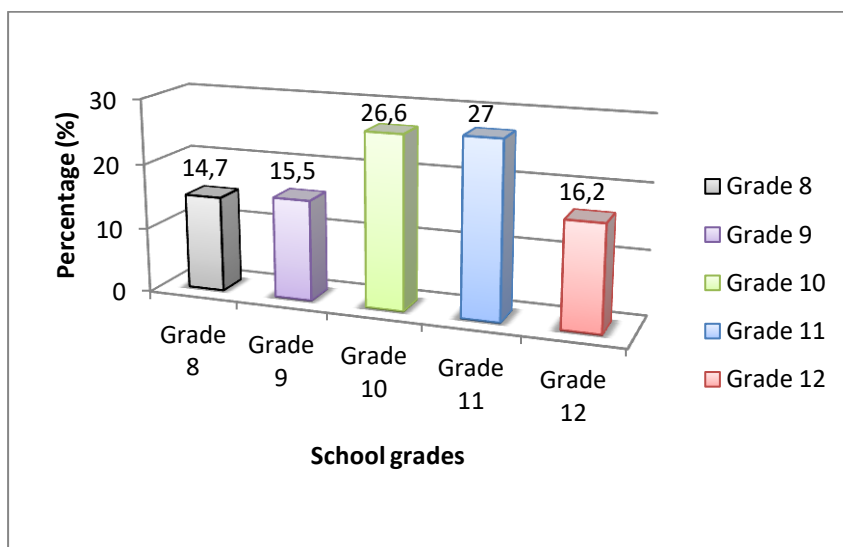
### 4.2.3 Religion



**Figure 4.2: Respondents' religion (N=252)**

Data analysis in figure 4.2 shows that the total of 252 (100%) respondents answered the question regarding their religion. Majority of the respondents, 191 (75.8%) indicated that they were Christians followed by 40 (15.9%) respondents who were members of the African religion. The analysis also shows that 11 (4.4%) of the respondents indicated that they were members of Hinduism whilst 6 (2.4%) respondents were members of Judaism religion. Lastly, only 4 (1.5%) respondents reported that they were members of the Islamic religion.

#### 4.2.4 School grades of the research respondents



**Figure 4.3: Respondents' grades in school (N=252)**

As indicated in figure 4.3, the total of 252 (100%) respondents responded to the question which was asked concerning the grades they were in. The analysis shows that 68 (27%) respondents were in grade 11, 67 (26.6%) respondents were in grade 10 whereas 41 (16.2%) respondents were in grade 12. The study analysis further shows that 39 (15.5%) respondents were in grade 9 whereas the remaining number of learners which is also the lowest, 37 (14.7%) respondents were doing grade 8.

#### 4.3 Knowledge on Sexually Transmitted Infections

##### 4.3.1 Respondent's grades versus whether they have ever heard of STIs

**Table 4.2: Responses on the association of the respondent's grades and whether they have ever heard of STIs (N=252)**

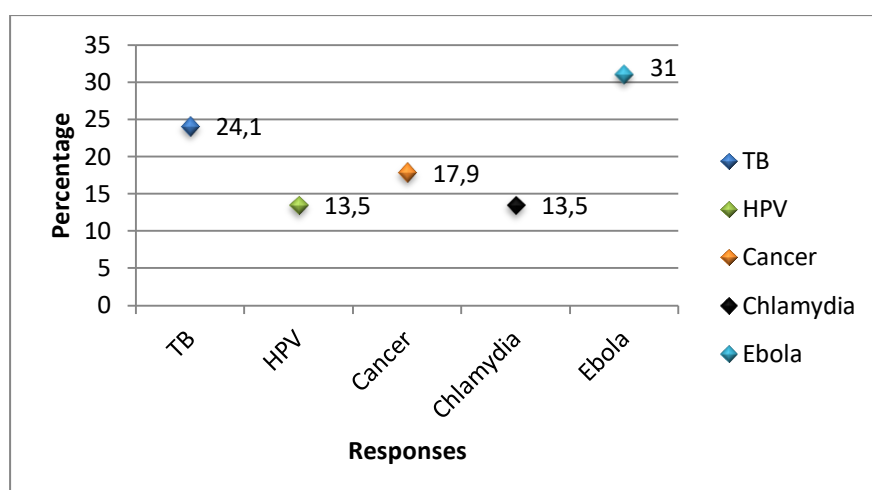
Variables	Have you ever heard of STIs?				
	Yes N (%)	No N (%)	Pearson Chi-Square	df	P-Value
<b>Grades</b>			<b>17.617a</b>	<b>4</b>	<b>0.001</b>
Grade 8	8 (21.6%)	29 (78.4%)			
Grade 9	9 (23.1%)	30 (76.9%)			
Grade 10	21 (31.3%)	46 (68.7%)			
Grade 11	37 (54.4%)	31 (45.6%)			
Grade 12	18 (43.9%)	23 (56.1%)			
<b>Total</b>	<b>93 (36.9%)</b>	<b>159 (63.1%)</b>			



Figure 4.2 shows the association between respondents' grades and whether they have ever heard of STIs. The findings show that a high number of high school learners, 46 (67.7%) in grade 10 reported that they have never heard of STIs than learners in grade 8, 9, 11 and 12. Further analysis shows that the lowest number of high school learners, 8 (21.6%) who have heard of STIs were in grade 8.

Respondents were asked to indicate whether they have heard of STIs. The analysis shows that the total of 252 (100%) respondents participated on the question. As shown in table 4.2, the analysis reveals that 159 (63.1%) respondents reported to have never heard of STIs before whereas the remaining 93 (36.9%) respondents reported to have heard of STIs before. The Chi-Square results ( $X^2 = 17.617a$ ,  $n = 252$ ,  $df = 4$ ,  $p = 0.001$ ) reveal that there is a statistical significant relationship between the grades of the respondents and knowledge of STIs.

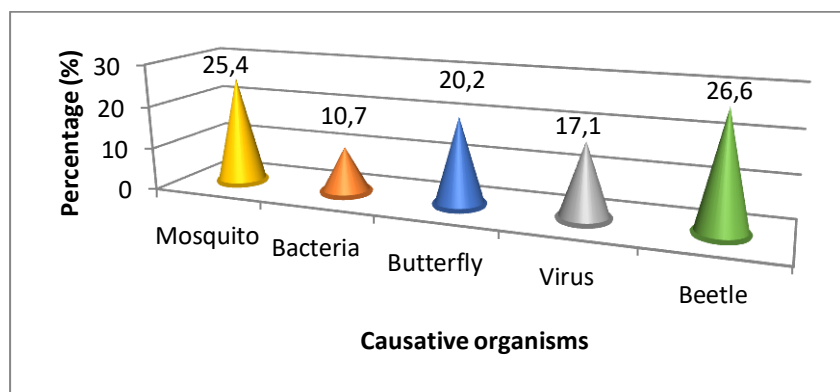
#### 4.3.2 Which of the following is an STI?



**Figure 4.4: Responses on the distribution of Infections/Diseases (N=252)**

Respondents were asked to choose one of the STIs they knew from the list of five. In response to the question on STIs as indicated in figure 4.4, the total of 252 (100%) respondents participated in answering the question asked. The findings highlight that the largest proportion 78 (31%) stated that Ebola is an STI. A total of 61 (24.1%) respondents indicated that TB is an STI whilst 45 (17.9%) respondents reported that cancer is an STI. Furthermore, 34 (13.5%) respondents indicated HPV is an STI and the exact number 34 (13.5%) respondents reported that Chlamydia is an STI.

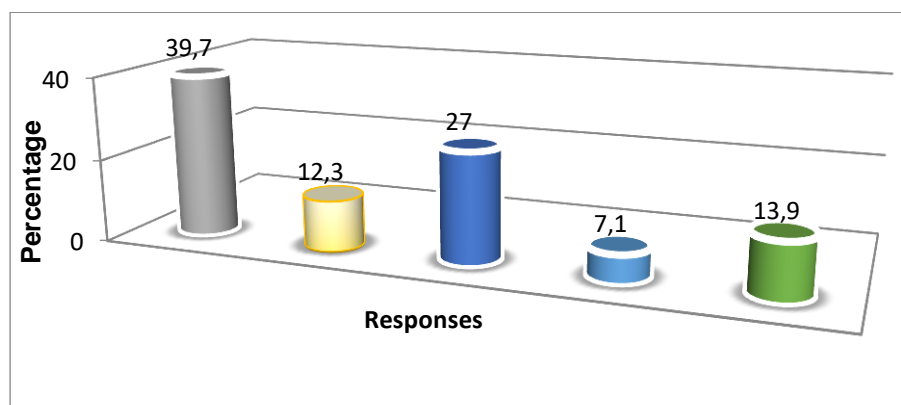
### 4.3.3 Causative organism of STI



**Figure 4.5: Responses on causative organisms of STIs (N=252)**

Figure 4.5 shows the results based on the causative organisms of STIs as reported by the respondents whereby all respondents managed to answer the question asked. The results depict that the largest proportion 67 (26.6%) respondents reported that beetle is the causative organism of STIs. Slightly over quarter, that is 64 (25.4%) respondents specified that mosquito is a causative organism of STIs. A butterfly was reported to be the causative organism of STIs by 51 (20.2%) respondents whereas 43 (17.1%) respondents stated virus as the causative organism of STIs. Lastly, only 27 (10.7%) respondents reported bacteria to be the cause.

### 4.3.4 Mode of Transmission



**Figure 4.6: Responses on mode of transmission (N=252)**

Respondents were asked to name the modes of transmission of STIs that they knew from the list of five. The total of 252 (100%) respondents answered the question. Figure 4.6 above indicates that majority of the respondents, 100 (39.7%) reported that they knew kiss as a mode of transmission of STIs whereas 68 (27%) respondents indicated that unsafe sex is the mode of transmission of STIs. Only 5 (13.9%) respondents indicated that handshake is

the mode of transmission whereas 31 (12.3%) respondents indicated that a needle is a mode of transmission. Furthermore, the lowest number, 18 (7.1%) respondents believed that mother to child is the mode of transmission of STIs.

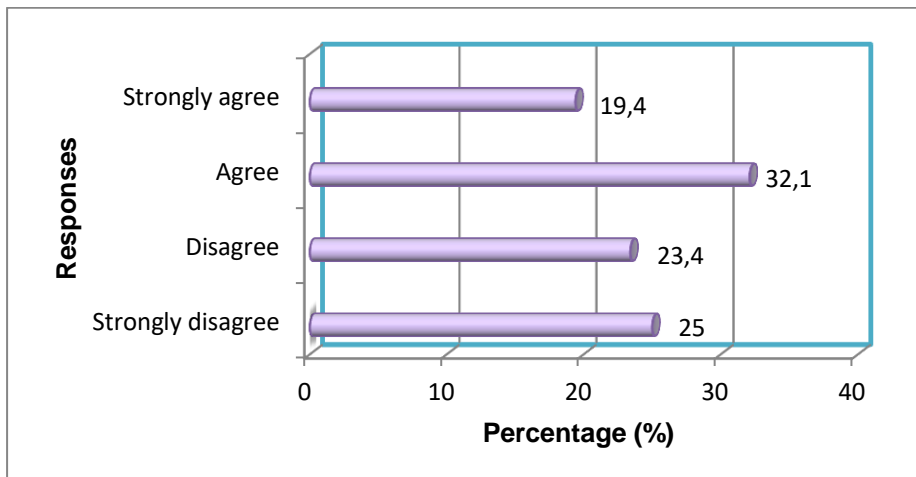
#### 4.3.5 Complications of STIs

**Table 4.3: Distribution on the complications of STIs (N=252)**

Items on the complications	Responses N (%)		Total
	Yes	No	
Body weakness is a complication	91 (36.1%)	161 (63.9%)	252 (100%)
Infertility is a complication	185 (73.4%)	67 (26.6%)	252 (100%)
Snoring is a complication	196 (77.8%)	56 (22.2%)	252 (100%)

Table 4.3 illustrates the respondents' responses in relation to their knowledge on the complications of STIs. As shown in table 4.3, all respondents managed to answer all the statements on the complications of STIs. Majority of the respondents, 91 (36.1%) accepted the notion that body weakness is a complication of STIs whilst 161 (63.9%) rejected the notion. Regarding the issue of infertility as a complication of STIs, the total of 185 (73.4%) respondents accepted the notion that infertility is a complication of STIs, while the remaining proportion which is only 67 (26.6%) reported that infertility is not a complication of STIs. Further analysis reveals that majority of the respondents, 196 (77.8%) indicated that snoring is the complication of STIs. Lastly, only 56 (22.2%) respondents reported that snoring is not the complication of STIs.

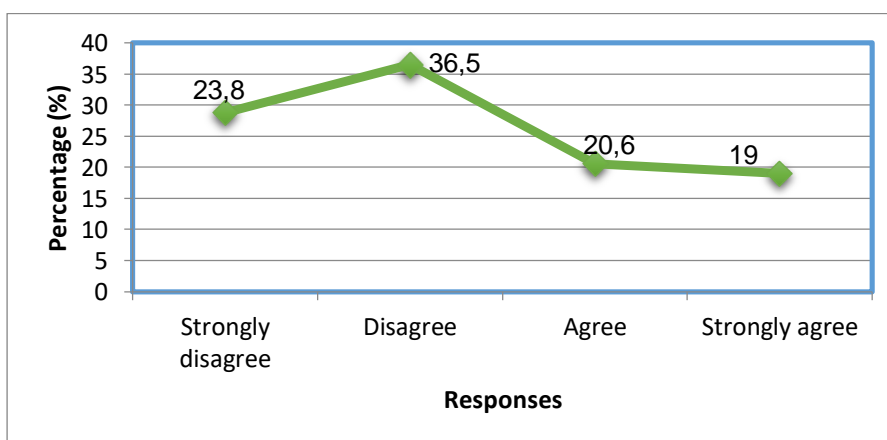
#### 4.3.6 You can prevent STIs by using a mosquito net



**Figure 4.7: Responses on prevention of STIs through a mosquito net (N=252)**

A statement in relation to whether it is possible to prevent STIs through the use of a mosquito net was tabled to the respondents. They were all given a range of responses to choose from and the options included “strongly agree”, “agree”, “disagree” and “strongly disagree”. The total number 252 (100%) of the respondents did participate and indicate their choices. Majority of the respondents, 81 (32.1%) respondents agreed that the use of a mosquito net can help stop the spread of STIs, whereas exactly a quarter, 63 (25%) respondents strongly disagreed. Further analysis shows that about a quarter, 59 (23.4%) of the respondents rejected the notion that a mosquito net can help prevent STIs. Only 49 (19.5%) respondents strongly agreed that a mosquito net can prevent STIs.

#### 4.3.7 You can prevent STIs by abstaining from sex



**Figure 4.8: Responses on prevention of STIs through abstinence (N=252)**

Respondents were given a statement concerning the prevention of STIs through abstinence, and a range of options to choose the most appropriate answer from. The total number 252 (100%) respondents did participate. Figure 4.8 above shows that majority of the respondents, that is 92 (36.5%) disagreed that abstinence can prevent STIs and 60 (23.8%) of the respondents strongly disagreed. The findings also reveal that 52 (20.6%) respondents agreed with the notion that abstinence can prevent STIs. Lastly, only 48 (19%) respondents strongly agreed that STIs can be prevented by simply abstaining from sex.

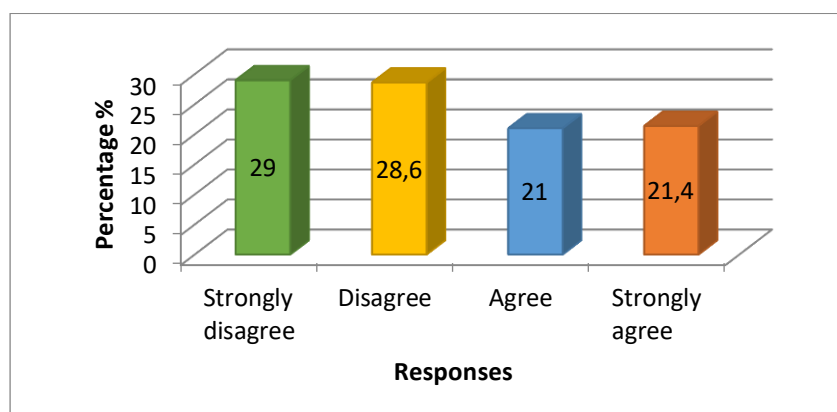
#### 4.3.8 You can prevent STIs by using injection

**Table 4.4: Responses on prevention of STIs by injection (N=252)**

Responses	Frequency	Percentage (%)
Strongly disagree	65	25.8%
Disagree	66	26.2%
Agree	77	30.6%
Strongly agree	44	17.5%
<b>Total</b>	<b>252</b>	<b>100</b>

Respondents were asked to express their views on the prevention of STIs through the use of injection. All of the respondents, 252 (100%) responded by giving the answers they found to be more appropriate from the options given, the options included “strongly disagree”, “disagree”, “agree” and “strongly agree”. Table 4.4 above shows that majority of the respondents, 77 (30.6%) agreed that one can prevent STIs by using injection whilst 66 (26.2%) respondents disagreed. The analysis also shows that 65 (25.8%) of the respondents strongly disagreed with the idea that STIs can be prevented through the use of injection. Lastly, the total remaining proportion of 44 (17.5%) respondents strongly agreed that STIs can be prevented by using injection.

#### 4.3.9 You can prevent STIs by avoiding sexual contact with multiple sexual partners

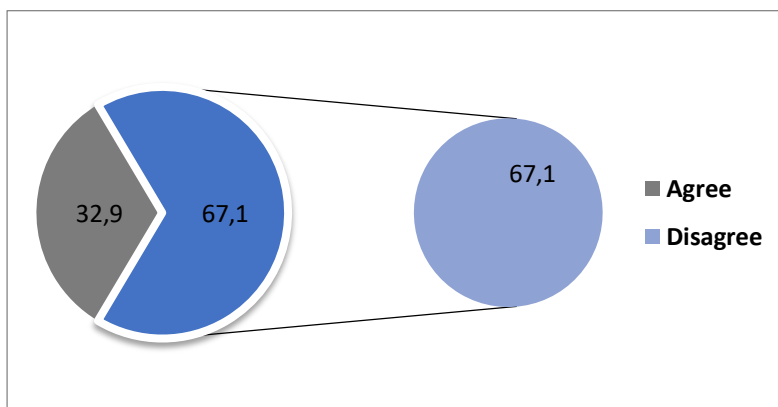


**Figure 4.9: Responses on prevention of STIs through avoiding sexual contact with multiple partners (N=252)**

A statement on the prevention of STIs by avoiding sexual contact with multiple sexual partners was given to the respondents. Respondents were expected to indicate whether they strongly disagree, disagree, agree or strongly agree. Figure 4.9 above shows that 73 (29%) respondents strongly disagreed with the statement that one can prevent STIs by avoiding a sexual contact with multiple sexual partners whilst 72 (28.6%) disagreed. A total of 54 (21.4%) respondents strongly agreed with the notion that they can prevent STIs by avoiding sexual contact with more than one sexual partner. Lastly, a slightly different proportion, 53 (21%) respondents agreed with the statement that one can prevent STIs by avoiding a sexual contact with multiple sexual partners.

#### 4.4 Attitudes of High School Learners Regarding Sexually Transmitted Infections

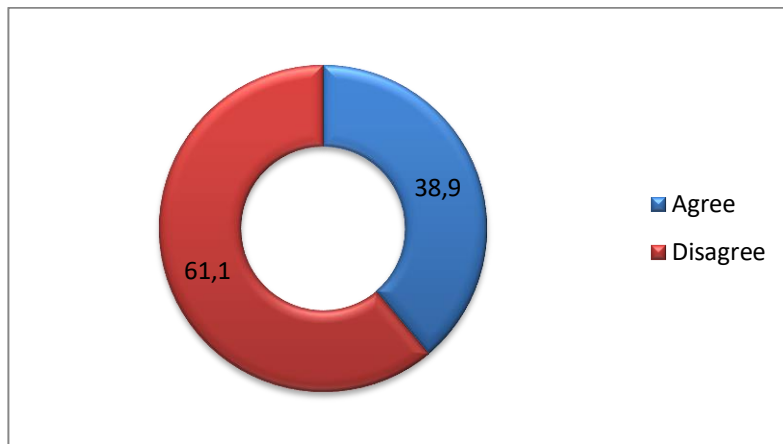
##### 4.4.1 STIs are infections



**Figure 4.10: Responses on whether STIs are infections (N=252)**

As indicated in figure 4.10, a statement was given and the respondents were expected to indicate whether STIs were infections. The respondents were given two options to choose from and these included “Agree” and “Disagree”, and the whole number (252) of the respondents responded to the statement. The study analysis reveals that 169 (67.1%) respondents disagreed that STIs are infections whereas the remaining number of respondents, 83 (32.9%) agreed.

#### 4.4.2 STIs are syndromes



**Figure 4.11: Responses on whether STIs are syndromes (N=252)**

Figure 4.11 shows that 154 (61.1%) respondents indicated that they disagree that STIs are syndromes whereas the remaining number of respondents, 98 (38.9%) agreed that STIs are syndromes.

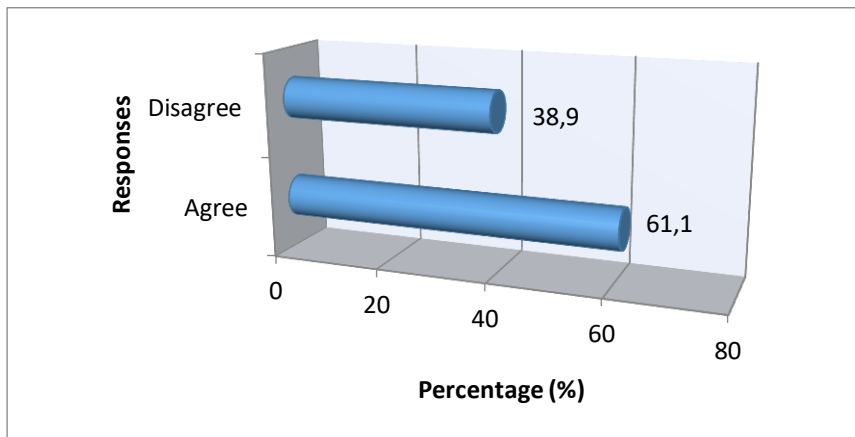
#### 4.4.3 Condoms protect high school learners from STIs

**Table 4.5: Responses on condoms protecting high school learners from STIs (N=252)**

Responses	Frequency	Percentage (%)
Agree	118	46.8%
Disagree	134	53.2%
<b>Total</b>	<b>252</b>	<b>100</b>

As tabulated in table 4.1 above the total of 252 (100%) respondents gave their views on whether condoms help protect high school learners from STIs. Data analysis shows that an overwhelming 134 (53.2%) respondents disagreed with the statement that condoms protect high school learners from STIs whereas 118 (46.8%) respondents agreed.

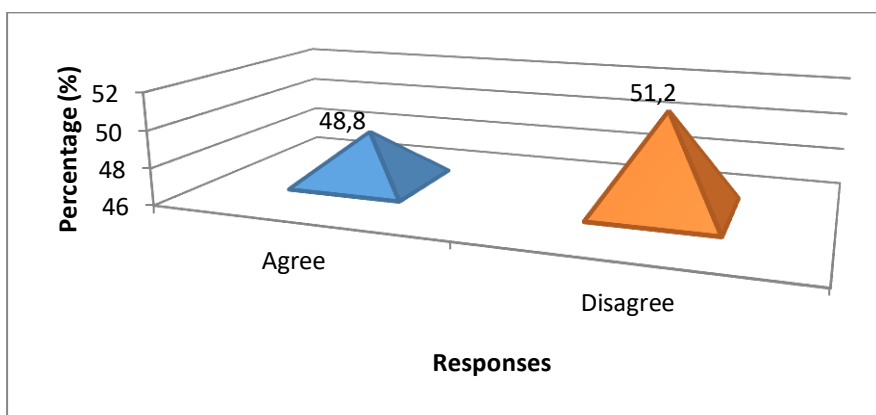
#### 4.4.4 One cannot get STIs if they go to church every Sunday



**Figure 4.12: Respondent's attitudes on going to church and STIs (N=252)**

Respondents were asked to indicate whether they agree or disagree on the statement that one cannot get STIs if they go to church every Sunday as shown in figure 4.12. The largest proportion, 154 (61.1%) respondents agreed with the notion that one cannot get STIs if they go to church every Sunday whilst 98 (38.9%) respondents disagreed.

#### 4.4.5 STIs have nothing to do with age, they affect everyone

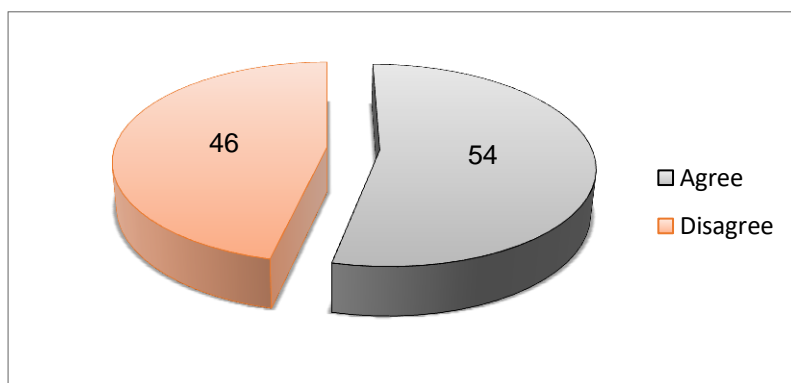


**Figure 4.13: STIs having nothing to do with age (N=252)**

In figure 4.13 above, a statement on whether STIs have nothing to do with age was given to the respondents. Respondents were asked to indicate whether they agree or disagree with the statement and they all gave their own views. Data analysis shows that 129 (51.2%) respondents disagreed with the statement whereas 123 (48.8%) respondents stated that they agreed.



#### 4.4.6 Screening for STIs is very important



**Figure 4.14: Responses on whether screening is very important (N=252)**

A statement on whether screening for STIs is important was also asked. Respondents were expected to agree or disagree, and all of them did participate. Figure 4.14 shows that 136 (54%) respondents, which is more than half agreed that screening is important whereas 116 (46%) respondents disagreed with the statement.

#### 4.4.7 Vulnerability and severity of STIs

**Table 4.6: Distribution on the vulnerability and severity of STIs (N=252)**

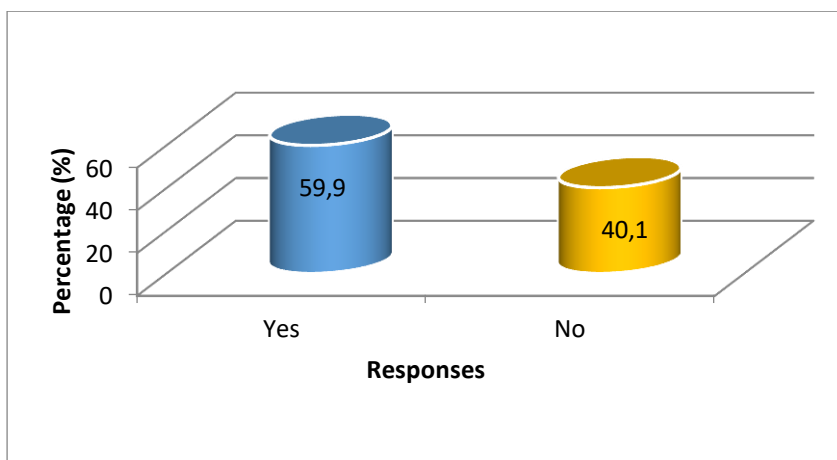
Do you think high school learners are vulnerable to STIs?		
Responses	Frequency	Percentage (%)
Yes	125	49.6%
No	127	50.4%
<b>Total</b>	<b>252</b>	<b>100</b>
Are STIs are not dangerous because they can be cured?		
Responses	Frequency	Percentage (%)
Yes	128	50.8%
No	124	49.2%
<b>Total</b>	<b>252</b>	<b>100</b>

In table 4.6 above, two questions were asked. The first question was on whether the respondents thought high school learners were vulnerable to STIs and the second one was on whether STIs were not dangerous because they can be cure. On the question regarding the vulnerability of high school learners to STIs, 127 (50.4%) respondents indicated that they do not think high school learners are vulnerable to STIs. On the other hand 125 (49.6%)

respondents responded by indicating yes meaning that they thought high school learners were not vulnerable.

On the question concerning whether the respondents thought that STIs are not dangerous because they can be cured, 128 (50.8%) respondents responded by ticking “yes” on the questionnaires meaning that they think STIs are not dangerous because they can be cured. On the other hand, 124 (49.2%) respondents ticked “No” meaning that they think that STIs are dangerous even though some of them can be cured.

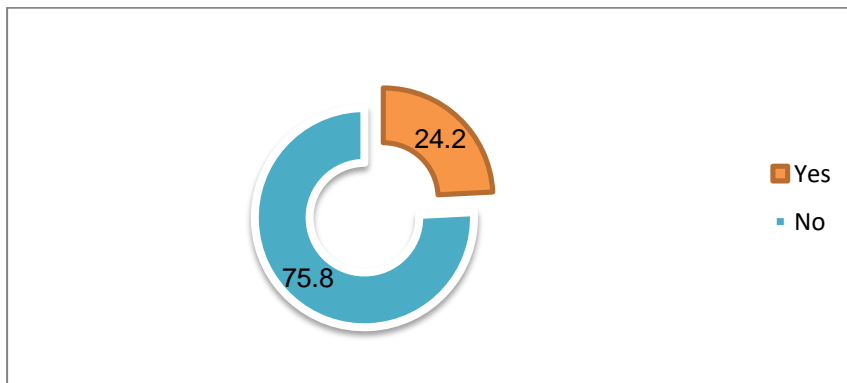
#### 4.4.8 Can STIs be removed by having sex with a virgin?



**Figure 4.15: Responses on whether STIs can be removed by sleeping with a virgin (N=252)**

A question regarding whether STIs could be removed by having sex with a virgin was asked, respondents were only given two options to choose from and these were “yes” and “no”. 100% (252) respondents responded to the question. Figure 4.15 above provides details that 151 (59.9%) respondents believe that having sex with a virgin removes STIs whereas only 101 (40.1%) of the respondents which is a small proportion reported that they did not believe that STIs could be removed by having sex with a virgin.

#### 4.4.9 Do your cultural beliefs prohibit you from using a condom?

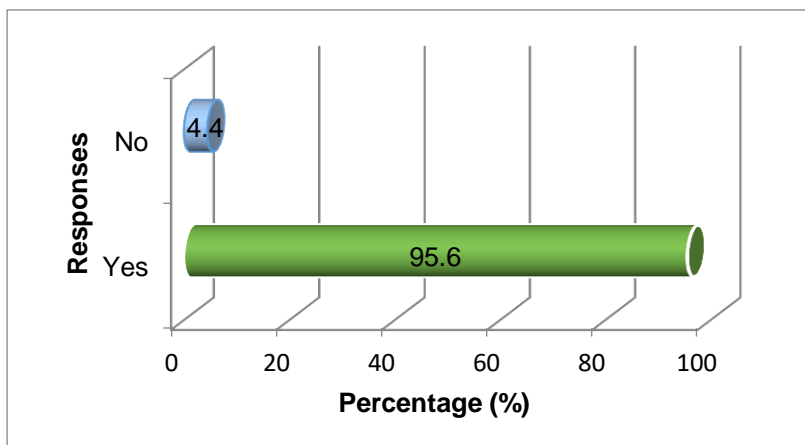


**Figure 4.16: Distribution on cultural beliefs and condom usage (N=252)**

On the question on whether respondents' cultural beliefs prohibit them from using a condom, all the respondents participated. Majority of the respondents, 191 (75.8%) reported that their cultural beliefs do not prohibit them from using condoms. Less than a quarter which is 61 (24.2%) respondents reported that their cultural beliefs prohibit them from using condoms.

#### 4.5 Risk Sexual Behaviours Contributing to Sexually Transmitted Infections among High School Learners

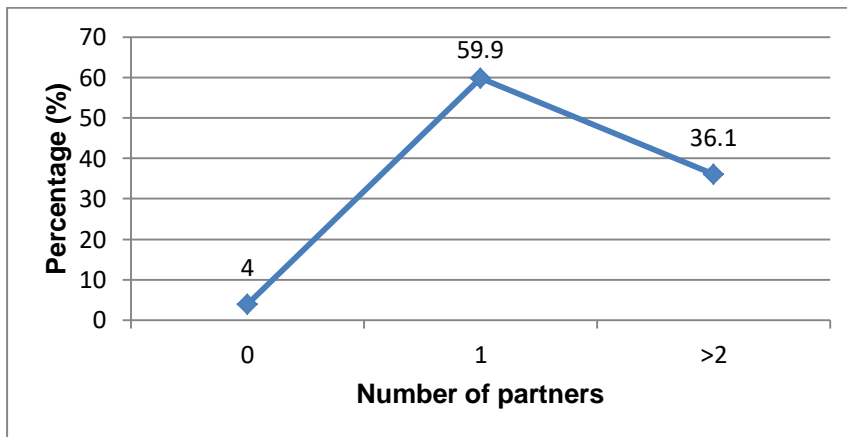
##### 4.5.1 Are you sexual active?



**Figure 4.17: Distribution on sexual active status (N=252)**

Respondents were asked whether they were sexual active, all of the respondents managed to participate. As indicated on figure 4.17 above, the study analysis shows that 241 (95.6%) respondents reported that they were sexual active whereas a very small proportion, 11 (4.4%) respondents indicated they were not sexual active.

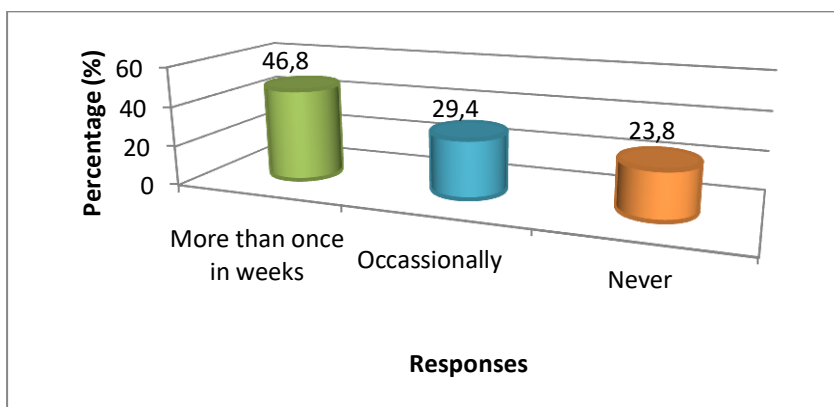
#### 4.5.2 How many sexual partners do you have?



**Figure 4.18: Respondents' responses on the number of partners they have (N=252).**

As shown in figure 4.18, a question regarding the number of partners that the respondents had was asked. The study analysis reveals that 151 (59.9%) respondents reported that they had one sexual partner each. The second largest number was 91 (36.1%) of respondents indicated that they had two sexual partners each. Lastly, only 10 (4%) respondents stated that they did not have even one sexual partner meaning that they were not in a relationship.

#### 4.5.3 How often do you read or watch pornographic materials?

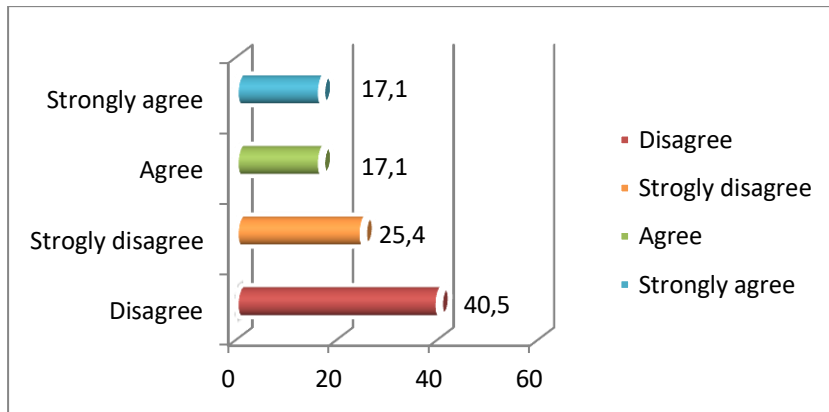


**Figure 4.19: Responses on reading or watching pornographic materials (N=252).**

A question regarding how often respondents watch or listen to pornographic materials was asked. Respondents were expected to choose the appropriate answer from the list of three, namely; "never", "occasionally" and "more than once in a week. The study analysis indicates that 118 (46.8%) the respondents stated that they read or watch pornographic materials more than once in weeks. Those respondents who indicated that they occasionally watch or

read the pornographic materials were 74 (29.4%). There were only 60 (23.8%) respondents who reported that they never read or watch pornographic materials.

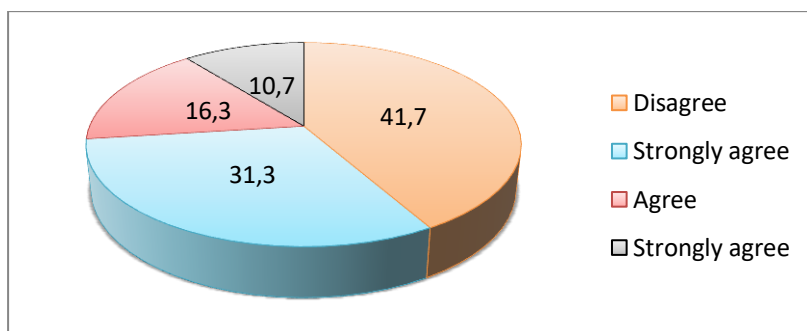
#### 4.5.4 It is important to use a condom



**Figure 4.20: Responses on whether it is important to use a condom (N=252)**

Respondents were asked to give their views on the whether it is important to use a condom. They were all expected to choose from the four options given as follows: strongly agree, agree, strongly disagree and disagree. As shown in figure 4.20, the analysis shows that 102 (40.5%) respondents disagreed that is important to use a condom whilst 64 (25.4%) respondents strongly disagreed. The study findings also offer that 43 (17.1%) respondents agreed that it is important to use a condom. Only 43 (17.1%) respondents strongly agreed that it is important to use a condom.

#### 4.5.5 It is risky to have sex while drunk

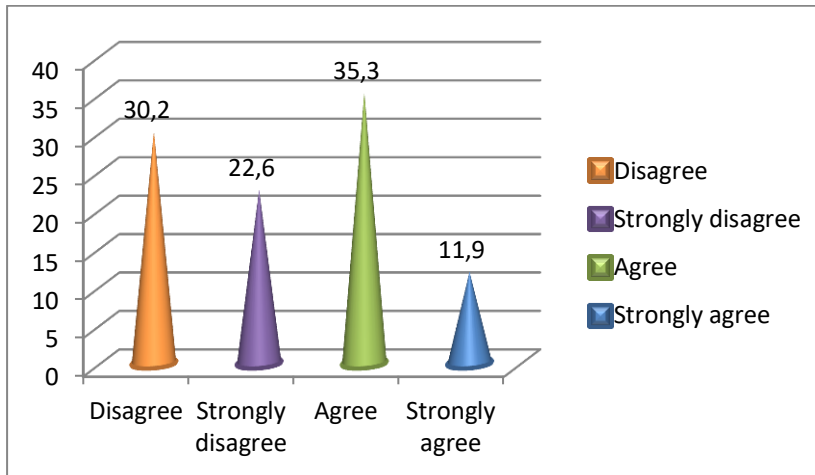


**Figure 4.21: Responses on whether it is risky to have sex while drunk (N=252)**

The analysis reveals that 105 (41.7%) respondents indicated that they disagree that it is risky to have sex while drunk, whilst the remaining number 79 (31.3%) of them strongly disagreed that it is risky to have sex while under the influence of alcohol or drugs. The data

analysis also shows that 41 (16.3%) respondents agreed that it is risky to have sex while drunk, only 27 (10.7%) respondents reported that they agree that it is risky to have sex while drunk.

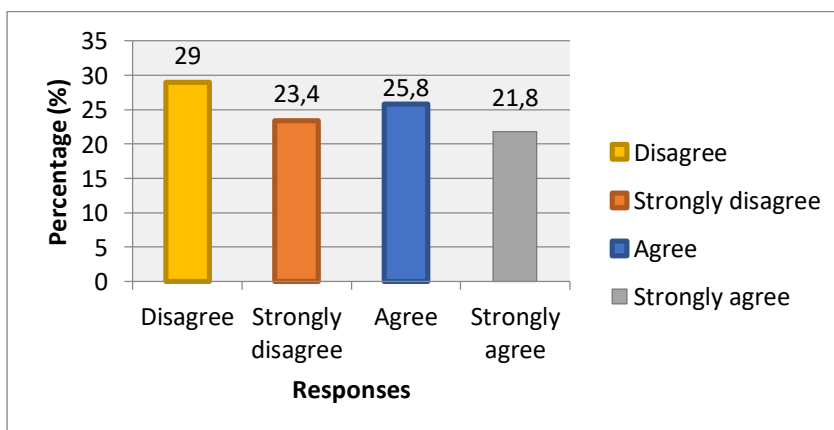
#### 4.5.6 Is it good to have multiple sexual partners?



**Figure 4.22: Responses on the number of multiple sexual partners (N=252)**

As shown in figure 4.22 above, respondents were asked a question regarding whether it is good to have multiple sexual partners. All of the respondents, 252 (100%) responded by choosing one answer of their choice from the list, the options included “disagree, “ strongly disagree”, “agree” and “strongly agree”. Data analysis reveals that 89 (35.3%) respondents agreed that it is good to have multiple sexual partners, whilst 76 (30.2%) of the respondents disagreed. The analysis further indicates that 57 (22.6%) respondents revealed that they strongly disagreed that having multiple sexual partners is good whereas 30 (11.9%) respondents strongly agreed.

#### 4.5.7 Sharing injection needles is not risky



#### Figure 4.23: Responses on whether a sharing injection needles is risky (N=252)

Respondents were asked to choose the most appropriate answer from the options given on the statement concerning whether sharing injection needles is not risky. The options included “disagree”, “strongly disagree”, “agree” and “strongly agree”. Figure 4.23 above shows that 73 (29%) respondents disagreed with the notion that sharing injection needles is not risky whilst 65 (25.8%) of them agreed. The analysis also reveals that 59 (23.4%) respondents strongly disagreed that sharing injection needles is not risky whereas only 55 (21.8%) strongly agreed.

### 4.6 Barriers to effective sexually transmitted infections care for high school learners

#### 4.6.1 Association between asymptomatic STIs acting as barriers to care and treatment versus demographic factors

**Table 4.7: Association between respondents’ demographic factors and asymptomatic STIs acting as barriers to care and treatment (N=252)**

Variables	Do asymptomatic STIs act as barriers to care and treatment?				
	Yes N (%)	No N (%)	Pearson Chi-Square	df	P-Value
<b>Age</b>			<b>8.080a</b>	<b>3</b>	<b>0.44</b>
13-16	24 (68.6%)	11 (31.4%)			
17-20	86 (85.1%)	15 (14.9%)			
21-23	78 (79.6%)	11 (20.4%)			
>24	11 (61.1%)	7 (38.9%)			
<b>Gender</b>			<b>2.628a</b>	<b>1</b>	<b>0.105</b>
Male	100 (83.3%)	20 (16.7%)			
Female	99 (75%)	33 (25%)			
<b>Religion</b>			<b>1.741a</b>	<b>4</b>	<b>0.783</b>
Christianity	150 (78.5%)	41 (21.5%)			
Judaism	4 (66.7%)	2 (33.1%)			
Hinduism	8 (72.7%)	3 (27.3%)			
Islam	3 (75%)	1 (25%)			
African	34 (85%)	6 (25%)			
<b>Grades</b>			<b>19.884a</b>	<b>4</b>	<b>0.001</b>
Grade 8	35 (94.6%)	2 (5.4%)			
Grade 9	31 (79.5%)	8 (20.5%)			
Grade 10	55 (82.1%)	12 (17.9%)			
Grade 11	42 (61.8%)	26 (38.2%)			
Grade 12	36 (87.8%)	5 (12.2%)			

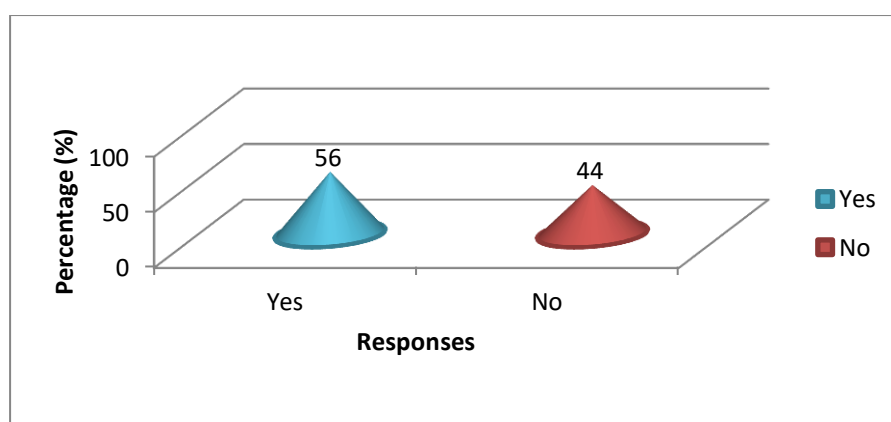
Table 4.7 shows the association between demographic factors of the respondents and whether asymptomatic STIs act as barriers to care and treatment of STIs. The analysis indicates that a high number, 86 (85.1%) of high school learners who were aged 17-20 respondents indicated that asymptomatic STIs act as barriers to care and treatment than those who were aged 13-16, 21-23 and >24 years old. However, the Chi-square results ( $X^2 = 8.080a$ ,  $n = 252$ ,  $df = 3$ ,  $p < 0.44$ ) do not show a statistical significant association between respondents' age and asymptomatic STIs acting as barriers to care and treatment.

A high number of male high school learners, 100 (83.3%) indicated that asymptomatic STIs act as barriers to care and treatment of STIs than female high school learners. The Chi-square results ( $X^2 = 2.628a$ ,  $n = 252$ ,  $df = 1$ ,  $p < 0.105$ ) indicates that there is no statistical significant relationship between gender of respondents and asymptomatic STIs.

Furthermore, a high number, 150 (75.8%) of high school learners who were Christians reported that asymptomatic STIs act as barriers to care and treatment that high school learners who were members of Judaism, Hinduism, Islam and African religion. However, the Chi-square results ( $X^2 = 1.741a$ ,  $n = 252$ ,  $df = 4$ ,  $p < 0.783$ ) shows that there is no statistical significant relationship between respondents' religion and asymptomatic STIs.

Lastly, majority, 55 (82.1%) of the high school learners who were in grade 10 reported that asymptomatic STIs act as barriers to care and treatment than those learners who were in grade 8, 9, 11 and 12. The Chi-square results ( $X^2 = 19.884a$ ,  $n = 252$ ,  $df = 4$ ,  $p < 0.001$ ) show that there is indeed a statistical significant relationship between grades of high school learners and asymptomatic STIs.

#### 4.6.2 Do you know where to seek treatment?

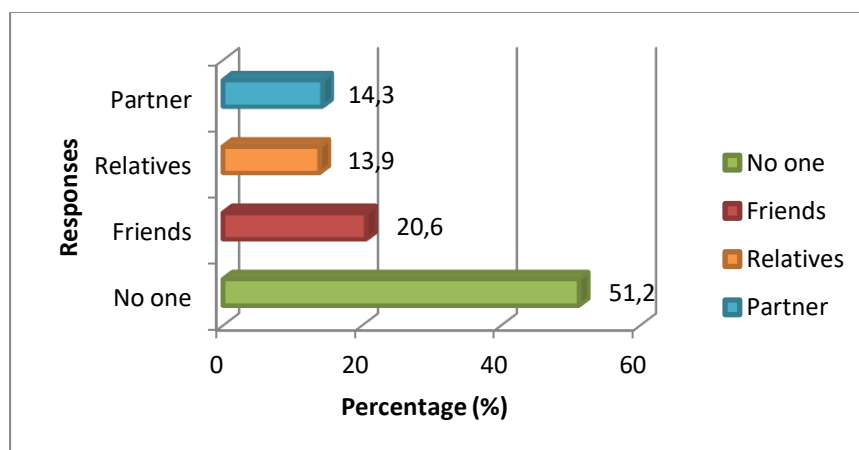


**Figure 4.24: Responses on whether the respondents know where to seek treatment (N=252)**



Respondents were asked a question regarding whether they knew where they were supposed to seek treatment, and they were expected to choose either “yes” or “no”. As indicated in figure 4.24 above, 141 (56%) respondents reported that they knew where to seek treatment for STIs. The remaining proportion, 111 (44%) respondents indicated that they did not know where to seek the treatment.

#### 4.6.3 If you were infected with STIs who would you tell?



**Figure 4.25: responses on who respondents’ would tell if they were infected with STIs (N=252)**

Respondents were asked to indicate whom they would tell if they were infected with STIs, the options given included “partner”, “relatives”, “friends” and “no one”. Figure 4.25 shows that 129 (51.2%) respondents indicated that if they were infected with STIs they would not tell anyone. The analysis also shows that 52 (20.6%) respondents indicated that they would only tell their friends. Further analysis shows that 36 (14.3%) respondents reported that they would tell their partners if they were infected with STIs. Only 35 (13.9%) respondents indicated that they were going to tell their relatives.

#### 4.6.4 Items on barriers to care and prevention of STIs

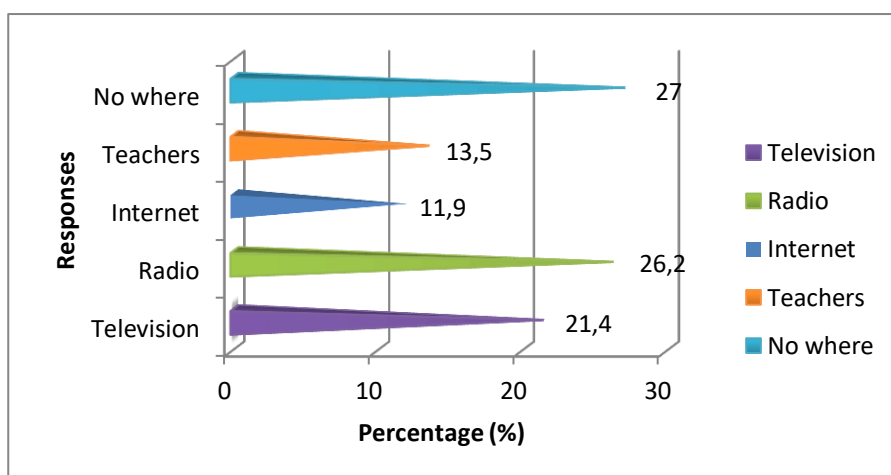
**Table 4.8: Responses on barriers of STIs (N=252)**

Items on the complications	Responses N (%)		Total
	Agree	Disagree	
Nurses are rude when offering services	232 (92.1%)	20 (7.9%)	252 (100%)
Lack of services in health care settings act as a barrier	188 (74.6%)	64 (25.4%)	252 (100%)
Lack of information is one of the barriers in the care and prevention of STIs among high	184 (73%)	68 (27%)	252 (100%)

school learners			
-----------------	--	--	--

As indicated on table 4.8, three questions were asked and the respondents responded to all of them. The first question was on whether nurses were rude when offering services to high school learners and the second question was on whether lack of services at health care settings act as a barrier. The last question was on whether lack of information is one of the barriers to care and prevention of STIs. On the question regarding whether nurses are rude when offering services 232 (92.1%) respondents reported that nurses were rude whereas only 20 (7.9%) disagreed. On the second question, 188 (74.6%) respondents agreed that lack of services at health care settings act as a barrier to care and prevention of STIs whilst 64 (25.4%) disagreed. Lastly, 184 (73%) respondents agreed that lack of information act as a barrier to care and prevention of STIs whereas only 68 (27%) disagreed with the statement.

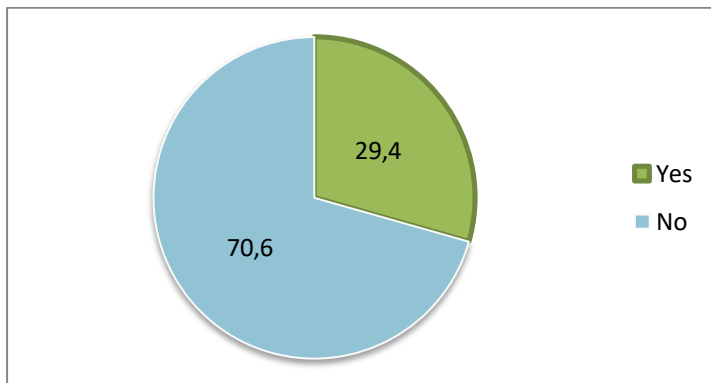
#### 4.6.5 What is your source of information?



**Figure 4.26: Responses on sources of information (N=252)**

On the question regarding the respondents' sources of information, respondents were expected to choose their source of information from the following list: "nowhere", "teachers", "internet", "radio" and "television". Figure 4.26 shows that 68 (27%) respondents reported that there is nowhere they get information from and 66 (26.2%) respondents reported a radio as their source of information. The analysis also shows that high school learners who reported to be getting information from their television were 54 (21.4%). Those who reported to be getting information from their teachers were 34 (13.5%). The last category was high school learners who indicated that they receive information from the internet were only 30 (11.9%).

#### 4.6.6 Do you talk about STIs with your partner?



**Figure 4.27: Responses on whether high school learners talk about STIs with their partners (N=252)**

Respondents were asked whether they talk about STIs with their partners. All of them, 252 (100%) respondents participated in answering the question. Figure 4.27 above shows that majority 178 (70.6%) of the respondents indicated that they do not talk to their partners about STIs. The lowest proportion, 74 (29.4%) respondents indicated that they do talk about STIs with their partners.

#### 4.7 Conclusion

This chapter presented and analysed the data that was collected from high school learners at Photani High School in relation to their knowledge, attitudes and risk behaviours regarding STIs in the Collins Chabane Municipality. The data was presented in the form of graphs and tables and the associations between variables were drawn and compared.

## CHAPTER 5

### DISCUSSION, CONCLUSION AND RECOMMENDATIONS OF THE STUDY

#### 5.1 Introduction

The chapter presents the discussion of the study findings, a broad summary of the findings, conclusion and recommendations of the study. The discussion involves what the current researcher found and also what previous researchers found on the same subject. The conclusion will thus summarise everything the researcher has dealt with in the entire project.

#### 5.2 Discussion

##### 5.2.1 Demographic information

The results of the study indicated that majority of the respondents, 101 (41%) were aged between 17 and 20. The study findings also showed that there were more female high school learners (132/52%) than male high school learners (120/48%). Furthermore, the study findings revealed that 75.8% (191) of the respondents who took part in the study were Christians. Lastly, the study findings also highlighted that majority (68/27%) of the respondents were in grade 11.

##### 5.2.2 Knowledge on Sexually Transmitted Infections

The study found that 159 (63.1%) respondents have never heard of STIs before whereas only 93 (36.9%) have heard of STIs. In grade 12, 23 (56.1%) respondents did not demonstrate a high level of knowledge on STIs because they reported to have never heard of STIs. Respondents' grades were cross tabulated with whether the respondents have ever heard of STIs. The Chi-Square results ( $\chi^2 = 17.617a$ ,  $n = 252$ ,  $df = 4$ ,  $p = 0.001$ ) revealed a statistical significant relationship between the grades of the respondents and knowledge of STIs. The study is consistent to the study done by Adera, Wudu, Yimam, Tamirie, Aregah, Dessie, and Tinsae, (2013) who discovered that about 17.5% of rural based high school learners reported to have heard of STIs compared to 82.5% of high school learners from urban areas.

This might be attributed to the fact that urban areas have sufficient resources, including information regarding sexual issues compared to remote areas. In contrast, Sharma, Makur and Sherkhane (2017) found that 42% of high school learners knew about STIs. This might be due to the fact that some other countries have more policies on STIs and they promote health education than other countries. Another study conducted by Lema, Katapa and Musa (2008) in Kibaha district (Tanzania) discovered that majority (98.4%) of high school learners indicated that they knew about HIV and other STIs.

Regarding the types of STIs, the study found that 78 (31%) high school learners demonstrated poor knowledge about STIs as they reported that they knew Ebola as an STI, followed by 61 (24.1%) respondents for TB. The findings further revealed that 45 (17.9%) respondents reported cancer as an STI. 34 (13.5%) respondents demonstrated a satisfactory knowledge on STIs as they indicated that HPV is an STI, another 34 (13.5%) respondents reported that Chlamydia is an STI. This concurs with the study conducted in Germany which found that 90.61% knew about Herpes, 83.52% about Hepatitis B and only 13.37% about HPV infection. However, a study conducted by Keptanoglu, Suer, Diktas and Hinca (2013) found that high school learners marked some other diseases that may in their opinion be STIs (brucellosis 7.9%, TB 7.8%, and Rotavirus infections 6.86%). These results may be due to the fact that majority of high school learners only know of HIV and no other STIs due to lack of awareness campaigns in rural villages.

This research established that the level of knowledge of high school learners regarding the causative organisms of STIs was too low because only 67 (26.6%) high school learners reported that beetle is the causative organism of STIs. Another proportion, 64 (25%) respondents indicated that they knew mosquito as a causative organism of STI. Neha and Zhang (2017) discovered that 59.5% of high school learners thought one can get HIV through mosquito bite. In contrast, Lema, Katapa and Musa (2008) reported that 56% high school learners in the study reported virus as the causative organism of STIs. Another study conducted by Uike, Dudhgaonkar and Jagdhani (2016) found that majority of learners (97.87%) correctly answered the causative organism of STIs.

The study found that high school learners did not have enough information on the modes of transmission of STIs. This was shown by the responses made whereby majority of the respondents, 100 (39.7%) who indicated that they knew kiss as one of the modes of transmission of STIs. This is supported by the study conducted by Gao, Wu and Zhang (2012) who found that large proportions of middle and high school learners (18.70% and 26.73% respectively) believed that mosquitoes and kiss can spread STIs. Grad, Senila and Cosgereia (2016) also discovered that some high school learners believed that STIs can be transmitted through shaking hands (1.3%), kissing on cheeks (0.7%), pool water (9.8%), insect bites (11.6%), kissing on the mouth (19.9%), and toilet bowl seats (27.9%) However, Neha and Zhang (2017) discovered that most high school learners recognized that sharing needles can cause HIV and other STIs (97%), an HIV positive mother can infect her child with HIV during birth (87%), and HIV can be transmitted via sexual intercourse (80%).

On the issue regarding the complications of STIs, 91 (36.1%) respondents demonstrated a satisfactory knowledge as they reported that body weaknesses are some of the complications of STIs. Infertility was reported to be one of the complications of STIs by 185 (73.4%) of the respondents. In support, Jain, Suchi, Jain, Patil and Bang (2016) found that 72% high school learners believed that body weaknesses and infertility were some complications of STIs. Seeing that high school learners in this study show adequate knowledge on the complications of STIs, it is predicted that they are more likely to change their risk behaviours. However, Uike, Dudhgaonkar and Jagdhani (2016) reported that 46.1% learners did not report body weaknesses and infertility as some of the complications of STIs. Lastly, 196 (77.8%) of the respondents reported that snoring is one of the complications of STIs. A study conducted in India found similar results.

The findings of the study discovered that a total of 81 (32.1%) of the respondents agreed that the use of a mosquito net can help stop the spread of STIs. Adera (2013) found that 33% of the study units held the misconception that mosquito net can prohibit the transmission of STIs. In a study done by Tung, Ding, and Farmer (2008) among college students in Taiwan, it was found that 64.4% respondents disagreed that mosquito nets could possibly stop the spread of STIs.

The study also discovered that majority of the respondents, 92 (36.5%) disagreed that abstinence can prevent STIs. This is consistent with the study conducted by Neha and Zhang (2017) which found that 76% of high school learners believed that abstinence could not prevent them from getting infected with STIs as they could also get the infection through having a direct contact with the infected blood. However, a study conducted by Sharma, Makur and Sherkhane (2017) found that 100 (55.56%) high school learners opined that abstinence from sex and 59 (32.78%) with usage of condoms thought to be the most common method of preventing the disease. Another study conducted in Durban, South Africa as stated by Adera (2013) found that majority of high school learners (62.8%) listed abstinence as a method of STI prevention followed by the use of condoms (37.2%). This variation could be due to the fact that people residing in urban areas have more access to information compared to the ones in rural villages.

The study findings also showed that majority of the respondents, 77 (30.6%) agreed that one can prevent STIs by using injection. This contradicts with the findings of a study conducted in Jammu as quoted by Sharma, Makur and Sherkhane (2017) which found that majority of the high school learners (50%) believed that STIs can be prevented by the use of sterile

injection needles as a preventative measure. Lastly, the study also discovered that high school learners have poor knowledge on how to prevent of STIs as 73 (29%) of them strongly disagreed with the statement that one can prevent STIs by avoiding sexual contact with multiple sexual partners. This is inconsistent with the findings of the study conducted by Uike et al., (2016) which unearthed that 75.88% of learners agreed that avoidance of multiple sex partners was the most important approach for prevention of infection

### **5.2.3 Attitudes of High School Learners Regarding Sexually Transmitted Infections**

The study findings indicated that 169 (67.1%) respondents did not possess a very good attitude towards STIs as they have disagreed that STIs are infections. This bad attitude could be attributed to the fact that respondents who formed part of the study knew more of HIV than all other STIs. Adera et al., (2013) discovered that only 10.6% of the participants considered STIs as curse and syndromes and not infections.

The study found that high school learners had a negative attitude concerning the importance of using condoms as 134 (53.2%) disagreed with the statement that condoms protect high school learners from STIs. These findings are consistent with a study conducted by Uike et al., (2016) which discovered that less number of learners (23.4%) had knowledge about perception regarding the importance of STI prevention with condom use as they reported that the use of condoms is not important. In contrast, Trajman, Belo, Teixeira, Dantas, Salamao and Cunha (2017) found that 94% of high school learners reported knowing that HIV is sexually transmitted and that condom use reduces the risk of transmission. Dehne and Riedner (2008) found that 67% high school learners believed that condoms can protect them from HIV and other chronic STIs such as gonorrhoea and syphilis.

Furthermore, the study found that high school learners have insufficient knowledge on how they might acquire STIs as 154 (61.1%) of them agreed with the notion that one cannot get STIs when they go to church every Sunday. Having insufficient knowledge may be due to the fact that some high schools do not dwell much on sexual issues on the subjects they teach such as 'life orientation and life sciences'. Similarly, a study conducted by Iftner et al., (2010) revealed that high school learners did not believe they could get infected with HIV and some other STIs if they go to church every day. Contrary, Williams, Dodd, Campbell, Pichon and Griffith (2014) reported that majority of adolescents in one church reported that they knew STIs could be prevented through abstinence and condom use, not by going to church every Sunday.

It was also revealed by the study findings that 129 (51.2%) respondents disagreed that STIs have nothing to do with age, they affect everyone. The study findings revealed that there was a need for high school learners to be taught more about sexual issues. A study done by Sales, DiClemente, Rose, Wingood, Klein and Woods (2007) found that majority of the learners in high school believed the misconception that STIs only affect elderly people. A study conducted by Kar et al., (2015) discovered that majority of high school learners (60%) knew they were exposed to HIV and other STIs irrespective of their age differences.

The study also found that majority of the respondents, 136 (54%) had a positive attitude regarding STI screening as they have agreed that screening is very important. This positive attitude may be due to the fact that some of them knew about some of the STIs which do not show symptoms. A study conducted by Amu and Adegun (2015) found similar results whereby 72.1% high school learners reported that screening for STIs is very important as it may help them take proactive actions and STI treatments at the right time. However, a study conducted by Grad et al., (2016) found that only 34.9% and 25.1% of the total number of high school learners who formed part of the study reported previous STIs testing and HIV testing, respectively.

The study discovered that most of the high school learners have no information on how they can contract STIs as majority of them, 127 (50.4%) indicated that they did not think they were vulnerable to STIs. This result is consistent with that of research conducted in Tanzania which found that 46% of the students said they were not at risk of contracting STIs, while 38% said they were at risk. This difference may be due to knowledge difference of respondents among the two study areas. These findings differ with the that of the study conducted by Adera et al., (2013) which revealed that 92% of high school learners reported that they were vulnerable to the risk of contracting STIs while only 8% reported that they were not at risk.

The study also found that high school learners had a negative attitude to STIs as 128 (50.8%) of them revealed that STIs are not dangerous because they can be cured. This shows that most high school learners do not know that there are some of the STIs that cannot be cured. These findings concur with the ones found by Gao, Wu and Zhang (2012) who revealed that high school learners did not know that HIV is one of the STIs.

Further analysis showed that high school learners had a very bad attitude regarding STIs as majority of them, 151 (59.9%) believed the misconception that having sex with a virgin



removes STIs. Kann et al., (2016) also discovered that 74% of high school learners reportedly believed that STIs could be removed by having a sexual activity with a virgin. These findings differ with the ones of a study done by Fennie (2011) who discovered that majority of respondents (96.8%) asserted that HIV and other STIs infected people cannot cure HIV by having sexual intercourse with a virgin while only 1.3% believed the myth. A small proportion of 15% of respondents reported that they believed a misconception saying that having sex with a virgin could cure HIV and other infections whilst majority of them did not (Netshivhuyu, 2017).

The analysis revealed that majority of the high school learners, 191 (75.8%) reported that their cultural beliefs do not prohibit them from using condoms. Similar results were obtained by study conducted by Adera et al., (2013) in Delhi among high school learners in Pune. Denis, Adera and Workeneh (2017) discovered that 64.7% of high school learners reported that their cultural beliefs did not prevent them from using condoms. In contrary, Grad, Senila and Cosgera (2016) found that 52% of high school learners could not use condoms due to their cultural beliefs. WHO (2005) as quoted by Nduta (2008) reported that cultural beliefs, level of information and family influence were some of the factors that prohibited high school learners from using condoms.

#### **5.2.4 Risk Sexual Behaviours Contributing to Sexually Transmitted Infections among High School Learners**

The study revealed that overwhelming majority 241 (95.6%) of the respondents who participated in the study were sexual active. This puts them at a risk of getting infected with STIs because some of them end up not using condoms. The findings are in line with that of Fennie (2011) who discovered that a large group of respondents (65.4%) indicated that they were sexual active whilst 30% and 1.3% were not sexual active and did not answer the question respectively. Another study conducted by Reis, Ramiro, Matos, Diniz and Simoes in 2011 found that 22.7% of high school learners in Portugal reported having had sexual intercourse, with a majority (71.1%) reporting having had sexual intercourse for the first time at 14 years old or later. In contrast, a study conducted by Grad et al., (2016) discovered that a total of 233 respondents (6.01%) were not sexual active and they had no sexual experience.

The study also found that from those who reported to be sexual active, 151 (59.9%) respondents reported that they had one sexual partner each. Males and females reported having only one sexual partner each in 69.2% and 53.8% of cases, respectively (Lema,

Katapa and Musa (2008). However, a study conducted by Netshivhuyu (2017) reported that majority of male youths were likely to have more sexual partners than females, thereby making them more likely to be at risk of STIs. Grad et al., (2016) also discovered that approximately 30% of high school learners reported to be having multiple sexual partners. These differences may be because high school learners who formed part of the present study reside in deep rural areas where there is no enough health and recreational facilities, the area is just populated by bottle stores and sheabeens.

Moreover, the study found that 118 (46.8%) of the respondents stated that they read or watch pornographic materials more than once in weeks. This might be due to the fact that some of them do not know that watching pornographic materials might make them want to experiment what they see, thus putting them at a risk to be infected with STIs. A study conducted by Kar (2015) found that 52.2% of high school learners watched pornographic materials. Whereas a study conducted by Nduta (2008) found that majority of high school learners did not watch pornographic materials.

The study discovered that one of the risky behaviours demonstrated by high school learners is that they do not use condoms. A total of 102 (40.5%) respondents disagreed that is important to use a condom meaning that they are too exposed to STIs. A study conducted by Netshivhuyu (2017) revealed that 60% of both genders of high school learners did not use condoms with other partners and this risky sexual behaviour had the potential to increase the risk of HIV and other STIs. Another study conducted by Kuete, Huang and Abdil (2016) revealed that 16.97% agreed to have unprotected sex after mutual decision without HIV testing. In contrast, Maimaiti, Shamsuddin and Maimati (2010) discovered that about 65% - 75% high school learners thought condom could prevent HIV and other STI transmission during sexual intercourse.

It was also discovered that one of the risk factors regarding STIs among high school learners was that they had sex while under the influence of alcohol. The study revealed that 105 (41.7%) of the respondents indicated that it is not risky to have sex while drunk. This is consistent with the study conducted by Gao, Wu and Zhang (2012) which revealed that 40.5% reported drug and substance abuse before sexual intercourse. The study also discovered that 89 (35.3%) of the respondents agreed that it is good to have multiple sexual partners. This is one of the factors making high school learners to be more vulnerable to STIs. A study conducted by Jain et al., (2016) also discovered that 55.7 % respondents strongly opposed the tendency of having multiple sexual partners while 44 % believed that it is right for them to have multiple sexual partners.

The study findings revealed that majority of respondents 73 (29%) seemed to have satisfactory knowledge concerning sharing needles as one of the risk behaviours of STIs as they disagreed with the notion that sharing injection needles is not risky. In support, Denis, Adera and Workeneh (2017) found that majority of high school learners (36.3%) revealed that contact with contaminated blood and needle was too risky. These findings are different to the study conducted by Nwatu, Young, Ezeala-Adikaibe, Okafor and Onwuekwe (2017) which revealed that the least (19.1%) frequently identified mode of transmission was contact with contaminated sharps or needles.

### **5.2.5 Barriers to effective sexually transmitted infections care and treatment for high school learners**

The Chi-square results ( $\chi^2 = 19.884a$ ,  $n = 252$ ,  $df = 4$ ,  $p < 0.001$ ) showed that there was a statistical significant difference between asymptomatic STIs and grades of respondents. A major concern was on high school learners who were in grade 8. The association between respondents' religious beliefs and symptomatic STIs did not yield any significant correlations. A study conducted by Uike, Dudhgaonkar and Jagdhani (2016) found that some grade 8 learners did not seem to be having any knowledge concerning asymptomatic STIs. However, Jain et al., (2016) discovered that asymptomatic STIs were known to 171 (45.6%) high school learners.

Majority of high school learners, 141 (56%) revealed that they knew where to seek treatment for STIs. This can be attributed to the fact that there is a clinic right next to the location of the study. These findings are consistent with a study done by Adera et al., (2013) which revealed that 49.88% of high school learners who were previously infected with STIs were treated at home, 40.9% at health institutions whilst 9.22% were treated at other places. According to Grad, Senila and Cosgereia (2016) majority of male high school learners indicated that in case of STI suspicion, most of them would consult a GP or an urologist (61.2% and 45.3%), while the majority (92%) of female high school learners would go to a gynaecologist meaning that they know where to seek treatment. Contrary, Sales et al., (2007) discovered that 52.2% high school learners reported to be confused and not knowing where to seek treatment for STIs.

This study found that revealing STI status to friends and family members was still a concern as 129 (51.2%) high school learners opined that in case they should be infected with STIs, they were not going to tell anyone. This might be due to fear of isolation by parents, relatives and friends. The study also found that those high school learners who reported that they

would tell their friends about STI diagnosis were only 50 (20.6%). Maimaiti, Shamsuddin and Maimati (2010) revealed that 84.3% of the respondents reported that they would not disclose their status to their friends because they thought they would be avoided if they were found to be having STIs. According to Stang, Lloyd, Brady, Holland and Baral (2013), HIV related stigma and discrimination can hamper efforts to prevent new infections and engage people in STI treatment, care and support programs.

Majority of high school learners, 232 (92.1%) reported that nurses were rude when offering services. This is one of the factors preventing high school learners from going to their local clinics and hospitals. The findings of the current study are in line with the study done by Tangmunkongvorakul, Banwell, Carmichael, Utomo, Seubs, Kelly and Sleigh (2012) which discovered that health service practitioners in Thailand act judgmental toward adolescents with STIs. Another study done by Folasayo et al., (2017) also found that majority of high school learners revealed that they received a very bad treatment from nurses and other health care workers. These results therefore reveal that high school learners may postpone getting treatment for STIs due to the treatment they think they should receive from practitioners in public healthcare facilities. A cross-sectional study in Botswana by Lesedi, Hoque, Ntuli-Ngcobo (2011) revealed that a positive relationship between adolescents and healthcare providers is often associated with increased utilization of reproductive health care services.

The study findings also revealed that 188 (74.6%) high school learners reported that lack of resources in health care settings was one of the factors acting as barriers to care and treatment of STIs. This might be attributed to the fact that some of the clinics in rural areas do not receive medications and other resources at the right time due to poor roads and infrastructure. Another factor might be that of corruption because some of employees sell medications for personal benefits. Nwatu et al., (2017) found that 58% high school learners indicated that they their local clinics did not have enough resources to cater for different villages. Another study done by Williams et al., (2014) found that approximately 51% of high school learners revealed that their local clinics do not have enough resources and they could not afford to buy condoms. This study also discovered that 184 (73%) respondents stated that lack of information is one of the factors acting as barriers to care and treatment of STIs.

The results indicate that majority of high school learners, 66 (26.2%) pointed out that radio was the most common source of information followed by television (54/21.4%), teachers (34/13.5%) and internet (30/11.9%). This reveals that most of the high school learners got

the information regarding STIs on radio programs than any other source of information. High school learners either did not talk much of the sexual issues with their teachers or read various articles concerning STIs on internet. Similarly, a study conducted by Neha and Zhang (2017) found that mass media (newspapers and magazines, 64% television and radio 48.8%) was the major sources for getting information about STIs. However, a study conducted by Keptanoglu et al., (2013) discovered that school was the most frequently mentioned source for knowledge than mass media.

The study found that majority of high school learners, 178 (70.6%) reported that they could not talk to their partners about STIs. The study findings are consistent with that of the study conducted by Keptanoglu et al., (2013) which discovered that majority of high school learners (77.7%) indicated that they could not talk to their partners about STIs. More than half of students (55.7%) still are reluctant to discuss the matters regarding sexual issues with their parents or counsellors (Jain et al., 2016). These findings may be due to the fact that some high school learners do not feel comfortable talking about sexual issues because of fear of embarrassment. However, the findings are inconsistent to the study done by Folasayo et al., (2017) which discovered that 52.2% high school learners reported to be talking about STIs with their partners. The variation between the current study and the consistent one may be because majority of adolescents staying in urban areas feel comfortable discussing sexual issues with their friends, relatives and partners due to recurring developments.

### **5.3 LIMITATIONS**

The study sample included only one high school from Malamulele West Circuit in the Collins Chabane Municipality. The recent study findings can thus not be generalised to all high schools in the Collins Chabane Local Municipality, Limpopo Province or South Africa as a whole. It was not easy for the researcher to find the information related to the topic of the study. Some respondents did not cooperate well during the time of data collection. Some of the respondents did not want to cooperate well during the process of data collection

### **5.4 CONCLUSION**

The purpose of the study was to investigate the knowledge, attitudes and risk behaviours regarding sexually transmitted infections among learners at Photani High School in the Collins Chabane Municipality. The study found high school learners not to be having adequate information regarding STIs. High school learners held negative attitudes regarding STIs and most of them did not really believe in the use of condoms, making them more

vulnerable to HIV and other STIs. Misconceptions regarding STIs were found to be still present among high school learners as some of them believed going to church would prevent them from getting infected with STIs. Some believed in the cure of STIs by sleeping with a virgin. Risky behaviours such as unprotected sex, sharing of syringes, drug and alcohol abuse were found to be some of the factors contributing to high rates of STIs. A range of factors that act as barriers to effective STIs services were assessed, thus lack of resources, stigmatisation, lack of STI related programs, bad treatment by health practitioners and access to pornographic materials.

## 5.5 RECOMMENDATIONS

The study findings influenced the research to the following recommendations in order to increase the knowledge of high school learners regarding STIs and change their attitudes:

- The Department of Health, Department of Basic Education and Department of Social Development should work together to organise awareness campaigns in high schools to educate learners about STIs.
- Availability of condoms in highly accessible areas such as bottle stores, clinics and recreational facilities should be ensured.
- Since majority of high school learners do not go to the local clinics because of bad treatment they receive from nurses, the National Department of Health should regularly offer workshops designed to help nurses treat patients equally irrespective of their physical appearance, personalities and social status.
- Parents and teachers should be encouraged not to shy away from discussing STI related matters with high school learners.
- Screening for STIs should be made mandatory for each high school learner, at least once in a year.
- The government should invest more on STI related programs in deep rural areas to encourage safe sex practices.
- Churches should offer formal programs aimed at encouraging adolescents to make use of reproductive health care services in order to prevent STIs and unwanted pregnancies.
- Further research on STIs and the evaluation of the services and programs that already exist should be carried out; this will help the South African government in tracking its progress in relation to the realisation of 90-90-90 strategies.

## List of references

- Adera, A., Wudu, M., Yimam, Y., Tamirie, M., Aregah., Dessie, M, G. & Tinsae, F. (2013). Assessment of Knowledge, Attitude and Practice of Students Towards Sexual Transmitted Infection in Haile Mariam Mamo Preparatory School Debre Birhan, Ethiopia. *Science Journal of Public Health*, 3(4): 563-571.
- Amon, E., Angelina, M., Godfrey, M., Khadija, K., Godfrey, M. & Honorati, M. (2011). Multiple sexual partners and condom use among 10–19-year-olds in four districts in Tanzania: What do we learn? *Journal of Public Health*, 3(11): 490-496.
- Amu, E. O. & Adegun, P. T. (2015). Awareness and Knowledge of Sexual Transmitted Infections Among Secondary School Adolescents in Ado Ekiti, South Western Nigeria. 10 (15), 1-8. Available at: <http://dx.doi.org/10.1155/2015/260126> (accessed 05 November 2017).
- Babbie, E. & Mouton, J. (2016). *The Practice of Social Research Methods*. Cape Town: Juta and Company.
- Brink, H., Van der Walt, C. & Van Rensburg, G. (2006). *Fundamentals of Research Methodology for Health Professionals*. 2nd ed. Cape Town: Juta and Co.
- Broskey, E. (2010). Health Belief Model: use of condom may hinge on perceived. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/8627404> (accessed 18 June 2017).
- Caspar, R., Peytcheva, E., Yan, T., Lee, S., Liu, M. and Hu, M. (2016). *Cross-Cultural Survey Guidelines*. Available at: [http://ccsg.isr.umich.edu/images/PDFs/CCSG\\_Pretesting.pdf](http://ccsg.isr.umich.edu/images/PDFs/CCSG_Pretesting.pdf) (accessed 13 June 2017).
- CDC. (2013). *Sexually transmitted disease surveillance*. Atlanta: US Department of Health and Human Services. Available at: <https://www.cdc.gov/std/stats13/surv2013-print.pdf> (accessed 14 June 2017).
- Cherie, A. & Berhane, Y. (2012). Knowledge of Sexually Transmitted Infections and Barriers to Seeking Health Services among High School Adolescents in Addis Ababa, Ethiopia. *Journal of AIDS and Clinic Research*, 3(153): 20-29.
- Choy, L. T. (2014). The Strengths and Weaknesses of Research Methodology: Comparison and Complimentary between Qualitative and Quantitative Approaches. *Journal of Humanities and Social Science*, 19(4): 99-104.
- Cohen, L., Manion, L. and Morrison, K. (2011). *Research methods in education*. (7th Ed). London: Routledge.
- Czaja, R. & Blair, J. (2005). *Designing Surveys: A guide to Decisions and Procedures*. Thousand Oaks, California: Pine Forge Press.
- Dehne, K., L. & Riedner, G. (2008). *Sexually Transmitted Infections among Adolescents: The Need for Adequate Health Services*. Geneva: WHO.
- Demis, A., Adera, A. & Workeneh, D. (2017). Determination of Knowledge, Attitudes and Practices on Prevention of Sexually Transmitted Infections among Seto Semero High School Students. *Medical Journal of Public Health*, 5(5): 140-149.

Dimbuene, Z., T, Emina, J., B. & Sankoh, O. (2014). UNAIDS 'multiple sexual partners' core indicator: promoting sexual networks to reduce potential biases. Available at: <http://pubmedcentralcanada.ca/pmcc/articles/PMC3955766/> (accessed 13 June 2017).

Fatusi, A., O. & Blum, R. W. (2008). Monitoring HIV risk and evaluating interventions among young people in urban West Africa: development and validation of an instrument. *AIDS Education and Prevention*, 20(3): 19-203.

Fennie, T. (2011). An exploration of HIV/AIDS-related Knowledge, Attitudes and Risky sexual behaviour of first-year Psychology students at the University of the Western Cape. Cape Town: Routledge.

Fisher, J., C, Bang, H. & Kapiga, S. H. (2007). The association between HIV infection and alcohol use. A systematic Review and Meta-Analysis of African Studies. *Sexually Transmitted Diseases*, 34(11): 856–863.

Flisher, A., J, Mathews, C., Mukoma, W. & Lombard, C., J. (2006). Secular trends in risk behaviour of Cape Town grade 8 students. *South African Medical Journal*, 96(9), 982-987.

Folasayo, A., T, Oluwasegun, A., J, Samsudin, S., Saudi S., S, Osman, M. & Hamat, R. A. (2017). Assessing the Knowledge Level, Attitudes, Risk Behaviours and Preventive Practices on Sexually Transmitted Diseases among University Students as Future Healthcare Providers in the Central Zone of Malaysia: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, 14(159): 3-14.

Gao, X., Wu, Y. & Zhang, N. (2012). Effectiveness of School-Based Education on HIV/AIDS Knowledge, Attitude, and Behaviours among Secondary School Students in Wuhan, China. *PLoS ONE*, 7, e44881. <https://doi.org/10.1371/journal.pone.0044881>

Grad, A. L., Senila, S. C. & Cosgerea, R. (2016). Sexual Behaviours, Attitudes, and Knowledge about Sexually Transmitted Infections: A Cross-sectional Study in Romania. *Clinical article*, 26(1): 25-32.

Grover, S. K., Gray, J. R. & Burns, N. (2015). *Understanding Nursing Research: Building an Evidence-Based Practice*. China: Elsevier Saunders.

Gupta, P., Anjum, F., Bhardwaj, P., Srivastav, J., P. & Zaidi, Z. H. (2013). Knowledge about HIV/AIDS among Secondary School Students. *North American Journal of Medical Science*, 5 (2): 119-123.

Hewstone, M., Stroebe, W. & Jonas, K. (2015). *An Introduction to Social Psychology*. (6<sup>th</sup> Edition). Wiley: the British Psychological Association.

Hoque, M., E. & Ghuman, S. (2014). *Gender and Behaviour: Sexual behaviour and knowledge regarding sexually transmitted infections among undergraduate students in Durban, South Africa*, 9(1): 3710-3728.

Iftner, T., Eberle, S., Iftner, A., Holz, B., Banik, N., Quint, W. & Straube A. N. (2010). Prevalence of low-risk and high-risk types of Human Papillomavirus and other risk factors for HPV-infection in Germany within different age groups in women up to 30 years of age: an epidemiological observational study. *Journal of Medicine and Virology*, 82: 1928-1939.

Jain, M. A., Shuchi, M., Jain, S. M., Patil, S. & Bang, A. (2016). A study on knowledge, attitude and practice of sexually transmitted diseases and HIV in adolescent population in Wardha, Maharashtra, India. *International Journal of Contemporary Paediatrics*, 3(2): 367-372.



Johnson, L., F, Coetzee D., J. & Dorrington, R, E. (2008). Sentinel surveillance of sexually transmitted infections in South Africa: a review. *Public Health Medicine*, 81(4): 287-293.

Jones, C., L, Jensen, J., D, Scherr, C., L, Brown, N., Katheryn, C. & Weaver, J. (2015). The Health Belief Model as an Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. *Health Communication*, 30(6): 566-576.

Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Hawkins, J & Zaza, S. (2016). Youth risk behaviour surveillance in United States. *MMWR Surveillance Summary*, 65(6): 1-174.

Khan, V. H., Khan, A., H. & Maully, T. H. (2014). KAP survey of Osteoporosis among student of tertiary institution in Malaysia. *Tropical Pharmaceutical Research*, 13(1) 155-162.

Kejela, G. & Saboka, B. (2014). Assessment of Knowledge, Attitude and Preventive Practices towards Sexually Transmitted Infections among Preparatory School Students in Shone Town, Southern Ethiopia, 2014. *Journal of Health and Medical informatics*, 6: 183.

Keptanoglu, A. S., Suer, K., Diktas, H. & Hınca, E. (2013). Knowledge, attitudes and behaviour towards sexually transmitted diseases in Turkish Cypriot adolescents. *European Journal of Public Health*, 21(21): 54-58.

Kothari, C. R. (2011). *Research Methodology: Methods & Techniques*. India: New Age.

Kuete, M., Huang, Q. & Abdil, R. (2016). Differences in Knowledge, Attitude, and Behaviour towards HIV/AIDS and Sexually Transmitted Infections between Sexually Active Foreign and Chinese Medical Students. *Biomedical Research International*, 2016.

Lebese, R., T. Davhana-Maselesele, M. & Obi, C., L. (2010). Sexual Health Dialogue between parents and teenagers: An imperative in the HIV/AIDS era. *Curationis*, 3 (3): 33-42.

Lema, L. A., Katapa R., S. & Musa, A. S. (2008). Knowledge on HIV/AIDS and sexual behaviour among youths in Kibaha District, Tanzania. *Tanzanian Journal of Public Health*, 10(2): 79-83.

Lesedi, C., Hoque, M. E., Ntuli-Ngcobo, B. (2011). Youths' perception towards sexual and reproductive health services at Family Welfare Association Centers in Botswana. *Journal of Social Sciences*, 28(2): 137-143.

Maimaiti, N., Shamsuddin, K. & Maimati, R. (2010). Knowledge, Attitude and Practice Regarding HIV/AIDS among University Students in Xinjiang. *Global Journal of Health Science*, 2(51): 51.

Mambanga, P. (2016). Knowledge, Attitudes and Practices of female students regarding practices of female students regarding emergency contraception at Midlands State University, Zimbabwe. Masters (MPH) dissertation. University of Venda, Thohoyandou.

Mohammed, M., M, Sulaimanb, N., L, Sern, L., C. & Sallehd, K., M. (2016). Measuring the Validity and Reliability of Research Instruments. *Journal of Social and behavioural sciences*, 204(3): 164-171.

Moore, S. & Rosenthal, D. (2006). Adolescents' Perceptions of Friends' and Parents' Attitudes to Sex and Sexual Risk-Taking. *Journal of Community and Applied Social Psychology*, 1(3): 189- 200.

- Mothiba, T., M. & Maputle, M., S. (2012). Factors contributing to teenage pregnancy in the Capricorn district of the Limpopo Province. *Journal of the Democratic Nursing Organisation of South Africa*, 35(1): 1-5.
- Mourssi, A. (2012). The innovated writing process (IWP) approach: A practical bridge between recent SLA and applied linguistics theories. *English Linguistics Research*, 1(2): 102-118.
- Mukthi, T., Priyanka, K., Hepsiba. Durga, P & Sneha, P. (2017). A Mini Review on Human papillomavirus (HPV). *Microbiology: An International Journal*, 2 (1), 1-9.
- Nduta, N., M. (2008). *Condom use among adolescents: a case of Nyeri north District, central Kenya*. Nairobi.
- Neha, S. & Zhang, Z. (2017). Knowledge, Attitude and Practices Regarding HIV/AIDS among Students in China. *World Journal of AIDS*, 7(3) 247-259.
- Nel, A., Mabude, Z., Smit, J., Kotze, P., Arbuckle, D., Wu, J, van Niekerk, N & van de Wijgert, J. (2012). HIV incidence remains high in KwaZulu-Natal, South Africa: evidence from three districts. 7(4): 85-201. Available at: <http://www.ipmglobal.org/publications/hiv-incidence-remains-high-kwazulu-natal-south-africa-evidence-three-districts> (accessed on 18 June 2018).
- Netshivhuyu, G. (2017). Knowledge, Attitudes and Behaviours towards HIV/AIDS Among Youth in Namakgale Township in Mopani District, Limpopo Province, South Africa. (Unpublished)
- Nwatu, C., Young, E., Ezeala-Adikaibe, B., Okafor, C. & Onwuekwe, I. (2017). HIV and Sexually Transmitted Infections knowledge and practices: a survey of female secondary school students in Enugu, South East Nigeria. *The Journal of Medical Research*, 3(2): 66-70.
- Olaniran, A., A, Persson, L. & Oyekanmi, F., A. (2013). Multiple sexual partnerships among Nigerian Undergraduates: Students Perspective of the underlying factors. *Journal of Community Medicine and Primary Health Care*, 25(2): 11-18.
- Petrie, K., & McGee, C. (2012). Teacher Professional Development: Who is the learner? *Australian Journal of Teacher Education*, 37(2): 59-72.
- Rahman, M., M., Kabir, M. & Shahidullah, M. (2009). Adolescent Knowledge and Awareness about AIDS/HIV and Factors affecting them in Bangladesh. *National Institute of Preventive and Social Medicine*. 2(3): 3-6.
- Reis, M., Ramiro, L., Matos, M. G., Diniz, J., A. & Simoes, C. (2011). Information and attitudes about HIV/Aids in Portuguese adolescents: state of art and changes in a four year period. *Psicothema*, 23(2): 260-266.
- Salama, C. H. (2011). HIV in South African youth: Relations with parenting quality and executive functioning. Unpublished masters research report. College of Arts and Sciences: Georgia State University.
- Sales, J. M., DiClemente, J. R., Rose, E. S., Wingood, G .M., Klein, J. D. & Woods, E. R. (2007). Relationship of STD-related shame and stigma to female adolescents' condom-protected intercourse. *Journal of Adolescents Health*. 40(6): 573-573.
- Saamkange-Zeeb, F., N., Spallek, L. & Zeeb, J. (2011). Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents in Europe: a systematic review of published literature. *BMCP Public Health*, (11): 727. Available at:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0061636> (accessed 15 June 2017).

Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research Methods for Business Students*. 6<sup>th</sup> edition, Pearson Education Limited.

Sharma P. & Sherkhane M. S. (2017). Knowledge and attitude about sexually transmitted infections among women in reproductive age group residing in the urban slums'. *International Journal of Community Medicine and Public Health*, 4(1): 20-24.

Sharma P., Makur, S. & Sherkhane, B. (2017). Knowledge of High School Adolescents regarding Sexually Transmitted Infections. *International Journal of Community Medicine and Public Health*, 4(1): 20-24.

Shelton, J. D. (2009). "Why multiple sexual partners?" *The Lancet*, 374(9687): 367-369.

Stang, L. A., Lloyd, J. K., Brandy, L. M., Holland, C. E. & Baral, S. (2013). A systematic review of interventions to reduce HIV related stigma and discrimination from 2002 to 2013: how far have we come? *Journal of International AIDS Society*, 16(3): 34-187.

Kar, S. K., Choudhury, A., Pratap, A. & Hum S. J. (2015). Understanding normal development of adolescent sexuality: A bumpy ride. *Journal of Reproductive Sciences*, 8(2): 70–74.

Takebe, Y., Ueshiri, R. & Li, X. (2015). Global Molecular epidemiology of HIV: Understanding the evolution of AIDS. *Advances in Pharmacology*, 65: 1-25

Tangmunkongvorakul, A., Banwell, C., Carmichael, G., Utomo, I. D., Seubsman, S. A., Kelly, M. & Sleigh, A. (2012). Use and perceptions of sexual and reproductive health services among Northern Thai adolescents. *Southeast Asian Journal of Tropical Medicine and Public Health*, 43(2): 479-500.

Tenkorang, E. Y. (2013). Myths and misconceptions about HIV transmission in Ghana: what are the drivers? *Cult Health Sex*, 1(15): 296-310.

Trajman, A., Belo, M. T., Teixeira, E. G., Dantas, C. S., Salamao, F. & Cunha, A. (2017). Knowledge about STD/AIDS and sexual behaviour among high school students in Rio de Janeiro, Brazil. Brazil: Fundacao

Tshitangano, T. G. & Tosin, O. H. (2016). Substance use amongst secondary school students in a rural setting in South Africa: Prevalence and possible contributing factors. *African Journal of Primary Health Care and Family Medicine*, 8(2): 1-6.

Tung, W., Ding, K. & Farmer, S. (2008). Knowledge, Attitudes, and Behaviours Related to HIV and AIDS Among College Students in Taiwan. *Journal of the Association of Nurses in Aids Care*, 19(5): 397-408.

Uike, P. S., Dudhgaonkar, S. & Jagdhani, R. S. (2016). Assessment of awareness, perception and attitude about sexually transmitted diseases among medical undergraduates in tertiary care teaching institute of Vidarbha region in Maharashtra state. *International Journal of Biomedical Research*, 7(7): 541-545.

UNAIDS (2009). Report on the global AIDS epidemic. Available at: [http://data.unaids.org/pub/report/2009/jc1700\\_epi\\_update\\_2009\\_en.pdf](http://data.unaids.org/pub/report/2009/jc1700_epi_update_2009_en.pdf) (accessed 25 May 2017).

Weathington, B. L., Cunningham, C., J. & Pittenger, D. J. (2010). Research methods for the behavioural and social sciences. New Jersey: John Wiley and Sons, INC.

WHO (2013) Adolescent health. [http://www.who.int/topics/adolescent\\_health/en/](http://www.who.int/topics/adolescent_health/en/) (accessed 17 June 2017).

WHO. (2014). Disseminating the Research Findings. Geneva: World Health Organization. Available at: [http://www.who.int/tdr/publications/year/2014/participant-workbook5\\_030414.pdf](http://www.who.int/tdr/publications/year/2014/participant-workbook5_030414.pdf) (accessed 11 May 2017).

WHO. (2016). Global health sector strategy on sexually transmitted infections 2016-2021: Towards ending STIs. Geneva. Available at: <http://apps.who.int/iris/bitstream/10665/246296/1/WHO-RHR-16.09-eng.pdf> (accessed 22 July 2017).

WHO. Global Strategy for the Prevention and Control of Sexually Transmitted Diseases, 2006-2015. WHO. (WHO/RHR/06.10). 2006a. Geneva. Available at: <http://www.who.int/reproductivehealth/publications/rtis/9789241563475/en/> (accessed 20 June 2017).

Williams, T. T., Dodd, D., Campbell, B., Pichon, L. & Griffith, D. M. (2014). Discussing Adolescent Sexual Health in African American Churches. *Journal of Religious Health*, 53(2): 339-351.

### APPENDIX 1: TIME LINE

Research Activities	January 2018	February 2018	March 2018	April 2018	May 2018	June 2018	July 2018	August 2018	September 2018	October 2018	November 2018	December 2018
Development of the research proposal												
Presentation to the Department												
Presentation to the University's Higher Degree												
Submission to the UHDC for approval												
Ethical clearance												
Data collection												
Data coding, entry and analysis												
Report writing												
Submission of the final product												

## APPENDIX 2: BUDGET

CATEGORY	DESCRIPTION	TOTAL
<b>ASSISTANCE</b>	Research Editor/Proof Reader	R 2 740.00
<b>STATIONERY</b>	Printouts (R2.50 X 1000 copies)	R 2 500.00
	Printing research instruments and letters (R2 x 3 pages x 252)	R 1 512.00
	Printing letters, consent forms, information sheets and assent forms (R2 x 3 pages x 510)	R 3 060.00
	Binding (R300 x 10 books), Memory stick (32 GB @ R400)	R 3 000.00
	Photocopying (R2.50 x 20 copies of 115 pages)	R 5 750.00
	Pens (R7 x 252) Stapler (R 80), Staples (R 45), Airtime for arrangements (R 90), three books (R12 x3) and Lever arch file (R70)	R2 085.00
	External Hardrive (1000 GB)	R 2 497.24
<b>TRANSPORT</b>	Four trips from Thohoyandou to Polokwane (R3.55 x 812), Four trips from Thohoyandou to Malamulele (R3.55 x 41.6 x 4), fourteen trips from Thohoyandou to Photani high school for data collection (R3.55 x 55.8 x 16), Two trips from Thohoyandou to PP Hlungwani for pre-testing (R3.55 X 30 X 2)	R 6 855.76
<b>TOTAL</b>		<b>R 30 000</b>

### APPENDIX 3: RESEARCH QUESTIONNAIRE

#### Instructions

Please take some time to read and understand the following questions before answering them, also ensure that you answer all questions.

The questionnaire should be completed and returned by the respondent

Only tick one appropriate answer from each item

Contact details: [ntsakoacademic@gmail.com](mailto:ntsakoacademic@gmail.com) or 073 263 9286

#### SECTION A: DEMOGRAPHIC INFORMATION

1. Age	[1] 13-16	[2] 17-20	[3] 21-23	[4] 24>
--------	-----------	-----------	-----------	---------

2. Gender	[1] Male	[2] Female
-----------	----------	------------

3. Religion	[1] Christianity	[2] Judaism	[3] Hinduism	[4] Islam	[5] African
4. Which grade are you in?	[1] 8	[2] 9	[3] 10	[4] 11	[15] 12

#### SECTION B: KNOWLEDGE ON SEXUALLY TRANSMITTED INFECTIONS

5. Have you ever heard of STIs?	[1] Yes	[2] No
---------------------------------	---------	--------

6. Which of the following is an STI?	[1] TB	[2] HPV	[3] Cancer	[4] Chlamydia	[5] Ebola
7. Causative organisms of STI	[1] Mosquito	[2] Bacteria	[3] Butterfly	[4] Virus	[5] Beetle
8. Mode of Transmission	[1] Kiss	[2] needle	[3] Unsafe sex	[4] Mother to child	[5] Hand shake

<b>Complications of STIs</b>	[1] Yes	[2] No
9. Body weakness is a complication of STIs		
10. Infertility is a complication of STIs		
11. Snoring is a complication of STIs		

<b>Preventative Measures</b>	[1]Strongly Disagree	[2]Disagree	[3]Agree	[4]Strongly Agree
12. You can prevent STIs by using a mosquito net				
13. You can prevent STIs by abstaining from sex				
14. You can prevent STIs using injection				
15. STIs can be prevented by avoiding sexual contact with multiple partners				

### SECTION C: ATTITUDES OF HIGH SCHOOL LEARNERS REGARDING SEXUALLY TRANSMITTED INFECTIONS

<b>Attitudes on STIs</b>	[1] Agree	[2] Disagree
16. STIs are infections		
17. STIs are syndromes		
18. Condoms protect high school learners against STIs		
19. One cannot get STIs if they go to church every Sunday		
20. STIs have nothing to do with age, they affect everyone		
21. Screening for STIs is very important		

<b>Attitudes on STIs</b>	[1] Yes	[2] No
22. Do you think high school learners are vulnerable to STIs?		
23. Are STIs not dangerous because they can be cured?		
24. Does having sex with a virgin remove STIs?		
25. Do your cultural beliefs prohibit you from using a condom?		

### SECTION D: RISK SEXUAL BEHAVIOURS CONTRIBUTING TO SEXUALLY TRANSMITTED INFECTIONS AMONG HIGH SCHOOL LEARNERS

26. Are you sexual active?	[1] Yes	[2] No
----------------------------	---------	--------

27. How many sexual partners do you have?	[0]	[1]	[>2]
-------------------------------------------	-----	-----	------



28. How often do you read or watch pornographic materials?	[1] I never read	[2]Occasionally	[3] More than once in a week
------------------------------------------------------------	------------------	-----------------	------------------------------

<b>Risk behaviours</b>	[1]Disagree	[2]Strongly Disagree	[3]Agree	[4]Strongly Agree
29. It is important to use a condom				
30. It is risky to have sex while drunk				
31. It is good to have multiple sexual partners				
32. Sharing of injection needles is not risky				

### SECTION E: BARRIERS TO EFFECTIVE SEXUALLY TRANSMITTED INFECTION CARE AND TREATMENT FOR HIGH SCHOOL LEARNERS

33. Do asymptomatic STIs act as barriers to care and treatment	[1] Yes	[2] No
34. Do you know where to seek treatment for STIs?	[1] Yes	[2] No

35. If you were infected with STIs, who would you tell?	[1]No one	[2]Friends	[3] Relatives
---------------------------------------------------------	-----------	------------	---------------

36. Nurses are rude when offering services	[1] Agree	[2] Disagree
37. Lack of services in health care settings act as a barrier	[1] Agree	[2] Disagree
38. Lack of information is one of the barriers in the care and prevention of STIs among high school learners	[1] Agree	[2] Disagree

39. Your source of information	[1]Television	[2]Radio	[3]Internet	[4]Teachers	[5]None
40. Do you talk to your partner about STIs?	[1] Yes		[2] No		

## APPENDIX 4: LETTER TO THE LIMPOPO DEPARTMENT OF EDUCATION

PO BOX 5164  
Mavambe  
0098  
25 June 2018

Limpopo Province  
Department of Education  
Private Bag X 9489  
Polokwane  
0700

**The Head of Department**

### APPLICATION TO CONDUCT THE STUDY

I, **Chauke Ishmael Ntsako**, hereby request the Department of Health to conduct the study at a selected high school in the Collins Chabane Municipality.

Title of the study: **Knowledge, Attitudes and Risk Behaviours Regarding Sexually Transmitted Infections among learners at a selected High School in Collins Chabane Municipality.**

Objectives:

- To determine the level of knowledge of sexually transmitted infections among high school learners.
- To describe attitudes of high school learners regarding sexually transmitted infections.
- To describe the risk sexual behaviours contributing to STIs among high school learners.
- To identify barriers to effective sexually transmitted infections care and services for high school learners.

**Institution: University of Venda**

**Student number: 11620561**

Your written permission will be warmly welcomed and appreciated.

Yours Faithfully

Chauke Ishmael Ntsako

---

**Cell: 073 263 9286**

**Email: [ntsakoacademic@gmail.com](mailto:ntsakoacademic@gmail.com)**

## APPENDIX 5: PERMISSION TO CONDUCT THE STUDY BY LIMPOPO DEPARTMENT OF EDUCATION



**LIMPOPO**  
PROVINCIAL GOVERNMENT  
REPUBLIC OF SOUTH AFRICA

### DEPARTMENT OF **EDUCATION**

Ref: 2/2/2      Enq: MC Makola PhD      Tel No: 015 290 9448      E-mail: [MakolaMC@edu.limpopo.gov.za](mailto:MakolaMC@edu.limpopo.gov.za)

Chauke IN  
P O Box 5164  
Mavambe  
0098

#### RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

---

1. The above bears reference.
2. The Department wishes to inform you that your request to conduct research has been approved. Topic of the research proposal: **“KNOWLEDGE, ATTITUDES AND RISK BEHAVIOURS REGARDING SEXUALLY TRANSMITTED INFECTIONS AMONG LEARNER IN A SELECTED HIGH SCHOOL IN COLLINS CHABANE MUNICIPALITY ”.**
3. The following conditions should be considered:
  - 3.1 The research should not have any financial implications for Limpopo Department of Education.
  - 3.2 Arrangements should be made with the Circuit Office and the schools concerned.
  - 3.3 The conduct of research should not in anyhow disrupt the academic programs at the schools.
  - 3.4 The research should not be conducted during the time of Examinations especially the fourth term.
  - 3.5 During the study, applicable research ethics should be adhered to; in particular the principle of voluntary participation (the people involved should be respected).

REQUEST FOR PERMISSION TO CONDUCT RESEARCH: CHAUKE IN

CONFIDENTIAL

Cnr. 113 Biccard & 24 Excelsior Street, POLOKWANE, 0700, Private Bag X9489, POLOKWANE, 0700  
Tel: 015 290 7600, Fax: 015 297 6920/4220/4494


***The heartland of southern Africa - development is about people!***

3.6 Upon completion of research study, the researcher shall share the final product of the research with the Department.

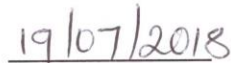
4 Furthermore, you are expected to produce this letter at Schools/ Offices where you intend conducting your research as an evidence that you are permitted to conduct the research.

5 The department appreciates the contribution that you wish to make and wishes you success in your investigation.

Best wishes.



Ms NB Mutheiwana  
Head of Department



Date

REQUEST FOR PERMISSION TO CONDUCT RESEARCH: CHAUKE IN

CONFIDENTIAL

## APPENDIX 6: LETTER TO PHOTANI HIGH SCHOOL

PO BOX 5164  
Mavambe  
0098  
19 July 2018

Head of Department  
Photani High School  
PO BOX 1254  
Malamulele  
0893

**The Headmaster**

### APPLICATION TO CONDUCT THE STUDY

I, **Chauke Ishmael Ntsako**, hereby request for a permission to conduct the study at Photani high school

Title of the study: **Knowledge, Attitudes and Risk Behaviours Regarding Sexually Transmitted Infections among learners at a selected High School in Collins Chabane Municipality.**

Objectives:

- To determine the level of knowledge of sexually transmitted infections among high school learners.
- To describe attitudes of high school learners regarding sexually transmitted infections.
- To describe the risk sexual behaviours contributing to STIs among high school learners.
- To identify barriers to effective sexually transmitted infections care and services for high school learners.

**Institution: University of Venda**

**Student number: 11620561**

Your written permission will be warmly welcomed and appreciated.

Yours Faithfully

Chauke Ishmael Ntsako

---

**Cell: 073 263 9286**

**Email: [ntsakoacademic@gmail.com](mailto:ntsakoacademic@gmail.com)**

## APPENDIX 7: PERMISSION TO CONDUCT THE STUDY BY PHOTANI HIGH SCHOOL

# PHOTANI HIGH SCHOOL

Enq: Mathebula M.E  
Cell No: 072 112 7066  
EMIS No: 911361453  
CENTRE NO: 7314120



P.O. Box 1254  
Malamulele  
0982  
20.07.2018

Ref no: 2/2/2

To: Mr. I.N Chauke

Student number: 11620561


**RE: Request for permission to conduct the study**

Photani high school wishes to inform you that your request to conduct the study has been approved. You can go ahead with data collection on the study titled 'Knowledge, Attitudes and risk behaviours regarding sexually transmitted infections among learners in a selected high school in Collins Chabane Municipality'.

The following conditions should be strictly adhered to:

1. Data collection processes should not disrupt academic programs. You will collect data at the convenient time
2. Ethical considerations should be followed
3. You shall share a copy of the final product of the research with the school

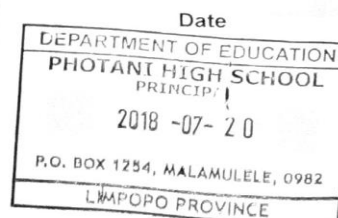
Best wishes!!!!



Mr M.E Mathebula

The Head of the School

20/07/2018



## APPENDIX 8: ETHICAL CLEARANCE CERTIFICATE

RESEARCH AND INNOVATION  
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:

**Mr IN Chauke**

Student No:

11620561

PROJECT TITLE: **Knowledge, attitudes and risk behaviours regarding sexually transmitted infections among learners in a selected high school in Collins Chabane Municipality.**

PROJECT NO: SHS/18/PH/10/1206

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr TG Tshitangano	University of Venda	Supervisor
Mr IN Chauke	University of Venda	Investigator – Student

ISSUED BY:

**UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE**

Date Considered: June 2018

Decision by Ethical Clearance Committee Granted

Signature of Chairperson of the Committee: .....

Name of the Chairperson of the Committee: Senior Prof. G.E. Ekosse



UNIVERSITY OF VENDA DIRECTOR RESEARCH AND INNOVATION 2018 -06- 13 Private Bag X5050 Thohoyandou 0950
---------------------------------------------------------------------------------------------------------------------



University of Venda

PRIVATE BAG X5050, THOHOYANDOU, 0950, LIMPOPO PROVINCE, SOUTH AFRICA  
TELEPHONE (015) 962 8504/8313 FAX (015) 962 9060

*"A quality driven financially sustainable, rural-based Comprehensive University"*

## APPENDIX 9: CONSENT FORM



### CONSENT FORM

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, **Chauke Ishmael Ntsako**, about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: \_\_\_\_\_,
- I have also received, read and understood the above written information (*Participant Letter of Information*) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant	Date	Time	Signature
I, _____	_____	_____	_____

(*Chauke Ishmael Ntsako*) herewith confirm that the above participant has been fully Informed about the nature, conduct and risks of the above study.

Full Name of Researcher	Date	Signature
_____	_____	_____

Full Name of Witness (If applicable)	Date	Signature
_____	_____	_____

Full Name of Guardian (If applicable)	Date	Signature
_____	_____	_____



## APPENDIX 10: INFORMATION SHEET

Title of the study: **Knowledge, Attitudes and Risk Behaviours Regarding Sexually Transmitted Infections among learners at a selected High School in Collins Chabane Municipality.**

### Introduction

You are being asked to take part in this study with the above-mentioned title. You were selected as a possible respondent through the simple random sampling technique the day a sample was selected, those other learners who did not were not included in the sample are not going to form part of the study. I humbly request you to read this form and ask any questions you may be having before agreeing to form part of the study.

### Purpose of the study

The purpose of the study was to investigate the knowledge, attitudes and risk behaviours related to sexually transmitted infections among learners at a selected high school (Photani) in Collins Chabane Municipality. The researcher is intending to publish this study afterwards and a copy will be submitted to your school, the circuit office and to the department of education.

### Description of the study procedures

If you agree to take part in this study, you will be asked to complete a questionnaire which will be having the following five sections:

Section A: Demographic information

Section B: Knowledge on Sexually transmitted infections

Section C: Attitudes of high school learners regarding sexually transmitted infections

Section D: Risk sexual behaviours contributing to sexually transmitted infections among high school learners

Section E: Barriers to effective sexually transmitted infections care and treatment for high school learners

The questionnaires will be given to you by the researcher at your respected school, the completion of the questionnaire will take you approximately 20 minutes.

### Risks involved

Taking part in this study may sometimes pose unknown risks, you may find that some of the questions you will find in the questionnaire may harm you or you are having a different view, but it is not the intention of the researcher. You may also find that you were once a victim of STIs and seeing that in the study may remind you of that unfavourable or traumatic condition.

### **Benefits**

You are not going to be given money for participating in this study. However, you are somehow going to benefit. Being a respondent in this study will benefit, it will give you an opportunity to make your own view regarding STIs, it will make your opinion heard and this may also help make stakeholders spot your school. You will also have a clear picture of what STIs are, it will also help you develop your analytical skills.

### **Your rights as a respondent**

As a respondent, you have the right to privacy, your identifying particulars will not be used in this study, and the researcher will instead use fictional characters or words. The records of this study will be kept confidential. You have the right to fair treatment and withdraw from the study any time you feel like withdrawing. Withdrawing from this study will not make you fail or repeat your grade and you are allowed to ask any question.

I, \_\_\_\_\_ having understood the above, as explained by the researcher, I do agree/disagree to be part of this study.

Date: \_\_\_\_\_

## APPENDIX 11: ASSENT FORM FOR CHILDREN

Title of the study: **Knowledge, Attitudes and Risk Behaviours Regarding Sexually Transmitted Infections among learners at a selected High School in Collins Chabane Municipality.**

### Introduction

You are being asked to take part in this study with the above-mentioned title. You were selected as a possible respondent through the simple random sampling technique the day a sample was selected, those other learners who did were not included in the sample are not going to form part of the study. I humble request you to read this form and ask any questions you may be having before agreeing to form part of the study.

### Am I going to benefit?

There will be no monetary benefits in this study, however, you will gain a lot in terms of the research experience. Being a respondent in this study will benefit you because you will have an opportunity to raise your own view regarding STIs, it will make your opinion heard and this may also help make stakeholders spot your school. You will also have a clear picture of what STIs are, this will also help you develop your analytical skills.

### Are my identifying particulars going to be revealed to the public?

No, your identifying particulars (names and surnames) are not going to be used in this study. The principle of anonymity will be taken into consideration and the researcher will make it a point that he does not share your information to other learners who are not going to form part of this study.

### Am I forced to participate?

No, your participation is voluntary. The researcher does not force you to form part of this study, if you feel like not participating you have the right to do so.

I, \_\_\_\_\_ having understood the above, as explained by the researcher and my parent/guardian, I do agree/disagree to be part of this study.

Date: \_\_\_\_\_

Cell: 073 263 9286

Email: [ntsakoacademic@gmail.com](mailto:ntsakoacademic@gmail.com)

## APPENDIX 12: A LETTER FROM THE PROOREADER



**10 September 2018**

**SCHOOL OF HUMAN AND SOCIAL SCIENCES**

**ENGLISH COMMUNICATION SKILLS (ECS)**

To whom it may concern

This serves to certify that I have been requested by Mr Chauke Ismael Ntsako (Student Number 11620561) to proof-read his dissertation for Master of Public Health. He is a student registered in the Department of Public Health in the School of Health Sciences.

The title of his research is: *Knowledge, Attitudes and Risk Behaviours Regarding Sexually Transmitted Infections Among Learners at a Selected High School in Collins Chabane Municipality*. I have read the dissertation and made appropriate suggestions.

Yours Sincerely



Dr Mzamani Maluleke (0723069536)