

HIGH SCHOOL TEENAGE GIRLS' KNOWLEDGE AND PERCEPTIONS OF THE RISKS OF HUMAN IMMUNODEFICIENCY VIRUS AND ACQUIRED IMMUNE DEFICIENCY SYNDROME IN TSHWANE, SOUTH AFRICA

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DECLARATION

I declare that **HIGH SCHOOL TEENAGE GIRLS' KNOWLEDGE AND PERCEPTIONS OF THE RISKS OF HUMAN IMMUNODEFICIENCY VIRUS AND ACQUIRED IMMUNE DEFICIENCY SYNDROME IN TSHWANE, SOUTH AFRICA**, is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work had not been submitted before for any other degree at any other institution.

Phudds

Full Name: Noliwe Chadywanembwa

September 2020
Date

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DEDICATION

This dissertation is dedicated to me and to my family who were a pillar of strength and inspiration throughout the difficult study period. I also dedicate this work to my late mother, Juliet Mwanyadzeni, who taught me that the sky is the limit and was always supportive.

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ABSTRACT

Introduction

Despite wide spread information and knowledge of HIV and AIDS transmission, **High school teenage girls** continued to engage in risky sexual behaviour in Tshwane, a District of Gauteng Province of South Africa. Age-parity relationships between High school teenage girls and older men known as “Sugar Daddies” or “Blessers”, who showered **High school teenage girls** with money and expensive gifts, were believed to be spreading HIV. **High school teenage girls** failed to negotiate condom use due to lack of autonomy, coupled with sexual violence, resulting in HIV transmission. Consequently, Tshwane became one of the highest HIV burdened cities in South Africa.

Purpose of the study

This study explored and described the **High school teenage girls'** knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Tshwane, a District of Gauteng Province of South Africa.

Method

The study used a quantitative approach. The data were collected using questionnaires. The population comprised of all girls aged 15 to 19 at a selected High school. The sample consisted of 109 girls. Systematic sampling was used. The study was conducted in the school hall of a selected High school. Data were analysed using SPSS version 23 program.

Results

Generally, the **High school teenage girls'** HIV knowledge was very high (84.4%) as compared to their knowledge on AIDS (3.7%). Only 10.1% of the **High school teenage girls** knew what the window period entailed. They were aware of HIV preventive measures evidenced by abstinence ranking first (1) and had the highest score of five (5). 17.4% of the **High school teenage girls** doubted the usefulness of the condom in combating HIV infection. Health care workers were easily accessible (30.3%). The television was the most available mass media (92%). The radio was most preferred (31%). **High school teenage girls** preferred to discuss HIV related information with their peers and friends (50%). 42% of the **High school teenage girls** preferred to discuss sex related topics with parents or guardians. Those who were below 18-years were 7.2 times less likely to have sex. 90% of the 19-year-old girls had had sex. Therefore, **High school teenage girls'** perception of HIV risk was low because they continued to be involved in concurrent multiple relationships although 90% of those involved were using condoms.

Conclusion

Although **High school teenage girls** proved that they had knowledge of HIV and AIDS, they still had a low perception of HIV risk because they were involved in concurrent multiple sexual relationships with older men.

Nhanganyaya

Kunyangwe vane ruzivo rwechirwere cheshura matongo, vasikana vane makore ari pakati pegumi nematatu negumi nemapfumbamwe vari kuenderera mberi nekuita unhu unoita kuti vabatwe nechirwere cheshuramatongo (AIDS). Vasikana ava vari kudanana nevarume vakuru kuvadarika vamwe masadzimba zvinoita kuti vatapurirwe utachiona hweHIV zvinoita kuti vasikana vane hutachiona uhwu vawandise muguta reTshwane, mudunhu reGauteng munyika yeSouth Africa. Vanasikana ava vanopuwa mari nekutengerwa mbozhanhre nenguvo zvinodhura nekudya tunonaka. Nekuda kwekuti varume vanesimba rehudzvinyiriri nekuvarwisa, muAfrica, vasikana ava havakwanisi kushandisa makondomu kuzvidzivirira kubva kuhutachiona hweHIV. Ndosaka guta reTshwane raita mukurumbira munyika yeSouth Africa nekuti vanasikana vane hutachiona hweHIV vari kuwandisa.

Gwaro iri rinoongorora nekutsanangura ruzivo uye maonero evanasikana huipi hwechirwe cheshuramatongo muguta guru reTshwane, mudunhu reGauteng. Munyika yeSouth Africa.

Mafambiro Egwaro

Gwaro iri riri kuongorora nekutsanangura ruzivo nemaonerwo anoitwa hutachiona hweHIV nechirwere cheshuramatongo nevasikana vari pakati pemakore gumi nemakore matatu nevanegumi nemakore mapfumbamwe pachikoro chesekonari chakasarudzwa mugutu guru reTshwane, mudunhu reGauteng, munyika yeSouth Africa. Vasikana vaka pindura mibvunzo pamusoro peruzivo rwavaiva narwo uye zvakanyangara zvinoita kuti vabatwe nehutachiona hweHIV. Vasikana zana nevapfumbamwe ndivo vakapindura mibvunzo. Vasikana vakapindura mibvunza yaiva pamapepa muhoro yepachikoro pavo.

Zvakabuda Muchidzidzo

Zvakaonekwa kuti vasikana vane ruzivo rwechirwere cheshuramatongo asi vane zvimwe zvinhu zvavasinga nzwisisi pamusoro pechirwere ichi zvekuzvidzivirira. Vasikana havakwanisi kupa mutsauko wehutachiona (HIV) nechirwere cheshuramatongo (AIDS). Vanasikana vazhinji vanofunga kuti hutachiona hweHIV hunotapurirwana pakutsvodana uye pakushandisa

zvimbuzi. Vasikana vazhinji havakwanisi kutsanangura nguva inogara hutachina hweHIV mumuviri hwusati hwaonekwa kuti hurimo. Vasikana havana chokwadi chekuti makondomu anogona kudzivirira hutachiona hweHIV kuti hwusapinda mumuviri nguva dzebonde. Vadzidzisi vechikoro ndivo vakasarudzwa kuti vane ruzivo rwechirwere cheshuramatongo.

Vasikana havafariri kudzidziswa nezve chirwere cheshuramatongo nevabereki vavo. Vanofarira kukurukura nezvechirwere ichi nevanhu vezera ravo. Vasikana vasingagari nevabereki vavo vanoita bonde kudarika vanogara nevabereki vavo uye vanoita bonde nevadiwa vazhinji vamwe vacho varume vakuru madzisaimba. Vasikana vanotaridza kusatya kubatwa nechirwere chishuramatongo nemhaka yehunhu wawo hwakashata hweku danana nevarume vazhinji uye kusashandisa makondomu nguva dzebonde.

Mhendero

Zvidzidzo zvinopiwa vasikana zvinechekuita nezvepabonde zvinofanira kuongororwa zvipamhidzirwe kuti vasikana vagone kuzvidzivirira kuchirwere cheshuramatongo. Madzimudzangara netelevhizhoni zvino kurudzirwa kudzidzisa mitambo nedzimbo dzinodzidzisa pamusoro pekudzivirira chirwere cheshuramatongo. Vabereki vanofanira kudzidziswawo kuti vagone kudzidzisa vana vavo kuti vagone kuzvidzivirira kuti vasabatwa nechirwere ichi. Vanasikana vanofanirwa kudzidziswa kushandisa makondomu pese pavanoita bonde. Makondomu anofanira kuiswa pachena paano kwanisa kuwonekwa nevasikana.

KEY CONCEPTS

Acquired Immune Deficiency Syndrome (AIDS); Human Immunodeficiency Virus (HIV); Knowledge; Perceptions; Teenage girls (Teenage girls and adolescent girls will be used interchangeably); Risk behaviour

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LIST OF ACRONYMS

AIDS:	Acquired Immune Deficiency Syndrome
HIV:	Human Immunodeficiency Virus
STIs:	Sexually Transmitted Infections
VCT:	Voluntary Counselling and Testing
SPSS:	Statistical Package for Social Sciences
UNAIDS:	Joint United Nations Programmes on AIDS
WHO:	World Health Organisation
UNICEF:	United Nations International Children's Emergency Fund

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Each year, many South African teenage girls aged 15 to 19 fell pregnant and simultaneously got infected with human immunodeficiency virus (HIV) at a younger age despite two decades of government spending on HIV and acquired immune deficiency syndrome (AIDS) education and public health campaigns (South African National Strategic Plan on HIV, TB and STIs Draft 2 2017-2022:16). Despite the fact that there were many programmes in schools that addressed HIV and AIDS, like a subject called Life Orientation together with non-governmental organisations (NGOs), like Lovelife, which played a role in educating teenagers about HIV and AIDS. Nevertheless, the HIV prevalence was still high among teenage girls (South African National Strategic Plan on HIV, TB and STIs Draft 2 2017-2022:16).

AIDS was a major disease in Africa and second in the world that is affecting teenagers (UNAIDS 2020:2). The global prevalence of HIV and AIDS among women aged 15 to 24 was 15%, of which 80% live in sub-Saharan Africa (SSA) (UNAIDS 2020:1). Although 2% of the global population stayed in Sub-Saharan Africa, it had the highest prevalence of the global HIV epidemic infections. The region bore almost 70% of the global infection rate (UNAIDS 2019:1). Data from UNAIDS 2020 indicated that adolescent women aged 15 to 24 were more vulnerable to HIV infection as compared to males in the same age-group (24% versus 9%) respectively. In sub-Saharan Africa, three in every four HIV infections were from girls 15 to 19-years old (UNAIDS 2020:1). The age-group 15-24-years account for 19% of new HIV infections in SSA.

About half of the teenagers that were infected with HIV lived in six countries, namely, Nigeria, Kenya, India, Mozambique, Tanzania, and South Africa. In 2019 every week, 5 500 young women between 15 and 24-years were infected with HIV, in South Africa (UNAIDS 2020:1). Sex between teenage girls and older men caused the spread HIV in Sub-Saharan Africa. This explained why there was a higher HIV incidence rate in

teenage girls as compared to boys in South Africa. Early sexual debut is synonymous with teenage girls' acquisition of HIV at around five to seven years earlier than boys, (Dellar, Dhlamini & Karim 2015:1).

Although South Africa made significant strides in the fight against HIV and AIDS, teenage girls remained at higher risk of new infections. Teenage girls acquired HIV mainly through heterosexual sexual intercourse. High-risk behaviours, which contributed to the high prevalence of HIV among teenage girls, included early sexual debut, multiple sexual partnerships, limited condom use, intimate partner violence, intergenerational and transactional sex. Additionally, socio-demographic factors such as age, marital status, level of education, employment, and place of residence, had been associated with a high risk of HIV among teenage girls (Dellar et al 2015:4).

Despite the effort made by the education sector to curtail the spread of HIV among learners, teenage girls were still more vulnerable to HIV infection than boys. Since 2007, the Department of Education in Gauteng Province introduced Life Orientation as a learning area and the HIV and AIDS Directorate introduced Care and Support for Teaching and Learning and Youth Affairs programmes. Nevertheless, teenage girls continued to fall pregnant despite all these interventions. This was worrisome because pregnancy is an indication that protection methods used were ineffective. Therefore, the aim of this study was to explore and describe **High school teenage girls'** knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

In 2019, there were 130 000 new infections, globally, among adolescent girls (10 to 19-years). In Eastern and Southern Africa, there were 97 000 new infections. Each week, in South Africa, there were 1500 new infections in women aged between 15 and 24-years as compared to 640 infections in men of the same age (UNAIDS 2020:1). Furthermore, findings from studies in South Africa had reported a high incidence of HIV in pregnant women (South African National Strategic Plan on HIV, TB and STIs Draft 2 2017- 2022:14).

Pregnancy was a result of unprotected sex so the high rate of pregnancies among teenagers in South Africa alerted people to the risky behaviours prevalent among many teenage girls. Getting pregnant meant that automatically, one was engaging in unprotected sex and there was a risk of infection with (sexually transmitted infections (STIs) including HIV. Many teenage girls and young women were sick, and were dying from AIDS-related complications during pregnancy and in the post-partum period (Karim, Cheryl & Deborah 2017:17).

Violence against women increased the rate of HIV infection among teenage girls. They were often abused physically and sexually. Research in countries of sub-Saharan Africa recorded sexual abuse between 7 and 34% of girls. In Southern Africa, there was sexual violence resulting in lack of condom use among women (Sia, Onadja, Hajizadeh, Heymann, Brewer & Nandi 2016:2). Teenage girls were coerced into sexual activities without using proper contraceptives. Males who provide any kind of financial support felt that they were justified to engage in coerced sexual activity. Because there was no sexual negotiation, teenagers did not use condoms during sex and got infected with the HIV through coerced sexual acts (Ghebremichael & Finkelman 2013:60). Those women who were abused might have been involved in risk-taking behaviours that increased HIV infection (Katz, Ybarra, Wyatt, Kiwanuke. Bangsbery & Ware 2013:7).

Social pressure influenced sexual activity. It included the exchange for sex with luxury items which were highly priced commodities. It could also take the form of peer pressure. Craving for material goods influenced sexual decision-making such that older men could easily manipulate teenage girls especially when they showered them with gifts (Katz et al 2013:260). Furthermore, teenage girls indulged in unprotected sex so as to please their boyfriends and maintained their relationships. They feared that men would leave them for others, so they had to engage in unprotected sex to please them. These relationships were coerced because girls were forced to have sex against their will. Peer pressure meant that teenage girls desired to be accepted by their peers and wanted to fit in the larger group by conforming to a perceived behavioural

standard. In this way, “the others are doing it” became a powerful argument for having sex (Katz et al 2013: 260).

Girls were vulnerable to HIV infection because of the gender roles that emphasised innocence, virginity and submission to men. Where traditional ideologies acknowledged virginity as a highly priced commodity, girls who exhibited too much knowledge of sex and reproduction were labelled as being promiscuous. In Uganda, young women were reported as hiding their knowledge of sex practices to protect their public reputations (Katz et al 2013:259).

Social expectations of virginity might lead teenage girls to engage in oral sex to preserve their virginity. HIV is transmitted through unprotected vaginal and anal sex. The receptive partner is highly at risk in anal sex as compared to the risk in vaginal intercourse due to the breakage of the lining of the rectum which got torn allowing the virus entry into the partner’s bloodstream (Van Dyk 2015:51).

Economic and social indicators representing literacy, income and education each pointed to girls’ unequal status in these areas. Over 50% of girls who got married before the age of 18-years had no more than three years of schooling. Because of these social and economic positions, girls often had difficulty in controlling when, where and how sex takes place. Women in sub-Saharan Africa, did not have the authority and capacity to negotiate for safe sex, including condom use because they had less control over decision-making and financial resources (Girls Not Brides 2018:2).

Biological mechanisms might increase women’s risk of contracting HIV. Research indicated that women had a greater mucosal surface area exposed to infectious fluids for longer periods during sexual intercourse. They were also more likely to face tissue injury. Secondly, women were vulnerable to HIV infection in the female reproductive system during ovulation. Lastly, the risk of contracting HIV was increased by the presence of STIs which did not have visible symptoms and were untreated (Ghebremichael & Finkelman 2013:60).

Although teenage girls knew how to prevent HIV, myths about HIV and AIDS and low perceptions of HIV vulnerability were still major challenges in developing countries (Joshi, Prescott, Simkahada, Sharma & Brurtyal 2014:350). They could describe effective modes of prevention based on “abstaining, be faithful to one partner and condomising (ABC)”. Despite this knowledge, they still raised issues, for example, of anal sex causing a lower HIV transmission than vaginal sex (Katz et al 2013:261). Although information about HIV and AIDS was widely available, understanding of safe sex was still vague.

Finally, teenage girls viewed using condoms as being unacceptable because this was an acknowledgement of sexual activity before marriage. The use of condoms was regarded as “bad manners” among teenage girls because this suggested suspicion of HIV infection or multiple sexual partnerships. Inaccurate understanding of condoms’ effectiveness also discouraged people from using condoms (Katz et al 2013:261).

1.3 STATEMENT OF THE RESEARCH PROBLEM

South Africa carries the highest global burden of HIV with approximately 7.7 million people living with HIV and an HIV prevalence rate of 13.1% (UNAIDS 2020:1). Tshwane is a District of Gauteng Province, which has the second highest number of people who are living with HIV in South Africa (1 912 590) and an HIV prevalence rate of 13.05% (Statistics South Africa 2020:10)

The researcher observed age-mixing sexual relationships between teenage girls and older men in the City of Tshwane. Teenage girls who had sex with older men were more at risk of contracting STIs including HIV compared with girls who had sex with men of their own age (Palfreman 2020:7). These relationships were transactional in nature. Older men showered teenage girls with gifts such as expensive clothes and cell phones. Teenage girls who engaged in sex with men who were older than them lacked the capacity to negotiate condom use and were vulnerable to forced sex, given a traditional imbalance in male-female power relations in the Southern African setting (Palfreman 2020:8). The researcher also observed an increase in teenage

pregnancies even though free condoms were available at the clinics and in public places.

It was therefore, critical to explore and describe the knowledge and perceptions of **High school teenage girls** regarding HIV and AIDS transmission.

1.4 RESEARCH AIM/ PURPOSE

The aim of the study was to explore and describe the **High school teenage girls'** knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa.

1.5 RESEARCH OBJECTIVES

- Assess the knowledge of **High school teenage girls** with regard to HIV and AIDS transmission.
- Identify the sources of information on HIV transmission accessible to **High school teenage girls**.
- Explore and describe the risk behaviours of **High school teenage girls** with regard to HIV and AIDS transmission.

1.6 RESEARCH QUESTIONS

- How knowledgeable are the **High school teenage girls** with regard to HIV and AIDS transmission?
- Where do **High school teenage girls** access the information on HIV transmission?
- What are the **risky** behaviours of **High school teenage girls** with regard to HIV and AIDS transmission?

1.7 SIGNIFICANCE OF THE STUDY

The study would benefit the **High school teenage girls** because it would guide education on assertiveness, negotiation, decision-making skills and condom use. **High school teenage girls** need to have enough information on HIV risky behaviour so as for them to be able to make informed decisions. The study would help in identifying knowledge gaps on HIV transmission. The girls would learn about their own bodies. They could also learn about where to find services to limit HIV transmission. The results would help **High school teenage girls** to recognise and deal with issues of gender biases that did not promote healthy growth and to receive adequate services that address their sexual reproductive health (SRH) needs. Therefore, the study would empower teenage girls by providing knowledge that was needed to reduce new HIV infections.

The study would provide information to help in the gender training of adults and influential people in the communities who deal with **High school teenage girls**. The training of adults should focus on gender knowledge and guide and assist **High school teenage girls** to assess their worthy, and how their actions reflected bias caused by gender.

Policy-makers might also use the results to ensure that **High school teenage girls'** freedom of choice regarding sexual matters was respected. SRH providers were to be youth-friendly, female-friendly and female participatory so that **High school teenage girls** would acquire information and services they need. This would help in providing a friendly environment and counselling would be done by people who would be trained and were trustworthy.

The results would lead to rules being set aside to promote the protection of teenage girls. This would include the enforcement of laws, for example, having compulsory sexuality education all over the country. Teenage girls should have free access to SRH services and penalising those who sexually abused and trafficked teenage girls.

1.8 DEFINITIONS OF KEY CONCEPTS

1.8.1. Conceptual definitions

AIDS stands for Acquired Immune Deficiency Syndrome. It is a chronic, life-threatening condition caused by HIV which destroys the CD4 cells resulting in the body's loss of its defence system against diseases (Fellman 2020:1). In this study, AIDS is considered as a fatal disease which affects the immune system as a result of an attack by HIV.

HIV stands for Human Immunodeficiency Virus. HIV refers to the virus that causes AIDS by destroying the CD4 cells of the immune system, leaving the body vulnerable to life-threatening infections and cancers (Fellman 2020:1). In this study, HIV is a virus that attacks the human immune system and causes AIDS.

Knowledge refers to a practical or theoretical understanding about a particular subject (Wikipedia 2021). In this study, knowledge means understanding and awareness of facts, ideas and skills that a person has to learn about HIV and AIDS transmission.

Perception refers to the process of gaining awareness or understanding using the senses (Ou 2017:1). Therefore, perception means one's ability to understand facts about a particular subject.

Risk behaviour refers to activities that cause someone to be infected by a disease or get injured which can lead to disability, death or social problems (Tariq & Gupta 2020:1). In this study, risk behaviours are those acts that increase the chances that a sexually active individual will contract a sexually transmitted infection such as HIV and AIDS.

Teenage girl refers to a girl aged 13 to 19 (Sawyer, Wickremarathne, Azzopardi & Patton 2018:1). In this study, a teenage girl is a girl who is aged 13 to 19.

1.8.2 Operational definitions

High school teenage girls are girls that are between 15 and 19-years who attend secondary school and are in grades 10 to 12 (Segalo 2020:1).

High school is a secondary school that includes grades 10 to 12. And attended by children who are 15 to 19-years old (UNESCO 2020:38).

Knowledge refers to facts about a particular subject, which would be measured by answering research questions on HIV and AIDS from a questionnaire (Physicscatalyst 2021:1)

Sources of information refer to where one can get facts about a particular subject. These can be books, magazines, television, pamphlets, radio, internet and social media (Dellar et al 2015:2).

Risk behaviour refers to actions that put one in danger of contracting a disease. A lifestyle activity is risk behaviour if it leads to the transmission of HIV (Palfreman 2020:1).

1.9 RESEARCH METHODOLOGY

Quantitative methodology was used in this research. This method was used to gather numerical and objective information that was of interest to the researcher (Burns & Grove 2017:36). The method was ideal if a researcher wanted to describe phenomena. It used structured techniques to gather and quantify data that were submitted for statistical analysis. Hypothesis was derived from an existing theory and was tested. The researcher was an independent observer, this is, there was not going to be any interference with the research process by talking to respondents. Scientific investigation was carried out to examine relationships between variables. The research results could be verified (Polit & Beck 2017:1302).

Quantitative method mostly deals with numerical data that can be manipulated into useful statistics. Quantitative methods are more structured. Both open-and closed-ended questions were used. Data were collected from a large number of respondents. The method utilised questionnaires as data collection tools, in this study. Data analysis was done using statistical package for social sciences (SPSS version 23). This method compared differences between characteristics of chosen samples (Christensen, Johnson & Turner 2014:14).

The study focused on variables related to socio-demographic aspects, knowledge of HIV transmission, sources of information on HIV and AIDS, and risky behaviour. The researcher used quantitative methods, that is, data collection using questionnaires as instruments. The researcher quantified the responses and conducted statistical data analysis. Objectivity was enhanced by doing literature review to ensure content validity. To employ empiricism, the researcher applied a quantitative research process to observe and measure the variables and derive their conclusions from the analysed data.

1.9.1 Research design

The research used a descriptive design. This design was used to describe the researcher's topic of interest and provided answers to research questions (Burns & Grove 2017:1085). It observed, described and documented phenomena. An objective account of a particular phenomenon was provided. The researchers got answers to the research questions, provided a description of phenomenon and categorised information. Information was collected from the target population (Burns & Grove 2017:1085).

The researcher assessed the knowledge of **High school teenage girls** with regard to HIV and AIDS transmission. The sources of information on HIV transmission available to **High school** teenage girls were identified. Furthermore, **High school teenage girls'** risk behaviours regarding HIV and AIDS transmission were explored and described.

1.9.2 Setting of the study

The research took place at one of the High schools in Tshwane, a District of Gauteng Province of South Africa. The High school was a non-fee-paying public school which was located in a low-socio-economic area. Most of the students walk to school and some use public transport like buses and taxis. Most of the parents work although a few depended on social grants. The High school was closer to two malls. The High school was performing well in the District although it was under-resourced. The population of the school was 925 learners and the school had 24 staff members.

The High school was a natural setting for teenage girls because it was not manipulated, so, the study was conducted in the school hall.

1.9.3 Population of the study

The study population comprises of a group of people who have common features which are desirable to the researcher (Polit & Beck 2017:1292). The population was all **High school teenage girls** aged 15 to 19 at a selected High school in Tshwane, a District in Gauteng Province of South Africa.

Accessible population are respondents who are present for a particular study (Polit & Beck 2017:1293). This comprised **High school teenage girls** aged 15 to 19 who were in grades 10 to 12 at one of the High schools in Tshwane, a District in Gauteng Province of South Africa, who were eligible to take part in the study.

Target population is defined as part of a population that interests the researcher. This is a portion from which a sample is chosen (Polit & Beck 2017:1293). The target population was made up of **High school teenage girls** who were 15 to 19-years old and in grades 10 to 12 attending High school in Tshwane, a District in Gauteng Province of South Africa.

1.10 INCLUSION CRITERIA

High school teenage girls aged 15 and 19 took part in the study. Respondents were in grades 10 to 12. They were attending a particular High school in Tshwane, a District of Gauteng Province of South Africa. Those who were included in the study were **High school teenage girls** who were over 18-years, had completed, signed and submitted their consent forms to the researcher, by the due date. They could also read and write in English. **High school teenage girls** below 18-years were included in the study if their consent and assent forms were signed by their parents and guardians and submitted to the researcher by the due date.

1.11 EXCLUSION CRITERIA

The **High school teenage girls** who were eliminated from the study were below 15-years and more than 19-years. Those with assent and consent forms that were not completed, not signed and not submitted to the researcher by the due date were excluded from the study. **High school teenage girls** from neighbouring High schools were not included in the study because only teenage girls who were attending a selected High school were supposed to take part in the study. Boys were not allowed to take part.

1.12 SAMPLE AND SAMPLING METHOD

1.12.1 Sampling

Systematic sampling was used in the study. The method selects and includes every n^{th} item in a list (Polit & Beck 2017: 1302). A systematic sample was selected from a sample frame, which comprised of all the girls in the population (Polit & Beck 2017:1302). In this study, a sample frame was the class lists for grades 10, 11 and 12 **High school teenage girls**. A systematic sample was selected with a random start and every fifth name in the list was selected and included in the list for the respondents.

1.12.2 Sample

A sample is a fraction of the whole population chosen to partake in a study (Polit & Beck, 2014:1302). In this study, a systematic sample comprised of 109 **High school teenage girls** aged 15 to 19 and who fell within the inclusion criteria and selected from a population of all grades 10 to 12 **High school teenage girls** at a High school in Tshwane, a District of Gauteng Province of South Africa.

1.13 DATA COLLECTION METHODS

Structured data collection approach was used. It is a method of gathering data from respondents who provide answers to research questions and data is categorised. Responses are specified in advance (Polit & Beck 2017:1306). Information provided was predetermined and used uniformly to all respondents. The same questionnaire was used for all respondents. Long and short questions were administered. Data that could be analysed statistically was collected by a questionnaire.

1.14 ETHICAL CONSIDERATIONS

1.14.1 Permission

Ethical clearance was obtained from the Health Studies Research Ethics Committee (HSREC), University of South Africa (Unisa). Permission to conduct research on the chosen site was requested by the researcher. In order to get permission a copy of the research proposal and ethics clearance certificate were submitted to the Department of Education of Gauteng Province and the District Director of Tshwane North District. The principal was informed of the study. All the respondents received information brochures explaining the study purpose, and that taking part was completely, by choice.

1.14.2 Anonymity

Possible stigmatisation and feelings of discomfort were encountered because of the

sensitive responses that respondents provided. To avoid this, each respondent was provided with a desk and chair where she sat alone in the hall and completed the questionnaire so that no one saw what the other respondents were writing. No discussions were allowed to take place. The respondents were not supposed to write their names on the questionnaires so that the researcher could not link respondents' identity with their individual responses. The researcher left the room while questionnaires were being completed to allow for privacy. Completed questionnaires were put in a box by respondents. The box was near the door of the hall. The researcher sealed the box at the end of data collection. The information on the questionnaires was strictly confidential and anonymous. More importantly, the respondents who were affected during the study were taken for counselling to the social worker in an office in the school premises.

1.14.3 Informed consent

Adequate information about the topic together with research expectations were given to respondents. This was done so as to ensure that the respondents understood what was expected from them and ensured that they had the right to participate or not (Polit & Beck 2017:1275). After recruiting relevant respondents, the researcher offered letters of information so that the respondents could know and understand about the study in which they were going to participate. The researcher gave them an opportunity to ask questions if they needed clarity. Thereafter, **High school teenage girls** who were above 18-years were given dated consent forms, which informed them that they were selected to take part in the research and were willing to participate voluntarily.

The parents and guardians of **High school teenage girls**, who were below 18-years, signed both consent and assent forms to indicate that the girls would participate in the study voluntarily. Full disclosure was done to the parents and guardians of **High school teenage girls** whereby complete information about the study was given to them.

1.14.4 Privacy and confidentiality

To ensure privacy, respondents were allocated to a single desk in the hall to complete the questionnaire. Respondents were requested not to discuss their choices with their classmates during or post-data collection such that they could maintain confidentiality.

To maintain confidentiality, the three fieldworkers, trained by the researcher in basics of research and ethics, helped the researcher during data collection. They were not allowed to move around during data collection because this might create discomfort among respondents. They did not collect completed questionnaires but respondents were asked to drop them in the box so that the fieldworkers might not be able to link questionnaires to the respondents because they did not have names.

1.14.5 Autonomy

In keeping with this principle, after giving the respondents all the information about the research study, respondents were given a right to decide to participate in the study or at any time thereof to withdraw and their decisions were respected (Brink, Van der Walt & Van Rensburg 2014: 185).

1.14.6 Beneficence

In keeping with this principle, the researcher did well to the respondents who had a right to protection from discomfort and harm (Brink et al 2014:186). In this regard, the researcher avoided asking questions about their personal views, wellness or fears. The researcher did not reveal information that was embarrassing to respondents or endanger their homes, friendships and lives. Stress was reduced by using self-administered questionnaires and wording sensitive questions carefully. The researcher reassured the respondents that their contribution to the research would not be shared with anyone and information was collected purely for research purposes. The respondents participated in the study only after they had read the statement of consent and assent and signed as an indication that they knew the risks and voluntarily accepted (Polit & Beck 2017: 1250).

1.15 SCOPE AND LIMITATIONS

The research results would be generalised to all **High school teenage girls** attending school within the District because the sample was representative of the population. Some open-ended questions were not answered which might have affected the findings. The response rate was affected because not all questionnaires were completed. The sample size was affected because some girls did not bring back consent forms on time and guardians or parents of some girls did not sign the consent and assent forms. Some selected respondents were absent on the day of data collection. This affected sample size and increased sample error.

1.16 STRUCTURE OF THE DISSERTATION

This section outlined the structure of this dissertation. It consisted of five chapters. Chapter 1 dealt with the introduction and background to the study. The problem statement, aims of the study, objectives, significance of the study, definitions of key concepts, operational definitions, ethical considerations, scope and limitations of the study, research methodology and research design were provided in this chapter.

Chapter 2 discussed the literature relevant to the study. Chapter 3 outlined the research approach. Chapter 4 presented, analysed data, and discussed the findings. Finally, chapter 5 provided research limitations, conclusions and recommendations gleaned from the study.

1.17 CONCLUSION

The chapter focused on the introduction to the study, background to the study, study aim, objectives and research questions. It discussed the significance of the study, key concepts, operational definitions, research design, research methodology, ethical issues, the scope, and the limitations of the research.

CHAPTER 2

LITERATURE REVIEW

Databases searched: PubMed; Google scholar and PMC free articles

Key words: Knowledge; Teenage girls; HIV; AIDS; Perceptions; risky behaviour

Articles received: 1085 articles searched and only 60 articles were relevant.

2.1 INTRODUCTION

The Literature about **High school teenage girls'** knowledge and perceptions of the HIV and AIDS risks in Tshwane, a District of Gauteng Province of South Africa was searched to identify baseline information about the topic. Polit and Beck (2017:1280) refer to literature review as a summarised version of research on a topic that interests the researcher and is prepared to clarify a research problem. Literature review is conducted to gather knowledge about the topic, establish points of agreements and disagreements among researchers and to identify research gaps that exist (Burns & Grove 2017:1084).

2.2 WHY FOCUS ON HIGH SCHOOL TEENAGE GIRLS' HIV AND AIDS?

Adolescents continued to be disproportionately affected by HIV. Globally, there were roughly 250 000 new HIV infections among teenagers (10 to 19-year olds) each year, which translated to about 29 every hour. Of these new infections, 65% occurred among teenage girls, and 70% take place in sub-Saharan Africa (UNAIDS 2017:1). AIDS-related illnesses were the major cause of death in teenage girls aged 15 to 19 in sub-Saharan Africa and globally. AIDS-related deaths were increasing among adolescent girls (Girls Not Brides 2018:1).

Of the 1.8 billion young people in the world, 600 million were teenage girls. Teenage girls were an inevitable human resource and a major part of the development process (UNAIDS 2016:1). Teenage girls were highly vulnerable to HIV and AIDS and other

STIs. In view of the fact that most teenage girls indulged in unprotected sexual activities, it was important to provide sexual health information and services to them (Mgbachi 2018:1).

Teenage girls were therefore, the target of the global HIV pandemic. They had been targeted by HIV and AIDS interventions because they experiment with sex and contract the disease at a high rate. They were the world's focus when fighting HIV and AIDS. HIV and AIDS would change direction if teenage girls were given priority and attention. Focusing on HIV risk behaviour change early in life would result in benefits of reducing HIV. Clearly, achieving the reward of eliminating HIV in the world meant that HIV in teenage girls has to be dealt with (Dellar et al 2015:3).

Teenage girls' HIV and AIDS was a different epidemic from adult HIV and AIDS and had to be treated and managed differently. It was important to understand teenage girls' growth pattern, although it might differ in every teenager. Appropriate psychological and social interventions should be designed to reduce the risk of sexually transmitting HIV by teenage girls. This was because adolescent girls were searching for identity and the change to youth was a time for experimenting with sex, relationships with the opposite sex, gender issues and careers (Avert 2018:2).

2.3 ADOLESCENCE

Teenagers were in a developmental stage called adolescence (10 to 19-years). During this period teenagers underwent physical and sexual maturity which would make them crave for intimate relationships with members of the opposite sex. During this period teenagers experimented with sex and drugs. There was an increase in the prevalence of HIV and AIDS and other STIs in teenagers due to experimenting with sex (Mgbachi 2018:1).

There were three stages of adolescence development which are early, middle and late adolescence. Beginning of puberty marks the start of adolescence (10 to 13-years). At this stage, adolescents began to acquire secondary sexual characteristics which they would use in sexual experimentation. Approximately, 11% of girls became sexually

active at this stage. Teenagers only thought about the present and did not think much about future consequences. Therefore, they did not consider STIs like chlamydia and HIV, which did not manifest immediately (STOPAIDS 2016:1).

However, during early adolescence long term behaviour patterns could be established. Delaying sexual intercourse would, consequently, curtail the contraction of HIV and AIDS. It was easier to establish healthy sexual practices from early childhood years as compared to enforcing them when people were already grown up (Saad, Sabramaniam & Tan 2013:197).

Adolescents acquired pleasure from new and unfamiliar experiences in the middle stage (14 to 16-years). They might begin to experiment with anything new in the adult world that gave them pleasure. By learning from programmes such as pornography, children became exposed to sexual activities directly and indirectly. Young adolescents relied on adults when making decisions and lacked the power to make choices to access services. Eventually, they might prefer advice from peers as compared to authoritative figures. Community leaders would also influence behaviour (STOPAIDS 2016:1).

In the late stage (17 to 19-years), adolescents changed into adults who were responsible for their behaviour. They were able to make decisions, had self-control and could make future decisions. Adolescents continued to make decisions without parental involvement. Peers influenced their decisions and values more. The youth would be free to make decisions without parental involvement as they would be staying alone. Acknowledgement of adolescents' sexual experimentation is needed so that they could be allowed to partake in VCT, ARV treatment and HIV prevention interventions (STOPAIDS 2016:2).

2.4 KNOWLEDGE OF HIGH SCHOOL TEENAGE GIRLS REGARDING HIV AND TRANSMISSION

High School teenage girls could not be excluded from contracting HIV infection unless they were well informed about how to prevent HIV and AIDS transmission.

There was a strong linkage between what teenagers knew and their actions (Majelantle, Keetile, Bainame & Nkawana 2014:5). Knowledge was one of the factors that contributed to behaviour change.

Over four decades into the epidemic, most teenage girls still lacked information on how to prevent STIs including HIV and AIDS. Most of them had heard about AIDS, but very few knew how one could get infected by HIV. They perceived that they were not at risk from HIV infection. Teenagers who had knowledge of HIV prevention did not do so because they did not have parental support to do so (Kumar, Goyal, Singh, Bhardwaj, Mittal, C & Yaddav 2017:2).

New knowledge from all over the world pointed out that most young people did not know the transmission and prevention of HIV and AIDS. Adolescent girls lacked information about HIV and HIV prevention. Globally, only 30% of girls aged 15 to 24 had adequate and accurate information about HIV (UNAIDS 2015:8). Consequently, lack of information on HIV prevention undermined young women's authority to request condom use and other safer sex practices (UN Women 2016:12). Equipping young people with life skills in negotiation and decision-making provided them with the ability to make informed choices which protected them from HIV, STIs and unwanted pregnancies (Kumar et al 2017:3).

Life Orientation (skills) Programme in South African schools was introduced in 2000 with a focus on equipping learners from grades R to 12 with life skills (Department of Basic Education 2016:7). The aim of the programme was to embed HIV and AIDS education into the curriculum so as to combat HIV and AIDS through raising awareness of the disease. According to Saad and Tan (2013:203), at an early age, sex education that tackles the root cause of high HIV and AIDS prevalence rate should be emphasised. Tomlinson (2013:4) maintains that Life Orientation programme prepares learners to be bold when making life and sexually related decisions. The Department of Basic Education (2016:15) stipulates that education plays a crucial role in reaching a wider number of children. Therefore, the Life Orientation programme helped a lot in equipping and educating teenagers to make informed sexual decisions which prevented them from contracting HIV and AIDS.

Recent studies conducted in South Africa indicated that only 59% of the youth were well informed about how to prevent HIV compared to 85% in eSwatini (UNFPA 2016:3). The provision of sex education by 5% of the schools in South Africa in 2016 decreased the genital herpes (HSV2) incidence in young people by 33%. Additionally, there was a decrease in physical and sexual abuse of girls by young men and sex for money was reduced in young men (UNFPA 2016:3). Some of the barriers to providing effective sexuality education in schools were that many girls dropped out of school early, and teachers were not trained in HIV and AIDS transmission so they also lacked the knowledge. Furthermore, very few teachers wanted to teach the subject because of its sensitivity (UNFPA 2016:8).

Dellar, Dlamini and Karim (2015:6) explain that several prevention programmes have been implemented but the post-evaluation of these programmes highlight that they are not reaching the desired goals. Dellar et al (2015:6) also states that schools and teachers are the most popular sources of information about HIV and AIDS prevention.

Myths on HIV and AIDS were many and they differed with one's location in the world. Some populations, for example, still believed that one could be infected by HIV if one is bitten by a mosquito or bewitched. They also believed that eating a certain type of fish and having sex with a virgin could eliminate HIV. Misconceptions among young people about how HIV and AIDS were transmitted were indicated in surveys from more than 40 countries (Majelantle et al 2014:2).

Adolescents spent most of their time in school. In sub-Saharan Africa, about 60 to 75% of 10 to 19-year-olds were currently attending school. There was an increased use of contraceptives with an increase in number of years of schooling so school provided protection from HIV infection. Therefore, schooling was associated with less sexual activity in sub-Saharan Africa (Taukeni & Ferreira 2016:5).

Although it was necessary to be informed about HIV and AIDS transmission, this did not lead to sexual behaviour change. For example, young people in Botswana were

well informed about HIV and AIDS, but were still having unprotected sexual intercourse (Majelantle et al 2014:2).

Most HIV and AIDS school programmes focused on providing awareness and induced behaviour change among teenagers. Those HIV and AIDS school programmes that relied on behaviour change provided only provided education and knowledge about HIV and AIDS. Evidence suggested that these programmes could not combat unsafe sexual practices (Omoyeni, Sunday, Akanni, Akinyemi & Fatusi 2014:332).

Research conducted in Botswana revealed that HIV and AIDS awareness was disseminated to a wider population. The 2012 Botswana Global School-based Survey in Majelantle et al (2014:1) revealed that adolescents were well informed about sexuality education, although there were myths and stigma that still surrounded HIV and AIDS. Fifty percent of the young people thought that kissing could transmit HIV. Females and males started having sex at 17.2-years and 16.5-years, respectively. Almost 10% of young people had transactional sexual intercourse with a man ten years their senior or older. Even though knowledge about HIV transmission was not enough to cause behaviour change, it was still necessary because without knowledge young people did not know how to protect them, eventually, they could indulge in unprotected sex (Majelantle et al 2014:2).

Researchers had finally concluded that if teenagers were to be protected from HIV, there was a need for SRH education comprising of powerful interventions and myths should be eliminated. Gaps still existed within programmes that target both knowledge and behaviour change in the sexual activities of teenage girls (Majelantle et al 2014:8).

2.5 HIV AND AIDS TRANSMISSION INFORMATION AVAILABLE TO HIGH SCHOOL TEENAGE GIRLS

High school teenage girls needed to be educated in HIV prevention methods before engaging in sexual activities. In order for them to be well informed they were supposed to be exposed to a variety of media. HIV and AIDS information dissemination programmes and campaigns done by the NGOs should prioritise on increasing

knowledge of HIV transmission and promotion of safe sexual practices which included constant and consistent use of the condom and abstinence. Furthermore, HIV and AIDS awareness and prevention programmes should provide sexual related values so as to empower **High school teenage girls** to make the right decisions which would prevent them from contracting HIV and AIDS as well as transmitting the virus to others (Appiah-Agyehu & Suapim 2013:140). The available sources of information were discussed below.

2.5.1 Peers

Peers were a strong source of information for teenage girls hence the power and influence of this group should not be undermined. Peers were more influential and did not have any limitations when it came to discussing sexual related matters. Gombachika, Chirwa, Malata and Maluwa (2013:9) argue that teenagers socially develop behaviour and through interaction with their peer groups, they also develop behavioural norms that influence behaviour. The prominence of peer relationships and a reduction in parental involvement marked adolescence (Agaba, Makai, Bankat, Chebu, Apena, Iyaji-Paul & Idoko 2013:8). Sasha (2013:41) asserts that HIV research indicates that the importance of avoiding sexual risky behaviour and HIV prevention measures are undermined by peer pressure among teenagers. Peers were more approachable and non-judgemental that was why they were the most preferred source of information by teenage girls (Gombachika et al 2013:10).

2.5.2 Parents

Teenagers' most trusted source of information about sexuality was parents who were also important socialising agents for children. Dimbuene (2014:3) addresses parents' potential role in sexual education and HIV and AIDS transmission among young people in recent studies in sub-Saharan Africa. The findings suggested that the key components of HIV and AIDS interventions should be directed towards parents. Communication between parents and adolescents was below standard in sub-Saharan Africa because sexual education was a taboo topic in many African societies due to African belief systems that did not value parent-adolescent communication.

Parents might also fear that teenagers would be made sexually active by talking and teaching them about sex (Dimbuene 2014:8).

When time was due to teach children about HIV and AIDS issues, parents remained silent because of the environment and belief systems that were not conducive for teaching children in Africa. Additionally, lack of parental knowledge about HIV and AIDS had been reported to be a barrier to efficient communication with adolescents. When communicating to adolescents about sexuality, parents dictated warnings and threats about pregnancy and STIs (Dimbuene 2014:14). Therefore, parents should be equipped with necessary and adequate skills to initiate dialogue about HIV and AIDS topics in sub-Saharan Africa (Dimbuene 2014:20).

2.5.3 School teachers

The Department of Basic Education had multiple HIV and AIDS campaigns and awareness programmes provided in all South African public schools. These programmes focused on issues related to opposite sex relationships and how to deal with peer-pressure, among others. Teachers in schools remained the most reliable sources of HIV and AIDS information. Schools provided suitable places for HIV prevention education and many youth-targeted HIV, STI and pregnancy interventions took place in schools throughout sub-Saharan Africa (Dellar et al 2015:5).

2.5.4 Mass media

The 2012 National Communication Survey on HIV and AIDS in Avert (2018:11) reveals that South African mass media campaigns have played an important role in changing teenagers' sexual behaviour in an endeavour to reduce the spread of HIV and AIDS. Multi-media awareness interventions such as Lovelife, Soul City and MTV Shuga provided substantial education and awareness in HIV and AIDS in young people.

HIV and AIDS intervention programmes presented via electronic and non-electronic media had also been successful in effecting behaviour change. There was evidence

that mass media programmes had been effective in transforming teenagers' sexual behaviours and attitudes related to HIV, condom use and communication with partners and peers, among others. For example, in South Africa, Soul City was broadcast to 70% of over 16s, including 65% of those living in the rural areas and 50% with informal education. Other programmes provided by the Soul City Institute included Soul Buddzy series and 'Untold Stories: In a time of HIV' which sought to combat HIV through education interventions (Avert 2018:12).

In South Africa in 2015, Lovelife's radio HIV intervention programmes were broadcast to more than 12 million listeners. Campaigns focused on destroying the elements that help in transmitting HIV among young people, which included poverty and unemployment (Avert 2018:12).

The goal of MTV Shuga was to produce desired behaviour in young people that would result in improvements in their sexual and reproductive health. According to evaluations of the series, there was a positive change. VCT increased and chlamydia infections decreased in young women (Avert 2018:12).

Carter, Corneille, Hall-byers, Clark and Younge (2015:111), support the view that HIV awareness campaigns using text messages were beneficial. Cell phone technology was useful in health awareness campaigns because it had a variety of techniques that could be used to reach young people. Because young people often used mobile technology, this initiative was found to be valuable to them.

Although mass media was preferred by the majority of the teenagers, Avert (2018:6) argues that adolescents' sexuality is influenced either positively or negatively by the media because it has a powerful influence on teenagers' perception of life. Avert (2018:5), further argues that teenagers prefer programmes that destroy them, like pornographic films and ignore programmes that teach good things. Some movies aroused curiosity in children and pressured sexual exploration, leading them to experimenting in sex (Sasha 2013:3). Teenagers presented themselves publicly in sexual suggestive ways in social networking websites and home pages (Sasha 2013:5).

2.6 RISK BEHAVIOURS OF HIGH SCHOOL TEENAGE GIRLS REGARDING HIV AND AIDS TRANSMISSION

In South Africa HIV was transmitted, mainly, through vaginal sex. The examples of the risk behaviours for HIV infection in teenage girls included lack of condom use, early sexual debut, intergenerational-relationships, early marriages, untreated STIs, and drug and alcohol abuse (Dellar et al 2015:1).

2.6.1 Intergenerational relationships

Sexual relationships between teenage girls and older men increased HIV transmission in sub-Saharan Africa (UNAIDS, 2013:1). Age-sex disparity resulted in high HIV prevalence in teenage girls which was a public health problem (Karim, Khersary, Ntombela, Bhardwaj, Mittal, C & Yaddav 2014:2). For example, 27% of girls below 20-years who attended antenatal clinics in a rural sub-District of KwaZulu-Natal from 2009 to 2013 were living with HIV (Dellar et al 2015:3). Even though effort was put in preventing new HIV infections, sex between older men and **High school teenage girls** still remained the major player in the spread of HIV in South Africa (Mungoni & Mangold 2013:2).

Research findings had indicated that it was normal for teenage girls to have sexual intercourse with older men. Despite making only 10% of the population, girls and young women aged 15 to 24 were responsible for almost a quarter of the infections in most towns of East and Southern Africa (UNAIDS 2017:1). Girls contracted HIV between five and seven years earlier than boys and their infection rate was three to six times as compared to that of boys of the same age (Karim et al 2014:4). Sexual intercourse between older men and girls, resulted in a “sexual mixing” pattern. Because of the misconception concerning having sex with a virgin as an HIV and AIDS “cure”, HIV and AIDS was fuelled by this “age-mixing”. Furthermore, many men believed that young girls were HIV-free (Van Dyk 2015:230).

In areas where there were economic hardships, girls requested the support from older men called “sugar daddies”, to pay for their school fees. Teenage girls were involved in prostitution voluntarily or were coerced to meet their financial needs (Ramjee & Daniels 2013:5).

According to a study conducted among black teenage girls in Eastern Zimbabwe, it was revealed that teenage girls were having sex with men who were ten years and above. In their latest sexual indulgence, girls reported having unprotected sex (Schaefer, Gregson, Eaton, Mugurungwi, Rhead, Takaruza, Maswera & Nyamukupa 2017:7). Being young and having few years of schooling made one to be vulnerable to STIs, including HIV and AIDS (Schaefer et al 2017:8). Teenage girls did not have the power to determine when and where to have sex and could not decide not to have safe sex even when cheating was suspected. This increased their HIV risk. Due to the power imbalances between men and women in Southern-African, teenage girls who had sex with older men did not have the power to demand safe sex (Schaefer et al 2017:9).

2.6.2 Multiple sexual partners

Having sex without a condom with many men increased the risk of HIV transmission. **High school teenage girls** were at risk because adolescent development was characterised by experimenting with sex. The period involved a high turnover of sexual partners (Pilgrim, Ahmed, Gray, Sekanarv, Lutalo, Nalugoda & Waiver 2014:15). Multiple sexual partners did not value condom use (Njau, Mwakalo, & Mushi 2013:8). Therefore, multiple sexual partners were associated with limited use of condoms during sexual intercourse. These sexual behaviours inevitably carried the risks which led to infection by STIs including HIV and AIDS.

2.6.3 Early sexual debut

Before the 15th birthday, many teenage girls became sexually active during adolescence (Peltzer & Pengpid 2015:2). In a study among 15-year-old children six Caribbean countries, of the 27, 3% that had had sex before 15-years 15, 8% of them

were girls (Peltzer & Pengpid 2015:2). Since **High school teenage girls** had insufficient knowledge about sexuality and protection during intercourse, these findings were disturbing considering the facts that these **High school teenage girls** were putting themselves at risk of being infected by STIs including HIV and AIDS. Factors that encouraged early sexual debut were lack of parental monitoring, alcohol use, violence, delinquency, school problems, depressive symptoms, and having more advanced physical maturity (Peltzer & Pengpid 2015: 5).

Consequently, **High school teenage girls** who started to have sex earlier in life had a high probability of having sex with infected partners or multiple partners and might not practice safe sex. Adolescents could be protected from infection by delaying sexual debut (Idele, Gillepsie, Poerth, Suzuki, Mahy, Kasdde & Luo 2014:149).

2.6.4 Early marriages

Where the epidemic was at its peak, many countries in East and Southern Africa had a very high prevalence of child marriages. These included Mozambique (48%), Malawi (42), Uganda (40%), Zimbabwe (32%), Tanzania (31%) and Kenya (23%) (UNICEF 2018:2). In sub-Saharan African a woman who got married early had the probability of marrying an older person. Girls were involved with older partners who had been sexually active for many years and had multiple sexual partners. Therefore, early marriages were a risk factor in HIV transmission (Girls not Brides 2018:2). Child brides did not have the authority and were not informed about where to access services. Because of these factors, they lacked the power to practise safe sex, therefore, got exposed to HIV and AIDS or other STIs (Girls Not Brides 2018:2).

Higher levels of intimate partner violence (IPV) were reported as being experienced by girls who got married before the age of 18 than those married after age 18, globally. There was a greater risk of contracting HIV in those women who experienced IPV (Kidman 2017:18).

If the husband was much older, marriage did not provide any protection against HIV. Child brides did not have the power that was needed to negotiate safe sex or access

vital SRH services such as contraception or HIV testing. According to UNAIDS (2014:21), in Burkina Faso, Cameroon, Ivory Coast, Niger, and Senegal, 80% of married 15 to 19-year-old girls did not have power to access healthcare.

2.6.5 Condom use

A condom is a form of a contraception that prevents pregnancy and STIs including HIV. If correctly and consistently used, condoms are the most effective preventive measure against HIV and STIs (Medical Encyclopaedia 2013:111).

A study in France revealed that adolescents did not believe that they could be protected from contracting HIV by condoms. The majority of adolescents in Africa did not make use of condoms when indulging in sexual activities (Beltzer, Saboni, Sauvage, Lydie, Semaille and Warszawski (2013:101). The perception that condoms were viewed as an ineffective method for preventing HIV transmission caused them not to be used by adolescents.

Male condom use in relationships was promoted by feelings of distrust caused by infidelity (Njau et al 2013:8). Therefore, there is limited condom use in relationships where there was mutual trust between partners. Some adolescents argued that condoms created discomfort during sexual intercourse as well as reducing sensitivity (Njau et al 2013:8).

When sexual partners were at least two years older, relationship dynamics which did not favour safe sex and protecting teenage girls from STIs that included HIV infection existed. Young people were exposed to unsafe sexual behaviour due to low condom use by older sexual partners who were already infected with HIV (Protogerou, Hagger & Johnson 2017:8).

WHO (2013:3) notes that indulging in sexual activities at an early age is associated with increased risk of unplanned pregnancy, STIs and HIV infection. Early sexual

activities led teenagers to indulge in sexual activity with high-risk partners who did not practise safe sex.

There was a reduction in the use of condoms among all age groups in South Africa (Van der Linde 2013:6). According to the National HIV and AIDS and Reproductive Health survey (2013:5) which was conducted in Nigeria, boys and girls who had unprotected sex were 56,4% and 39,6%, respectively. This was due to coercion, unavailability of condoms and substance abuse (Nigeria AIDS Control Agency 2013:3). This concurred with what had been reported in South Africa.

2.6.6 Oral and injectable contraceptives

Contraception is the act of preventing pregnancy by using a method that interferes with the normal process of ovulation, fertilisation and implantation. This method can be a device, medication, a procedure or a behaviour (Basonde, Sarao & Cooper 2020:1). To prevent conception, hormonal disruption of the menstrual cycle can be done using oral or injectable contraceptives (Basonde et al 2020:1).

An oral contraceptive pill is a small tablet that is taken orally and daily (Basonde et al 2020:1). The combined pill contains oestrogen and progesterone. It suppresses ovulation, alters cervical mucus and the endometrial lining resulting in pregnancy prevention. The pill is highly effective in preventing pregnancy, if taken correctly and consistently on time. It does not disturb sexual libido. The pill may reduce painful and heavy periods and can heal acne. The disadvantage is that correct and consistent use is needed for it to be effective. It does not protect against STIs. The pill is easily available on the market (Basonde et al 2020:1).

Injectable contraceptive, commonly known as Depo Provera, is the hormone progesterone that is injected into the woman's buttocks or upper arm (Basonde et al 2020:1). The hormone is slowly released into the bloodstream for 12 weeks. The method is very effective and does not interfere with sex. One has to keep track of the number of months of use. However, the injection may cause periods or irregular

bleeding. It also does not protect against STIs including HIV and AIDS. **High school teenage girls** prefer the injection to the pill (Basonde et al 2020:1).

2.6.6.1 Benefits of contraceptives

Contraception reduces unwanted pregnancies, diseases and deaths among adolescents. If correctly and consistently used all over the world, unintended births would be lower by 2.1 million, abortions will be lower by 3 2 million and morbidity will be lower by 5 600 million each year ((Sensoy, Korkut, Akturan, Yilmaz, Tuz & Tuncel (2018:6). Contraceptives can also be used for the treatment of many symptoms and disorders related to menstruation such as regulating the menstrual cycle, reducing cancer of the uterus, reducing pain during periods, fighting acne, reducing problem of cysts in the ovaries, reducing symptoms of premenstrual syndrome, relieving menstrual migraine, preventing anaemia and can help in managing endometriosis (Osborn 2018:1).

Contraception is indirectly associated with increased opportunity of schooling, higher levels of education, better employment, higher socioeconomic status and empowerment in women (Sensoy et al 2018:10).

2.6.6.2 Factors that influence the use of contraceptives

The factors that affect contraceptive use are educational level, locality type, age at sexual debut and religion.

2.6.6.2.1 Educational level

Studies had revealed that contraceptives were used more by women who had attained secondary and tertiary education as compared to those with primary education (Makola, Mlangeni & Zuma 2019:158). Therefore, education exposes women to reproductive health information resulting in empowering women to make informed choices on the best methods suitable to them. Lack of knowledge of contraceptives is

associated with low educational level (Essiben, Mela, Foumane, Epoupa, Ojong & Mbondou 2018:1). As a result of low educational level **High school teenage girls** have little awareness about sexual and reproductive health including contraceptives. Those women with an educational level which was above secondary school would most likely use a variety of modern contraceptive methods as compared to those with lower education level (Alo, Daini, Omisile, Adelusi, Ubahand & Idoko-Asuelimhen 2020:196)

2.6.6.2.2 Locality type

High school teenage girls in rural informal and formal settlements were less likely to use contraceptives as compared to those in formal urban settlement areas (Basonde et al 2020:1). This was because there was limited contraceptive method awareness available to them. The other challenge was access to health care services and access to information which was limited in rural areas. They used contraceptive more in urban areas because of the presence of social services like education, availability of health, information and family services. There was also low contraceptive use in Africa as compared to first world countries because of limited awareness due to location in the world. Sensoy et al (2018:6), reported a 35% contraceptive use in Africa.

2.6.6.2.3 Age at sexual debut

Findings are associated with low contraceptive use among those who had sexual debut before the age of 15-years (Makola et al 2019:159). This could be due to lower knowledge and fear to access contraceptives at their age because of societal stigma. The other reason was the idea of exposing adolescents to contraceptives at an early age which encourages them to engage in sexual activities which may be a hindrance to start using contraceptives by adolescents and parents. Sexual debut at 14-years and younger without using contraceptives strongly predicted the likelihood of inconsistent use of contraceptives even in later sexual encounters (Makola et al 2019:160).

Younger women were associated with low contraceptive awareness because of poor quality of education and consultation in the health care system (Mardi et al 2018:203). Family and educational institutions do not empower **High school teenage girls** with contraceptive information because they feel that there were still young. They had insufficient information on contraceptive methods such that they could not make any informed decisions (Mardi, Ebadi, Shahbazi, Moghadam & Saeieh 2018: 205).

Because they were younger, **High school teenage girls** had insufficient knowledge which was marked with misconceptions and myths about contraceptive use (Mardi et al 2018:205). The myths and misconceptions spoken by peers and their partners did not support contraceptive use. For example, contraceptives were believed to cause infertility in future if used early in life, which was a huge concern. There were also fears about side effects such as weight gain, irregular bleeding and long-term health risks (Clare, Squire, Alvarez, Meisler & Fraser 2018:4). Kiggundu, Nyashanu, Ekpenyong (2020:1) also pointed out that women were also afraid of perceived loss of libido which can cause marital divorce.

Parents did not provide information because of culture. They did not discuss sexual matters with their children because they were embarrassed and they also lacked knowledge. **High school teenage girls** did not talk about sexual issues because of taboos, beliefs and tradition that stopped them from acquiring necessary information (Mardi et al 2018:202). Opawale, Animashahun and Chapman (2018:1) concur by saying that parents' approach was unfriendly so there were no free discussions on sexuality issues between mothers and their daughters.

Because they were still young, **High school teenage girls** lacked decision-making power to choose the best contraceptive methods (Mardi et al 2018:203). **High school teenage girls** were too young to have learned important life skills hence allowed other people to decide for them on the methods of contraception because they lacked autonomy (Mardi et al 2018:203).

Basonde et al (2020:5) say that older and married women who had given birth used contraceptives more than single unmarried women. Contrary to other studies, Alo et al

2020:196) do not find age as an important factor that affect contraceptive use by sexually active women. They said that more of these women used contraceptives to avoid stigmatisation due to unplanned pregnancies out of wedlock.

2.6.6.2.4 Religion

Religion was also considered as a factor that affected contraceptive use. Children was considered as a blessing from God by many religions, therefore, preventing pregnancy was considered a sin. Religious leaders influence contraceptive use positively or negatively (Tigabu, Demelew, Seid, Manyazawal & Sime 2018:1). Adedini, Balalola, Ibeawichi, Omotoso, Akiode, Odeku 2018:514) concur with Tigabu et al (2018:1) by saying that many religious leaders have beliefs that do not support modern contraceptive use. For example, Catholics support natural methods. Furthermore, positive messages by such leaders may lead to higher contraceptive use.

2.6.7 Drug and substance abuse

High school teenage girls used alcohol and drugs because of curiosity, boredom, peer pressure and the search for excitement. Most studies showed that the higher the rate of alcohol and drug abuse, the more likely it was for one to be infected with HIV (WHO 2013:10). **High school teenage girls** frequented taverns because these were the only places where they could relax and had fun because there were no recreational facilities in schools and communities. According to WHO (2013:7) consumption of substances inevitably lead to non-condom use. Even though **High school teenagers** had knowledge of preventing HIV and AIDS, condom use was limited due to the influence of drugs and alcohol. Therefore, substance and alcohol abuse increased the exposure to HIV transmission.

When the brain was affected by drugs, one's judgement was changed and inhibitions were lowered. A person who was intoxicated made poor judgements and choices that exposed one to HIV infection. Having unprotected sexual intercourse, incorrect and inconsistent condom use, and multiple sexual partnerships were some of the poor

decisions that an intoxicated person made that increased one's risk of infection by HIV and other STIs (MDA 2020:1).

The use of intoxicating substances played a major role in fuelling HIV transmission because young men often took advantage of intoxicated girls and had sex with them, usually without using condoms. Intoxicated teenagers often forget to use condoms when they were high (Ramsoomar & Mojele 2016:6).

2.6.8 Peer pressure

During adolescence, peer pressure was pronounced. Teenagers often deserted their families and associated with peers whom they shared myths about HIV transmission (Bingeheimer, Asante & Ahiadeke 2015:512). Risk behaviour was caused by peer influence. Sometimes because of fear of rejection by their peers, girls often lied about their sexual experiences (Bingeheimer et al 2015:513). Bingeheimer et al (2015:13) find out that most girls are afraid of being laughed at by their friends for being virgins hence they indulge in risky behaviours so as to be acceptable in the eyes of their peers. Therefore, during adolescence, parental guidance on risk behaviour was preferred as compared to advice from peers.

2.6.9 Untreated STIs

Both ulcerated and non-ulcerated STIs were responsible for an increase in HIV transmission by 3 to 5 times (Van Dyk 2015:25). In a study conducted in Tanzania, one-half of pregnant adolescent girls in northwest Tanzania had at least one STI (Hokororo, Kihunrwa, Hoekstra, Kalluvya & Chagaluch 2015: 474).

Treatment and prevention of STIs should be used to break the HIV and AIDs link because they facilitated HIV transmission between partners. There was an increased risk of HIV transmission by STIs that caused genital ulcers. Asymptomatic STIs were often ignored in females and they spread quickly. A false impression of non-existence of disease might be created when symptoms of STIs vanished (Van Dyk 2015:26).

Asymptomatic STIs were difficult to diagnose and made treatment difficult, therefore, increasing the risk of HIV acquisition (Ramjee & Daniels 2013:2). Despite STIs' close link to the HIV epidemic they were not given the attention that they deserved (Ortayli, Ringheim & Sladden 2014:23).

Physiologic, developmental, social and structural transitions were experienced by teenage girls, concurrently, for the first time (Bekker, Leigh & Sybil 2015:1). The changes were so confusing such that if one was uninformed, they might risk their lives by engaging in unprotected sexual intercourse. They were led into adventure and exploration by feelings of desire, eventually getting into risk situations (UNICEF 2015:2).

Behavioural risk alone could not explain the high HIV incidence rate in **High school teenage girls** (Yi, Shannon, Prodger, Mankinson & Kaul 2013:75). There were other underlying factors that could explain the high HIV incidence rate in **High school teenage girls**. It was easier for women to be infected by the virus because the semen stayed for three days in the female reproductive system which was wider. Men could easily infect women with HIV because semen had a very high concentration of HIV as compared to vaginal fluids (Dellar et al 2015:4).

High school teenage girls had a higher rate of HIV risk as compared to older women because their genitals were ineffective barriers to HIV. Furthermore, the lining of the womb was not yet fully developed making the HIV risk for young girls greater (Dellar et al 2015:5). Other bacterial and viral STIs might also mediate the infection environment which increased HIV infection. The use of the hormonal contraceptive depot medroxyprogesterone acetate (DMPA) increased the risk of acquiring HIV in young women while reducing the HIV risk in older women (Dellar et al 2015:5).

When a recently sexually debuted adolescent girl engaged in unprotected sex with an infected partner, the above biological factors created conditions that increased her risk to HIV infection in Southern Africa (Dellar et al 2015:5).

2.7 RISK PERCEPTION OF HIGH SCHOOL TEENAGE GIRLS TO HIV AND AIDS

Risk perception is the ability of a person to interpret and evaluate knowledge so as to have a thorough understanding of the risk that he or she is exposed to (Collins English Dictionary 2014:213). Perception is influenced by the amount and type of knowledge a person has. Therefore, healthy behaviour which prevented HIV transmission among **High school teenage girls** was affected by the teenager's perception of the risk associated with her behaviour.

Teenage girls were the most vulnerable population group. According to UNAIDS (2018:1), 140 000 teenage girls were infected with HIV as compared to 49 000 teenage boys in South Africa in 2017. In areas where teenage girls' risk perception was low, enough HIV and AIDS knowledge should be disseminated to the girls so as to raise their awareness and reduce their vulnerability to HIV transmission. Teenage girls' vulnerability to HIV can be reduced if they practice preventive behaviour and had a positive perception towards reducing HIV and AIDS transmission.

Studies reported that adolescent girls, consequently, got pregnant because they had a low perception of contracting HIV. Such forms of low perception led them into unprotected sexual relationships. Even when they knew the fatalities associated with the disease, adolescents still perceived that they were not at risk. The view that adolescents were not at risk of contracting HIV encouraged risky behaviours (Gatta & Thupayagale-Tshweneagae 2013:3). Therefore, young people who engaged in sexual behaviours that increased their risk of being infected with HIV had a low risk perception.

2.8 CONCLUSION

This chapter discussed the HIV and AIDS knowledge of teenage girls, accessible sources of information on HIV transmission, the risky behaviours of teenage girls as well as their perceptions of HIV and AIDS risk. In this discussion, several studies showed that teenage girls lacked adequate knowledge of HIV and AIDS and they were many misconceptions on HIV transmission. However, those teenagers who were well

informed about HIV and AIDS practised unsafe sex because they were forced, condoms were inaccessible, or they trusted their sexual partners. Teenage girls also had a low perception of HIV and AIDS risk, which often caused them to engage in high-risk sexual behaviours. Peers were the most predominant source of HIV and AIDS information but their knowledge was often full of misconceptions, which led teenagers to engage in unsafe sex practices.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The chapter discussed the research approach, method and ethical considerations for the study. Focus was on the research strategy and methods used to explore **High school teenage girls'** knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Tshwane, a District of Gauteng Province of South Africa.

3.2 RESEARCH DESIGN

Guidelines and instructions that are used by a researcher to address a research problem are referred to as research design (Polit & Beck 2017:1300). The researcher can maximise the validity of the eventual results by anticipating what the appropriate research decisions should be (Mouton 2014:107). A descriptive design was used. These are designs that produce a description of phenomenon that the researcher is interested in using statistics (Burns & Grove 2017:1053). Detailed information about the subjects or situations was provided. There was a discovery of new information and information was processed and grouped so that it could have meaning. Data was gathered from the accessible population so as to get insight on the respondents' perceptions and beliefs about preventing the transmission of HIV and AIDS (Burns & Grove 2017:1053).

The researcher described the **High school teenage girls'** knowledge and perceptions of HIV and AIDS transmission. Focus was also on how and where to gather information about HIV transmission and preventing risk behaviours.

3.3 RESEARCH METHODS

These are techniques that are used to structure a study and to collect and analyse data in an orderly way (Polit & Beck 2017:1300). This include the choosing of respondents, the choosing of the setting, and the way information is collected and analysed (Burns & Grove 2017:1071).

3.3.1 Research approach

The quantitative research approach was utilised. This is the investigation of a problem that lead to exact measurement and quantification, often involving rigorous and controlled design (Polit & Beck 2017:1296). It was used to generate numerical data about a phenomenon (Burns & Grove 2017:1077). In most cases quantitative researchers described events, relationships and determine the effectiveness of programmes so as to improve human experiences. Structured techniques were employed for data collection and quantified data was submitted for statistical analysis. The researcher was an independent observer, this is, the researcher did not intervene in the study by manipulating the independent variable. Results in quantitative research could be verified (Polit & Beck 2017:369).

In a quantitative method, numerical data were transformed into useful statistics. Quantitative data collection methods were more structured than qualitative methods. During data collection, both short and long questions could be used. Many respondents could be used to ensure representativeness. Questionnaires were used as a data collection tools. This method compared differences between characteristics of chosen samples or variables (Christensen et al 2014:14).

The study focused on variables related to socio-demographic aspects, facts about HIV transmission, where teenage girls acquired information on HIV and AIDS, and on risky behaviour. The researcher used questionnaires as the data collection instruments. The responses were quantified and statistical data analysis was conducted by the researcher. Literature review was done to enhance objectivity and to ensure content

validity. To employ empiricism, the researcher applied a quantitative research process to observe and measure the variables and derived their conclusions from the analysed data.

3.3.2 Population

A group of individuals or objects having some common characteristics is a population (Polit & Beck 2017:456). Therefore, a population refers to human or non-human elements with unique characteristics which a researcher considers as essential for gathering data. The population consisted of all **High school teenage girls** from grades 10 to 12 aged between 15 and 19 at a selected High school in Tshwane, a District of Gauteng Province of South Africa.

A group of subjects available on a particular time are called accessible population (Polit & Beck 2017:456). The accessible population for the study was **High school teenage girls** between 15 to 19-years old who were in grades 10 to 12 at a High school in Tshwane, a District of Gauteng Province of South Africa, who met the inclusion and exclusion criteria and were easily accessed by the researcher.

A whole group of subjects considered by the researcher when selecting a sample for the study and the group the researcher would like to generalise the study results is called a target population (Polit & Beck 2017:651). In this study, the target population was all High school teenage girls, 15 to 19 years old and in grades 10 to 12 attending High school in Tshwane, a District in Gauteng Province of South Africa.

3.3.3 Inclusion and exclusion criteria

Those **High school teenage girls** who were included were from 15 to 19-years. They were in grades 10 to 12. They were attending school at a particular High school in Tshwane, a District of Gauteng Province of South Africa. The **High school teenage girls** who were over 18-years were included in the study if their consent forms were completed, signed and submitted to the researcher, by the due date. The **High school teenage girls** who were below 18-years were included in the study if their consent and

assent forms were signed by their parents and guardians and submitted to the researcher by the due date. **High school teenage girls** were included in the study could be able to read and write in English.

The **High school teenage girls** who did not partake of the study were below 15-years and above 19-years. Those with assent and consent forms that were not completed, not signed and not submitted to the researcher, by the due date were, excluded from the study. **High school teenage girls** from neighbouring High schools were not included in the study because only **High school teenage girls** who were attending a particular High school were supposed to take part in the study. Boys were not allowed to take part in the study.

3.3.4 Sampling

The process of selecting a portion of subjects that represent a population to acquire information about an aspect that interests the researcher is called sampling (Brink et al 2014:132). It aims to obtain a representative portion that is similar to the target population (Mouton 2014:110).

The selection of sampling units from a population using random processes is called probability sampling (Polit & Beck 2017:457). The method used is called systematic sampling where every n^{th} unit in a list is chosen (Polit & Beck 2017:470). The method allowed the researcher to guess the sampling error, reduce bias and obtain correct inferential statistics. Therefore, systematic sampling improves representativeness of the sample (Polit & Beck 2017:470).

The classroom registers for grades 10, 11 and 12 were used as the sampling frame and comprised of 545 girls. A list of eligible teenage girls was compiled. A systematic sample was selected with a random start, and every third girl in a list of girls selected. A list of 115 respondents were selected. Only 109 who met the inclusion and exclusion took part in the study.

3.3.5 Sample

A part of the target population comprising respondents in a study is referred to as a sample (Polit & Beck 2017:458). A systematic sample comprised of **High school teenage girls** who fell within the inclusion and exclusion criteria. The girls were chosen from all grades 10 to 12 **High school teenage girls** at a High school in Tshwane District in Gauteng Province of South Africa. In order for research results to be generalised, quantitative research required a sample which covered the entire population. A huge sample was more representative of the population as compared to a smaller sample since it would provide accurate representation (Polit & Beck 2017:458).

The researcher selected the respondents from a sample frame, which is a register of all the subjects in the target population (Polit & Beck 2017: 458). The sample frame for this study was the class list for grades 10, 11 and 12 **High school teenage girls** at a selected High school in Tshwane, a District of Gauteng Province. A systematic sample was selected with a random start and every third girl in a list of girls was selected. A list of all the 115 respondents who were going to take part in the study was compiled. Only 109 out of 115 **High school teenage girls** partook of the study because they met the inclusion and exclusion criteria.

The sampling framework

Grade	n(number of girls)
10	180 (33%)
11	205 (38%)
12	160 (29%)
N (Total respondents) = 545	

After applying systematic sampling with every 3rd respondent selected and applying the inclusion and exclusion criteria, 36(33%) were grade 10s; 41(38%) were grade 11s and 32(29%) were grade 12s making a total of 109 respondents. There were only six

respondents who did not partake of the study. These respondents did not submit their assent and consent forms to the researcher by the due date.

3.3.6 Data collection

3.3.6.1 Data collection approach and method

Raw and unrefined information collected is referred to as data (Brink et al 2014:211). Furthermore, the gathering of data to solve a research problem is called data collection (Polit & Beck 2017:488). The researcher gathered raw data from the respondents by using structured questionnaires. Structured data collection approach was used in this study. It is a method of gathering data from respondents through answering questions, in which groups of information are collected where responses are specified beforehand (Polit & Beck 2017:495). In structured data collection, there was predetermined wording which was used throughout and the same data collection tool was administered to all respondents. The researcher developed the questionnaire beforehand. Short and long questions that probed respondents' reasoning were used. The questionnaire was used to gather information that could be analysed statistically.

The structured questionnaire was used as a method of gathering data and involved the answering of questions that were prepared beforehand by the researcher and the subjects documented the responses (Polit & Beck 2017:495). The self-administered questionnaire was the data collection tool. The questionnaires were completed by the respondents.

The data collection took place after school and it took three hours for the 109 respondents to complete the questionnaire. Data collection was done in one day to make sure that respondents' lessons were not disrupted. Additionally, the researcher wanted to make sure that the respondents did not have prior knowledge of the questions and no discussions had taken place amongst the respondents the questionnaire was administered. This was to reduce the Hawthorne effect.

3.3.6.2 Research instrument

Any tool that is used to gather data from research subjects through asking questions that are related to the research problem is called a questionnaire (Polit & Beck 2017:504). A structured data collection method was utilised. The strengths of the questionnaire were that:

- This is a fast way of gathering data from a large group of people.
- The same questions that are prepared beforehand are answered by all the respondents and there is no interference from the interviewer.
- It is easy to test if the questionnaires are measuring exactly what they intent to measure correctly and consistently.
- There is gathering of large amounts of raw data in a short space of time (Brink et al 2014:153).

The research instrument was a modified self-administered questionnaire which was made up of four parts. The first segment focused on collecting the respondents' demographic information and the second segment was dedicated on gathering the respondents' knowledge of HIV transmission. The third segment focused on where the respondents gathered information about HIV transmission and the last segment described the behaviour the respondents regarded to be risky as far as HIV transmission was concerned.

The questionnaire was modified from the instrument used by a survey on HIV and AIDS knowledge, attitude and South Africa (2006). It was adopted from WHO's AIDS questionnaire (WHO 1990). A 14-item questionnaire was used to assess knowledge. This included knowledge on transmission of HIV, myths, disease detection and prevention. Sources of information were assessed using a 14-item questionnaire. The last segment had questions on HIV risky behaviour and had 10-items.

3.3.6.3 Development and pre-testing of the data collection instrument

Short and long questions that probed more information from respondents were contained on the questionnaire. Several possible responses were available so that the

respondents could choose the possible option. The structure of the questionnaire allowed the respondents to complete it quickly and resume their classes within a short space of time. Since issues on HIV and AIDS were sensitive because they inquired about respondents' private lives, anonymity was ensured. The respondents did not use their actual names when completing the questionnaire and this encouraged them to respond openly. The respondents were also given an opportunity to provide more information in addition to what they were restricted to in the questionnaire. To ensure content validity the questionnaire was assessed and approved by the research supervisor.

The pilot study was done a month before data collection when the research instrument was administered to ten respondents who did not take part in the actual study. This was done to check for clarity, to check for the order of the questions and most importantly to find out how much time was needed to complete the questionnaire. Lastly, it was checked to find out if it could collect the required information (Polit & Beck 2017:493). The instrument was revised, refined and the researcher made sure that it captured the required data. More importantly, this enabled the determination of time required for the completion of the questionnaire. From the pre-test the researcher identified and eliminated offensive, ambiguous and inadequately worded questions (Polit & Beck 2017:493).

Experienced researchers went through the questionnaire so as to verify its validity and reliability. These were scientific review committee members of the Department of Health Studies Research Ethics Committee (HSREC) of UNISA.

3.3.6.4 Characteristics of the data collection instrument

The following ideas on data collection were spelt out by Polit and Beck (2017:504):

- There is fixed vocabulary and a standardised questionnaire used for all respondents.
- The information to be collected is prepared beforehand and the collection procedure is outlined.

- The questionnaire is developed by the researcher beforehand.
- Collected data can easily be quantified.
- The researcher should not disturb respondents by asking questions.
- Expected behaviour of respondents should be known by the researcher.

The questionnaire was developed so that the aims and objectives of the research could be achieved. The same questionnaire was administered to all respondents.

3.3.6.5 Data collection process

Respondents who had provided consent and assent were briefed about the research and answered questionnaires in the hall without the interference of the researcher. They were required to respond to uniform questions arranged in the same manner so as to generate responses which addressed the research questions. Long questions required respondents' reasoning while short questions offered solutions from which respondents chose. Respondents submitted the completed questionnaires in a box. When all the respondents had completed the questionnaires, the researcher sealed the box.

There were three field workers who helped the researcher during data collection. These were research students from Department of Health Studies at Unisa. The criteria for recruiting were that they were supposed to know research ethics and also be fluent in the main languages spoken by respondents, namely, Setswana, Isizulu and Sepedi. Their role was to help in interpreting and explaining research questions so that respondents could understand and provide correct responses.

3.3.6.6 Data analysis

The process that involves organising, summarising, evaluating, and interpreting the primary data collected during the study is called data analysis (Polit & Beck 2017:391). Excel was used to capture data and SPSS Software version 23 was used to perform statistical analysis. The designing of labels was done for identification of variables that

could be investigated. Missing information was identified. The researcher got rid of those questions that did not have adequate information. For example, question 3.2 where most respondents failed to provide the times that were required. As a result, question 3.2 was eliminated.

Demographic characteristics were summarised using descriptive statistics. Respondents provided mostly “yes” or “no” responses and to explain in the spaces provided where necessary. A score of one was awarded for a correct answer and a zero for a wrong answer or “I don’t know”. The scores were added to obtain the total score for each respondent. Levels of knowledge were categorised into “low” for respondents who scored 50% and below, moderate for respondents with scores between 51% and 74%. Scores of 75% and above were categorised into “high”.

Since risky behaviour data was not normally distributed, the median was used as a cut-off point.

The scores which were below the median were considered as risky behaviour. The scores which were equal to and above the median were considered not to be at risk. The mean, median, interquartile range (IQR) were used to summarise data. Multivariate correlation was done at 95% confidence interval (CIs) and calculated to find out the association between overall knowledge with variables such as age, “with whom do you live?” religion, condom use and number of sexual partners. P-value less than one was considered to be significant

Data were summarised in a way that allowed the researcher to organise and provide meaning facilitating insight (Burns & Grove 2017:834). The significance between respondents’ views regarding HIV transmission, **High school teenage girls’** knowledge and perceptions of HIV and AIDS transmission were tested using the chi-square test. The results were presented in Chapter 4 in the form of descriptive statistics using graphical representations and tables in order to provide an overview.

3.3.6.7 ETHICAL CONSIDERATIONS

Research ethics are concerned with the manner in which the researcher abides by the moral standards and obligations for conducting research (Polit & Beck 2017:1267). Ethical considerations were important in selecting the research topic, the identification of the respondents and data collection (Burns & Grove 2017:265). Adherence to ethical considerations was crucial in order to protect the rights of human beings involved in the study. When anyone was conducting scientific research there was need to be aware and follow what was proper. The researcher ensured that the **High school teenage girls** involved in the study were free from bodily and mental damage. The following ethical guidelines were observed:

3.3.6.7.1 Protecting the rights of the institutions involved

Research plans used in the study abided by the prescriptions that were normatively acceptable in the research circles. The study was subjected to external review provided by an institutional ethics committee. This was done so as to protect the respondents' rights by assessing risk or benefit ratio (Polit & Beck 2017:257). Ethical approval and clearance were granted by the HSREC (UNISA).

The ethical approval and clearance certificate from Unisa, was given to the District Director of the Department of Education, at Tshwane District in Gauteng Province of South Africa. School principal was informed about the study and all respondents received information brochures explaining the reason why the study was done and that no one was forced to take part. The parents and guardians of the 61 teenage girls who were below 18-years signed consent and assent forms permitting the **High school teenage girls** to take part in the study. The researcher was given authority by the school administration to carry out the research and teachers, in the different grades, were notified verbally before data collection.

3.3.6.7.2 Informed consent

The researcher introduced herself and furnished respondents with adequate information about the research, so that they understood the information which enabled them to choose to participate or not (Burns & Grove 2017:296). The 545 respondents

who had volunteered to participate were systematically sampled and 109 respondents were offered letters of information for them to know and understand about the study. The researcher gave them an opportunity to ask questions if they needed clarity. Thereafter, 48 **High school teenage girls** who were above 18-years were given dated consent forms, which stated that they were chosen to partake of the study voluntarily and supposed to sign. The 61 parents and guardians of **High school teenage girls** who were below 18-years were also given both consent and assent forms to sign on behalf of the girls. The signed copies were given to the respondents and the researcher kept the duplicates.

Full disclosure was done to the **High school teenage girls** whereby complete information about the study was given to them.

3.3.6.7.3 Privacy and confidentiality

The respondents were provided with freedom to determine the time, extent and opportunity to share or withhold information from others. Private information was confined in an individual's mind and could only be shared when a person speaks out to others. The respondent's privacy was protected when information that was shared with the researcher was kept in confidence and not given to anyone else (Burns & Grove 2013:273; Polit & Beck 2017:263). Single desks were allocated to the respondents in a hall to complete the questionnaire to ensure privacy.

The manner in which the researchers manage and not publish private information shared by the respondents is called confidentiality (Burns & Grove 2017:273). In the study, the respondents' biographical information was not revealed so as to maintain confidentiality. The consent forms were separated from the questionnaires and respondents were requested not to discuss their choices with their classmates during or post data collection so that they could maintain confidentiality.

To maintain confidentiality, the fieldworkers were not allowed to move around during data collection because their movements could create discomfort among respondents. The fieldworkers were also not allowed to collect completed questionnaires.

Respondents were instructed to drop them in the box so that the three fieldworkers could not be able to link questionnaires to the respondents because they did not have names.

3.3.6.7.4 Autonomy

Generally, people enjoy to have control of their own destiny and to be treated as independent individuals who can make their own informed choices (Burns & Grove 2017:282). In keeping with this principle, after giving the respondents all the information about the research study, they were offered an opportunity to choose to partake of the study or not or to leave at any time and their decisions were respected (Brink et al 2014: 145).

3.3.6.7.5 Beneficence

Beneficence is when the researcher avoids injuring respondents by providing a safe environment for the study (Polit and Beck 2017:258). The researcher provided privacy to respondents when they were answering questions by not moving around checking provided responses. Sensitive questions that were probing about the respondents' sexual behaviour were carefully worded to avoid injury and humiliation (Brink et al 2014:145).

Questions about the respondents' personal views, wellness or fears were avoided. More importantly, the researcher did not reveal the respondents' embarrassing and endangering information. Stress was reduced by using self-administered questionnaires and wording sensitive questions carefully. Reassurance was given to the respondents because they were told that they were safe together with the information they had provided.

Possible stigmatisation and feeling of discomfort might be encountered because of the sensitive responses that respondents provided. To avoid this, each respondent was provided with a desk and chair where she sat alone in the hall where they completed

the questionnaires so that no one could see what the other respondent was writing. No discussions were allowed to take place. The respondents' identities were not placed on the questionnaires such that the researcher could not link respondents' identity with their individual responses. The researcher, together with the research assistants, left the room while questionnaires were being completed to allow for privacy. The respondents were also asked to drop the questionnaires in a box near the door of the hall after completion. The information on the questionnaires was kept strictly confidential and anonymous. Respondents who were affected during the study were taken to the social worker by the researcher for counselling.

The respondents read the statements of assent and consent and signed as an indication that they knew the risks of the study and voluntarily accepted (Burns & Grove 2017:299). The researcher went back to the High school together with the social worker to make a follow-up to the respondents to offer support and continue to assure that their information was safe. The social worker would assess the respondents and counsel those who were affected by the study since issues on HIV and AIDS are sensitive.

3.3.6.7.6 Anonymity

By not matching respondents' identity with their individual responses, the researcher would be achieving anonymity (Burns & Grove 2017:298). To achieve this, questionnaires were numbered so that they might not be linked to respondents. Other research documents were safely stored separately from the questionnaires.

3.4 VALIDITY AND RELIABILITY OF THE STUDY

3.4.1 Validity

Validity is when a data collection tool measures what it is supposed to measure correctly and accurately (Polit & Beck 2017:560). The two aspects of validity are internal and external validity. Brink et al (2014:109), define internal validity as the extent to which changes effected on the dependent variable could be caused by the

experiment and not extraneous factors. To ensure internal validity the questionnaire was based on the researched literature and research questions. The results of the study should genuinely portray the **High school teenage girls'** views of the risks of HIV and AIDS in Tshwane, a District of Gauteng province of South Africa and not be affected by external factors.

Selection bias was reduced by a random sampling design. Systematic sampling was used by the researcher to avoid selection bias and avoided visible traits of respondents like attitude which might influence the results of the study (Polit & Beck 2017:470). The questionnaire was brief and simple so that lack of interest and fatigue could be avoided, which could threaten internal validity.

The extent to which the outcome of the study can be generalised to other people in similar situations is called external validity (Brink et al 2014:111). To improve on external validity, systematic sampling was used because all respondents had an equal chance to be included in the sample so that findings could be generalised to the population.

Hawthorne effect is a threat to external validity and it takes place when respondents know that they are being studied and give responses which are mostly desirable and favourable to the researcher. These responses will not show the nature of their experiences (Brink et al 2014:101). Respondents were reassured that their identities were protected so as to reduce the Hawthorne effect. Moreover, honest responses were requested by the researcher and respondents' names were not written on the questionnaires. Data were collected in the school hall to minimise interference of the respondents.

Face validity is an assessment of an instrument by an expert to find out if an instrument measures the content that it is designed to measure (Burns & Grove 2017:1057). It considers how suitable the content of the questionnaire is. In this study, the questionnaire would measure the attributes of interest to the researcher which are knowledge of HIV and AIDS, sources of information available to the respondents and respondents' risky behaviour. Face validity takes in consideration the clarity of the

wording, layout and style and likelihood that the target population would be able to answer the questions. Since this is a subjective assessment based on expert opinion, scientific review committee members of the Department of Health Studies and Health Studies Ethics Committee (HSREC) of UNISA, gave their subjective opinions on the items on the questionnaire. Corrections were done as recommended by them.

3.4.2 Reliability

Consistency of the instrument in collecting the same results throughout is called reliability of the data collection tool (Polit & Beck 2017:550). Reliability of the instrument depends on how the instrument was made and its appropriateness. To ensure that the instrument was reliable, the researcher used it on ten respondents before the actual study commenced. The researcher got the services of the statistician and thereafter, the supervisor checked the instrument.

3.5 CONCLUSION

Chapter 3 described the design and approach employed in the study. Quantitative approach and descriptive design were followed. The research setting, sampling, population, data collection and analysis were included. Furthermore, ethical considerations as well as rigour of the study were described. Chapter 4 would be on data analysis and discussion of research results.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION OF RESEARCH RESULTS

4.1 INTRODUCTION

Chapter 4 presented and discussed the study results. The purpose of the study was to explore and describe the **High school teenage girls'** knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa. The study objectives were to:

- Assess the knowledge of **High school teenage girls** with regard to HIV and AIDS transmission.
- Identify the sources of information on HIV transmission accessible to **High school teenage girls**.
- Explore and describe the risk behaviours of **High school teenage girls** with regard to HIV and AIDS transmission.

The researcher recruited 109 respondents who were **High school teenage girls** (15 to 19-years) from one High school in Tshwane, a District of Gauteng Province of South Africa, and attending grades 10 to 12. Questionnaires were cleaned to determine information gaps. The data were captured on an excel spread sheet. The data were processed and analysed using Statistical Package for Social Sciences (SPSS) statistical program version 23 with the statistician's help. The results were presented under the following sub-headings: demographic data, the respondents' knowledge of HIV transmission, sources of information on HIV transmission accessible to **High teenage girls**, and the teenage girls' risk behaviour regarding HIV transmission

4.2 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The demographic information included the respondents' age, educational level, religion, and home background in terms of guardianship.

4.2.1 Age

The target population was **High school teenage girls** between 15 to 19-years of age. Both ages of 16 and 17 had 26 (24%) respondents each. The 18-year-olds were ten with (17%) respondents. The 19-year-olds were 29 with (27%) respondents. The 15-year-olds were the least with nine (9) respondents (8%). The modal age group was the 16 and 17-year-olds with 52 out of 109 respondents in only these two ages. This is shown on figures 4.1 and 4.2, respectively.

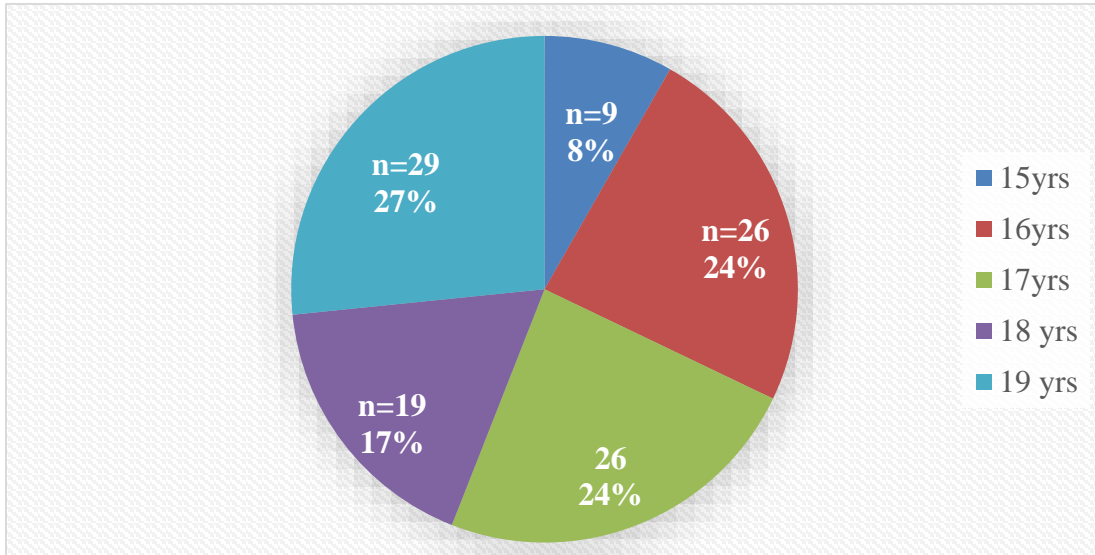


Figure 4-1 Respondents' Age

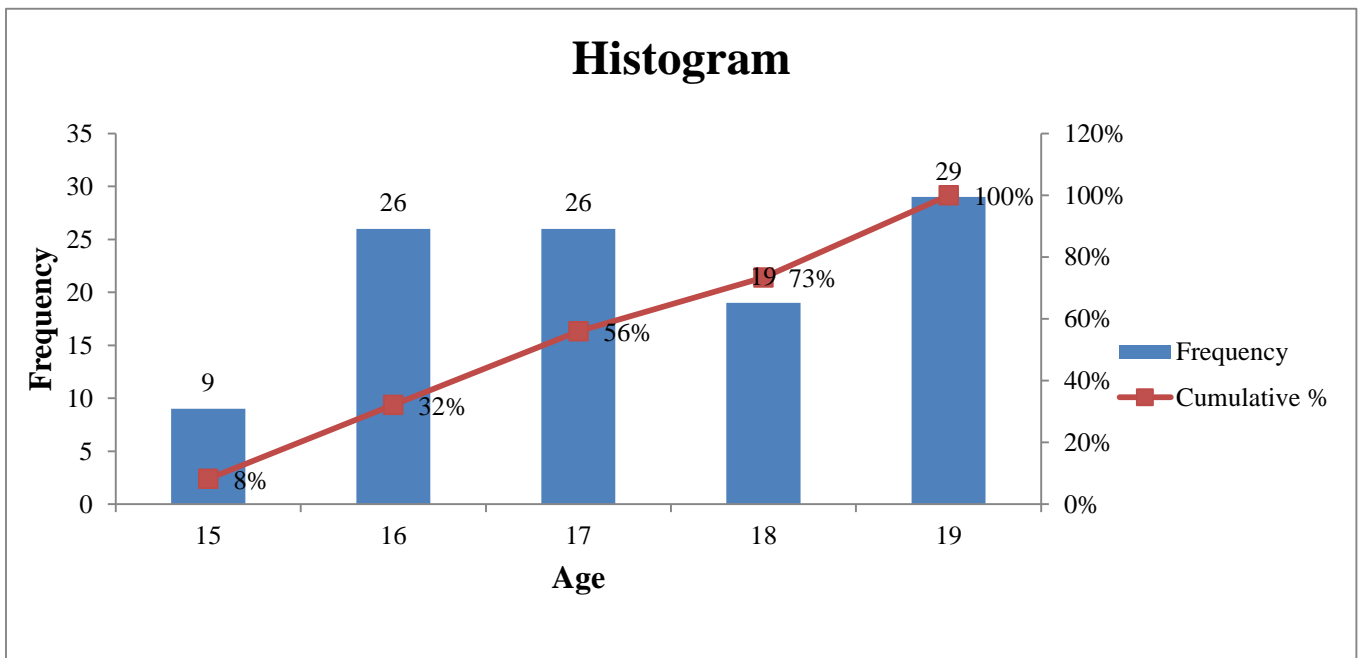


Figure 4-2 Histogram of the Age of Respondents

4.2.2 Religion

Religion of the **High school teenage girls** was one of the demographic characteristics of interest. Eighty- seven (87) (79.8%) of respondents were Christians, 21 (19.3%) of the respondents were of cultural African tradition and one (1) (0.9%) was of Muslim religion.

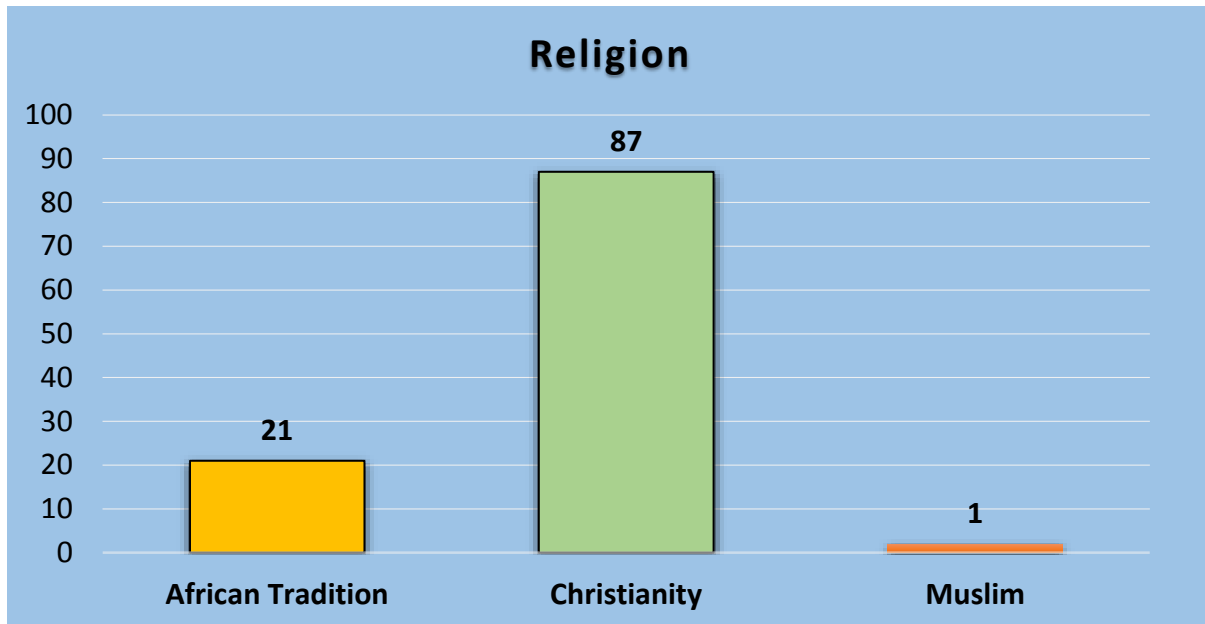


Figure 4-3 Respondents' Religion

4.2.3 Educational level

Educational level was one of the demographics measured and from the sample, 41 (37.6%) were grade 11s, 36(33%) were grade 10s and 32(29.3%) of respondents were grade 12s.

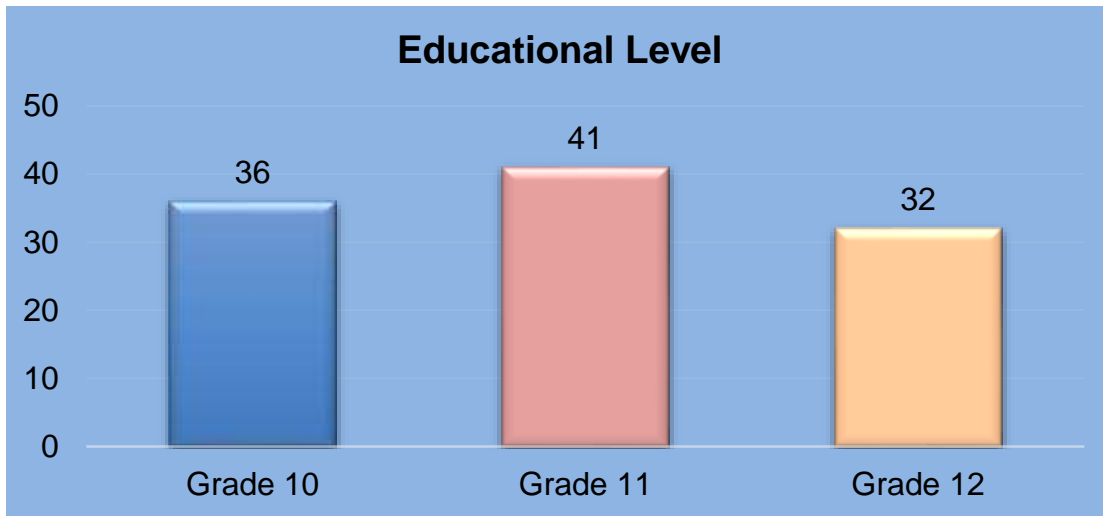


Figure 4-4 Respondents' educational level

4.2.4 Home background

The respondents were asked with whom they were staying. The information collected showed that 48 (44%) stayed with their mothers only. The second highest group of 41(37.6%) stayed with both parents and 17(15.6%) stayed with a guardian. Only 3(2.8%) respondents stayed with their fathers.

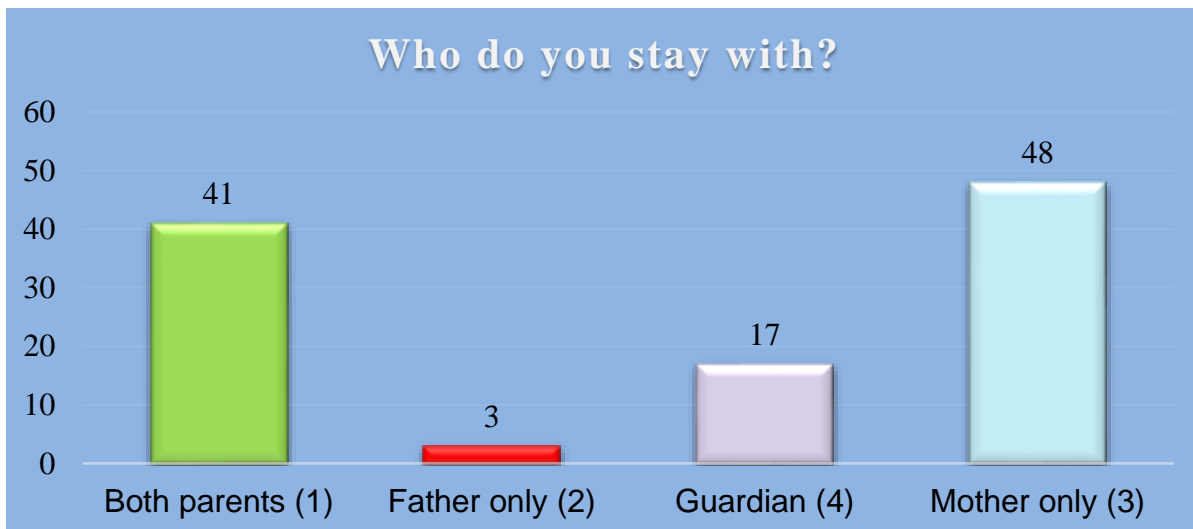


Figure 4-5 Respondents' home background

4.3 KNOWLEDGE ON HIV TRANSMISSION

To assess the knowledge levels of respondents, 14 questions were asked to respondents. The respondents were asked to read the statements and choose the correct one. Table 4.1 below summarises frequency of correct versus non-correct responses to the 14 questions posed.

Table 4. 1: Knowledge on HIV Transmission

	Correct Responses	Non-Correct Responses	Overall Score (%)
What is HIV	92	17	84,4%
Ways of HIV Transmission	104	5	95,4%
What is AIDS	4	105	3,7%
Effectiveness of condom use	19	90	17,4%
Can a healthy person transmit HIV infection?	59	50	54,1%
Appearance of AIDS patient	14	95	12,8%
Is there a cure for HIV/AIDS	77	32	70,6%
Knowledge of window period	11	98	10,1%
HIV transmission during window period	27	82	24,8%
HIV transmission in a short time	98	11	89,9%
Who is more at risk of HIV transmission	15	94	13,8%
Factors that increase the risk of HIV transmission in girls	69	40	63,3%
Factors that decrease the risk of HIV transmission for girls	25	84	22,9%

The overall score showed the percentage of the correct responses scored by respondents on every question. The results on respondents' level of knowledge of HIV transmission were presented on a graph in Figure 4.6 below.

On the question on precautions to limit HIV infections, the effectiveness of a precaution selected was ranked from 1 to 8 with 1 being the most effective and 8 the least effective (see Table 4.2 below). A score was assigned according to the measure chosen by a responded and measures with ranking from six (6) to eight (8) would result in a score of zero (0), measure with a ranking of one (1) would give a score of five (5). The overall knowledge score, for this question, was calculated using the average scores out of the maximum five (5). The results were shown in table 4.2 below.

Table 4.2: Preventative measures to limit HIV infections

Precautions to limit HIV infections		
	Ranking	Score
2.4.1 Condomising during vaginal sex	3	3
2.4.2 Condomising during anal sex	4	4
2.4.3 Avoiding use of the same razor	5	2
2.4.4 Washing of hands	8	0
2.4.5 Abstinence	1	5
2.4.6 Postponing sexual intercourse until a permanent partner is found	2	1
2.4.7 Treatment of sexually transmitted infections	7	0
2.4.8 Avoiding deep kiss	6	0

The results on respondents’ level of knowledge of HIV transmission were presented on a graph in Figure 4-6 below:

From Table 4.1 and Figure 4.6, most respondents, 104 (95.4%), had the knowledge on ways of HIV transmission followed by the knowledge that HIV can still be transmitted even during short time sexual intercourse, 98 (89.9%). The least knowledge was evidenced on the question, “What is AIDS?” This showed that most **High school** teenage girls assumed that they knew yet they really did not know what AIDS was. The other knowledge question where the knowledge level was low was about what the window period was. This showed that very few respondents had knowledge of the lifecycle of the HIV and knew how long one could wait before going for an HIV test to find out their HIV status.

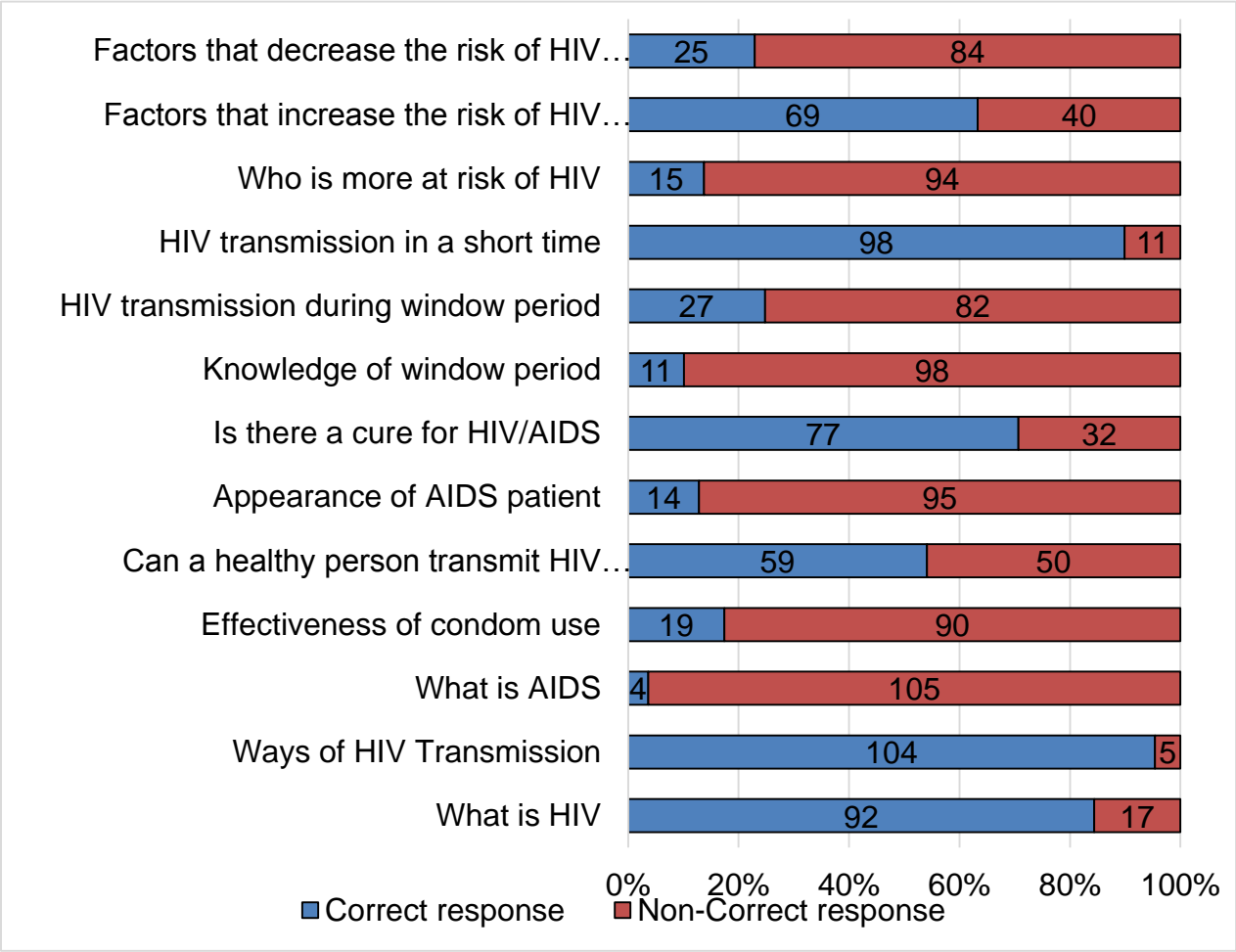


Figure 4-6 Knowledge of HIV

4.3.1 Overall HIV knowledge levels of respondents

Note: The overall score was calculated by awarding a score of one (1) to each of the 13 right response questions and adding the score on the ranking on preventative measures to limit HIV infections (the range of scores was from 0 to 5).

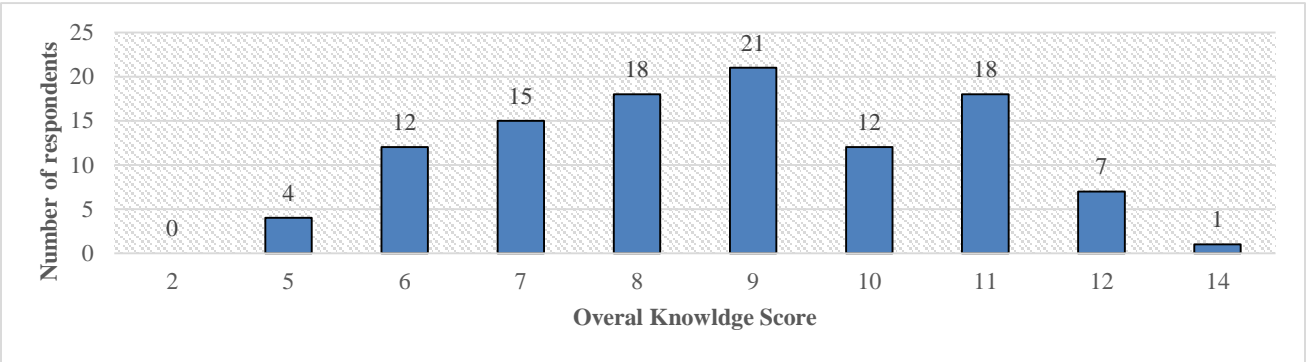


Figure 4-7: Overall HIV knowledge score of respondents

Table 4. 3: Overall knowledge score of respondents

	Mean	Minimum	Maximum	Median	Percentile 25	Percentile 75
Overall knowledge Score	8.7	2.0	14.0	9.0	7.0	10.0

The minimum score was two (2) and the maximum score was 14 out of the possible 18. The median score was nine (9) and the mean score was 8.7. 75% of the respondents got above 10 and only 25% of the respondents got above seven (7). Therefore, the respondents were knowledgeable about HIV and AIDS transmission because 75% of the respondents got above 10 out of 18 scores.

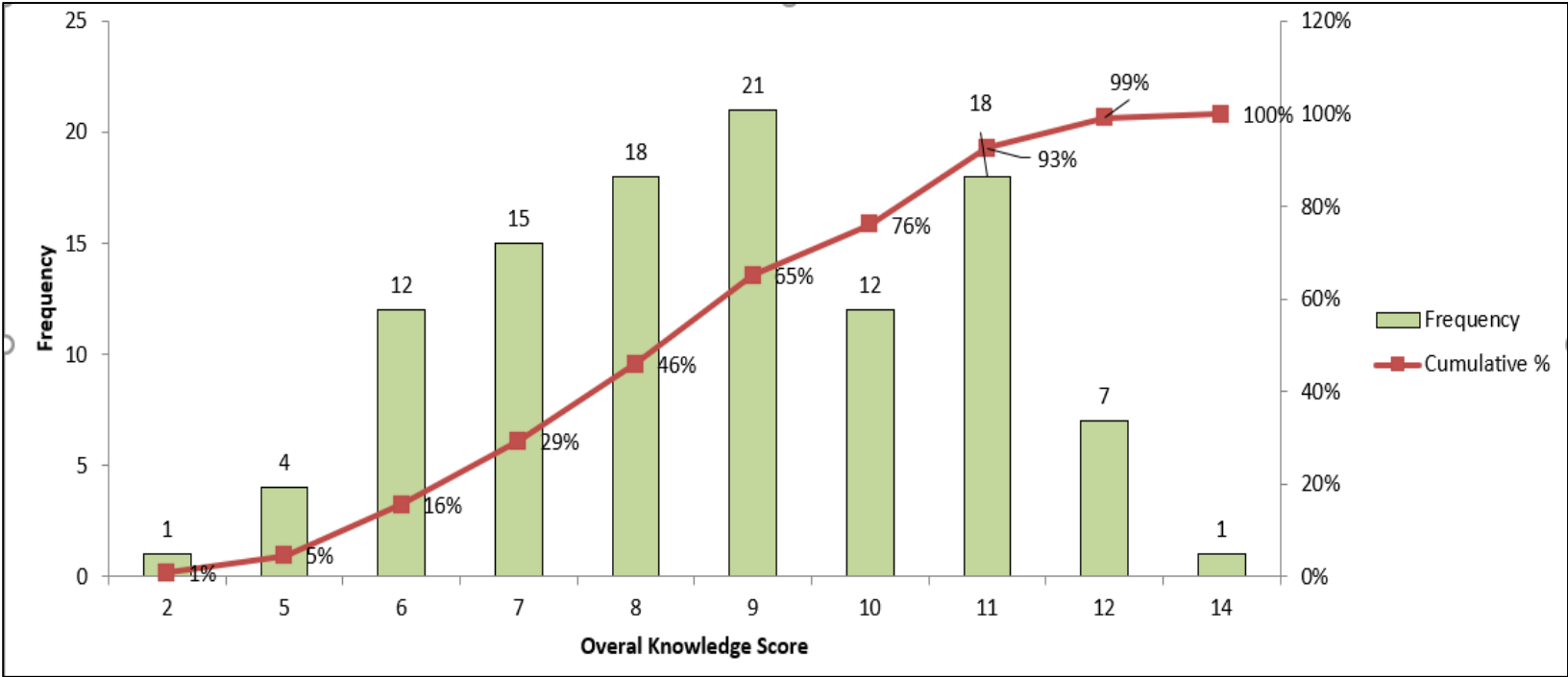


Figure 4-8: Histogram of overall HIV knowledge score of respondents

A histogram of the overall HIV knowledge score shows a nearly perfect normal distribution.

4.3.2 Knowledge levels by demographic characteristics

Table 4. 4 Knowledge levels by demographic characteristics

			Mean	Minimum	Maximum	Median	Percentile 25	Percentile 75
Overall Knowledge Score	Age	15.0	7,8	2,0	11,0	8,0	7,0	10,0
		16.0	8,7	5,0	12,0	9,0	7,0	10,0
		17.0	8,6	5,0	14,0	8,5	7,0	10,0
		18.0	9,0	6,0	12,0	9,0	8,0	11,0
		19.0	8,9	5,0	12,0	9,0	7,0	11,0
	Level of education	Grade 10	8,3	2,0	11,0	8,0	7,0	10,0
		Grade 11	8,6	5,0	12,0	9,0	7,0	10,0
		Grade 12	9,3	5,0	14,0	9,0	7,5	11,0
	Who do you Live with	Both parents (1)	8,8	6,0	12,0	8,0	8,0	10,0
		Father only (2)	11,0	8,0	14,0	11,0	8,0	14,0
		Guardian (4)	8,0	2,0	12,0	9,0	6,0	9,0
		Mother only (3)	8,8	5,0	12,0	9,0	7,0	11,0
	Religion	African Tradition	8,3	2,0	12,0	9,0	7,0	10,0
		Christianity	8,8	5,0	14,0	9,0	7,0	10,0
		Muslim	6,0	6,0	6,0	6,0	6,0	6,0

4.3.3 Overall HIV knowledge by age

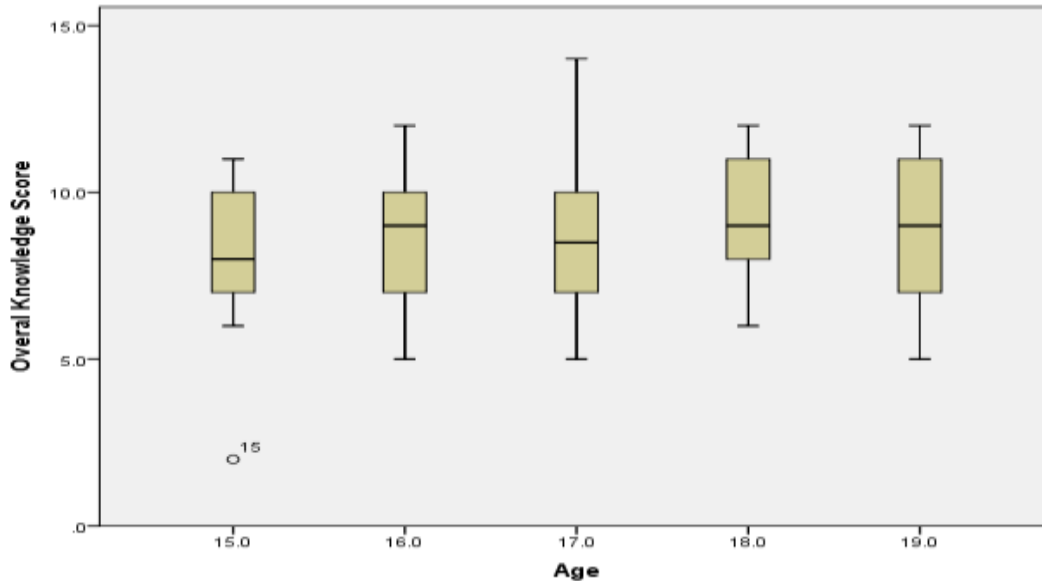


Figure 4-9: Overall HIV knowledge score by age

Using median as a measure of central tendency, the age category (16 to 19-years) had higher knowledge levels median= nine (9), and the lower median score was for the 15-years (the youngest). The lower median score of the 15-years category meant that they had lower knowledge of HIV and AIDS. This could be because of lack of maturity and fewer years of schooling as compared to the category (16 to 19-years). Therefore, education could equip respondents to have a thorough understanding of HIV issues and be in a position to make informed choices.

4.3.4 Overall HIV knowledge score by religion

The results of the overall HIV knowledge score by religion are shown on box and whisker diagram on page 66. Christianity and African traditional religion respondents had more knowledge of HIV median = nine (9). One Muslim respondent had a score of six (6). This might be because respondents subscribing to the Christianity and African culture were many and could be able to share their knowledge while the Muslim, since she was only one, might have a challenge of sharing knowledge with teenage girls from other religions. It could also be because other religions could discuss issues of HIV and AIDS transmission whilst the Muslims did not.

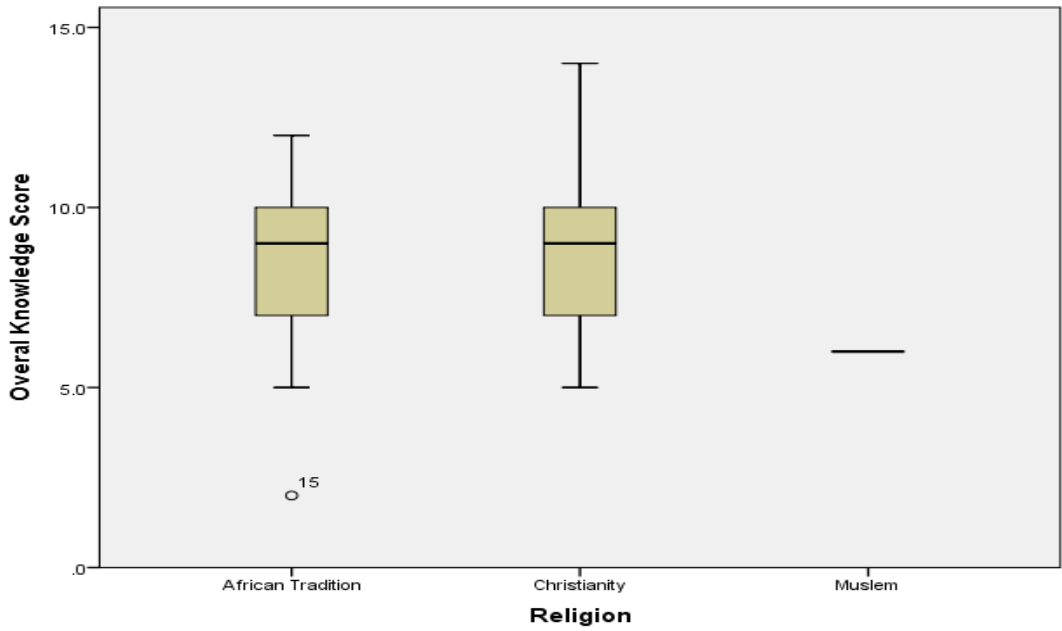


Figure 4-10: Overall HIV knowledge score by religion

4.3.5 Overall HIV knowledge score by home background

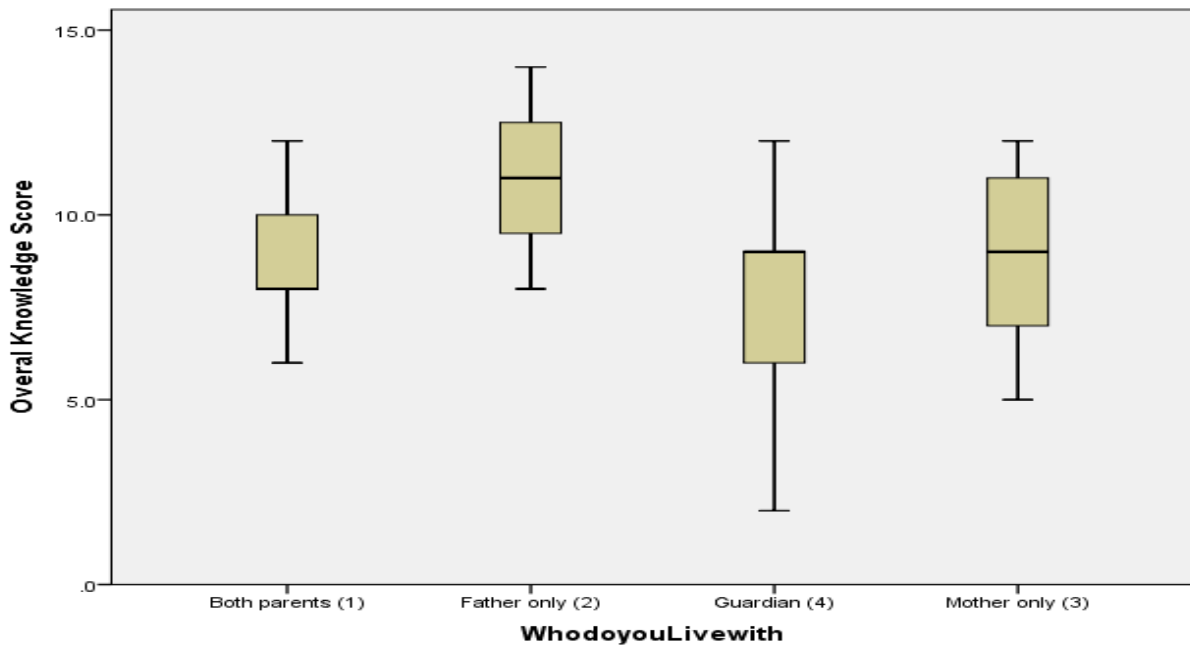


Figure 4-11 Overall HIV knowledge score by background

Respondents who stayed with their fathers had the highest median score, median =11. This indicated that fathers provided the best opportunity of discussing HIV

transmission with the girls. Fathers, as the sole parents, knew that they were the only ones available so they made sure that they provided as much information as possible so that they could help the girls. Respondents who stayed with both parents had the lowest median score of eight. This could be because the parents were two, each parent perceived that it was the obligation of the other parent to give information and ended up not doing so.

4.3.6 Overall knowledge score by educational level

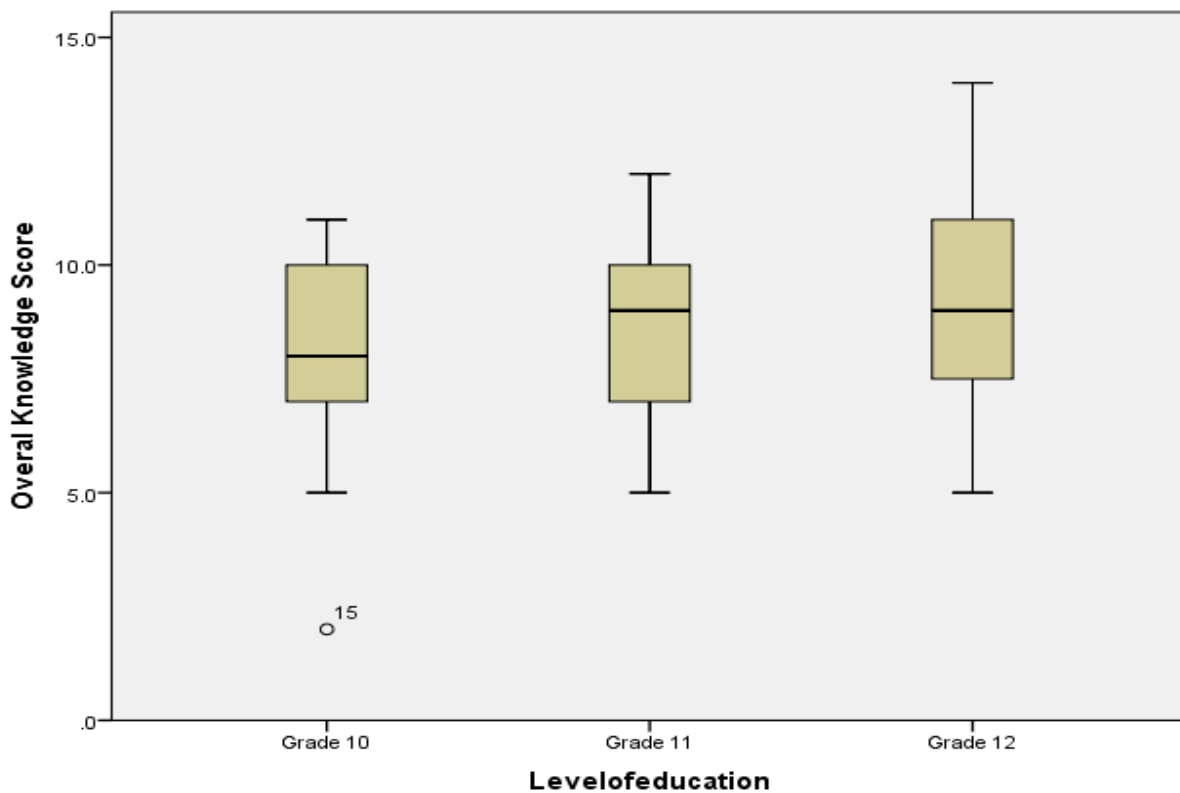


Figure 4-12: Overall score by educational level

Respondents in grades 11 and 12 (median =9) had more knowledge than those in grade 10 (median=8). This could be owing to the level of education and level of maturity that the **High school** teenage girls had. A higher level of education and maturity means that one can be able to read and understand concepts as well as thinking logically so that they make the right decisions.

Table 4. 5: Tests of between-subjects' effects

Dependent Variable: Overall Knowledge Score					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	243.843 ^a	50	4.877	1.302	.165
Intercept	1591.547	1	1591.547	425.064	.000
Level of education	6.843	2	3.422	.914	.407
Who do you Live with	44.980	3	14.993	4.004	.012
Age	13.540	4	3.385	.904	.468
Religion	31.097	2	15.549	4.153	.021
Level of education * Who do you Live with	39.705	4	9.926	2.651	.042
Level of education * Age	8.586	7	1.227	.328	.938
Level of education * Religion	3.715	2	1.858	.496	.611
Who do you Live with * Age	33.251	8	4.156	1.110	.370
Who do you Live with * Religion	24.347	2	12.173	3.251	.046
Age * Religion	17.464	4	4.366	1.166	.335
Level of education * Who do you Live with * Age	11.584	7	1.655	.442	.872
Level of education * Who do you Live with * Religion	.000	0	.	.	.
Level of education * Age * Religion	.000	0	.	.	.
Who do you Live with * Age * Religion	.000	0	.	.	.
Level of education * Who do you Live with * Age * Religion	.000	0	.	.	.
Error	217.167	58	3.744		
Total	8706.000	109			
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.

Corrected Total	461.009	108			
a. R Squared = .529 (Adjusted R Squared = .123)					

A multivariate analysis of variance with the independent variables, age, religion, educational level and parent/guardian and the dependent variable being overall knowledge, was used to investigate association between these independent variables and the dependent variables. The results showed that the factor “with whom do you live?” had a significant effect on overall knowledge p-value=0.012 and also religion had a significant effect on overall knowledge p-value=0.021. However, an interaction of factors “Level of education and with whom they live” had an effect on the overall knowledge, p-value= 0.042. The interaction of “with whom they live”, and religion has an effect on overall knowledge, p-value=0.046.

4.4 SOURCES OF INFORMATION ON HIV TRANSMISSION

4.4.1 Most easily accessible source of information on HIV transmission

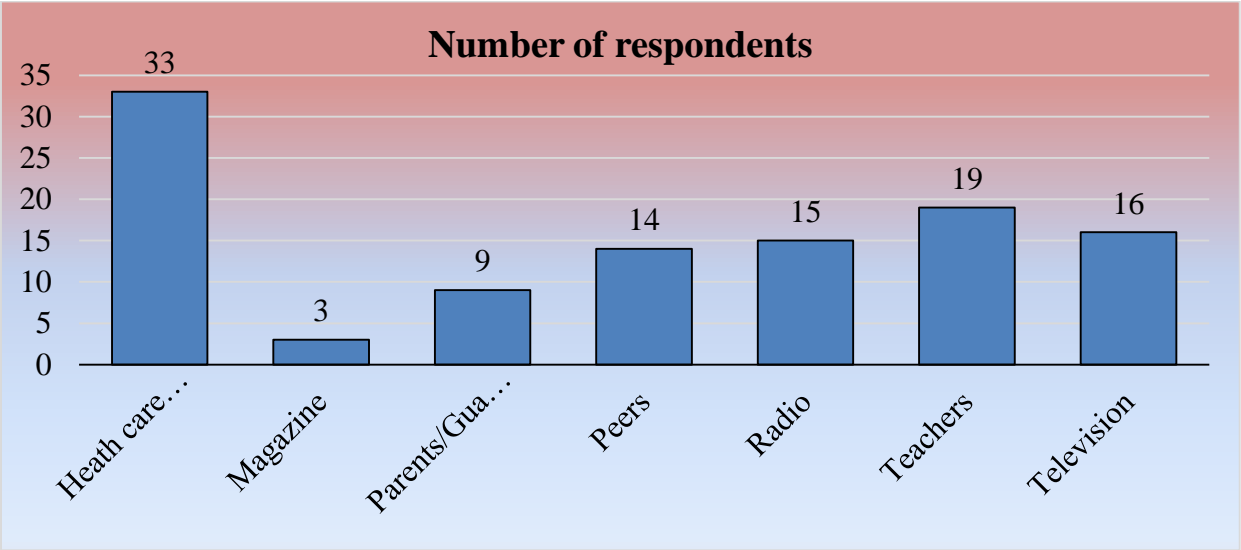


Figure 4-13: Most easily accessible source of information on HIV transmission

The researcher investigated the sources of information on HIV transmission most accessed by the respondents. Health care workers were the most easily available source of information (30.3%) of responses followed by teachers (17.4%). Magazines

were the least accessible source of HIV and AIDS information (2.8%). The **High school teenage girls** were most likely to consult about HIV and AIDS from people that were reputable for trust and confidentiality because HIV and AIDS were sensitive issues. Health care workers and teachers were assumed as people who could be confided in since they worked with the teenage age group.

4.4.2 Available sources of information on HIV transmission at home

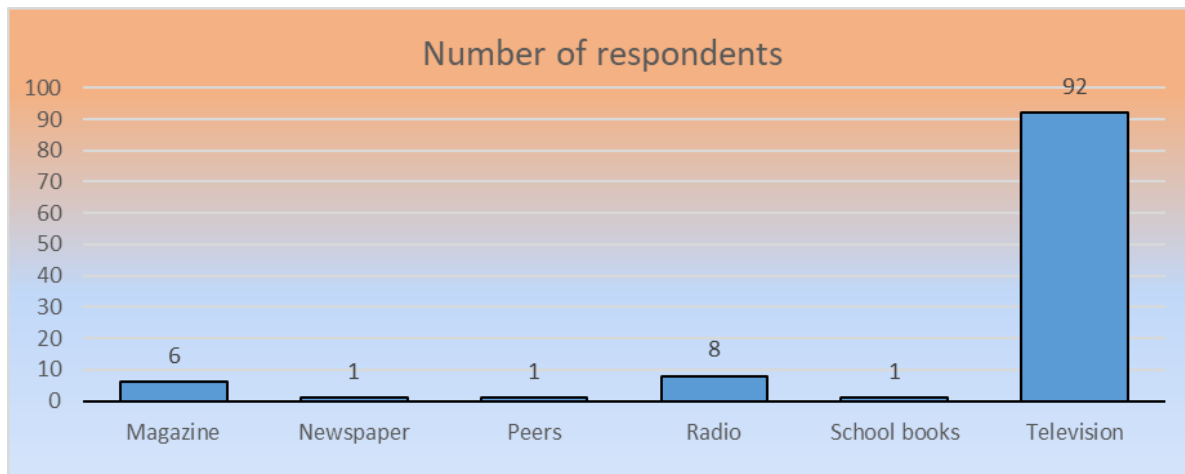


Figure 4-14 Available sources of information HIV transmission at home

Television 92 respondents and radio eight respondents were easily available sources of information. South African Broadcasting Co-operation (SABC) and e-TV, in South Africa, broadcast a variety of HIV and AIDS programmes and soapies. The soapies such as 7 De Laan, Generations, Rhythm City and others, as well as other television programmes were entertaining as well as being informative. That is why 92 respondents (84.4%) reported the television as being the most available source of HIV and AIDS information in the home. Radio programmes were also more available with eight respondents (7.3%) also targeted young people because there were programmes where people were allowed to ask questions on HIV transmission from doctors telephonically. Other sources of information, although not readily available had nine respondents (5.5%). These were the newspapers, magazines, peers as well as school books.

4.4.3 Preferred sources of information on HIV transmission

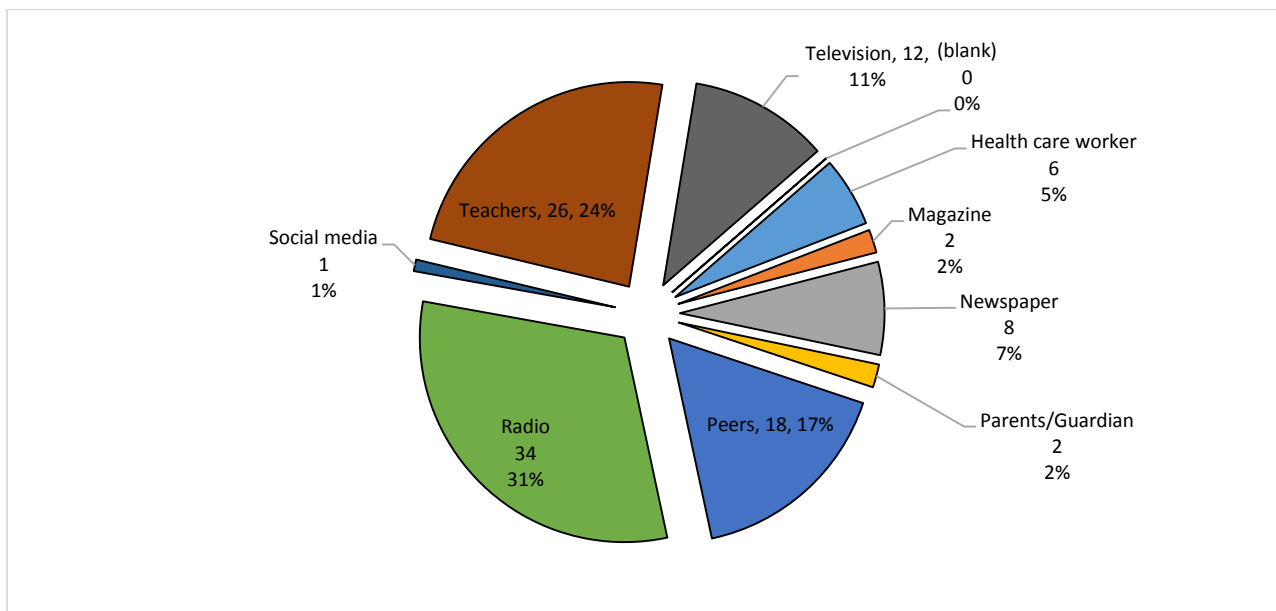


Figure 4-15: Preferred sources of information on HIV transmission

Most preferred sources of information were the radio 34 (31%) and teachers 26 (24%) were respondents had heard information about HIV transmission. Other sources were television 12 (11%), health care workers 6 (5%), magazines 2 (2%), newspaper 8 (7%), peers 18 (17%) and social media 1 (1%). Parent/guardians 2 (2%), magazines 2 (2%) and social media 1 (1%), were among the sources that were least preferred by respondents.

4.4.4 What do they do with acquired information on HIV transmission?

The results are presented in Figure 4-13 on page 72. From Table 4.16, most respondents preferred to discuss HIV information acquired with their peers and friends 50% (n=55). 23% (n=25) kept information to themselves and with a health care worker. In contrast, 16% (n=17) discussed information with their teacher 0% (n=11) discussed information with parent or guardian. Health care workers were the least popular with 1% (n=1).

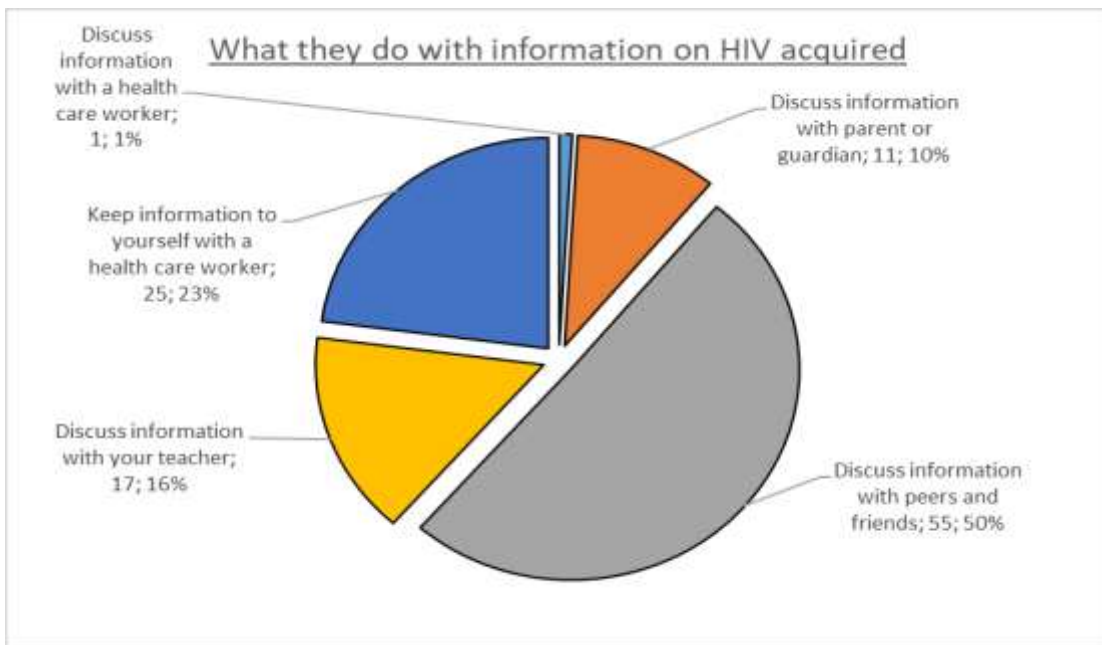


Figure 4-16: What respondents do with information on HIV transmission

4.4.5 Most preferred topics on HIV and AIDS to discuss with parents/guardians

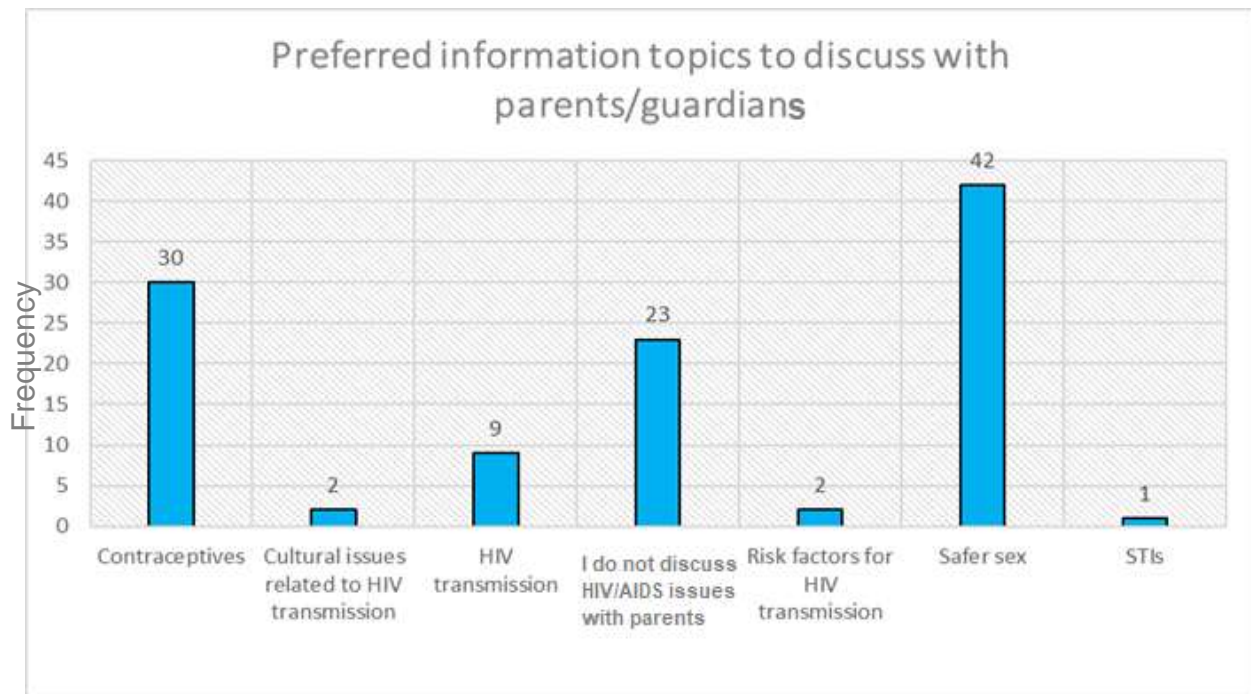


Figure 4-17: Preferred information topics to discuss with parents/guardians

The respondents preferred to discuss issues on safer sex (n=42), contraceptives (n=30) and some did not discuss any HIV and AIDS issues with parents/guardians

n=23). Issues related to HIV transmission were rarely discussed as indicated by the following results: issues on HIV transmission (n=9), risk factors for HIV transmission (n=2), cultural issues related to HIV transmission (n=2) and issues on STIs (n=1). It could be concluded that a cultural barrier existed between teenage girls and their parents regarding discussion of HIV-related issues. The ease of discussion seemed to be related to the relationship between the child and the parent.

4.5 RISKY SEXUAL BEHAVIOUR

The researcher divided responses into risk protective factors and associated behavioural/circumstantial outcomes.

Table 4.6: Risk associated factors and associated behavioural/circumstantial outcomes

Risk/protective factors	Associated behavioural/circumstantial outcomes
<ul style="list-style-type: none"> • Age • Whom do you live with? • Knowledge level on HIV • Number of Partners 	<ul style="list-style-type: none"> • Ever sexually engaged • Ever sexually engaged • Are you at risk of HIV? • General Condom use

4.5.1 Age

The researcher chose age as a risk factor associated with the beginning of sexual activity and multiple sexual partners. Relative risk and odds ratios were used to explore the outcomes associated with the risk of being 18-years and above and below 18-years.

4.5.2 Age category – Ever had sex cross tabulation

Table 4.7 Age category – Ever had sex

Count		Ever had sex		Total
		No	Yes	
Age Category	<18-years	31	30	61

	>=18-years	6	42	48
Total		37	72	109

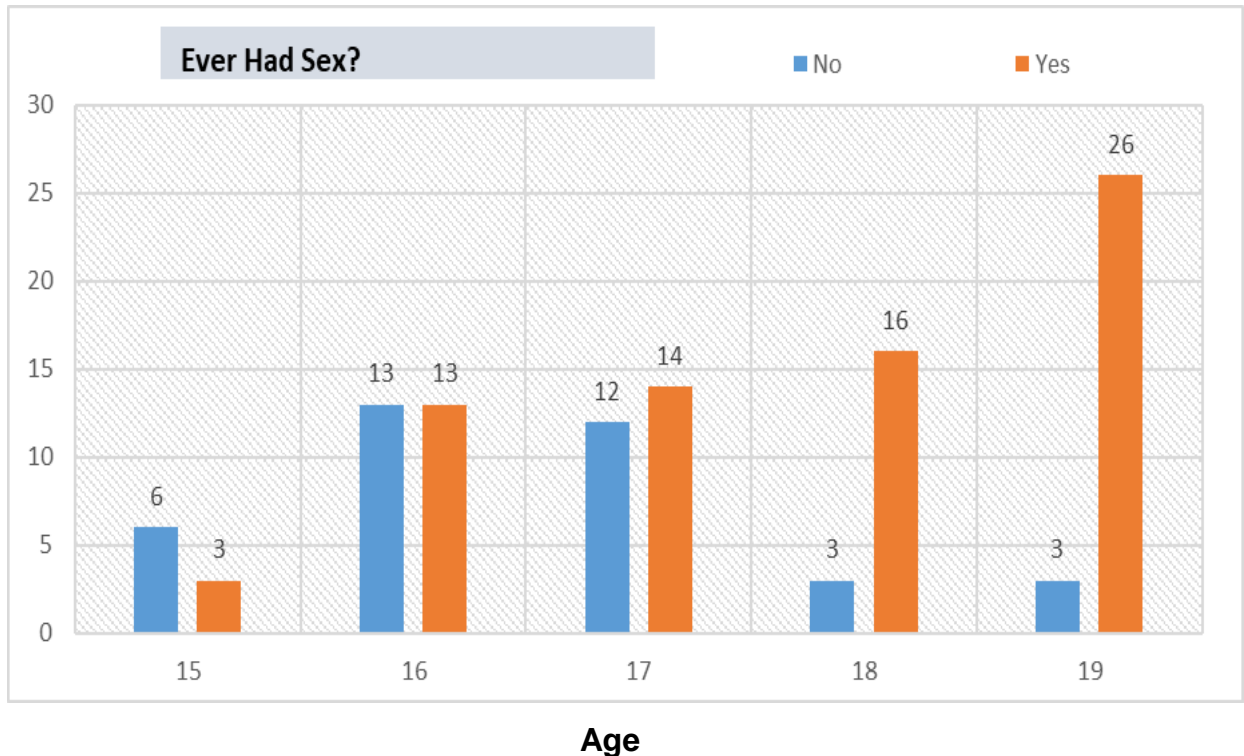


Figure 4-18: Respondents who ever had sex by age

Table 4.8: Risk estimate

	Value	95% Confidence interval	
		Lower	Upper
Odds ratio for age category (<18-years / >=18-years)	7,233	2,683	19,502
For cohort ever had sex = No	4,066	1,849	8,941
For cohort ever had sex = Yes	,562	,426	,741
N of valid cases	109		

Results showed that the odds of not ever having sex is 7.2 times greater for <18-years or equal to/greater or equal to 18-year-olds. Odds ratio =7,233 (CI=2,683:19,502). This association was statistically significant since the confidence interval did not include one (1).

4.5.3 Whom do you live with?

The researcher chose the response to the question: “with whom do you live?” as a risk factor associated with the onset of sexual activity and number of sexual partners (as some parents were strict if more than one (1) boyfriend was discovered).

Table 4. 9 With whom do you stay? /Ever had sex cross tabulation

			Ever had sex		Total
			No	Yes	
Who do you stay with	Both Parents	Count	14	27	41
		% within Who do you stay with	34.1%	65.9%	100.0%
	Single Parent	Count	18	32	50
		% within Who do you stay with	36.0%	64.0%	100.0%
Total		Count	32	59	91
		% within Who do you stay with	35.2%	64.8%	100.0%

Sixty-six (66%) of girls who stayed with both parents had sex before and 64% of those who stayed with a single parent had sex before. Respondents who stayed with both parents and those who stayed with single parents were more or less at the same risk of having sex ever. The relationship between the two groups was statistically not significant, odds ratio/relative risk (CI=0.760; 1.393), included one.

Table 4.10: Risk estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for Who do you stay with (Both Parents / Single Parent)	.922	.388	2.192
For cohort Ever had sex = No	.949	.540	1.666
For cohort Ever had sex = Yes	1.029	.760	1.393
N of Valid Cases	91		

Table 4.11: With whom do you stay? / Ever had sex cross tabulation

			Ever had sex		Total
			No	Yes	
Whom do you stay with	Guardian	Count	5	12	17
		% within Who do you stay with	29.4%	70.6%	100.0%
	Single Parent	Count	18	32	50
		% within Who do you stay with	36.0%	64.0%	100.0%
Total	Count	23	44	67	
	% within Who do you stay with	34.3%	65.7%	100.0%	

Comparing single parents versus guardians, (70.6%) of those who stayed with a guardian had ever had sex as compared to those who stayed with a single parent (64%). Respondents who stayed with their guardians were 1.1 times more likely to had had sex than those who stayed with single parents although this relationship was not statistically significant (CI=0.761;1.598).

Table 4.12: Risk estimate

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio for Who do you stay with (Guardian / Single Parent)	.741	.225	2.441
For cohort Ever had sex = No	.817	.358	1.862
For cohort Ever had sex = Yes	1.103	.761	1.598
N of Valid Cases	67		

Comparing single parents versus guardians, (70.6%) of those who stayed with a guardian had ever had sex as compared to those who stayed with a single parent (64%). Respondents who stayed with their guardians were 1.1 times more likely to had had sex than those who stayed with single parents although this relationship was not statistically significant (CI=0.761;1.598).

4.5.4 Overall HIV knowledge

Table 4.13: Risk estimate

	Value	95% Confidence interval	
		Lower	Upper
Odds ratio for overall knowledge category (good knowledge / Not good knowledge)	.147	.032	.690
For cohort at risk of HIV transmission = No	.812	.701	.941
For cohort at risk HIV transmission = Yes	5.508	1.305	23.255
Number of valid cases	109		

The researcher categorised knowledge on HIV transmission into two categories, good (≥ 9) and not good (≤ 9) as a risk factor associated with assessing ones' risk status. Furthermore, 78% of those with good knowledge thought that they were not at risk of HIV transmission while 96% of those without good knowledge thought that they were

not at risk of HIV transmission. Those with good knowledge of HIV were 5.5 times more likely to think that they were at risk of HIV transmission than those who did not have good knowledge. This might imply that if one had knowledge, one would be able to discern the kind of danger that one might be exposed. The relationship between the two groups was statistically not significant (1.305; 23.255).

4.5.5 Number of partners

The researcher categorised the number of sexual partners as a risk factor associated with condom use. It was a general expectation that the more a person had more than one sexual partner, the more they would use condoms, as they would be more at risk.

Table 4. 14: More than one partner? /Reason for not using a condom cross tabulation

		Reason for using a condom		Total	
		Not risky--to prevent HIV transmission	Risky--prevent pregnancy and partner insists		
More than 1 partner?	> 1 Partner	Count	9	1	10
		% within More than 1 partner?	90.0%	10.0%	100.0%
	1 Partner	Count	43	15	58
		% within More than 1 partner?	74.1%	25.9%	100.0%
Total		Count	52	16	68
		% within More than 1 partner?	76.5%	23.5%	100.0%

Ninety percent of those with > 1 partner used condoms mainly for prevention of HIV transmission whilst (74%) of those with one partner used condoms for prevention of HIV. Results also showed that girls with more than one partner were 3.14 times less

likely to be using condoms only for prevention of pregnancy or because the partner insisted on using condoms.

Table 4.15 Risk estimate

	Value	95% Confidence interval	
		Lower	Upper
Odds ratio for more than 1 partner? (> 1 partner / 1 partner)	3.140	.366	26.897
For cohort reason for using a condom = Not risky-to prevent HIV transmission	1.214	.939	1.569
For cohort reason for using a condom = Risky-prevent pregnancy and partner insists	.387	.057	2.611
N of valid cases	68		

Results showed that the odds of using condoms to prevent HIV was 3.1 times for those with more than one partner (>1partner) as compared to those with one partner. The odds ratio was 3.140. The relationship between the two groups was statistically significant since the confidence interval did not include one (CI=0.057; 2.611).

4.6 DISCUSSION OF RESULTS

Generally, the **High school teenage girls'** HIV knowledge was very high (84.4%) as compared to their knowledge on AIDS (3.7%). Only 10.1% of the **High school teenage girls** knew what the window period entailed. They were aware of HIV preventive measures evidenced by abstinence ranking first (1) and had the highest score of five (5). 17.4% of the **High school teenage girls** doubted the usefulness of the condom in combating HIV infection. Health care workers were easily accessible (30.3%). The television was the most available mass media (92%). The radio was most preferred (31%). **High school teenage girls** preferred to discuss HIV related information with their peers and friends (50%). 42% of the **High school teenage girls** preferred to discuss sex related topics with parents or guardians. Those who were below 18-years were 7.2 times less likely to have sex. 90% of 19-year-olds had had sex. Therefore, **High school teenage girls'** perception of HIV risk was low because

they continued to be involved in concurrent multiple relationships although 90% of those involved were using condom.

4.6.1 Demographic characteristics

The respondents were 15 to 19-year-old **High school teenage girls**. All the respondents were in the adolescent stage. At this stage, the respondents were exposed to peer pressure and tempting sexual encounters (Mgbachi 2018:1). They engaged in sexual intercourse with the idea that no harm would befall them. They shared inaccurate ideas with their friends. Indulging in safe sex was also difficult because of inexperience in sexual matters and lack of assertive and negotiating skills (Girls not Brides 2018:2).

Of the 109 respondents, 87 were Christians, 21 respondents were from the African traditional religion. Only one respondent was a Muslim. Religion played a role in a person's perception towards HIV and AIDS. Different religions had different beliefs. Therefore, a person's beliefs shaped the kind of action that she might take to prevent HIV and AIDS transmission. In the Muslim religion, religious leaders were reluctant to speak about social issues such as HIV and AIDS. HIV was associated with prostitution and drugs (Barmania & Reiss 2015:19). Therefore, this led to lack of engagement by Muslim organisations in fighting HIV and AIDS.

The respondents were living with their mothers were 44 %. Those who were living with both parents were 37, 6% and 15, 6% lived with guardians whilst 2, 8% lived with their fathers. Adults had to be involved in the education of the children. They should be empowered so that they could communicate effectively and openly in HIV and AIDS issues. They also influenced the respondents' perception of HIV risk in this study.

The respondents were from grades 10 to 12. The level of education determined the respondents' knowledge level. The more the information on HIV and AIDS transmission the higher the respondents' perceptions of HIV risk of HIV. Positive perception meant that action could be taken to prevent HIV transmission.

4.6.2 Knowledge of HIV and AIDS transmission

Knowledge influences one's risk perception because the individual is able to identify the risk of the illness and adopt health behaviour to prevent contracting the disease. The respondents who had knowledge on HIV were 84.4% and 3.7% did not know what AIDS was and only 12.8% could describe an AIDS patient. Only 70.6% of the respondents knew that AIDS was an incurable disease. Appiah-Agyekum and Suapim (2013:1) support this finding in their study of knowledge and awareness of HIV/AIDS among High school girls in Ghana. These misconceptions surrounding AIDS which might lead to inaccurate perceptions of risk of AIDS that could be discussed among peers. This could consequently lead to inability to protect oneself from HIV transmission.

The window period and the associated HIV transmission were not familiar to the respondents. Only 10.1% knew about the window period. Respondents would achieve a false sense of security if they could test negative and concurrently looking healthy during that period. Therefore, knowledge of the window period and associated HIV transmission was needed so that the respondents could know when to go for an HIV test so that they could get accurate results. Respondents had limited information about HIV and HIV transmission. 63.3% of the respondents knew the factors that increase HIV transmission and 22.9% knew factors that decrease HIV transmission. Only 30% of girls aged 15 to 24, globally, had comprehensive and accurate knowledge about HIV and AIDS transmission (Girls Not Brides 2018:2). Lack of information about HIV transmission undermined girls' ability to prevent HIV transmission.

Respondents' knowledge on preventive measures was high. The minimum score was two (2) and the maximum score was 14 out of the possible 18. The median score was nine (9) and the mean score was 8.7. 75% of the respondents got above 10 and only 25% of the respondents got above seven (7). Therefore, the respondents were knowledgeable about preventive measures to limit HIV and AIDS transmission because 75% of the respondents got above 10 out of 18 scores.

63.3% of the respondents were informed about HIV risk behaviour such as sex experimentation, cheating on boys and sexual practices such as sexual coercion. 22.9% of the respondents had knowledge of ways that decrease the HIV risks for girls such as using condoms during sex, having fewer sexual partners and having one faithful partner. Only 13.8% of the respondents knew the higher vulnerability of girls to HIV infection, biologically and culturally as compared to boys. Biologically, the structure of the vagina provides a large surface area for the deposition of HIV as compared to the urethra in men (Girls Not Brides 2018:2). Culturally, girls are socialised to be submissive which, consequently, lead them to be forced to have sex without condoms. In addition, girls had older partners called “sugar daddies” who showered them with expensive gifts – making it difficult for them to negotiate for safer sex. Therefore, girls should be empowered through education so that they know their rights as human beings (Girls Not Brides 2018:2).

94.4% of the respondents had knowledge of the measures to reduce HIV transmission such as postponing sexual intercourse, using condoms during both vaginal and anal sex and using the same razor blade. However, a few respondents still believed that HIV could be transmitted through saliva during deep kissing, sharing plates and cups, and using the same toilet seats with people infected with HIV. These misconceptions about HIV transmission might lead to the stigmatisation of those who were living with HIV (Appiah-Agyekum & Suapim 2013:7).

17.4% of the respondents believed that condoms were not 100% effective against HIV transmission. However, if used correctly and consistently they were an effective means of preventing HIV transmission. Beltzer et al (2013:1015) in their 18-year-old follow-up study in France confirm the finding of this study. Furthermore, 89.9% of the respondents were aware that having quick unprotected sex that could last a few minutes, could inevitably lead to HIV infection. Therefore, any unprotected sexual encounter led to HIV risk.

Age had a negative impact on the acquisition of knowledge on HIV transmission. Older people were mature and were assumed to have more knowledge to prevent HIV infection. Results showed that 19-year-olds were more knowledgeable with

information on HIV transmission compared to all the other age groups. Furthermore, the results of the study showed that 15-year-olds had the least knowledge. Therefore, age and educational level corresponded with the level of their HIV knowledge. According to the study results, grade 12 and 11 learners had the more knowledge with a median score of 9 as compared to the grade 10s with a median score of 8. The level of education had a significant effect on knowledge with $p\text{-value}=0.042$. The lower the respondents' level of education the higher the risk of contracting HIV owing to lack of information to prevent HIV transmission (Girls Not Brides 2018:2).

Religion had a significant effect on knowledge on HIV transmission with a $p\text{-value}=0.021$. In this study, respondents who were Christians and those from African Traditional religion had more knowledge on HIV transmission than the Muslims. Religion and religious beliefs were important predictors of preventive measures against HIV transmission, especially condom use by young people. Religious affiliation was a barrier to condom usage and distribution. For example, Catholics tended to preach abstinence and marital fidelity as solutions to HIV transmission as opposed to condom use whilst it was taboo for Muslims to discuss HIV issues, hence they lacked knowledge (Njau et al 2013:7).

The variable **“With whom do you live with?”** had a significant effect on overall knowledge with a $p\text{-value}=0.012$. Respondents who stayed with their fathers had the most knowledge as compared to those who stayed with single mothers and both parents. Generally, most respondents had knowledge on HIV transmission although it differed in depth and quality. Therefore, some knowledge gaps were identified (Mgbachi 2018:8).

4.6.3 Sources of information on HIV transmission

When respondents had access to information, they would be equipped with knowledge to prevent the spread of HIV. The study revealed that the health care workers (30.3%) were easily accessible. This was because competent health care workers were trained in HIV and AIDS counselling and could offer youth-friendly

services in voluntary counselling and testing (VCT) centres, which were always open. They were reliable sources of HIV and AIDS information. Teachers (17.4%) were also more accessible because they always spent most of their time with the respondents, and were knowledgeable and reliable sources of information. They could also be trusted and confided in by the respondents. Magazines were the least accessible with 2.8%.

The most available source of information on HIV and AIDS transmission was the television with 92 respondents (84.4%). In South Africa, at least every home had a television or a radio set where respondents could access information on HIV and AIDS transmission. The television provided drama series as well as films on HIV and AIDS transmission, which were both entertaining and informative. Although the television proved to be a more accessible source of information, parents needed to control the kind of programmes that were viewed by their children because some of the films were pornographic so desired results might not be achieved (Gombachika et al 2013:8). Radio programmes (7.3%) with eight respondents, were also accessible. Visiting doctors offered valuable information during question-and-answer sessions. Other sources of information had 9 respondents (5.5%) namely, peers, school books, magazines and newspapers.

The radio (31%) was the most preferred HIV and AIDS sources of information. Peers came second with 17% and the third was the television with 11%. Parents and guardians and social media were not preferred with 2% and 1% respectively. The radio was preferred because the respondents could access programmes in their own language rather than English and could be accessed in most homes, public places and even in buses, cars and taxis. Radios were also cheaper to maintain (Gomachika et al 2013:11). Teachers were also preferred because they had reliable information and were trusted to offer guidance and spent most of their time with the respondents. Teachers influenced young peoples' perceptions with regard to sexuality and HIV risk-reducing behaviours. Although teachers played a pivotal role in imparting knowledge, other methods could be used such as films, drama, role plays, and puppet shows (Taukeni & Ferreira 2016:5).

Although health care workers (1%) were easily accessible and were reliable sources of information, respondents did not want to discuss information on HIV and AIDS transmission with them. Instead, they preferred to discuss HIV and AIDS information with their friends (50%) because they were not judgemental and were approachable (Gombachika et al 2013:9). Gomachika et al (2013:10) also maintain that peers and friends were unreliable sources of information on HIV and AIDS transmission. They also preferred to keep information to themselves (23%). They could also discuss information with teachers (16%). Parents and guardians (10%) were less preferred as far as discussing topics on HIV and AIDS transmission was concerned.

With their parents and guardians, 42 (38.5%) respondents preferred to discuss topics on safer sex, 30(27.5%) preferred to discuss contraceptives and 23(21.1%) respondents did not discuss any HIV-related issues. HIV-related topics were less popular with issues on HIV transmission with 9 (8.3%) and STIs, cultural issues and risk factors having a total of 5 (4.6%) respondents. Topics on sex, STIs, cultural issues around HIV and AIDS and HIV transmission were taboo within the immediate family circles. Culturally, it was inappropriate to discuss such topics with parents because it was considered as signs of disrespect (Appiah-Agyekum & Suappim 2013:2).

4.6.4 Risk behaviour on HIV transmission

4.6.4.1 Age as a risk factor

The researcher chose age as a risk factor associated with the beginning of sexual activity and multiple sexual partners. Relative risk and odds ratios were used to explore the outcomes associated with the risk of being 18-years and above and below 18-years. Results showed that the odds of not ever having sex were 7.2 times greater for <18-years or equal to/greater or equal to 18-year-olds. Odds ratio =7,233 (CI=2,683:19,502). This association was statistically significant since the confidence interval did not include one (1).

These results revealed that respondents, who were 18-years old and above, had lower perceptions of HIV risk because they were having sex, which was a risk. Heterosexual intercourse was the major mode of HIV transmission worldwide (Mgbachi 2018:6). The moment one engaged in unprotected sexual encounter with a person having HIV meant that one could contract the HI virus.

Although they were 33.3% of the respondents among 15-year-olds who had ever had sex, their age of sexual debut was very low. Their HIV risk was very high. Because of immaturity and lower educational level, they lacked decision-making, assertiveness and condom negotiating skills (Girls Not Brides 2018:2). They had limited knowledge to prevent HIV and AIDS transmission as indicated in the results of this study. They were also at risk biologically because the lining of the vagina was still immature such that it could tear easily during coercive sex, therefore, risking contracting HIV (Girls Not Brides 2018:3).

4.6.4.2 Number of partners

The researcher categorised the number of sexual partners as a risk factor associated with condom use. It was a general expectation that the more a person had more than one sexual partner, the more they would use condoms, as they would be more at risk.

Ninety percent of those with > 1 partner used condoms mainly for prevention of HIV transmission whilst (74%) of those with one partner used condoms for prevention of HIV. Results also showed that girls with more than one partner were 3.14 times less likely to be using condoms only for prevention of pregnancy or because the partner insisted on using condoms. Results showed that the odds of using condoms to prevent HIV was 3.1 times for those with more than one partner (>1partner) as compared to those with one partner. The odds ratio was 3.140. The relationship between the two groups was statistically significant since the confidence interval did not include one (CI=0.057; 2.611).

The results also indicated that respondents had multiple sexual partners, which further increased their risk of HIV transmission. These results also revealed that

condom use was limited although respondents were having multiple relationships which was an HIV risk.

Most respondents who had multiple partners were aware of their risk behaviours. As a result, they were using condoms as protection against HIV transmission. Those respondents who had one partner had a lower perception of HIV and AIDS risks. As a result, most of them did not use condoms to prevent HIV transmission. This was because they had regular, trusted partners. Therefore, they could not negotiate condom use or they were forced to have sex without using condoms (Majelantle et al 2014:2).

4.6.4.3 Whom do you live with?

The researcher chose the response to the question: “with whom do you live?” as a risk factor associated with the onset of sexual activity and number of sexual partners (as some parents were strict if more than one (1) boyfriend was discovered).

Sixty-six (66%) of girls who stayed with both parents had sex before and 64% of those who stayed with a single parent had sex before. Respondents who stayed with both parents and those who stayed with single parents were more or less at the same risk of having sex ever. The relationship between the two groups was statistically not significant, odds ratio/relative risk (CI=0.760; 1.393), included one.

Comparing single parents versus guardians, (70.6%) of those who stayed with a guardian had ever had sex as compared to those who stayed with a single parent (64%). Respondents who stayed with their guardians were 1.1 times more likely to had sex than those who stayed with single parents although this relationship was not statistically significant (CI=0.761;1.598).

Most respondents were having sex despite the fact that they were staying with parents or guardians. This was because it was taboo for parents to discuss sexual issues at home resulting in girls getting sexual information through multi-media and friends (Appiah-Agyekum & Suapim 2013:2).

4.6.4.4 Overall HIV knowledge

The researcher categorised knowledge on HIV transmission into two categories, good (≥ 9) and not good (≤ 9) as a risk factor associated with assessing ones' risk status. Furthermore, 78% of those with good knowledge thought that they were not at risk of HIV transmission while 96% of those without good knowledge thought that they were not at risk of HIV transmission. Those with good knowledge of HIV were 5.5 times more likely to think that they were at risk of HIV transmission than those who did not have good knowledge. This might imply that if one had knowledge, one would be able to discern the kind of danger that one might be exposed. The relationship between the two groups was statistically not significant (1.305; 23.255).

HIV knowledge influenced the degree of a person's HIV risk perception (Majelantle et al 2014:2). Having knowledge on HIV and AIDS transmission helped one to understand HIV risk and therefore, adopt healthy behaviour to prevent contracting the disease. Most respondents had good knowledge of HIV and AIDS transmission but they thought that they were not at risk of HIV infection because they were already experimenting with sex, according to the results of this study. Majelantle et al (2014:2) demonstrate that increased knowledge about HIV and AIDS transmission cannot be used to estimate change of behaviour. The results of this study concurred with Majelanje et al (2014:2), although knowledge about the disease was necessary to effect behaviour change.

4.7 CONCLUSIONS

The chapter presented and discussed results. The data was analysed and presented as descriptive and inferential statistics. Chapter 5 would briefly discuss the conclusions, limitations of the study and recommendations for practice and further research.

CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In concluding the report, Chapter 5 discussed the conclusions and limitations together with making recommendations for practice and further study. The reason for carrying out the study was to explore and describe the High school teenage girls' knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa. The study wanted to find solutions to the following research questions:

- How much knowledge do **High school** teenage girls have with regard to HIV and AIDS transmission?
- Where do **High teenage** girls get information on HIV transmission?
- What are the risk behaviours of **High teenage** girls with regard to HIV and AIDS?

A quantitative descriptive design was used. Information was gathered from **High school** teenage girls (15 to 19-years) using a questionnaire as a data collection tool. The sample was made up of 109 respondents. Data were collected in one day. In order to describe important relationships between variables, statistical procedures were used to convert data from figures into graphs and tables.

5.2 SUMMARY AND INTERPRETATION OF RESEARCH RESULTS

Research results were discussed using the following headings: respondents' demographic data, respondents' knowledge on HIV transmission, where **High school teenage girls** get information on HIV and AIDS transmission, and teenage girls' risk behaviours with regard to HIV and AIDS transmission.

5.2.1 Respondents' demographic data

Variables such as age, level of education, religion, and guardianship affected a person's perception of the risk of HIV infection. The respondents were aged 15 to 19, which was the age at which most girls began dating and engaging in sexual intercourse. The respondents were at puberty, which influenced their understanding of HIV and AIDS, therefore, risked being infected by HIV. Because they were ill-informed about HIV transmission, they succumbed to pressure from their peers. At this stage of adolescence, girls experimented with sex and condom use was low with the belief that nothing would happen to them.

Most of the respondents stayed with adults who had an influence on their growth and development. Adults needed to be educated so that they could be able to discuss openly with the girls on HIV and AIDS matters (Opawale et al 2018:6). All the **High school teenage girls** were attending school, and were in grades, 10 to 12. The majority of the respondents subscribed to Christianity and African traditional religion. Only one respondent belonged to the Muslim religion.

5.2.2 Respondents' knowledge on HIV transmission

Most respondents had limited knowledge about HIV transmission. UNAIDS (2019:10), supports these findings by saying that seven in 10 young women did not have adequate knowledge about HIV. They knew what HIV was, ways of transmission of HIV, preventive measures, and they also knew that HIV could be transmitted within a short time of having sex. The least knowledge was observed in the questions, "what is AIDS?" and, "What is the window period?" However, there were misconceptions surrounding what AIDS was. These results are consistent with Majelantle et al (2014:7) were myths about HIV and AIDS were likely to cause the spread of HIV and AIDS. Some respondents still believed that AIDS was a Western disease that did not have any treatment. Other respondents thought that suffering from AIDS meant that one was cursed by ancestors. They also believed that AIDS was caused by witchcraft. Some even still believed that there was a cure for AIDS. These misconceptions surrounding what AIDS was should be ironed out and respondents should be

empowered with the correct information so that they could be able to protect themselves from HIV transmission.

Most respondents did not have knowledge of the window period. This automatically meant that most of them lacked knowledge of the dangers of HIV transmission associated with this period. Therefore, a negative HIV result during was not a true reflection of an individual's HIV status. Looking healthy would give a false sense of security to the respondents if tested for HIV during the window period. Inaccurate information caused inaction against HIV due to feelings of helplessness. Wrong information might be shared among respondents leading to the spread of HIV.

The respondents also failed to describe the appearance of a person who had AIDS. The majority of the respondents had a misconception that a person who had AIDS was supposed to be thin and underweight. This misconception might mislead respondents and lead them to engage in unprotected sex because they thought that a healthy-looking person cannot have AIDS especially in this era of antiretroviral therapy (ART). In this era of HIV and AIDS, it is difficult to tell by mere looking at the person to be able to deduce that the person has AIDS or not. As long as a person is taking good care of himself or herself and adhering to treatment regimens, it is difficult to tell if the person is infected or not. One could only tell from an HIV positive test result not from the person's appearance.

The respondents did not know that alcohol and drug abuse could increase HIV transmission. They did not know that drug and alcohol abuse led to impaired vision and therefore, poor reasoning capacity and poor decision-making as far as protecting oneself from HIV is concerned. People who were intoxicated did not often use condoms to prevent HIV transmission. However, most respondents were informed about some other ways that increased the transmission of HIV like having multiple partners, not condomising, having older partners, gender and cultural inequalities, and cultural practices like coercion during sexual activity, that promote HIV infection.

Most respondents did not know whether boys or girls were at a greater risk of contracting HIV and AIDS. Most of them stated that they were both equally at risk.

However, both boys and girls indicated that they did not know that girls were most vulnerable to HIV transmission as compared to boys owing to their wider reproductive system which provides a large area for HIV activity.

Most respondents knew that HIV could be transmitted if a person had quick unprotected (sex lasting only a few minutes) sexual intercourse with an infected person. Shockingly, some still doubted the effectiveness of the condom in reducing the contraction of the HI virus. Most of the respondents thought that condoms could not prevent HIV transmission. Condoms had a high measure of protection against HIV if used consistently and correctly, although they are not 100% effective.

The majority of the respondents knew some preventive measures to reduce HIV transmission although there were some misconceptions surrounding preventing measures. Surprisingly, fewer respondents were of the view that kissing, sharing utensils and toilet seats with infected people could lead to contraction of HIV.

The results showed that the respondents were well informed of the HIV risks, but their knowledge lacked quality and depth. There were also some knowledge gaps that were identified from the results. Owing to inaccurate information, respondents risk to be exposed to the HIV.

The knowledge level of respondents was also determined by demographic characteristics. The results indicated that knowledge increased with age—15-year-olds had lower knowledge as compared to 19-year-olds. Knowledge also increased with the level of education. Grade 10 learners had lower knowledge levels as compared to both grades 11 and 12 learners. The knowledge level was also determined by respondents' guardianship. Those respondents who lived with their fathers had a higher knowledge score than those who lived with parents, guardians or mothers only. This showed that guardianship is an important factor as far as knowledge of HIV transmission was concerned. Religion also played a role as far as HIV knowledge was concerned. Christians followed by those from African religion had higher knowledge of HIV transmission as compared to the Muslim. This finding was supported by Majelantle et al (2014: 7) who say that in a study that was done in Botswana, Christians were 1.4

times more knowledgeable than the other religions. These results indicated that religion has a role to play as far as acquisition of knowledge of HIV transmission was concerned.

5.2.3 Respondents' sources of information

The findings indicated that health care workers were the most reachable sources of information followed by teachers. Health care workers were trained personnel who were always found in the VCT centres offering health related services. The teachers were also accessible since they spent most of their time with respondents at school offering guidance and counselling in many issues including HIV and AIDS. Magazines proved to be the least accessible because of the expense associated with buying them.

Television was the most available provider of information on HIV transmission in the home because almost every household had a television set. It was influential in disseminating information on HIV transmission through competitions, soaps, music and other television programmes. The radio and magazines were available in the home such that respondents could obtain information that could prompt them to take action.

Teachers were most preferred providers of information compared to the radio, television and peers, respectively. Kumar et al (2017:10) was not consistent with these findings. Instead. They said that in their study in Ambala District, health care workers were preferred providers of information as compared to teachers and peers respectively. Kumar et al (2017:9), concurred with the results of this study when they said that parents were least preferred source of information. Although parents or guardians were among the least preferred providers of information, they were significant in the socialisation of the respondents. Parents or guardians had to be educated on issues concerning sexuality, HIV and AIDS to be able to guide teenage girls.

Most respondents preferred to discuss HIV and AIDS issues with their friends. Information shared with peers should be accurate and free from misconceptions. The

second largest number of respondents preferred to keep information to themselves, which could be dangerous if the information had misconceptions. Very few respondents wanted to discuss information with nurses. Parents and guardians were least preferred with regard to discussing HIV and AIDS issues were concerned.

Majority of respondents preferred discussing issues on safer sex, followed by contraceptives, with their parents or guardians. Topics on HIV and AIDS like cultural issues related to HIV transmission, STIs, HIV transmission and HIV risk factors, were hardly discussed. The majority of the respondents did not even want to discuss any issues surrounding HIV and AIDS and reproductive health with their parents or guardians. This indicated limited communication between the respondents and parents or guardians. This was detrimental because adults had a responsibility towards the respondents' growth and development, and should be able to provide guidance on issues surrounding sexuality and HIV and AIDS and support them when need arose.

5.2.4 Respondents' risk behaviour

Age as a risk factor, was associated with the beginning of sexual activity. The probability of having sex for respondents who were below 18-years was 7.5 times lower as compared to those above 18-years. In this study, sex was a risk factor in HIV transmission when the respondents' age was more than 18-years. The older the respondents were, the higher the risk of having sex and the higher the chances of being infected by HIV. Mabaso, Sokhela, Mohlabane, Chibi, Zuma & Simbayi (2018:188) supported these results when they say that older girls are more at risk of HIV infection as compared to younger girls.

Guardianship was chosen as a risk associated with the beginning of sexual activity and multiple sexual partners. Some parents were strict if more than one boyfriend was discovered. The probability of having had sex was the same for those respondents who stayed with both parents and those who stayed with single parents. Those who stayed with their guardians were more likely going to have sex as compared to those who stayed with single parents.

Knowledge of HIV transmission was categorised as a risk associated with assessing one's risk status. Those with good knowledge had a high HIV risk perception as compared to respondents without good knowledge. Therefore, knowledge helped in discerning the kind of danger that one might be exposed. Mabaso et al (2018:190) concur o this finding by saying that educated individuals have the power to change their sexual behaviour and choose safe sexual practices. The results of this study are consistent with Majelantle et al (2014:5) who concluded that the respondents' knowledge on HIV transmission increased with an increase in age and grade. High school teenage girls who were in grade 12 were the most knowledgeable as compared to those in grade 11 and 10 respectively.

Finally, the number of partners one had was also categorised as a risk factor. Mabaso et al (2018:190) also documented multiple sexual partnering among girls and women as a risky factor in HIV transmission. This was also one of the findings of this study. The results showed that most of those with more than one partner used condoms to protect themselves from HIV transmission as compared to those with only one partner. Condom use that was reported in this study was not high enough as supported by Mabaso et al (2018: 190) who say that inconsistent use of condoms leads to inconsistent reduction in HIV infection.

5.3 RECOMMENDATIONS FOR PRACTICE

- The current HIV and AIDS school syllabus should be reviewed to address misconceptions surrounding HIV transmission and include aspects of sex education so as to empower learners with information to fight the pandemic.
- School health nurses should visit schools on a regular basis to disseminate information on HIV and AIDS.
- Posters, pamphlets and educational media on HIV and AIDS should be developed and distributed to public places for display and distribution.
- Training programmes should be introduced by the Department of Education to equip teachers to teach teenage girls about sexuality and HIV and AIDS and motivate them to change their risky sexual behaviours without judging them.

- Training of more peer educators in schools should be done to ensure sharing of accurate information with their peers without being judged. Educational programmes on HIV and AIDS transmission that involved peer educators should include frequent HIV and AIDS interventions and competitions that could spread correct information to target a large number of teenagers, especially those in marginalised areas who had limited multi-media services at their disposal.
- Attractive educational magazines with a variety of issues on sexuality and HIV and AIDS should be developed specifically for teenagers and they should consult and involve them in their production to include what interest them.
- More programmes on HIV and AIDS and sexuality that include music, drama, competitions and debate should be aired on television networks because most teenage girls had television sets at home and spent most of their time watching television.
- More VCT centres, which are youth friendly, to be established in the high-density urban areas away from clinics, to reduce transport costs to such facilities and made them more accessible by teenage girls. The health care workers should also be re-trained to be gender sensitive, youth friendly and to be taught about the patients' rights.
- Churches should participate in combating HIV and AIDS by leading discussions, workshops and campaigns, especially on milestones like the World AIDS Day and other important functions, to promote dialogue about HIV and AIDS, and encourage disclosure that would decrease stigma and discrimination against people infected with the disease.
- Both male and female condoms should be distributed free of charge and made available to **High school teenage girls** in schools and public places. **High school teenage girls** should be trained on how to use condoms through demonstrations.

5.4 RECOMMENDATIONS FOR FURTHER RESEARCH AND POLICY DEVELOPMENT

- Researchers should find out the sexual information needs of **High school teenage girls** on sexual education and HIV and AIDS.

- Researchers should investigate gender and cultural issues which **High school teenage girls** needed in order for them to be empowered in preventing HIV and AIDS.
- Researchers should explore the educational requirements of teachers and adults who guide **High school teenage girls** on how to address issues on sexuality including HIV and AIDS
- Increase school attendance to reduce HIV prevalence in later life due to higher education attainment so that greater numbers of girls can access HIV prevention information through school-based campaigns or comprehensive sexuality education.
- Adopt policies on youth-friendly service provision which can reduce the stigma and discrimination associated with young people seeking services. This can increase access to condoms, contraceptives and HIV testing services.
- Enforce gender-based violence regulations- zero tolerance for gender-based violence which can translate into a social norm and gradually into behaviour.
- Introduce alcohol-related taxes- doubling alcohol tax to reduce gender-based violence.
- Enforce policies to enhance dual protection and dual method integrating Family Planning services into family planning, this is, non-barrier methods and condoms.
- Girls should be empowered and educated on sexual reproductive health ad rights including access to contraceptive health information.
- Governments to build youth recreational centres for youths where they can have activities like soccer, netball, athletics and other indoor games.
- Interventions to address poverty of adolescent girls and their families are needed, including programmes such as cash transfers and micro-finance initiatives.
- Investments should be put in girls' primary and secondary education to promote economic opportunities for girls and addressing gender discrimination and harmful norms, understand their rights and have access to comprehensive youth-friendly sexual and reproductive health information and services.

5.5 CONTRIBUTIONS OF THE STUDY

Attention was to be given to HIV and AIDS knowledge gaps that were identified so that **High school teenage girls** could be empowered and be able to prevent HIV transmission. Therefore, the results should guide specific education on assertiveness, negotiation and decision-making skills on condom use, learning about their own bodies and where to find services to limit HIV transmission. The education on HIV and AIDS should be incorporated into sexual and reproductive health (SRH) education with strong gender focus that should help **High school teenage girls** to recognise and fight against gender issues that disadvantage them in accessing SRH services. Results would facilitate the gender training of stakeholders, who would help teenage girls focus, not only in acquiring information but also help them to see their worthy in society and to act accordingly. The results could help in making VCT services to be “female friendly” and feminine so that teenage girls could gain access to information they need and want.

Finally, the results of the study could help politicians ensure that **High school teenage girls’** independence concerning sex should be valued. Contraceptive services should be accessible and cheap. Furthermore, the results would help to make full use of policies that would support the safety of **High school teenage girls**. These policies should include the school HIV and AIDS interventions, availability of VCT services and harsh sentences for sex offenders against minors.

5.6 LIMITATIONS OF THE STUDY

The study was done at a High school in a township in Tshwane, a District of Gauteng Province of South Africa. Consequently, the study findings could not be transferred to all **High school teenage girls** in Tshwane, Gauteng Province and South Africa at large. Owing to the sensitive nature of questions on HIV and AIDS and sex, under-reporting on the issues at hand could have happened. Long questions were not answered by respondents so there were no results which were analysed and discussed,

5.7 CONCLUSION

The study revealed that **High School teenage girls** in Tshwane, generally, had average knowledge on the basics of HIV and AIDS and they were some misconceptions around HIV transmission. However, they lacked information that included the distinction between HIV and AIDS, preventive measures and detection of a person living with HIV. These issues need to be attended to. Knowledge of HIV transmission also increased with age and grade. The High school teenage girls' knowledge and awareness did not translate into their decision to practise safe sex hence 26 out 29, 19-year-olds were having multiple concurrent relationships. This proved that they had a low HIV risky perception. The **High school teenage girls** preferred to discuss HIV related information with their friends and peers. This means that peer educators have to be made use of in the dissemination of HIV and AIDS information. Parents should also be empowered to be able to help their children with information since they have the duty to socialise the children. HIV education should move beyond education by encouraging the active promotion of condom use, emphasising on consistent and correct use of condoms and even voluntary counselling and testing. Therefore, HIV and AIDS awareness and prevention should address social, cultural and religious barriers to condom use.

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Annexure A: Statistician's Certificate

Stat-Tech Consultants

22 Essenhout Str, Premier Park
Tzaneen 0850
Arbor Park



To Whom it May Concern

RE: Letter of acknowledgement in involvement in Statistical Analysis of Research project

This serves as a formal acknowledgement that I, Barry Mutasa , ID Number 8007276391189 have assisted Noliwe Chadyiwanembwa to analyze data that she had collected in line with the objectives of her research. The support included analysis of the data in SPSS using the consultatively agreed ideal statistical approaches with her.

I have an Honours Degree in Statistics obtained from Unisa and I am also registered as a certified Natural Scientist in Mathematical Sciences with the South African Council of Natural Scientific Professionals (SACNASP).

For more details and clarity on me and my profile, please feel free to contact me on 0835757654.

Yours Sincerely

Barry Mutasa *(Hans Stats)*
Senior Consultant
Stat-tech Consultants

Stat-tech Consultants

Stat-tech Consultants

Stat-tech Consultants

Stat-tech Consultants

Annexure B: GDE research approval letter



GAUTENG PROVINCE

Department: Education
REPUBLIC OF SOUTH AFRICA

8/4/4/1/2

GDE RESEARCH APPROVAL LETTER

Date:	29 April 2019
Validity of Research Approval:	05 February 2019 – 30 September 2019 2018/484
Name of Researcher:	Chadyiwanembwa N
Address of Researcher:	1361 Block G Soshanguve 0152
Telephone Number:	074 561 7437
Email address:	nchadds@gmail.com
Research Topic:	Teenage girls' knowledge and perceptions of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng
Type of qualification:	Masters
Number and type of schools:	Five Secondary Schools
District/s/HO	Tshwane North

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted.

The following conditions apply to GDE research. The researcher may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

[Signature] 29/04/2019

1

Making education a societal priority

Office of the Director: Education Research and Knowledge Management

7th Floor, 17 Simmonds Street, Johannesburg, 2001

Tel: (011) 355 0488

Email: Faith.Tshabalala@gauteng.gov.za

Website: www.education.gpg.gov.za

Annexure C: Ethics letter certificate



RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES
REC-012714-039 (NHERC)

2 May 2018

Dear Noliwe Chadyiwangembwa

Decision: Ethics Approval

HS HDC/852/2018

Noliwe Chadyiwangembwa

Student No.: 4577-945-7

Supervisor: Dr DSK Habedi

Qualifications D Litt et Phil

Joint Supervisor:

Name: Noliwe Chadyiwangembwa

Proposal: Teenage girls' knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa

Qualification: **MPCHS94**

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 2 May 2018 to 2 May 2020.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on. 2 May 2018

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*



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Open Rubric



GAUTENG PROVINCE

1996/1997
REPUBLIC OF SOUTH AFRICA

Enquiries: A JOOSTE
Sub-Directorate: ISSP
Tel: 012 543 4315/16
Email: ann.jooste@gauteng.gov.za
Room Number:128

TO : MS N CHADYIWANEMBWA

FROM : MS L MOELETSI
ACTING DISTRICT DIRECTOR: TSHWANE NORTH

DATE : 09 MAY 2019

SUBJECT : PERMISSION GRANTED TO CONDUCT RESEARCH

Dear Sir/Madam

It is our pleasure to inform you that the District Office grants you permission to conduct research **at the following schools (Secondary schools – Lethabong, Memezelo, Hlanganani, Elizabeth Matsemela and Soshanguve High)** on the topic: **"Teenage girls' knowledge and perceptions of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng.**

You may only conduct the research **after contact time** to protect teaching and learning activities. The principal must be consulted about an appropriate time to conduct the research.

You are personally responsible for providing and utilizing your own research resources. Participants' names must not appear in the research report and all appropriate ethical measures must be implemented to protect them.

Tshwane North District expects you to submit, upon completion, a summary of your research findings as stipulated in **Clause No. 14 of the GDE letter of approval you received.**

The District appreciates your contribution towards the enhancement of education in the province and District and anticipates your success with your research project.

Regards

MS LAURA MOELETSI
ACTING DISTRICT DIRECTOR: TSHWANE NORTH

ACTING DISTRICT DIRECTOR: TSHWANE NORTH
Tel: (012) 543 4302, Cell: 083 389 2868, Fax: 086 633 4368 | Email: Laura.Moeletsi@gauteng.gov.za
Wonderboom Junction Mall, 1st Floor, Corner Lavender & Lavender West Road,
Wonderboom, 0066, Private Bag X945, Pretoria, 0001
www.education.gpg.gov.za | Call Centre: 0800 005 175

Annexure E: Editing and Proof-reading certificate

EDITING AND PROOFREADING CERTIFICATE

7542 Galangal Street

Lotus Gardens

Pretoria

0008

28 August 2020

TO WHOM IT MAY CONCERN

This certificate serves to confirm that I have edited N Chadywanembwa's dissertation entitled **Teenage girls' knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa.**

I found the work easy and intriguing to read. Much of my editing basically dealt with obstructionist technical aspects of language, which could have otherwise compromised smooth reading as well as the sense of the information being conveyed. I hope that the work will be found to be of an acceptable standard. I am a member of Professional Editors' Guild.

Hereunder are my particulars:



Jack Chokwe (Mr)

Contact numbers: 072 214 5489

jackchokwe@gmail.com

Professional
EDITORS 
Guild



Annexure: F Letter Requesting permission for research

P.O. Box 204
Soshanguve
0164

15 February 2019

The District Director
Tshwane North Department of Education (D3)
P.O. Box
Pretoria
1000

Dear Sir/Madam

RE: REQUEST FOR PERMISSION TO CONDUCT A STUDY IN YOUR SCHOOLS

I am requesting your permission to conduct a study entitled “**High school teenage girls’** knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa.”

The research aims to explore and describe the **High school teenage girls’** knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa. The study will determine the knowledge of **High teenage girls** with regard to HIV and AIDS transmission, identify the sources of information on HIV and reproductive health available to teenage girls and to explore and describe the risk behaviour of teenage girls regarding HIV transmission.

I am a studying a Master of Public Health degree at the University of South Africa. The study is a project in the fulfilment of the requirements of a Master’s in Public Health degree. With your permission, the study will be conducted in a selected High school in your district. In order to protect the privacy of the respondents and prevent damage,

all ethical issues will be complied with. Please, find attached the copy of the research proposal.

I would like to carry out the research during the month of March of 2019. I hope you will consider my request and provide your co-operation and support in this regard.

Yours faithfully

Ms Noliwe Chadywanembwa

Annexure G: Consent and assent forms

PART 1: INFORMATION SHEET FOR PARENTS / GAURDIANS OF THE TEENAGERS AGED 13 TO 17 YEARS.

PART 2: INFORMATION SHEET FOR TEENAGERS AGED 18 TO 19-YEARS

PART 3: INFORMED ASSENT FORM

PART 4: CONSENT FORM FOR TEENAGERS

Title of the study: “High school teenage girls’ knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa”.

PART 1: INFORMATION SHEET FOR PARENTS / GAURDIANS OF THE TEENAGERS AGED 13 TO 17 YEARS.

Title of the study: “High school teenage girls’ knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa”.

Invitation:

Your child is being invited to partake in a research study. May you read the following information carefully so that you may understand the reasons for conducting the research and what is involved before making a decision.

The purpose of the study

The purpose of the study is to explore and describe the **High school teenage girls'** knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa.

Why your child has been invited to participate?

Your child has been selected to take partake of the study due to the following reasons:

Your child's age is between thirteen and nineteen years, and attends school in a selected High school, located in Tshwane, a District of Gauteng Province of South Africa. I believe that she can make a difference in the study.

Do you have to take part?

It is voluntary to partake of the study. It is all up to you to grant permission for your child to partake or not. If you do decide to allow your child to participate, you will be asked to sign an Informed Consent form. If you do not want her to participate any more, you are free to withdraw her any time.

What will happen when one takes part?

If you permit your child to participate, she will be requested to complete a questionnaire with questions on "**High school teenage girls'** knowledge and perceptions of risks of HIV and AIDS".

What are the possible benefits of taking part?

Partaking in this study may not provide benefits immediately. Proposed research intends to explore and describe **High school teenage girls'** knowledge and

perceptions of risks of HIV and AIDS in Tshwane, a District of the Gauteng Province of South Africa. The outcome will assist in reducing the high rate of HIV infection among teenage girls.

Confidentiality

Information collected in this study will be respect and treated as confidential. Your prior consent will be required in order to release this information to any unauthorised person(s). The information collected will not in any way be connected to your child and will never be disclosed to anyone. The information gathered will be used in the researcher's Master of Public Health dissertation and may be published in appropriate peer reviewed accredited journals. An electronic online copy will be available when the degree has been conferred and the dissertation has been accepted.

What is the anticipated inconvenience of taking part in this study?

The study does not have any personal or sensitive information. Your child's privacy will be protected at all times. Therefore, there is no expected harm that may befall your child.

Who is funding the research?

I am conducting the research in my capacity as student at the University of South Africa. I am studying a Master's degree in Public Health and UNISA is funding.

Who has reviewed the study?

The University of South Africa Health Studies Scientific and Research Ethics Committee (HSREC) have reviewed and approved the research proposal.

Names and contact details of the researcher and supervisors:

Name of the researcher: Ms Noliwe Chadyiwanembwa.
Email: nchadds@gmail.com or
4577945@mylife.unisa.ac.za.

Cell phone No: 074 561 7437

Student Number: 45779457

Contact for further information

Research Supervisor: Prof DSK Habedi

Email: habeddisk@unisa.ac.za

Cell phone No: 072 520 1130

Telephone: 012 429 6180

PART 2: INFORMATION SHEET FOR TEENAGERS AGED 18 TO 19 YEARS

Title of the study: “High school teenage girls’ knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa”.

Invitation:

You are invited to partake in a research study. May you read the following information carefully so that you may understand the reasons for conducting the research and what is involved before making a decision.

The purpose of the study

The purpose of the study is to explore and describe the **High school teenage girls’** knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa.

Why you have been invited to participate?

You have been selected to partake of the study because of the following reasons:

You are a teenager between eighteen and nineteen years old and attend school in a selected High school, located in Tshwane, a District of Gauteng Province of South Africa. I believe that she can make a difference in the study.

Do you have to take part?

It is voluntary to partake of the study. It is all up to you to partake or not. If you choose take part you will be asked to sign an informed consent form. If you choose to discontinue you are free to leave any time.

What will happen when one takes part?

If you partake, you will be asked to answer questions on “teenage girls’ knowledge and perceptions of risks of HIV and AIDS”.

What are the possible benefits of taking part?

In partaking of the study, there are no immediate benefits. The study intends to explore and describe **High school teenage girls’** knowledge and perceptions of risks of HIV and AIDS in Tshwane, a District of the Gauteng Province of South Africa. The results will assist in reducing the high rate of HIV infection among teenage girls.

Confidentiality

Information gathered in will be respected and treated as confidential. Your prior consent will be required in order to release this information to any unauthorised person(s). The information collected will not in any way be connected to you and will never be disclosed to anyone. The information gathered will be used in the researcher’s Master of Public Health dissertation and may be published in appropriate peer reviewed accredited journals. An electronic online copy will be available when the degree has been conferred and the dissertation has been accepted.

What is the anticipated inconvenience of taking part in this study?

The study does not have any personal or sensitive information. Your privacy will be protected at all times. Therefore, there is no expected harm that may befall you.

Who is funding the research?

I am researching as a student at the University of South Africa. I am studying a Master’s degree of Public Health and UNISA is funding.

Who has reviewed the study?

The University of South Africa Health Studies Scientific and Research Ethics Committee (HSREC) have reviewed and approved the research proposal.

Names and contact details of the researcher and supervisors:

Name of the researcher: Ms Noliwe Chadyiwanembwa.
Email: nchadds@gmail.com or
45779457@mylife.unisa.ac.za.
Cell phone No: 074 561 7437
Student Number: 45779457

Contact for further information

Research Supervisor: Prof DSK Habedi
Email: habeddisk@unisa.ac.za
Cell phone No: 072 520 1130
Telephone: 012 429 6180

PART 3: INFORMED ASSENT FORM

Title of the study: “High school teenage girls’ knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa”.

I.....parent/guardian of.....
(Child’s full names and surname) understand that the study purpose is to explore and describe the **High school teenage girls’** knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa.

I declare that by signing below:

- I read and understood the information or information of the study was read to me and I allow my child to take part.
- I had questions answered and know that I am allowed to ask questions anytime when my child is participating.
- I did not force my child to take part.
- My child is allowed to leave the study any time she chooses.

I agree / do not agree (circle the correct one) that my child can partake of the study.

Signature (Parent / guardian) on behalf of teenager

Date.....

I do agree that my child can partake of the study.

or

I do not want my child to partake of the study and I have not signed the assent below..... (Child’s initial)

Only if child assents:

Child's full names and surname:

Child's Signature:

Date:

The assent form had been read to the respondent and the chance to ask questions had been provided. I confirm that free assent had been given by the responded.

Researcher: Ms. Noliwe Chadyiwanembwa

Signature:

Date:

PART 4: INFORMED CONSENT FORM FOR TEENAGERS PARTICIPATING IN COMPLETING THE QUESTIONNAIRE.

Title of the study: **“High school teenage girls’ knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa”**.

You are requested to partake of the research study of the University of South Africa. The purpose of the research is to explore and describe the **High school teenage girls’** knowledge and perceptions of the risks of HIV and AIDS in Tshwane, a District of Gauteng Province of South Africa.

A questionnaire will be used to collect data in this study for almost an hour. Within an hour, the respondents will be required to answer questions on **‘High school teenage girls’ knowledge and perceptions of risks of HIV and AIDS”**.

I....., **(Name and Surname** in full) I do accept to take partake of the completing the questionnaire for the study **“High school teenage girls’ knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province of South Africa”** without being forced and threatened.

.....
Signature – Participant

.....
Signature – Researcher

.....
Date permission issued

.....
Date permission issued

Annexure H: Questionnaire

QUESTIONNAIRE

This questionnaire is designed to get information on “High school teenage girls’ knowledge and perceptions of the risks of human immunodeficiency virus and acquired immune deficiency syndrome in Tshwane, a District of Gauteng Province of South Africa”. Your honest opinion is required when answering the questions. Any answer is acceptable. Your honest opinion is required.

Instructions

1. You are required to read each question carefully.
2. You are requested to start from the front of the questionnaire to the back.
3. Each set of questions has instructions. Make sure you follow those given instructions.
4. Answer all questions.

ITEMS AND SECTIONS OF THE QUESTIONNAIRE

Part 1: Demographic data

Part 2: Knowledge on HIV transmission

Part 3: Information on HIV transmission

Part 4: Risk behaviour regarding HIV transmission

PART 1: DEMOGRAPHIC DATA

1.1 What is your age? (Write in the provided box).

Your Age	Answer
1.1	

1.2 In which grade are you? (Please tick your answer).

Level of education	Answer
1.2.1 Grade 9	1
1.2.2 Grade 10	2
1.2.3 Grade 11	3
1.2.4 Grade 12	4

1.3 With whom do you stay? (Please tick answer).

Guardianship	Answer
1.3.1 Both Parents	1
1.3.2 Father only	2
1.3.3 Mother only	3
1.3.4 Guardian	4
1.3.5 Other (Specify)	5

1.4 Which one is your religion? (Please tick your answer).

Your Religion	Answer
1.4.1 Christianity	1
1.4.2 Moslem	2
1.4.3 African Tradition	3
1.4.4 African Tradition	4
1.4.5 Judaism	5
1.4.6 Other, please specify	6

PART 2: KNOWLEDGE ON HIV AND AIDS TRANSMISSION ANDSTIS

(Tick the correct answer and explain where necessary.)

2.1 What is HIV?

What is HIV (Read the statement and say whether you agree or disagree)	Strongly Agree	Agree	Don't Agree	Disagree	Strongly disagree
2.1.1 Human Immunodeficiency virus					
2.1.2 A curse from a person's ancestors					
2.1.3 A disease caused by witchcraft					
2.1.4 An incurable disease that came from the West					
2.1.5 Other (please specify)					

2.2 Ways of transmitting HIV (Please tick yes/no)

Ways of HIV transmission	Answer	
	Yes	No
2.2.1 Vaginal sex	1	2
2.2.2 Blood transfusion	1	2
2.2.3 Sharp objects such as syringe, needles or razor blade	1	2
2.2.4 Breast – feeding	1	2
2.2.5 During birth	1	2
2.2.6 Toilet seat	1	2

2.2.7 Deep kissing	1	2
2.2.8 Hugging	1	2
2.2.9 Sharing plates and cups	1	2
2.2.10 Mosquito bites	1	2
2.2.11 Other (please specify)	1	2

2.3 What is AIDS?

What is AIDS?	Answer	
	Yes	No
2.3.1 A disease that kills	1	2
2.3.2 A disease that causes major weight loss	1	2
2.3.3 A terminal disease	1	2
2.3.4 A diseases which causes major weight loss	1	2
2.3.5 A condition susceptible to other diseases	1	2
2.3.6 A disease which causes shame	1	2
2.3.7 I don't know	1	2
2.3.8 Other (explain)	1	2

2.4 The following precautions reduce the risk of contracting HIV (Mark the most effective precaution with 1 and thereafter 2; 3; 4 etc. up to 8, please mark each item and do not use the same number twice).

Precautions to limit HIV transmission	Ranking	
2.4.1 Condom use during vaginal sex		
2.4.2 Condom use during anal sex		
2.4.3 Avoiding use of the same razor		
2.4.4 Washing of hands		
2.4.5 Abstinence		
2.4.6 Delaying sexual intercourse until a permanent partner is found		
2.4.7 Treatment of sexually transmitted infections		
2.4.8 Avoiding deep kiss		

2.5 Comment on the effectiveness of condoms as barriers to HIV?

Effectiveness of condoms	Answer
2.5.1 100% effective	1
2.5.2 Partially effective	2
2.5.3 Not at all effective	3
2.5.4 No idea	4

2.6 Can a healthy-looking person who is living with HIV transmit the infection to others? (Explain your answer)

Effectiveness	Answer		
	Yes	No	Not sure
2.6.1 Transmission of HIV to others	1	2	3
(Explain your answer)			

2.7 Describe the appearance of a person infected with HIV who has AIDS?
(Explain your answer)

Appearance of AIDS patient	Answer	
	Yes	No
2.7.1 The person appears healthy	1	2
2.7.2 The person is thin and underweight	1	2
2.7.3 The person appears sad and isolated	1	2
2.7.4 The person is tired and weak	1	2
2.7.5 The person is unable to physical care for himself/herself	1	2
2.7.6 The person may have fever and infections	1	2
2.7.7 The person become inactive	1	2
2.7.8 Other (explain)		

2.8 Is AIDS curable?

Cure for HIV/AIDS	Answer
2.8.1 Yes	1
2.8.2 No	2

2.9 What is the window period?

Knowledge of window period	Answer		
	Yes	No	Don't know
2.9.1	1	2	3

2.10 Can a person who has HIV infect other people during the window period?

HIV transmission during window period	Answer		
	Yes	No	Don't Know
2.10.1	1	2	3

2.11 Can HIV be transmitted when a person has sex for about two minutes with an infected person?

HIV transmission in a short time	Answer
2.11.1 Transmission of HIV in a short time	1 (Yes)
2.11.2 Other (explain)	2 (No)

2.12 Which gender is more at risk of contracting HIV? (Choose only one answer.)

Who is more at risk of HIV	Answer
2.12.1 Boys	1
2.12.2 Girls	2
2.12.3 They are affected in the same way	3

2.13 Choose one factor that lead to an increase in the risk of HIV transmission for girls compared to boys?

Factors that increase the risk of HIV for girls	Answer	
	Yes	No
2.13.1 Girls are soft	1	2
2.13.2 Girls are forced to have sex	1	2
2.13.3 The large surface area of the vagina	1	2
2.13.4 Girls culturally have no power over boys	1	2
2.13.5 Girls are don't know how to use the condom	1	2
2.13.6 Girls do not have knowledge about HIV	1	2
2.13.7 Girls have older partners	1	2
2.13.8 Girls cheat on boys and have multiple partners	1	2
2.13.9 Other, (explain)	1	2

2.14 Which factors decrease the risk of HIV transmission for girls compared to boys?

Factors that decrease the risk of HIV for girls	Answer	
	Yes	No
2.13.1 Menstruation help to virus is wash off the virus	1	2
2.13.2 Girls trust their sex partners	1	2
2.13.3 Girls have only one sexual partner	1	2
2.13.4 Girl don't use condoms	1	2
2.13.5 Girls can refuse to have sex without a condom	1	2
2.13.6 Other (explain)	1	2

PART 3: SOURCES OF INFORMATION ON HIV TRANSMISSION

3.1 Tick the most easily available source of information on HIV transmission for you? (Select the best answer).

Most easily accessible source of information on HIV	Answer
3.1.1 Radio	1
3.1.2 Newspaper	2
3.1.3 Television	3
3.1.4 Magazine	4
3.1.5 Peers	5
3.1.6 Teachers	6
3.1.7 Parents/ Guardian	7
3.1.8 Health Care Worker	8
2.5.9 Other (explain)	9

3.2 Indicate the last time you obtained information on HIV transmission from each of the listed sources? (Write your answer to the nearest number of weeks e.g. 1; 2; 3 and 4 for four weeks or more. If "not at all" please, mark with a zero and for 4 weeks or more mark with 4).

Source of information on HIV	Answer
3.2.1 Radio	_____ Weeks
3.2.2 Newspaper	_____ Weeks
3.2.3 Television	_____ Weeks
3.2.4 Magazine	_____ Weeks
3.2.5 Peers	_____ Weeks
3.2.6 Teachers	_____ Weeks
3.2.7 Parents/ Guardian	_____ Weeks
3.2.8 Health Care Worker	_____ Weeks
3.2.9 Other (explain)	_____ Weeks

3.3 Of the following sources of information on HIV transmission which one do you have access to at home?

Sources of Information you have access at home	Answer	
	Yes	No
3.3.1 Television	1	2
3.3.2 Radio	1	2
3.3.3 Magazine	1	2
3.3.4 Newspaper	1	2
3.3.5 Other (explain)	1	2

3.4 Which is one of these sources do prefer the most?

Most preferred source of information on HIV transmission	Answer	
	Yes	No
3.4.1 Radio	1	2
3.4.2 Newspaper	1	2
3.4.3 Television	1	2
3.4.4 Magazine	1	2
3.4.5 Peers	1	2
3.4.6 Teachers	1	2
3.4.7 Parents/ Guardian	1	2
3.4.8 Health Care Worker	1	2
3.4.9 Other (explain)	1	2

3.5 Indicate the last time you discussed matters of sex and HIV transmission with the following people (**Write your answer to the nearest number of weeks for example, 1,2, 3 and 4 for four weeks or more. If “not at all” please mark with a zero**).

Last time matters of sex were discussed	Answer
3.5.1 Mother	_____ Weeks
3.5.2 Father	_____ Weeks
3.5.3 Guardian	_____ Weeks
3.5.4 Health Care Worker	_____ Weeks
3.5.5 Other(ex)	_____ Weeks

3.6 What do you do with information about HIV transmission? (**Answer yes/no**).

	Answer	
	Yes	No
3.6.1 Discussing with peers and friends	1	2
3.6.2 Discussing with parent or guardian	1	2
3.6.3 Discussing with other relatives	1	2
3.6.4 Discussing with your teacher	1	2
3.6.5 Keep it between yourself with a health care worker	1	2
3.6.6 Keep information to yourself	1	2

3.7 What issues would you want to discuss with your parent or guardian regarding HIV? (Answer Yes/No)

With parent/ Guardian?	Answer	
	Yes	No
3.7.1 Safer sex	1	2
3.7.2 HIV transmission	1	2
3.7.3 Cultural issues related to HIV transmission	1	2
3.7.4 Risk factors for HIV transmission	1	2
3.7.5 Contraceptives	1	2
3.7.6 STIs treatment	1	2
3.7.7 I don't discuss HIV/AIDS issues with parents	1	2
3.7.8 Other (explain)	1	2

3.8 Do you have a boyfriend?

Do you have a boyfriend?	Answer	
	Yes	No
3.8.1	1	2

3.9 If your answer to yes in 3.8 is yes, what do you discuss concerning HIV transmission?

What do you and your partner talk about regarding HIV and reproductive health (Answer Yes/No)	Answer	
	Yes	No
3.9.1 Possibility of HIV infection	1	2
3.9.2 Safer sex	1	2
3.9.3 HIV testing	1	2
3.9.4 STIs	1	2
3.9.5 Going for an HIV test	1	2
3.9.6 We don't discuss issues on HIV and reproductive health	1	2
3.9.7 Other (please specify)	1	2

3.10 If you don't discuss issues on HIV and reproductive health, what is the reason?

Reason for not discussing HIV and reproductive health	Answer	
	Yes	No
3.10.1 I am too shy to talk about the topic	1	2
3.10.2 I Don't think my partner has HIV or STI's	1	2
3.10.3 I am afraid of losing my partner	1	2
3.10.4 My partner is older than me	1	2
3.10.5 Other (please specify)	1	2

PART 4 RISK BEHAVIOUR REGARDING HIV TRANSMISSION

4.1 The number of partners one has.
(Choose one answer).

Number of partners	Answer
4.1.1 One partner	1
4.1.2 Two partners	2
4.1.3 Three or more partners	3
4.1.4 No partner	4

4.2 Have you ever discussed the risk of HIV transmission and pregnancy? (Answer if you have a partner.)

	Answer	
	Yes	No
4.2.1	1	2

4.3 Ever discussed what you would do if one of you is HIV positive? (Answer if you have a partner)

	Answer	
	Yes	No
4.3.1	1	2
Explain your answer.....		

4.4 Have you ever had sex?

	Answer	
	Yes	No
4.1	1	2

4.5 Can you get infected with HIV?

	Answer	
	Yes	No
4.5.1	1	2

4.6 Why should HIV infect you?

Why are you at risk to HIV	Answer	
	Yes	No
4.6.1 I do not always use a condom during sex	1	2
4.6.2 I have been coerced to have sex without a condom	1	2
4.6.3 I don't trust my partner	1	2
4.6.4 I don't know my partner's HIV status	1	2
4.6.5 Other (explain)	1	2

4.7 Why are you not at risk to HIV transmission?

Why are you not at risk to HIV	Answer	
	Yes	No
4.7.1 I am abstaining from sex until I find a permanent partner	1	2
4.7.2 I always have sex using a condom	1	2
4.7.3 I have one uninfected partner that I trust	1	2
4.7.4 Other (explain)	1	2

4.8 Which type of contraceptive are you using during sexual intercourse? (Please indicate with a Yes or No for each of the following options).

Type of contraceptives you and your partner use	Answer	
	Yes	No
1. Condom	1	2
2. Diagram	1	2
3. Pill	1	2
4. Coitus interruptus	1	2
5. Intra Uterine Device (IUD)	1	2
6. Chart for fertile period in menstrual cycle	1	2
7. The injection (3 months progesterone)	1	2

4.9 How do you protect yourself against HIV transmission during sex? (Choose the best answer)

How do you protect yourself against HIV during sex?	Answer	
	Yes	No
4.9.1 Use condom	1	2
4.9.2 Have sex while standing	1	2
4.9.3 Have sex with one uninfected partner	1	2
4.9.4 Avoid deep kissing	1	2
4.9.5 Use traditional medicine	1	2
4.9.6 I don't engage in sex	1	2
4.9.7 Other (explain)	1	2

4.10 Do you know how to use a condom?

Have you ever used a condom?	Answer	
	Yes	No
4.10.1	1	2
Give a reason for your answer		

4.11 If your answer to the above question is yes, why do you use a condom?

Reason for using a condom?	Answer	
	Yes	No
4.11.1 To prevent HIV transmission	1	2
4.11.2 My partner insisted on using a condom	1	2
4.11.3 To prevent pregnancy	1	2

4.12 If your answer to the above question is no, why do you not use a condom?

Reason for not using a condom?	Answer	
	Yes	No
4.12.1 Condoms not available	1	2
4.12.2 Forced into sex without a condom	1	2
4.12.3 Don't know how to use it	1	2
4.12.4 Other (explain)	1	2

4.13 What do you consider to be risk behaviour regarding HIV transmission?
(Choose the best answer)

What do you consider as risky behaviour	Answer	
	Yes	No
4.13.1 Having multiple sex partners	1	2
4.13.2 Having transactional sex	1	2
4.13.3 Not using a condom during sex	1	2
4.13.4 Having untreated ulcerated STIs	1	2
4.13.5 Other (explain)	1	2

4.14 What can be done to reduce the risk of HIV transmission? (Choose the best answer)

How one changes her behaviour	Answer	
	Yes	No
4.14.1 Abstain from sex until a permanent partner is found	1	2
4.14.2 Use condoms always	1	2
4.14.3 Have one sexual partner	1	2
4.14.4 avoid alcohol and drugs	1	2
4.14.5 Other (Explain)	1	2

THANK YOU FOR TAKING PART IN THIS STUDY