Predictors of condom use at first sex among South African adolescents

P P PHORA
orcid.org 0000-0002-5518-6071

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Supervisor: Prof. M E Palamuleni

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Student number: 18025110
DECLARATION

I, Pelonomi Phillys Phora, hereby declare that this research is my own work and that all sources have been accurately reported and acknowledged, and that this document has not previously been submitted in any University or Higher training Institution in order to obtain a similar qualification

Signature ..........................  Date ..........................
Abstract

Background: South Africa as one of the countries with nearly half adolescents living with HIV, has the highest prevalence rates in the world among adolescents. The main mode of transmission in South Africa is through unsafe and unprotected heterosexual intercourse by not using condoms at sexual debut. Thus, there is the need to identify factors associated with condom use at first sex to inform future intervention programmes.

Objective: To determine factors influencing condom use at first sex among South African adolescents in 2012.

Data and methods: Secondary data covering a cross sectional study involving 1628 males and 1687 females adolescents between 15-19 years interviewed in the 2012 South African national HIV prevalence, HIV incidence, behavior and communication survey (SABSSM) were used. A multi-stage, stratified and clustered probability sampling technique was used. Univariate and multivariate analysis was done using chi square test and logistic regression models, respectively.

Results: The prevalence of sexual behavior among adolescents who have had sexual intercourse during the 2012 SABSSM survey was 33.90% among male adolescents and 35.50% among female adolescents. The results indicate that 28.9% of the males and 29.7% of females did not use a condom the first time they had sex. There was an association between broad socio-demographic factors and condom use at first sex, particularly racial group, level of education and place of residence (P<0.05). Generally, condom use at first sex among adolescents was slightly lower among female adolescents than male adolescents. Multivariate regression showed that alcohol use predicted condom use status among adolescents at first sex (OR 1.824; 95%CI 1.312-2.535). There was a significant response relationship for adolescents engaging in sexual intercourse for the first time with a sexual partner more their ages (P<0.05).
No access to media sexual content exposure through televisions (OR 1.593; 95% CI: 1.089-2.329) and no access to internet connection (OR 1.821; 95% CI: 1.265-2.621) influenced non-condom use at first sex among adolescents.

**Conclusion:** There is a strong association between adolescent’s level of education, age of sexual partner, media content exposure and alcohol consumption status. Health programs, educational programs and HIV prevention programmes need to use media platforms that could reach adolescents specifically those in rural areas and those in lower grades in addressing issues of early sexual debut and non-use of condoms at first sex among adolescents. This could prevent and disentangle the association between adolescents early sexual debut and association of non-condom use at first sex.
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To my mother, I want to thank her to her contribution in this dissertation, for her support and teaching me that education is the key to success and is my legacy that no one will steal it from me. To my brother and sister without your support and reinforcement I would have never been able to accomplish what I intended to attain and been able to finish the dissertation. I appreciate the love and support and would like to express my sincere gratitude.
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence Interval</td>
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<tr>
<td>CAPI</td>
<td>Computer Assisted Personal Interviewing</td>
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<tr>
<td>DoH</td>
<td>Department of Health</td>
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<td>EAs</td>
<td>Census Enumeration Areas</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HSRC</td>
<td>Human Sciences Research Council</td>
</tr>
<tr>
<td>LB</td>
<td>Lower Bound Confidence Interval</td>
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<tr>
<td>OR</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>P-VALUE</td>
<td>Probability value</td>
</tr>
<tr>
<td>SABSSM</td>
<td>South African National HIV Prevalence, Behaviour and Communication survey</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
</tr>
<tr>
<td>STATS-SA</td>
<td>Statistics South Africa</td>
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<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>United Nations Joint Programme on HIV/AIDS</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UP</td>
<td>Lower Bound Confidence Interval</td>
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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Globally, 4 million young people ages 15-24 are living with HIV and 29% are adolescents, with South Africa as one of the countries with nearly half adolescents living with HIV (Rehm, 2011; UN, 2015). Adolescents constitute an important population group in South Africa with about 18, 5 % of the population aged 10-19 (Stats SA, 2016). South Africa has one of the highest HIV prevalence rates in the world among adolescents at 11.2% in 2015 (Stats SA, 2015), as a consequence of unsafe and unprotected sexual practice at first sex. According to reports made by UNAIDS in 2017, about 1.8 million adolescents between the ages of 10 and 19 were living with HIV worldwide. Adolescents account for about 5 per cent of all people living with HIV. The regions with the highest numbers of HIV-positive adolescents are sub-Saharan Africa and South Asia. Of the 1.8 million adolescents living with HIV, about 1.5 million (85 per cent) live in sub-Saharan Africa (UNAIDS, 2017).

According to Trends (2010), non-use of condoms at first sex among adolescents increases one’s risk of contracting sexually transmitted infections (STIs) and unintended pregnancies. Unprotected sex at sexual debut is an important risk factors in HIV transmission. In sub-Saharan Africa, and in most regions of the world, heterosexual transmission accounts for most HIV infections (UNAIDS, 2011).

Condom use among adolescents engaging in a sexual intercourse for the first time is the most effective means to prevent HIV infection and has contributed to reductions in HIV infections in SA and other countries (Singh et al., 2003). Preventing HIV transmission still remains a major challenge (Shisana et al.,
Despite considerable effort to prevent HIV and increase awareness about the epidemic, it continues to spread, as well as widespread efforts and awareness been initiated, STIs still pose a major health problem worldwide with limited success in reducing it (Lupfer & Anand, 2016).

Condom promotion remains core to HIV-prevention programming and is cost-effective and acceptable as a public health approach for population level prevention (CATIE, 2013; Roger, 2016). The effectiveness of condoms hinges on non-breakage or slippage during sexual acts, for that reason prevention approaches for the reduction of sexual transmission of HIV are important in curbing the spread of the virus and the promotion of correct and condom use at first sex among adolescents continues to be an effective means of preventing sexual transmission of HIV (Charania et al., 2011).

There are national public campaigns specifically aimed at adolescents that encourage condom use and free condoms, which are readily available in public, and private sectors (Beksinska et al., 2012) which illustrates the importance of condom use at first sex. Burgard and Kusunoki (2009, p.5) argued that “simply knowing that condoms are available and effective is not enough” to prevent the spread of HIV infections.

Several factors such as socio-demographics, perceptions or attitudes about HIV/AIDS, behavioural factors and media content exposure have been identified as predictors of non-use of condoms at first sex among adolescents (Walters, Simoni & Evans-Campbell, 2002).

Socio-demographic, environmental and contextual factors also have been shown to play a role in influencing unprotected sex practice among adolescents, with influences that parents, peers, and society, in general, have on adolescents’ behaviours and decision-making (Maner and Schmidt, 2006).

Barriers to condom use by adolescents are multi-faceted and targeting the individual level alone will not suffice. Strategies addressing individual, social and gender issues related to HIV transmission and condom use within this population are necessary (Jana, Basu, RotheramBorus, & Newman, 2004;
Varga, 1997). It is therefore important to understand factors that determine the use and non-use of condoms among South African adolescents for a realistic, practical approach to health programming and for the successful implementation of health programmes regarding adolescents’ risk-taking behavior with an intention that the outcomes will assist policymakers and planners to design and implement future interventions.

1.2 Problem statement

Sexually transmitted infections (STIs) and unintended pregnancies have been increasing worldwide; these have become the most important health issues for adolescents and young adults (Hoque et al., 2012). The problem is that unprotected sexual practices have many implications with negative outcomes that might prevent adolescents from living their lives to the best of their potentials with negative health, education, social, employment implications.

Non-condom use at first sex among adolescents has been identified as the main cause of school dropouts. For example, pregnant learners, who are less likely to bear social stigma, are at high risk of dropping out from school (Kohler, Manhart & Lafferty, 2008). Schiff and Zeira (2005) have indicated that adolescents who have dropped out of the regular school systems are characterised by behavioral problems, learning disabilities, substance abuse and exposure to sexual violence.

Docalavich and Livingstone (2008) argue that dropping out from school at 15 or 16 will limit their future opportunities. Many researchers have demonstrated that adolescents and young adults with high levels of knowledge about STIs and HIV/AIDS continue to practice unsafe sex (Zwane & Mngadi, 2004). One of the important health effects associated with engaging in unprotected sex is contraction of HIV/AIDS, and becoming sexually active at an early age places youth at risk of contracting HIV and other STIs (Leigh, 2003).
Africa, Deventer and Barnard (2008) found that adolescents who engage in behaviours risky to health, such as sexual intercourse at an early age, have less economic productivity than their peers do later in life. For example, young women who choose to bear children at an early age are more likely to fail to complete their high school than their counterparts who have completed schooling, thus reducing their career opportunities (Kohler, Manhart & Lafferty, 2008).

Even though the current generation of students receive more sex education compared to previous generations, they continue to be known to engage in various forms of risky sexual behaviour (Cross & Morgan, 2003). Despite the availability of condoms and the knowledge that they are the most effective way to prevent HIV infections, they are still used inconsistently (Bird, Harvey, Beckman, Johnson & The PARTNERS Project, 2001; Burgard & Kusunoki, 2009). Preventing HIV transmission still remains a major challenge (Shisana et al., 2014).

There is a high rate of knowledge on HIV prevention and the benefits of condom use at first sex among adolescents but while many identify condoms as a HIV prevention method, many still do not use them (Stephens et al., 2012). Therefore, the problem becomes; how prevalent is condom use at first sex among South African adolescents and what are the key factors that motivate condom use and lack of use of condoms among South African adolescents.

1.3 Rationale of the study

Studies identifying and exploring determinants of condom use at first sex among adolescents are important antecedents of safe-sex promotion. Therefore, the purpose of the study is to understand and determine the association between various characteristics and condom use at first sex among South African adolescents.
Avert (2010:8) reports that the government has been promoting the use of condoms among sexually active adolescents at first sex as one of the strategies in HIV-prevention, but “is still falling short of what is possible”. This statement was made by Barbara Hogan when comparing South Africa to the achievements of other countries of similar economic standing (Avert 2010:8). UNAIDS (2008:1) notes that South Africa has comprehensive policies and programs to address the AIDS epidemic, however, some of these have not yet reached the maximum potential.

Younger people specifically adolescents are prime targets for sexually transmitted infections (STIs) including the human immunodeficiency virus (HIV) and unwanted pregnancies. As a result, the information generated from this study will be fundamental in contribution to informing decisions and programs to address the heightened problem of adolescents risk taking behaviours, which have negative outcomes on the health and wellbeing of adolescents. In addition, the study will be crucial in identifying the main factors that negatively affect the education status of the adolescents that engage in unprotected sex at first sex and in turn how these affect the economy at large.

The study is specifically important for provincial health researchers to provide guidance in policy development and assessment that can be useful for all fundamental players such as health educators, health administrators, and education administrators and the provincial health and education sector at large and with the assessment made to determine what factors are dominant in predicting condom use/non-use at first sex among adolescents. The findings may be useful in the health prevention, education policies and development of social work prevention programs targeting adolescents in South Africa.
1.4 The objectives of the study

1.4.1. Main objective

The main objective is to determine factors influencing condom use at first sex among South African adolescents.

1.4.2. Specific objectives

The following are specific objectives:

1. To assess the association between condom use at first sex and selected socio-demographic, environmental, and contextual factors of male and female adolescents.

2. To assess the prevalence of condom use at first sex among adolescents

1.5 Research questions

In order to achieve the above research objectives, the study seeks to answer the following research questions:

- What are the dominant socio-demographic, environmental, and contextual factors that predict condom use at first sex among South African adolescents?
- What is the prevalence of condom use among South African adolescents?

1.6 Research Hypotheses

Based on the study objectives, related literature and the stated research questions, the following research hypotheses are generated:

- Female adolescents are less likely to use a condom at first sex as compared male adolescents;
- Adolescents originally from urban areas are more likely to use a condom at first sex;
• Adolescents who get into their sexual debut earlier are more likely to engage in unprotected sex compared to those who get into their sexual debut late;
• Adolescents who are exposed to sexual content through media (TV’s and cellphones) are less likely to use a condom;

1.7 Organization of the report

The study is organized into five chapters. Chapter one is the introductory chapter covering background of the study, problem statement, rationale of the study, objectives, research question and research hypotheses. The second chapter discusses literature review and conceptual framework based on the previously conducted research in order to examine the factors influencing condom use at first sex among adolescents.

Chapter three presents the methodology employed in the study, data collection methods and sampling of the secondary data, ethical consideration, and the instrument used to collect the data, the variables and their measures. Chapter four provides data analysis and the findings. The fifth chapter analyses and summarizes the findings and concludes the research by providing recommendations on findings of the study.

1.8. Definition of key terms

The following terms were used in the study, necessitating their definition below:

**Adolescence**

Adolescence means; the process of developing from a child into an adult. (Paperback Oxford English Dictionary 2006:10).

In this study adolescent means a person who was between the ages of 15 to 19 years old.
HIV Risk

The probability that a person may be infected with HIV.

Unprotected sex

Unprotected sex can be defined as sexual behaviours that put people at high risk of contracting HIV (UNAIDS, 2007).

(Safe sex) / Condom use

Safe sex is defined by DoH (2003:103) as sex with no or minimal risk of negative consequences. According to Paperback Oxford English Dictionary (2006:644), safe sex is defined as sexual activity in which people protect themselves against sexually transmitted diseases.

In this study, safe sex refers to sexual intercourse during which adolescents and their sexual partners are protected by using condoms at first sex.
CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1. Introduction
The section presents review of studies from South Africa and other countries, which will be used in this study to better understand the relationship between condom use at first sex and the factors that determine the use and lack of use of condoms among adolescents at first sex.

2.2 Adolescents’ transition period
The literature describes adolescence as a period in one’s lifetime when the risk of engagement in potentially risky behaviors becomes a prominent area of concern to families and governments (Brown and Rinelli, 2010; Veselska, Geckova, Orosova, Gajdgosova, van Dijk, and Reijneveld, 2009; Kostelecky, 2005; Laible, Carlo and Roesch, 2004). During adolescence, a young person experiences physical, psychological and social changes and because these developments are incomplete during this developmental stage, adolescents tend to experiment with risky behaviors including sexual intercourse, having sex without condoms, cigarette smoking, alcohol consumption, and hashish/marijuana consumption, often with little awareness of the danger (Reyna and Farley, 2006).

Adolescence is seen as a developmental stage of human life where the youth are most responsive to reward (Adriana Galvan, Todd A. Hare, Cindy E. Parra, Jackie Penn, et al, 2006). If uncontrolled, this increased reward response can result in adolescents engaging in increasing amounts of risk-taking behaviours such as lack of condom use as one of the forms of risky sexual behavior which is the most documented risky behaviours for HIV infection (Brook et al., 2006; Eaton et al., 2003; Hallman, 2004; Harrison et al., 2005; HRSC, 2005; Pettifor et al., 2004; Macphail & Campbell, 2001). According to Trends (2010), non-use of condoms increases one’s risk of contracting sexually transmitted infections (STIs) and unintended
pregnancies. The consequences of lack of condom use, especially HIV/AIDS, are a major health concern in society and remain a global as well as a local concern (De Lange et al., 2012).

Adolescence is a period of dramatic growth and change in an individual's lifetime. During this period, adolescents go through three periods of psychological development as well as the context in which these transitions occur. The three periods of transition include biological, cognitive and social transition (Casey, Getz and Galvan, 2008).

During biological transition period, the adolescent develops physical changes in specific areas of the maturing brain resulting in cognitive and behavioral changes (Casey, Getz and Galvan, 2008). During this period, several aspects of brain maturation are linked to behavioral, emotional and cognitive development (Casey, Tottenham, Liston and Durston, 2005). During adolescence there are also changes in the activity of central neurotransmitters responsible for mental well-being making adolescents more prone to risky practices including sexual risk behaviours and substance use (Crews, He and Hodge, 2007; Rao and Chen, 2008; Steinberg, 2008). It is argued that these changes can elevate the risk of developing depression and anxiety during adolescence (Davey, Yucel and Allen, 2008; Crews et al, 2007).

The cognitive phase is the time during which adolescence, mental abilities, such as problem-solving and reasoning abilities, continue to develop (Luna, Garver, Urban, Lazar and Sweeney, 2004). The development of these abilities is supported by specific core cognitive processes (Luna, Garver, Urban, Lazar and Sweeney, 2004).

During this transition period, changes in cognitive functioning are of great importance since it helps adolescents to interact with the environment and develop towards independence (Steinberg, 2008). For instance, changes in cognitive functioning help the adolescent to better understand the logical consequences following a specific behavior as well as understanding abstract matters and abstract reasoning (Steinberg, 2008).
The cognitive transition period, is the time during which adolescence, mental abilities, such as problem-solving and reasoning abilities, continue to develop (Luna, Garver, Urban, Lazar and Sweeney, 2004). The development of these abilities is supported by specific core cognitive processes (Luna, Garver, Urban, Lazar and Sweeney, 2004).

2.3. **Predictors of condom use at first sex among adolescents**

The literature provides an overview of some of the factors that influence condom use at first sex among adolescent’s in relation to the current study. Several factors have been found in the literature to be linked to low or inconsistent condom use among adolescents. These include socio-demographic factors such as age, gender, race, level of education, place of residence and exposure to mass media. Behavioural factors also have been found to influence low condom use such as age at sexual debut, age of sexual partner, relationship type, HIV status knowledge and alcohol consumption status. Low condom use also has been found to be influenced by perceptual characteristics. (Bankole, Ahmed, Neema, Ouedraogo and Konyani, 2007).

2.3.1. **The relationship between socio-demographic factors and condom use at first sex among adolescents.**

Non-condom use intensifies the rate of new HIV infections, which is related to the interplay among biological vulnerabilities, socio-behavioral and contextual factors. It has also been established that the epidemic is heterogeneous with wide variations in HIV prevalence across age, race, sex, socio-economic status and geographical location (Shisana, Rehle, Simbayi et al. 2009).

**Age and condom use at first sex**

The literature on adolescent sexual health reveals age as a strong risk factor for unprotected sex among adolescents. With increased age, more adolescents tend to engage in unprotected sex at sexual debut (Bersamin,
A number of studies have established that there is a strong relationship between age and sexual experience as age raises, the participation in sexual experience also increases (Nikula, 2009; Bankole et al, 2009). Furthermore, age has relation with condom use at first sex. Findings show that overall levels of condom use at first sexual intercourse is low. For example, Rahamefy et al. (2008) found that only 59% of students used a condom at sexual debut. Additionally, Rahamefy et al. (2008) found that condom use at first sexual intercourse was much higher among female students (68%) compared to male students (50%). Condom use at first sexual encounter was much lower for people who initiated sexual activities before the age of 15 and highest among people who initiated sex activities between the ages of 20-24 (Rahamefy et al., 2008). Girls and women are physiologically more vulnerable to HIV through heterosexual transmission than boys and men, and these biological factors differ in relation to age as well as co-factors including contraceptive use, among others (Quinn & Overbaugh, 2005).

**Gender and condom use at first sex**

There is a huge gender disparity when it comes to condom use at first sex among adolescents. A study undertaken in Ethiopia on high school going learners found that the median age at first sexual intercourse was 17 (16.54±1.9) and 18 (17.5±1.4) years for males and females, respectively (Abebe & Mitikie, 2009).

Condom promotion is one of the primary preventative methods towards unwanted pregnancies and combating the spread of HIV (UNAIDS, 2010). In most cases, men hold greater power in deciding on whether to use condoms or not. This is because they are the ones who have to wear the condoms, as male condoms are more common and easily accessible around the globe.

Lower condom use by females is the result of deeply-fixed, culturally sanctioned sexual behavioural norms reflecting gender inequality that allows
only men to decide when, where and how to have sex and in particular, when or with whom to use condoms (Matseke, 2012).

**Place of residence and condom use at first sex**

The place of residence (urban or rural area) is a significant predictor of use of condoms, with those in urban areas being more than twice as likely to use condoms than those in rural areas (Guiella & Madise, 2007). Access to condoms in rural areas is less compared to urban areas, which is the case for most developing countries. In Burkina Faso, it was reported that it may be more difficult for a rural adolescent to buy a condom and that adolescents aged between 12-14 years were significantly more likely to agree that it is embarrassing to buy or ask for condoms as compared to adolescent residing in an urban area (Guiella & Madise, 2007).

A study conducted by Peltzer (2006) in South Africa on adolescent's sexual outcomes reported that urban adolescents had significantly more often petted, masturbated, had anal and oral sex, and practiced kissing and cuddling more frequently while rural adolescents more frequently practiced penetrative sexual intercourse.

**Education and condom use at first sex**

One of the predominant reasons that students do not engage in protective sex is their reported lack of experience in making good decisions regarding a sexual partner (HEAIDS, 2010). In a study specifically looking at condom use at first sex and South African students (HEAIDS, 2010), it revealed that 60% of students reported using a condom at first sex. This means that 40% of students are still not using condoms at first sexual contact. This research indicated that many people do not engage in condom use at first sex for a variety of social reasons.

Further McGrath et al (2009) found that school attendance was significantly associated with later sexual debut among both men and women. Kaufman et
al. (2004) suggested that schools have ample latitude to promote the knowledge, understanding, and skills to enable young people to make responsible decisions about their sexual behaviour. Further Guiella & Madise, (2007) found that the probability of using condoms at first sex increased with years of schooling.

Miller (2012) found that adolescents living with a single parent or a non-biological guardian have been found to be at greater risk of engaging in unprotected sexual act, and further found that families are some of the most powerful socialising influences on the sexual attitudes and behaviours of young people. A study conducted among young people in Burkina Faso between the ages of 14 to 19, who did not live with their parents, showed that they were less likely to have more than one sex partner in the previous 12 months and less likely to use condoms at first sex (Singh et al., 2000).

2.3.2. Media content exposure and condom use at first sex

Strausburger and Wilson (2009) who argued on the lines by spending so much time watching television, adolescents sometimes attempt to mirror the acts they see and try to find their own sense of personality or individuality in that line. In a study by L’engle, Brown and Kenneavy (2006), the researchers found that adolescents report more sexual activity and greater intentions to engage in sex when they have been exposed to sexualized content through the media, be it television, internet or magazines.

Recent literature links lack of condom use at first sex among adolescents to the mass media; particularly, television exposure. Brown and L'Engle (2009) and Kim and Ward (2004) among others, have deliberated expansively on the effect of sexual content available on the Internet, music videos, and other media sources on adolescent sexual health. Of particular importance to the study is the effect of sexually explicit media content exposure to adolescent sexual health. According to research findings adolescents spend approximately 6 to 7 hours per day with some form of media, including television, movies, radio, computers and the Internet (Escobar-Chavez, et al.
According to Barnett, Gauvin, Lambert, O'Loughlin, Paradis and O'Loughlin (2008), about 60 percent of adolescents spend an average of 20 hours a week watching television, using the computer or read magazines.

2.3.3. Behavioral factors and condom use at first sex

There are a number of factors that influence the negative behavior of adolescents that will at a later stage have consequences such as health implications, education implications, social implications and economic implications. The literature provides an overview of factors that determines lack of condom use at first sex among South African adolescents.

Alcohol consumption status at first sex

A study conducted by Simbayi et al (2006:536) found that adolescents who frequently used alcohol were less likely to use condoms at first sex. Also a study conducted by Weir, Pailman, Mahlalela, Coetzee, Meidany and Boerna (2003:899) in a township in Cape Town found that only 60% of the research participants had used a condom in their last sexual encounter and that 40% of people who did not use condoms during sex stood a chance of contracting HIV if either of the partners was living with the virus.

A review on unsafe sexual behavior in South African youth indicates that at least 50 % of young people in South Africa are sexually active by age 16 and at least 80 % by age 20 (Eaton, Flisher & Aero, 2003). Kalichman et al (2007:142) report that males are more likely to drink than females and subsequently have unprotected sex with different partners. It is behaviours like this that puts male youths at risk of contracting HIV, especially when intoxicated.

Age at sexual debut and condom use at first sex

The South African National Youth Risk Behavior Survey revealed that the national prevalence for learners who reported ever having had sex was 41.1%, with significantly more males (50.1 %) than females (34.1 %), (Reddy
et al., 2003). A concerning statistic is that under 20% of young people use condoms at every sexual encounter and an estimate of 50-60% of youth in these studies have never used a condom (Eaton et al., 2003).

Sexual debut; initiation of sexual debut places young people at high risk for HIV, STI's, and unplanned pregnancy. In the context of HIV/AIDS, age at sexual debut is an important risk factor, which determines length of exposure to infection. Early sexual initiation, especially among young adolescent males seems to facilitate patterns of sexual networking that contribute to increased numbers of lifetime sexual partners (Harrison, Cleland, Gouws & Frohlich, 2007; White, Cleland & Carael, 2000).

**Relationship type, age of sexual partner and condom use at first sex**

Kaufman, Shefer, Crawford, Simbayi and Kalichman (2008) found that in South Africa there were negative attitudes towards condom use at first sex among adolescents. These attitudes were linked to feelings of masculinity and male pleasure. Condom use at first sex among adolescents requires communication and negotiation between both partners. In other words open discussion about condom use at first sex generally facilitates condom use at sexual debut in relationships (Hendriksen et al., 2007).

Ahlberg et al. (2001) found that poor communication at a partner level leads to the lack of condom use at first sex. Relationship type is also seen to influence condom use at first sex. Men and women tend to view condoms negatively within marital and cohabiting relationships (Maharaj & Cleland, 2004). Condom use at first sex in these types of relationships was viewed as a suggestion of infidelity (Maharaj & Cleland, 2004). Condoms are seen to be useful primarily in relationships that are perceived as high risk, for example casual sex with non-regular partners and/or sex workers or ‘one night stands’ (Hearst & Chen, 2004).
Also adolescents’ sexual relationships with older partners have become a social trend in South Africa with an early sexual debut (Kaestle, Morisky and Wiley 2002), whilst the national longitudinal study of adolescent health in London showed that adolescents with a sexual partner who is older by more than two years are less likely to use condoms at first sex (Voydanoff & Donnella, 2000). In Gould and Fick (2008), females aged 13 or younger who engage in sex with men four years older are more likely to have had sex than those who were with a partner of the same age or younger. Females who become involved with older partners are less likely to engage in voluntary sex or use contraceptives, and more likely to become pregnant than young adolescents of the same age (Marin et al., 2006).

Those who begin sexual activity in the early teen years are likely to have a higher chance of infection than those who delay, although the risk is also dependent on the choice of partner, e.g. sexual activity with an older partner with multiple sex partners increase the risk of being infected. Sexual initiation at a younger age has also been associated with greater sexual risk as these individuals are less likely to resist peer pressure to become sexually active, to negotiate safer sex, and to use condoms because of their age and lack of experience (Macphail & Campbell, 2001; Brook et al., 2006; Pulitzer & Pengpid, 2006).

Lacking parents or a protective guardian, some communities take advantage of the orphans through unwanted sexual advances. In some cases, the youth give in to these advances for fear of victimisation, and because they are in a vulnerable position issues of safe sex become a problem, as they are not able to negotiate condom use (Thurman et al., 2006).

Early sexual debut has also been associated with having an increased number of concurrent sexual partners, increasing the risk of contracting the HIV. A study by Harrison et al. (2005) on youth aged 15-24 years from the rural areas in South Africa showed that youth who reported three or more partners in the past 3 years of the study had an early sexual debut. As the age of sexual debut lowers, youth are engaging in first time sexual acts at a
younger age, and the more they are at risk of STIs and HIV/AIDS as there is a greater likelihood of partners changing (O'Donnell, O'Donell, & Stueve, 2001). Having many sexual partners has been shown to increase the chances of contracting the HIV infection if youth do not use protection.

Besides the early sexual debut, one of the most documented risky behaviours is non-usage of condoms or inconsistent use of condoms at first sex (Brook et al., 2006; Eaton et al., 2003; Hallman, 2004; Harrison et al., 2005; HRSC, 2005; Pettifor et al., 2004; Macphail & Campbell, 2001).

Gender differences also play a part in accounting for the age difference between the youth and their sexual partners, with girls’ partners being older than the boys are. A study by Pettifor et al. (2009) showed that boys were more likely to have had their first sexual debut with girls of the same age, whereas for girls the partner was likely to be between one and four years older. For boys, it is most likely that the girl partner would also be a virgin, however for girls; the likelihood of partners having had prior sexual experiences is higher, thus increasing their chances of contracting STI if safe sex is not practiced. Because of the power dynamics in these relationships due to age differences, girls tend to be at a disadvantage in negotiating the terms of a relationship such as condom use and being coerced into sex to show their love. As a result, they feel obliged to give in to what the boys’ request. Women do not communicate with their partners regarding issues such as condom use or being faithful to one another for fear of violence (Macphail & Campbell, 2001). Issues of condom negotiation become an issue as these relationships lack communication, and it has been documented that condom usage increases if partners talk about safe sex.

Another challenge is that of condom disapproval by sexual partners and friends, which remain a major barrier to condom use at first sex (Boer & Mashamba, 2005; Macphail & Cambell, 2001. Consistent condom use at first sex with sexual partners remains the biggest challenge facing the National Health Department and other agencies in their efforts to influence adolescents’ sexual behaviour and the prevention of HIV infections and teenage pregnancy.
There is thus a misconception associated with condom usage, where people using them are thought to be promiscuous. Stable relationships suffer from this misconception.

Women are more trusting in stable relationships or marital relationships and more likely to have one sexual partner, whereas men have more than one sexual partner exposing them and their partners to an increased risk of STIs including HIV. Unfortunately, in such relationships, there is low condom usage at first sex (Maharaj & Cleland, 2004).

2.3.4 Perceptions and awareness about HIV and AIDS and condom use at first sex

Knowledge of reproductive health, perceptions about HIV/AIDS and attitude towards condom use at first sex constitute an important prerequisite for behavior development, especially regarding risky behaviors in adolescents (DiClemente, 2009). According to Booysen and Summerton (2009), owing to relative lack of knowledge about risky sexual behaviors, lack of access to condoms and lack of empowerment with respect to the negotiation of safer sex at first sex, adolescents are at a great risk of contracting HIV and of falling pregnant. Adolescents whose parents talk more about sex, coercion and its effects will be less likely to engage in risky sexual behaviors. Knowledge of reproductive health, perceptions about HIV/AIDS and attitude towards condom use at first sex constitute an important prerequisite for behavior development, especially regarding early sexual debut in adolescents (DiClemente, 2009). In a study by Kirby, Laris, and Rolleri (2005), the authors found that, overall, education and knowledge of STDs were more likely to have a positive impact on sexual behaviors among adolescents, including delaying the sexual initiation, consistent and increasing condom use, and reduction in the frequency of sexual activity and having multiple sexual partners.
Although a vast amount of the literature suggests that adequate knowledge of STDs among adolescents is of paramount importance for them to establish responsible and sustainable protective health-related behaviours, several other studies have also reported limited knowledge on STDs among high school adolescents. Knowledge of sexually-transmitted diseases including HIV/AIDS plays a critical role in preventative education, and has a major influence on sexual risk behavior of adolescents. In addition, adolescents require accurate information about these in order to protect themselves against unwanted pregnancies as well as the risks of infection (Fantasia and Fontenot, 2011; Ferrand, Corbett, Wood, Hargrove et al, 2009; Logan, Holcombe, Manlove and Ryan, 2007; Malhotra, 2008; Scott et al, 2011).

In South Africa, a study done on high school adolescents reported that knowledge of HIV transmission and prevention is low (Visser and Moleko, 2008). In a study by Kirby, Laris, and Rolleri (2005), the authors found that, overall, education and knowledge of STDs were more likely to have a positive impact on sexual behaviors among adolescents, including delaying the sexual initiation, consistent and increasing condom use, and reduction in the frequency of sexual activity and having multiple sexual partners. Although a vast amount of the literature suggests adequate knowledge of STDs among adolescents is of paramount importance for them to establish responsible and sustainable protective health-related behaviors, several other studies have also reported limited knowledge on STDs among high school adolescents. Knowledge of sexually-transmitted diseases including HIV/AIDS plays a critical role in preventative education, and has a major influence on sexual risk behavior of adolescents.

In addition, adolescents require accurate information about these in order to protect themselves against unwanted pregnancies as well as the risks of infection (Fantasia and Fontenot, 2011; Ferrand, Corbett, Wood, Hargrove et al, 2009; Logan, Holcombe, Manlove and Ryan, 2007; Malhotra, 2008; Scott et al, 2011).
In the study conducted in Kenya by Njogu and Martin (2003) on high school adolescents found that although the students' level of knowledge about HIV/AIDS was high, it did not transfer into their sexual behaviors. A similar study by African Population and Health Research Centre (2009) involving 3,612 high school adolescents aged 12-24, it was found that although their knowledge of prevention of transmission of HIV/AIDS was high, generally their level of knowledge did not show in the sexual behavior practices of most of the adolescents. A study involving 931 sexually active high school adolescents in Kenya found an association between condom use and adolescents' knowledge of HIV/AIDS (Kabiru and Orpinas, 2009). Adolescents constitute the largest population at risk of HIV infection (UNAIDS, 2010; Ebeniro, 2010). Adolescent sexuality is an important subject because of its potential negative health and economic consequences of high-risk sexual behaviours including premarital sex, unsafe sex and multiple sex partners. Many studies have found that adolescents who are students know more about sexual health issues than non-students while in-school adolescents tend to know more about sex and are more realistic in discussing it as against out-of-school adolescents, especially females, who tend to have more sex and more sexual health problems (WHO, 2005).

Berry et al (2008) specifically described television as a sexual super peer that influences the sexual decision-making of adolescents. This description is supported by Jordan, Strausburger and Wilson (2009) who argued on the lines by spending so much time watching television, adolescents sometimes attempt to mirror the acts they see and try to find their own sense of personality or individuality in that line. In a study by L'engle, Brown and Kenneavy (2006), the researchers found that adolescents report more sexual activity and greater intentions to engage in sex when they have been exposed to sexualized content through the media, be it television, internet or magazines.

Recent literature links sexual risk behaviours in adolescents to sexual content available on the Internet, music videos, and other media sources on adolescent sexual health. Of particular importance to the study is the effect of
sexually explicit media content exposure to adolescent sexual health. According to research finding, adolescents spend approximately 6 to 7 hours per day with some form of media, including television, movies, radio, computers and the Internet (Escobar-Chavez, et al. 2005; Roberts and Foehr, 2004).

Having correct knowledge about condoms facilitates their correct use and informs one’s choices concerning safe sex practices (Ahlberg, Jylkas & Krantz, 2001; Amazigo, Silva, Kaufman & Obikze, 1997; Bodibe 2009; Delva, et al., 2007). Hendriksen, Pettifor, Lee, Coates and Rees’s (2007) in a South African study found that the highest correlate of condom use was whether an individual had engaged in condom use at first sex. In other words, individuals who had engaged in condom use the first time they engaged in sex, generally continued condom use in later sexual relationships (Hendriksen et al., 2007).

The literature suggests that descriptions and feelings about condoms are consistently negative (Browne & Minichiello, 1994; Flood, 2003). These descriptions include ‘wearing condoms decreases penile sensation’, ‘it’s like eating sweets unwrapped’, and ‘it’s unnatural and uncomfortable’ (Browne & Minichiello, 1994; Flood, 2003). It is found that condom use at first sexual encounter was much lower for people who initiated sexual activities before the age of 15 and highest among people who initiated sex later and who were between the ages 20-24 Rahamefy et al. (2008). Younger adolescents have limited knowledge and inadequate information about sexual activities and reproductive health issues. Their access to modern contraception methods is limited and they do not have the capacity needed to negotiate safe sex (Yode & LeGrand, 2012).

Knowledge of reproductive health, perceptions about HIV/AIDS and attitude towards condom use constitute an important prerequisite for behaviour development, especially regarding unprotected sex among adolescents (DiClemente, 2009).
2.4. The Theory of Planned Behaviour and condom use at first sex

The Theory of Planned Behaviour is a framework applied in behavioural research to predict a variety of health behaviours including condom use at first sex behaviours (Kisamore and Stone, 2010; Robinson and Doverspike, 2006). According to this theory, an individual's intention to perform a specific behaviour is the best predictor of that specific behaviour (Blue, Marrero and Black, 2008; Francis et al, 2004). The Theory of Planned Behaviour framework is one of the most widely applied frameworks for predicting intentions to perform specific behaviours and for understanding health behaviours such as condom use at first sex among adolescents (Arden and Armitage, 2008; Bai, Middlestadt, Peng and Fly, 2009; Abraham and Sheeran, 2004; Blue and Marrero, 2006; Bledsoe, 2006).

For the study at hand, this means, non-condom use at first sex risk-taking behaviour may be viewed as problem behaviour as it deviates from the expected behaviour of adolescent and intervention from institutions of authority in a society can either reinforce or eliminate the behaviour. Jessor argued that, non-use of condom behaviour at first sex emerge out of the structure and interaction of three systems, which are, perceived-environment, personality and behaviour system (Milkman et al., 2010).

The first system, the perceived-environmental system consists of variables such as social control, models and social support. The second system the personality system consists of variables such as achievement, motivation, affiliation, alienation, self-esteem and mental health. The third system, the behaviour system consists of variables such as substance abuse, low academic achievement and aggression.

Figure 1 describes the Theory of Planned Behaviour framework. According to the Theory of Planned Behaviour, an individual's intention to perform a particular behaviour is predicted by attitudes, subjective norms, and perceived behavioural control. As shown in the framework, indirect beliefs include behavioural beliefs, normative beliefs, and control beliefs. Ajzen (2011)
argues that these beliefs form the basis of attitude formation, subjective norm, and perceived behavioural control.

**Figure 1: The Theory of Planned Behaviour (Azjen, 2011)**

2.5 Conceptual Framework

The conceptual framework assumes that condom use at first sex among adolescents is influenced by socio-demographic factors, behavioural factors media sexual content exposure and perceptual characteristics. From figure two, socio demographic factors and perception factors is associated with knowledge about condoms, which can influence condom use at first sex.

Behavioural factors and media exposure may affect education through the raising the risk of teenage pregnancy among in school adolescents. The South African policy today allows new mothers to return to school after giving birth also influences unprotected sex at sexual debut among adolescents.
Figure 2: The conceptual framework showing the relationship between socio-demographic characteristics, behavioural factors, perceptual characteristics, media exposure and condom use at first sex among adolescents.

Socio-demographic factors
- Age
- Gender
- Race
- Level of education
- Place of residence

Behavioural factors
- Age at first sex
- Age of sexual partner
- Relationship type
- Alcohol consumption status
- HIV status knowledge

Perceptions factors
- Knowledge of HIV/AIDS related issues
- Perceived HIV risk
- Perceived access to condoms
- HIV/AIDS awareness

Media exposure
- Cell phone access
- Television access

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
This chapter presents the source of data for the study, the study population, data collection, and method of analysis, description of variables, data analysis, ethical consideration and limitations of the study.

3.2. Source of data
The study used data obtained from South African National HIV Prevalence, HIV Incidence, Behavior and Communication Survey data (SABSSM) conducted in 2012 by Human Sciences Research Council (HSRC). The SABSSM 2012 is the fourth in a series of household surveys and it presents data, which was collected through a nationally representative cross-sectional study. The data set which was collected contains information on biographical data, media, communication and norms, knowledge and perceptions of HIV/AIDS, sexual debut, partners and partner characteristics, condoms, vulnerability, HIV testing, alcohol and substance use, health and violence in the community.

Several alcohol-related questions were included in the questionnaire, even though the main aim was not to investigate alcohol use. The objectives of the study were to determine the prevalence and incidence of HIV infection in South Africa in relation to social and behavioral determinants, to investigate the link between social values, and cultural determinants and HIV infection in South Africa, to describe trends in HIV prevalence, HIV incidence, and risk behavior in South Africa over the period 2002 to 2012, collect data on the health conditions of South Africans and contribute to the analysis of the impact of HIV/AIDS on society.
3.3. Sampling design, procedure and size

The sample for the 2012 SABSSM was drawn from the updated 2007-2011 HSRC’s master sampling frame. This is a frame that Statistics South Africa (Stats SA) operates to conduct household surveys throughout South Africa. A multi-stage, stratified cluster sampling design was implemented, and a total of 1000 census enumeration areas randomly selected using probability proportional to size from the database 86 000 enumeration areas (EAs). A Kish method (Kish 1965) was used to randomly select a responding household where all members of the selected household were eligible to participate whereby multiple households existed in a visiting point. In the 2012 SABSSM survey, a total of 42 950 individuals were eligible to participate in the interview and only 38 431 participated, and this resulted a participation rate of 89.5%. Females accounted for (70.3%), males accounted for (64.2%) and the most compliant group (71.6%) was those who were between the ages 15-24 years. In addition, the highest testing response rate was found in rural formal settlements (80.8%) and the least in urban formal areas (59.7%).

The study population consisted of male and female adolescents aged between 15-19 years in South Africa who were interviewed in the 2012 SABSSM. A total of 3315 adolescents completed the questionnaire. Out of this 1041, (503 males and 538 females) were sexually active adolescents.

3.4. Data collection tools and methods

Data from 2012 SABSSM was collected using a structured, interviewer-administered questionnaire. The administered questionnaire which translated into all eleven official South African languages was used by fieldworkers by using Computer Assisted Personal Interviewing (CAPI). Further, at each selected household, face-to-face interviews were conducted with respondents in their home language by trained interviewers matched as far as possible to the socio-demographics of the respondent.

Four types of questionnaires were adapted from questions used in previous surveys and were employed namely household questionnaires, questionnaires for parent/guardian of children aged 0–11 years,
questionnaires for children aged 12–14 years and questionnaires for persons aged 15 years and older. The questionnaire comprises 16 sections which were designed to measure socio-demographic variables exposure to HIV communication programs and various HIV-related outcomes sections.

3.5. Variable description

3.5.1. Dependent variable

The variable of interest in this study is condom use at first sex. In the study, condom use at first sex was selected by asking respondents; did you use a condom the first time you had sex? The response options were ‘yes’, ‘no’, and ‘cannot remember’. For the purpose of this study, the responses were coded into two responses as follows: (no ‘1’; yes ‘2’ and cannot remember ‘0’).

3.5.2. Independent variables

There are four independent variables in this study namely; socio-demographic factors such as age, gender, race, level of education, place of residence. The second variable included Behavioural factors such as: age at sexual debut, age of sexual partner, relation type, HIV status knowledge and alcohol consumption status. The third independent included perceptual characteristics such as perceived HIV risk, perceived access to condoms. The fourth independent variable included media exposure such as cell phone and internet use and television exposure.
Table 1: description of study variables

<table>
<thead>
<tr>
<th>Name</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever had sexual intercourse</td>
<td>1=Yes 2=No</td>
</tr>
<tr>
<td>Gender</td>
<td>1= Male 2 = Female</td>
</tr>
<tr>
<td>Race</td>
<td>1= Black 2= White 3= Coloured 4= Indian/Asian</td>
</tr>
<tr>
<td>Place of residence</td>
<td>1=Urban 2= Rural</td>
</tr>
<tr>
<td>Educational level</td>
<td>1= Grade 0-7 2 = Grade 8-11 3 = Grade 12</td>
</tr>
<tr>
<td>Age at first sex</td>
<td>1= Early (&lt;15yrs) 2= Late (≥15yrs)</td>
</tr>
<tr>
<td>Condom use at first sex status</td>
<td>1=yes 2=No</td>
</tr>
<tr>
<td>Perceived HIV risk</td>
<td>1= I am definitely going to get infected with HIV 2= I am probably going to get infected 3=I probably won't get infected 4=I will definitely not get infected with HIV</td>
</tr>
<tr>
<td>Alcohol consumption status</td>
<td>1= No 2= Yes</td>
</tr>
<tr>
<td>HIV status knowledge</td>
<td>1=Yes 2=No</td>
</tr>
<tr>
<td>Perceived access to condoms</td>
<td>1= Easy 2=Not easy</td>
</tr>
<tr>
<td>Access to television</td>
<td>1= Never 2= once a week</td>
</tr>
<tr>
<td>Access to magazines</td>
<td>3= 2-6 days a week</td>
</tr>
<tr>
<td>Access to internet</td>
<td>4= Every day of the week</td>
</tr>
<tr>
<td>Access to a cell phone</td>
<td></td>
</tr>
</tbody>
</table>

3.6. Data analysis

3.6.1. Univariate analysis

SPSS version 25 was used for the analysis. Univariate, bivariate and multivariate analytical methods were performed in this study. Univariate analysis was carried out to examine the description of all responses and summarize the characteristic of the respondents. Descriptive analysis was carried out for the purpose of giving a brief summary of the data as well as to
provide descriptive frequency characteristics of each variable considered in
the study (Cooper and Weekes, 1983). Therefore, at univariate analysis, in
order to describe and summarise the characteristics of respondents by using
frequency distributions of adolescents engaging in unprotected sexual activity
at first sex, socio demographic factors descriptive statistics were used to
present the findings.

3.6.2 Bivariate analysis

To examine the relationship between the dependent variables (condom
use at first sex) and the independent variable in the study, bivariate
analysis was done. The Pearson Chi square test statistics was used to
test the relationship between condom use at first sex and related predictor
variables such age, gender and race, family characteristics, media
information and knowledge of STI etc. of adolescents among others and
explore all the significant associations.

The equation used for the Pearson Chi-square test is shown below:

\[ x^2 = \sum_{i=1}^{i} \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \]

Associations was determined at a confidence interval of 95% and a
significance level of 5%. All variables which produced a p value of less than
0.05 in the chi-square test were deemed to have a significant relationship with
condom use at first sex. The nature of the relationship between the variables
was assessed to determine whether the dependent variable is associated with
the independent variables.
3.6.3. Multivariate analysis

In evaluating and examining how outcome variables are affected by predictor variables, multivariate analytical method was applied using binary logistic regression. Binary logistic regression was used at multivariate level to evaluate the impacts of independent variables that influence the dependent variable. The evaluation was done to show how the independent variables; socio-demographic factors, media, behavioural factors and perceptions regarding HIV and related issues influences the dependent variable (condom use at first sex) in the current study.

The logistic regression equation used in testing the model is shown below:

\[ y = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_n X_{ni} + \epsilon_i \]

\[ y = \log_e \frac{P_i}{1-P_i} \]

For this study, the odds ratio is the likelihood of adolescents engaging in sexual intercourse without using a condom at first sex. From this when the odds ratio is positive there is more chances of adolescents to not use a condom during sexual intercourse at first sex and there are more chances of adolescents to contract sexually transmitted diseases and contracting HIV/AIDS. Therefore, the odds ratio in this study are used as a means of identifying, interpreting and understanding predictor variables that motivates adolescents to engage in unprotected sex at sexual debut.

3.7. Limitation of the study

Given the sensitivity of the study that was taken some of the respondents did not provide information where needed because of memory loss, and regarding sexual activity and condom use at first sex both the male and female adolescents have not provide some of the information required because the
challenge is that for researchers when dealing with HIV and STIs self-reports on sexual behavior is subject to bias due to the highly sensitive nature of the topic, and could vary widely among men and women, between regions, and also between urban and rural areas. Some biases in self-reports stem from gender expectations. Most studies have found that women report only one or two lifetime partners and thus might tend to underreport while men tend to exaggerate the number of sexual partners as a way to depict virility and thus conform to accepted traditional male gender norms (Sorrell & Rafaelli, 2005).

Based on the cross sectional nature of the data set used in this study and its social desirable biases possible limitations of the study could arise such as questions of the sexual nature of adolescents which asks the adolescents if whether during sexual intercourse they have had used a condom or not and their responses from the data could have been affected by recall bias. Moreover, this implies that questions based on the sexual debut of adolescents’ recall bias could have been introduced. In addition, recall bias regarding alcohol use and engaging in sexual practices was somehow to an extent presented. The limitations of the study were presented in that even though adjustments were made for a number of potential confounders through inclusion of a range of socio-demographic and other measures in the model such as behavioural factors of adolescents such as peer influence and parental communication and guidance and also through media exposure and knowledge of HIV/AIDS and the behaviour and beliefs of adolescents. Furthermore, to better understand the reasons why adolescents engage in risky alcohol use and risky sexual behaviour a more comprehensive report could be produced if reasons for those questions could be all-inclusive and complete.
CHAPTER FOUR
ANALYSIS AND FINDINGS

4.1 Introduction
The chapter presents findings of the study. The chapter is divided into three parts. The first part describes relevant background characteristics of 503 male and 538 female adolescents who indicated that they have ever had sexual intercourse and who were interviewed in the South African National HIV Prevalence, HIV Incidence, Behavior and Communication Survey (SABSSM 2012). The second part examines the relationship between the dependent variable (condom use at first sex) and the independent variables in the study using cross tabulations and chi square test. These would be explored using bivariate analysis. In the last part, multivariate analytical method was applied using binary logistic regression in evaluating and examining how outcome variables are affected by predictor variables.

4.2. Socio-demographic characteristics of adolescents
The knowledge of socio-demographic characteristics of adolescents facilitates the interpretation of findings in this study. The background characteristics of adolescents in the study have been examined in terms of age, gender, and racial group, level of education and place of residence.

Age
Table 2 shows the distribution of male and female adolescents age 15-19 who were interviewed in the SABSSM 2012. According to the table, there were slightly more females 52.2% than males 47.8% who participated in the study.
The majority of sexually active adolescents were between ages 18-19 years. Figure 3 shows that only three in ten adolescents had had sexual intercourse with 33.2% of male and 33.1% of female adolescents reporting the incidence. More than six out of ten male and female adolescents had never had sexual intercourse.

Table 2: Percent distribution of adolescents who have had sex by selected socio-demographic variables.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>No of adolescents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>62</td>
<td>5.5</td>
</tr>
<tr>
<td>16</td>
<td>126</td>
<td>11.2</td>
</tr>
<tr>
<td>17</td>
<td>193</td>
<td>17.1</td>
</tr>
<tr>
<td>18</td>
<td>375</td>
<td>33.2</td>
</tr>
<tr>
<td>19</td>
<td>374</td>
<td>33.1</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>540</td>
<td>47.8</td>
</tr>
<tr>
<td>Female</td>
<td>590</td>
<td>52.2</td>
</tr>
<tr>
<td><strong>Racial group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>856</td>
<td>75.8</td>
</tr>
<tr>
<td>White</td>
<td>52</td>
<td>4.6</td>
</tr>
<tr>
<td>Coloured</td>
<td>186</td>
<td>16.5</td>
</tr>
<tr>
<td>Indian/Asian</td>
<td>36</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Level of education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 0-7</td>
<td>127</td>
<td>11.2</td>
</tr>
<tr>
<td>Grade 8-11</td>
<td>811</td>
<td>71.8</td>
</tr>
<tr>
<td>Grade12</td>
<td>192</td>
<td>17.0</td>
</tr>
<tr>
<td><strong>Place of residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban formal</td>
<td>554</td>
<td>49.0</td>
</tr>
<tr>
<td>Urban informal</td>
<td>155</td>
<td>13.7</td>
</tr>
<tr>
<td>Rural informal</td>
<td>352</td>
<td>31.2</td>
</tr>
<tr>
<td>Rural formal</td>
<td>69</td>
<td>6.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1130</td>
<td>100</td>
</tr>
</tbody>
</table>
Racial group

Above 70% of black adolescents indicated that they have had sex as compared to only about 3.2% of Indian/Asian adolescents who reported to have had sex.

Level of education

The largest proportion of adolescents in the survey were in grade 8 to 11, followed by those in grades 0-7 and the least group are those in grade 12. Majority 71.8% of adolescents who reported to have ever had sex were in grades 8-11 as compared to 11.2% of those in grades 0-7.

Place of residence

Table 2 indicates that 62.7% of adolescents were residing in urban areas and 37.3% of adolescents were residing in rural areas. The findings suggest that most participants who reported to have ever engage in sexual intercourse came from urban areas.
4.3. Factors associated with condom use at first sex

4.3.1. Association between condom use at first sex and socio-demographic factors

Table 3 shows the association between socio-demographic characteristics and condom use at first sex, findings from the table indicates that age, gender, racial group were not statistically significant with condom use at first sex with (p<0.05).

Table 3: Percentage distribution of adolescents by Socio- Demographic variables.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Condom use status at first sex</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Yes %</td>
<td>No %</td>
<td>Chi-square</td>
<td>P-value</td>
</tr>
<tr>
<td>Age</td>
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</tr>
<tr>
<td>15</td>
<td>59</td>
<td>64.4</td>
<td>35.6</td>
<td>4.301</td>
<td>0.367</td>
</tr>
<tr>
<td>16</td>
<td>118</td>
<td>77.1</td>
<td>22.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>187</td>
<td>71.7</td>
<td>28.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>341</td>
<td>68.6</td>
<td>31.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>343</td>
<td>71.1</td>
<td>28.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex of respondent</td>
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</tr>
<tr>
<td>Male</td>
<td>505</td>
<td>71.1</td>
<td>28.9</td>
<td>0.069</td>
<td>0.793</td>
</tr>
<tr>
<td>Female</td>
<td>543</td>
<td>70.3</td>
<td>29.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Racial group</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>803</td>
<td>69.0</td>
<td>31.0</td>
<td>7.833</td>
<td>0.050</td>
</tr>
<tr>
<td>white</td>
<td>43</td>
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<td></td>
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<tr>
<td>Coloured</td>
<td>167</td>
<td>74.3</td>
<td>25.7</td>
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<td></td>
</tr>
<tr>
<td>Indian/Asian</td>
<td>35</td>
<td>70.7</td>
<td>29.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 0-7</td>
<td>120</td>
<td>60.0</td>
<td>40.0</td>
<td>14.488</td>
<td>0.001</td>
</tr>
<tr>
<td>Grade 8-11</td>
<td>751</td>
<td>70.2</td>
<td>29.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 12</td>
<td>177</td>
<td>80.2</td>
<td>19.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Place of residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban formal</td>
<td>518</td>
<td>77.2</td>
<td>22.8</td>
<td>25.113</td>
<td>0.000</td>
</tr>
<tr>
<td>Urban informal</td>
<td>146</td>
<td>63.7</td>
<td>36.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural informal</td>
<td>326</td>
<td>66.6</td>
<td>33.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural formal</td>
<td>58</td>
<td>53.4</td>
<td>46.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The table shows that majority 35.6% of adolescents aged 15 years indicated that they have had sex did not use a condom at first sex. The results indicate that more blacks 31% followed by Indians/Asians 29.3% and whites and coloureds with about 25% reported not having used a condom at sexual debut.

Differentials by level of education show that there was a statistical significance \( p \leq 0.001 < 0.05 \) among adolescents, with majority 40% of those in grades 0-7 followed by 29.8% of those in grade 8-11 were those less likely to have used a condom at first sex. Additionally, more 80% of adolescents in rural areas did not use condoms at sexual debut as compared to 59.1% of adolescents in urban areas.

4.3.2. Association between condom use at first sex and media sexual content exposure

The results from table 4 indicates that there is a strong significant association \( p< 0.05 \) between media and condom use at first sex. Media through which adolescents have access to sexual content such as televisions, magazines, cell phones and the internet. The findings show that majority of adolescents who reported that they did not have access to TV’s 42.1%, to magazines 32.8%, cell phones 34.2% and the internet 38.1% reported that they did not use a condom at first sex.
Table 4: Percentage distribution of adolescents by condom use status at first sex and media.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Condom use status at first sex</th>
<th></th>
<th></th>
<th>Chi-square</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watches television</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>148</td>
<td>58.8</td>
<td>41.2</td>
<td>13.244</td>
<td>0.004</td>
</tr>
<tr>
<td>Once a week</td>
<td>77</td>
<td>72.7</td>
<td>27.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-6 days a week</td>
<td>166</td>
<td>69.9</td>
<td>30.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every day of the week</td>
<td>762</td>
<td>73.5</td>
<td>26.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reads magazines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>357</td>
<td>67.2</td>
<td>32.8</td>
<td>8.925</td>
<td>0.030</td>
</tr>
<tr>
<td>Once a week</td>
<td>430</td>
<td>69.5</td>
<td>30.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-6 days a week</td>
<td>268</td>
<td>75.4</td>
<td>24.6</td>
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</tr>
<tr>
<td>Every day of the week</td>
<td>98</td>
<td>79.6</td>
<td>20.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses the internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>667</td>
<td>65.8</td>
<td>34.2</td>
<td>23.469</td>
<td>0.000</td>
</tr>
<tr>
<td>Once a week</td>
<td>120</td>
<td>72.5</td>
<td>27.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-6 days a week</td>
<td>106</td>
<td>79.2</td>
<td>20.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every day of the week</td>
<td>260</td>
<td>80.4</td>
<td>19.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses cell phones</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>139</td>
<td>61.9</td>
<td>38.1</td>
<td>9.586</td>
<td>0.022</td>
</tr>
<tr>
<td>Once a week</td>
<td>10</td>
<td>70.0</td>
<td>30.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-6 days a week</td>
<td>55</td>
<td>61.8</td>
<td>38.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every day of the week</td>
<td>949</td>
<td>72.9</td>
<td>27.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.3.3. Association between condom use at first sex and behavioral factors

Table 5 shows that there is a strong association (p<0.005) between condom use at first sex among adolescents and behavioral factors such as adolescents age at first sexual debut, the age of the sexual partner that the adolescent had first sexual experience with, the kind of relationship between the adolescent and the sexual partner and alcohol use.
Table 5: Percentage distribution of adolescents by condom use status at first sex and behaviour factors.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Condom use status at first sex</th>
<th></th>
<th></th>
<th>Chi-square</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Yes %</td>
<td>No %</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age at sexual debut</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early (&lt;15yrs)</td>
<td>127</td>
<td>55.6</td>
<td>44.4</td>
<td></td>
<td>30.829</td>
</tr>
<tr>
<td>Late (≥15yrs)</td>
<td>681</td>
<td>79.0</td>
<td>21.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age of sexual partner</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early (&lt;20yrs)</td>
<td>461</td>
<td>72.8</td>
<td>27.2</td>
<td></td>
<td>38.447</td>
</tr>
<tr>
<td>Late (≥20yrs)</td>
<td>347</td>
<td>64.5</td>
<td>35.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live –in partner</td>
<td>43</td>
<td>58.1</td>
<td>41.9</td>
<td></td>
<td>5.837</td>
</tr>
<tr>
<td>Girlfriend/boyfriend</td>
<td>765</td>
<td>74.8</td>
<td>25.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alcohol consumption status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever consumed alcohol</td>
<td>409</td>
<td>79.2</td>
<td>20.8</td>
<td></td>
<td>12.202</td>
</tr>
<tr>
<td>Never consumed alcohol</td>
<td>399</td>
<td>68.4</td>
<td>31.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>808</td>
<td>73.9%</td>
<td>26.1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4 shows that the proportion of female adolescents who had had sex starts increasing at age 13 and peaks at the age of 16 years old and declines afterwards. For male adolescents the proportion of those who had had sex starts increasing from the age of 11 and peaks at the age of 16 and declines afterwards. The graph depicts that high proportion of male adolescents at a young age engage in sex and there is a decline among older male adolescents.
4.3.4. Association between condom use at first sex and perceptual factors

Majority 27.3% of adolescents who indicated that definitely not get infected with HIV and 23.0% of those who indicated that they will probably won’t get infected were at a risk of getting infected with sexual infections ($p \leq 0.007 < 0.05$). Additionally, most adolescents 25.9% who indicated that they knew their HIV status did not use a condom at first sex.
Table 6: Percentage distribution of adolescents by condom use status at first sex and perceptual factors

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Condom use status at first sex</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Yes</td>
<td>No</td>
<td>Chi-square</td>
<td>p-value</td>
</tr>
<tr>
<td>Perceived HIV risk (How you rate yourself in terms of risk of becoming infected with HIV?)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am definitely going to get infected with HIV</td>
<td>177</td>
<td>89.8</td>
<td>10.2</td>
<td>12.100</td>
<td>0.007</td>
</tr>
<tr>
<td>I am probably going to get infected</td>
<td>233</td>
<td>90.1</td>
<td>9.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I probably won’t get infected</td>
<td>74</td>
<td>77.0</td>
<td>23.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I will definitely not get infected with HIV</td>
<td>11</td>
<td>72.7</td>
<td>27.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV status knowledge</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Yes</td>
<td>468</td>
<td>74.1</td>
<td>25.9</td>
<td>4.891</td>
<td>0.027</td>
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<tr>
<td>No</td>
<td>27</td>
<td>88.5</td>
<td>11.5</td>
<td></td>
<td></td>
</tr>
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<td>Perceived access to condoms</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Easy</td>
<td>479</td>
<td>87.7</td>
<td>12.3</td>
<td>0.000</td>
<td>0.983</td>
</tr>
<tr>
<td>Not easy</td>
<td>16</td>
<td>87.5</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4. Predictors of condom use at first sex

4.4.1. Socio-demographic factors predicting condom use at first sex

This section looks at correlates of condom use status at first sex among South African adolescents. Binary logistic regression was used to determine factors affecting the use of condoms at first sex among adolescents in South Africa. From the bivariate analysis the results indicated that socio-demographic factors which includes (racial group, level of education and place of residence) were found to be significantly associated with condom use at first sex among adolescents and were included in multivariate analysis.

The results in Table 7 show that level of education was significantly associated with condom use at first sex (OR-2.151, p<0.05) with majority of adolescents in grades 0-7 were more likely to have not used a condom at first sex. The table depicts that adolescents in lower grades are at risk of practicing unsafe sex at sexual debut as compared to those in a higher grade.
Table 7: Binary logistic regression analysis of the determinants of adolescents condom use status at first sex

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Odds ratio</th>
<th>95% C.I.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LB</td>
</tr>
<tr>
<td><strong>Racial group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>2.125</td>
<td>0.723</td>
</tr>
<tr>
<td>white</td>
<td>2.163</td>
<td>0.614</td>
</tr>
<tr>
<td>Coloured @</td>
<td>2.153</td>
<td>0.713</td>
</tr>
<tr>
<td>Indian/ Asian</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level of education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 0 -7</td>
<td>2.151</td>
<td>1.259</td>
</tr>
<tr>
<td>Grade 8 -11</td>
<td>1.534</td>
<td>1.018</td>
</tr>
<tr>
<td>Grade 12 @</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Place of residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban informal</td>
<td>0.391</td>
<td>0.222</td>
</tr>
<tr>
<td>Urban formal</td>
<td>0.694</td>
<td>0.369</td>
</tr>
<tr>
<td>Rural informal</td>
<td>0.599</td>
<td>0.335</td>
</tr>
<tr>
<td>Rural formal @</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Access to television</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1.593</td>
<td>1.089</td>
</tr>
<tr>
<td>Once a week</td>
<td>0.897</td>
<td>0.523</td>
</tr>
<tr>
<td>2-6 days a week</td>
<td>1.133</td>
<td>0.778</td>
</tr>
<tr>
<td>Every day of the week @</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Access to magazines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1.411</td>
<td>0.804</td>
</tr>
<tr>
<td>Once a week</td>
<td>1.495</td>
<td>0.868</td>
</tr>
<tr>
<td>2-6 days a week</td>
<td>1.126</td>
<td>0.632</td>
</tr>
<tr>
<td>Every day of the week @</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Access to internet</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1.821</td>
<td>1.265</td>
</tr>
<tr>
<td>Once a week</td>
<td>1.515</td>
<td>0.910</td>
</tr>
<tr>
<td>2-6 days a week</td>
<td>1.063</td>
<td>0.603</td>
</tr>
<tr>
<td>Every day of the week @</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Access to cell phones</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>1.272</td>
<td>0.860</td>
</tr>
<tr>
<td>Once a week</td>
<td>1.191</td>
<td>0.301</td>
</tr>
<tr>
<td>2-6 days a week</td>
<td>1.327</td>
<td>0.743</td>
</tr>
<tr>
<td>Every day of the week @</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 7 continued

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Odds ratio</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age at sexual debut</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early (&lt;15yrs)</td>
<td>0.746</td>
<td>0.671</td>
</tr>
<tr>
<td>Late (≥15yrs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age of sexual partner</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early (&lt;20yrs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Late (≥20yrs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live – in partner</td>
<td>0.641</td>
<td>0.322</td>
</tr>
<tr>
<td>Girlfriend/boyfriend ®</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alcohol consumption status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever consumed alcohol</td>
<td>1.824</td>
<td>1.312</td>
</tr>
<tr>
<td>Never consumed alcohol ®</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceived HIV risk</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(How you rate yourself in terms of risk of becoming infected with HIV?)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am definitely going to get infected with HIV</td>
<td>0.423</td>
<td>0.095</td>
</tr>
<tr>
<td>I am probably going to get infected</td>
<td>0.389</td>
<td>0.091</td>
</tr>
<tr>
<td>I probably won’t get infected</td>
<td>1.081</td>
<td>0.240</td>
</tr>
<tr>
<td>I will definitely not get infected with HIV ®</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HIV status knowledge</strong></td>
<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>0.750</td>
<td>0.139</td>
</tr>
<tr>
<td>No ®</td>
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RC= reference category; OR= Odds ratio; = 0.05

#### 4.4.2. Media sexual content predicting condom use at first sex

Table 7 indicates that sexual media content through televisions and through the internet influences the decision among adolescents if whether to use a condom or not. The findings show that adolescents who indicated that they never watch televisions were 1.593 more likely to have engaged in unprotected sex at first. Further 1.821 of adolescents who indicated that they
had no access to internet were more likely to have had unprotected sex at sexual debut and at risk of contracting sexual infections.

4.4.3. Behavioural factors predicting condom use at first sex

Contrary to many studies, Table 7 indicates that age at first sexual intercourse is a significant factor predicting condom use at first sex. The table shows a strong significance between condom use at first sex among adolescents and the age of adolescents sexual partners (OR=1.060; CI= 1.013-1.110). The findings reveal that adolescents who had first sexual intercourse with partners within their age groups (younger sexual partners) were more likely to have not used a condom at sexual debut.

Table 7 show that the adolescents who reported that they had an alcoholic drink prior to engaging in sexual activity for the first time were (OR=1.824, CI: 1.312-2.535) significantly more likely to have not used a condom at first sexual debut. The logistic regression result revealed that alcohol consumption is a significant predictor (p< 0.05) of not having used a condom at sexual debut among South African adolescents.

4.4.4. Perceptual factors predicting condom use at first sex

Table 7 indicates that adolescent’s perception regarding HIV risk and knowledge of their HIV status were found not to predict condom use status of adolescents

4.5. Summary

The chapter examined the factors that were significantly associated with condom use and first sex among adolescents. The study revealed that socio-demographic factors that were significantly associated with condom use at first sex were racial group, level of education and place of residence. Table 7 further indicates that all forms of media mediates adolescents’ decision whether to use a condom or not. Behavioral factors such as age at sexual
debut, age of sexual partner, relationship type and alcohol consumption status were significantly associated with condom use at first sex.

Ultimately, the factors that were found as predictors of condom use at first sex in the current study were level of education, access to television and internet, age of sexual partner and alcohol consumption status.
CHAPTER FIVE
SUMMARY OF MAIN FINDINGS, CONCLUSIONS AND
RECOMMENDATIONS

5.1 Introduction
The last chapter presents the conclusions on condom use status at first sex among South African adolescents. The main objective of the study was to find which factors predispose adolescents to unprotected sex at sexual debut. Factors of interest were socio-demographic factors, behavioural factors, media and perceptual factors.

5.2. Summary of main findings
In this section the summary of the main findings of this study are presented, and they have been arranged according to the outcomes of the results in the previous chapter in relation to the hypothesis of the study. And the predictors of condom use at first sex were identified, and how condom use at first sex was influenced by socio-demographic factors, media, behavioural factors and perceptual factors.

The study sought to establish the determinants of condom use at first sex among adolescents in South Africa. The data drawn from the South African National HIV Prevalence, HIV Incidence, Behavior and Communication Survey was used to achieve this objective. Several factors have been found in the literature to be linked condom use status at first sex among adolescents. These include age, exposure to mass media, education and living conditions.

The results revealed non-use of a condom at first sex was high 31.0% among black adolescents. Sexual initiation at a young age is more likely to expose adolescents to the possibility of sexually transmitted diseases. The study found a strong significant association between age at sexual debut and condom use. Age had an influence in non-use of a condom of adolescents and the bivariate analysis results indicate that majority of younger adolescents aged 15 years old did not use a condom at first sex.
Findings of the study, indicates that 35.6% of adolescents who were 15 years old indicated that at first sex they did not use a condom. The results also show that adolescents’ racial group had a significant impact in adolescents’ non-use of a condom at first sex with majority 31.0% of black adolescents who indicated non-use of a condom at first sex.

The place of residence (urban or rural area) is a significant predictor of use of condoms at first sex, with those in urban areas being more likely to use condoms than those in rural areas. This indicate that adolescents who are most likely to take sexual risks live in communities that endure extreme poverty, elevated unemployment rates and low educational levels. These are all characteristics of rural and slum settings.

The probability of using condoms increased with years of schooling. Adolescents who achieved a secondary school were three times more likely to use condoms at first sex as compared to those in lower grades or without any education. The study also shows that majority 40.0% of adolescents in grades 0-7 indicated that at first sex they did not use a condom.

About 44.4% of adolescents who engaged in early sexual practice below the age of 15 never used a condom. Alcohol use has been identified as a potentially risky practice for the contraction and transmission of HIV and is associated with behaviours that place adolescents at high risk of contracting STI’s (sexually transmitted infections) including HIV. Furthermore, in relation to alcohol use, the study revealed that there was a strong association between alcohol use and condom use at first sex with 20.4% of female adolescents indicating that at first sex they did not use a condom.

Among adolescents who indicated that they have had sexual intercourse, the study found that racial group, level of education, place of residence, media exposure and perceptual factors were found to have significant impact on the condom use at first sex. Non-use of condoms was much higher among black
adolescents; the findings also revealed that adolescents from rural areas were less likely to use condoms at first sex as compared to those in urban areas.

Sexual initiation at a young age is more likely to expose adolescents to unprotected sex and the possibility of sexually transmitted diseases. The study found a strong significant association between age at sexual debut and condom use at first sex among adolescents. The youngest adolescents have limited knowledge and inadequate information about sexual activities and reproductive health issues. Their access to modern contraception methods is limited and they do not have the capacity needed to negotiate safe sex. Age at sexual debut, place of residence, media exposure and alcohol use were found to have significant impact on the condom use status at first sex. The study revealed that adolescents from urban areas were more likely to have used a condom at first sex and that those who did not watch television as often did not use a condom at first sex.

Further, this study found that adolescents who frequently used alcohol were less likely to use condoms during sex with about 20.8% of adolescents who indicating that they used alcohol before first sexual contact had unprotected sex, as compared to 31.6% of adolescents who indicated that they did not consume alcohol before sex and had unprotected sex at sexual debut. While the multivariate analysis found that adolescents who reported to have had an alcoholic drink(s) before sexual contact were 2.241 more likely to have not used a condom at sexual debut.

5.3. Discussion of results

The purpose of the study is to determine factors influencing condom use at first sex among South African adolescents. And in order to properly address the study aims and objectives, both the univariate, bivariate and multivariate analytical methods were employed, and the discussion will be purely based on the objectives of the study.
In relation to the hypotheses of this study, the following was identified as a predictor of condom use at first sex among others which includes level of education; age of sexual partner and alcohol consumption status. The study found that adolescents who did not have access to media are less likely to use a condom and this is in contrast with the hypothesis of the study, which stated that adolescents who are exposed to sexual content through media (TV’s and the internet) are less likely to use a condom.

Oboro and Tabowei (2003) study found that condom use at first sex, particularly among adolescents, is presumed to be influenced by good knowledge of HIV/AIDS and reproductive health issues. The current findings of the study found that adolescents who do not have access to TV’s and cellphones were more likely to engage in unprotected sex at sexual debut. Despite the portrayal, that media exposure has been viewed as one of the variables that exposes adolescents to early sexual practices. This is inconsistent with existing literature where it shows that young people’s practices about sex was from the media (through pornography).

On the other hand, many observers have raised questions about whether one important source of the risk sexual behaviours among young people could be adolescents escalating exposure to electronic media (Collins et al., 2004). And findings from the study relays that ignorance is the most common factor contributing lack of condom use at first sex, Nicholson (1999), because people may not know about existence of STIs, may have not have information on how to prevent them, may not know how to recognize the symptoms or seek help or treatment, Nicholson (1999). The reason to a reduced risk of engaging in unprotected sex among adolescents who have access to media is that programs inform them about the dangers of HIV and related sexual issues.

5.3.1. Level of education

The study established that level of education was significantly associated with condom use at first sex. Findings from this study show that the probability of
using condom at first sex among adolescents increased with years of schooling. This is consistent with findings from other studies (Maluleke, 2010; Lagarde et al.’s 2001; McGrath et al., 2009; Guiella & Madise, 2007).

Education is believed as to be the key to transforming adolescents’ behaviours and mentality (Jackson, et al, 2012). In that, skills adolescents acquire in school are more likely to lead them to a healthier adult life. Education, for example is believed to increase the ability to avoid engagement in unprotected sex at sexual debut, thereby decrease mortality, the risk of contracting HIV/AIDS and sexually transmitted infections, giving adolescents a sense of confidence, authority and self-control, knowledge (Baker, Collins, & Leon, 2008; Uchudi, et al., 2012). These findings are consistent with the current study, in that the study determined that education increases the odds of condoms use at first sex among adolescents.

Beksinska et al. (2012) argues that education plays a vital role in the use of condoms among adolescents. Findings from the study show that the probability of using condoms at first sex among adolescents increased with years of schooling. Adolescents who achieved a secondary school and higher education were three times more likely to use condoms compared to those without any education (Guiella & Madise, 2007). The study found that majority 40% of adolescents in lower grades did not use a condom at first sex, as compared to 80.2% of those who were in the higher grades.

Findings from this study are consistent with a study conducted in Limpopo, South Africa among adolescents which found that receiving some educational life orientation skills had no effect on condom use compared to those who did not receive educational and life orientation skills (Maluleke, 2010).

To add to this Lagarde et al.’s (2001) study on condom use in four sub-Saharan African cities found that with higher education levels, there was a significant increase in condom use among both males and females in all of the four cities.
To sum this up, adolescents with a higher level of education are more likely to make informed decisions regarding their sexual behaviour and are able to negotiate safer sex, than young people with a lower level of education are.

(McGrath et al., 2009) found that school attendance was significantly associated with later sexual debut among adolescents. And Kaufman et al. (2004) suggested that schools have ample latitude to promote the knowledge, understanding, and skills to enable young people to make responsible decisions about using condoms at first sex. Further, Guiella & Madise (2007) found the probability of using condoms increased with years of schooling. This study is in agreement with findings from the current study, which indicates that adolescents who are in higher grades delay sex and more likely to use condoms at first sex, they make better-informed decisions because they are slightly more knowledgeable than those in lower grades are.

To sum this up, high levels of education may have a strong link to positive sexual outcomes, in that well-informed adolescents will be likely to make good and responsible decisions to use condoms at first sex.

5.3.2. Access to media

Healthy and protected sex at first sex particularly among adolescents, is influenced by good knowledge of HIV/AIDS and reproductive health issues, the current findings of the study found that adolescents who do not have access to TV’s, who do not read magazines, who do not have access to magazines and cell phones were more likely to engage in unprotected sex at sexual debut. Young people’s practices about sex was from media (through pornography).

Findings from the study relay that ignorance is the most common factor contributing to lack of condom use at first sex, because adolescents may not know existence of STIs and may not have information on how to prevent them.
The reason to a reduced risk of engaging in unprotected sex among adolescents who have access to media is that programs inform them about the dangers of HIV and related sexual issues.

According to research finding, adolescents spend approximately 6 to 7 hours per day with some form of media, including television, movies, radio, computers and the Internet (Escobar-Chavez, et al. 2005; Roberts and Foehr, 2004). Modern television contents provide sexual scenes and verbal scripts that tend to aid adolescents’ learning about sex and sex-related practices including dating, intimacy, relationships, condom use and refusal (Brown and Strasburg, 2007). Contrary, the study found that majority of adolescents who did not have access to TV’s 42.1% and no access to the internet 38.1% did not use a condom at first sex. This indicates that programs containing sexual contents and related issues that have been aired through media have a positive impact and influences adolescents to use condoms at first sex, because they have seen the negative outcomes of unprotected sex at sexual debut such as teenage pregnancy, school dropout contraction of HIV/AIDS and related sex issues and ultimately mortality.

Mwale (2008) argues that messages carried by television may have an opposite effect than the actual intention. The study has contradictory findings, in that most adolescents who had no access to media were less likely to use a condom at first sex as compared to those that were exposed to sexual content through television programs and pornography through internet sources, Pornography has become readily accessible in most rural areas.

As noted by Maluleke’s (2007) study in Limpopo, TV programmes which expose the body and sexual activities tend to be destructive to a young developing adolescent’s mind. They may even exert a great influence on adolescents’ sexual experiences.

Additionally, in a study by L’engle, Brown and Kenneavy (2006), the researchers found that adolescents report more sexual activity and greater intentions to engage in sex when they have been exposed to sexualized
content through the media, be it television or the internet. This is different from the current study. Also, this study is different from the one conducted in Limpopo by Free Essays (2006), which indicated that some of the TV programmes could be used to promote young people’s healthy sexual behaviour, depending on the type of standards and norms of that particular programme. Indulgence in pornography could induce irresistible sexual feelings that encourage carrying out rape amongst the weaker individuals, and other forms of sexual violence such as touching one’s private parts and kissing someone without consent.

Berry et al (2008) described specifically television as a sexual super peer that influences the sexual decision-making of adolescents. This description is supported by Jordan, Strausburger and Wilson (2009) who argued on the lines by spending so much time watching television, adolescents sometimes attempt to mirror the acts they see and try to find their own sense of personality or individuality in that line. In a study by L'engle, Brown and Kenneavy (2006), the researchers found that adolescents report more sexual activity and greater intentions to engage in sex when they have been exposed to sexualized content through the media, be it television, internet or magazines.

Contrary to the current study, recent literature links lack of condom use among adolescents to the mass media. Particularly, television exposure. Brown and L'Engle (2009) and Kim and Ward (2004) among others, have deliberated expansively on the effect of sexual content available on the Internet, music videos, and other media sources on adolescent sexual health. Of particular importance to the study is the effect of sexually explicit media content exposure to adolescent sexual health.

To sum this up, being exposed to images depicting sexual content in the media may have a strong link to positive sexual outcomes, as compared to not being exposed to sexual media content, an assertion that is also investigated in the current study.
5.3.3. Age of sexual partner

Adolescent’s nature of the relationship was found to be significantly associated with condom use at first sex among adolescents. Adolescent relationships with older partners are considered risky because older partners often have a history of multiple relationships and sexual negotiation is diminished and an exchange of sex for money and gifts (transactional sex) often occurs (Frank, Esterhuizen, Jinabhai, Sullivan & Taylor, 2008). With recent findings from the South African National HIV Survey (2008) suggest that there has been an increase in younger females aged 15 to19 years who have older sexual partners as compared to the 2005 survey (Shisana et al., 2008). The study also indicated that 35.3% adolescents reported to have had sexual relations with older partners and that they did not use a condom at first sex.

Morojele, Brook and Kachienga’s (2006) study in KwaZulu-Natal noted that the age gap between an adolescent and older man hinders the chance of negotiating condom use, a problem that heightens the risk to HIV infection. The financial benefits associated with a relationship renders girls powerless to negotiate when or when not to have sex, and leads them to engage in unwanted sexual activities for fear of rejection by their partners, and to please them all the time (Morojele, Brook & Kachienga, 2006).

In instances were young females are involved with older men and where these women gain an economic benefit from the relationship, women do not have much say in the relationship, including condom negotiation (Hallman, 2004). Sexual power dynamics prevent communication to take place. Women with low negotiating power in the relationship are 12 times more likely not to use condoms (Pettifor et al., 2004). This does not agree with the current study; evidence suggests that adolescents engaging in sexual activity with sexual partners within their age groups are 1.060 more likely to have not used a condom at sexual debut.
The current study shows that adolescents engaging in sex with older sexual partners are somehow dependent on them, whether it be for monetary gain, emotional support or any other reason be known to them, and this in turn makes adolescents vulnerable to HIV/AIDS and related issues since they are not able to negotiate safe sex. This is supported by the national longitudinal study of adolescent health in London, showed that adolescents with a sexual partner who is older by more than two years are less likely to use condoms (Voydanoff & Donella, 2000). Additionally, the findings from this study are sustained by findings from Gould and Fick (2008), who in their study found that females aged 13 or younger who engage in sex with men four years older are more likely to have had sex than those who were with a partner of the same age or younger. Females who become involved with older partners are less likely to engage in voluntary sex or use contraceptives, and more likely to become pregnant than young adolescents of the same age (Marin et al., 2006).

To sum this up, age at first sex and age of sexual partner at first sex determines condom use status among adolescents. Age plays a vital role in that sexual power dynamics, and that the age gap between the adolescents and their sexual partners makes it difficult for adolescents to negotiate safe sex and this puts them at high risk of contracting HIV/AIDS and other sexual infections.

5.3.4. Alcohol consumption status

A link between alcohol use and condom use at first sex among adolescents is a worldwide concern (Parry, 1998). This is a fact that has been justified by the current study. Approximately 21% of adolescents who participated in the study indicated that they have had an alcoholic drink(s) before sexual contact at sexual debut and that they did not use a condom. Findings from the study demonstrated a statistically significant association between alcohol use and risky sexual behaviour among adolescents.
A study conducted by Simbayi et al (2006:536) supports the findings from this study in that, they found that adolescents who frequently used alcohol were less likely to use condoms during sex. People who did not use condoms during sex stood a chance of contracting HIV if either of the partners was living with the virus. The study is additionally supported by, Kalichman et al (2007:142) reporting that males are more likely to drink than females and subsequently have unprotected sex. It is behaviours like this that puts adolescents at risk of contracting HIV, especially when intoxicated. A concerning statistic is that under 20 % of young people use condoms at every sexual encounter and an estimate of 50-60 % of youth in these studies have never used a condom (Eaton et al., 2003).

Alcohol is the most prevalent substance used in South Africa. The first South African National Youth Risk Behaviour Survey conducted in 2002 found that nationally, 49.1 % of learners had drunk alcohol, with significantly more males (56.1 %) than females (42.2 %) reporting alcohol use (Reddy et al., 2003). Also alcohol consumption can play a critical role in mediating condom use at first sex among adolescents, particularly as far as the transmission of HIV and other sexually transmitted infections are concerned (WHO, 2003). Sexual behavior is a key element in the transmission of HIV. As previously mentioned, because alcohol and drugs are thought to interfere with judgment and decision-making, it has been suggested that their use in conjunction with sexual activity might increase the probability that risky behavior will occur (Leigh & Stall, 1993). This is in line with the current study which indicates that adolescents who had alcohol before sexual activity engaged in unprotected sex at sexual debut.

To sum this up, alcohol consumption fuels adolescent’s behaviour of engaging in sex for the first time without using a condom because alcohol consumption impairs adolescents’ judgement and the ability to make well informed decision that are good for their health.
5.4. Conclusion and recommendations

This study focused on exploring prevalence and the effects of a selected number of socio-demographic, environmental and contextual factors in predicting condom use at first sex among South African adolescents. The findings could improve the general understanding of the social psychological processes underlying adolescents' motivations to engage in unprotected sex at sexual debut. Although condom use at first sex act has improved over the past years among youth in South Africa, there is still room for improvement especially among adolescent who are black and further among adolescents who live in rural areas. The target should be among adolescents who are not exposed to media content and those who consume alcohol.

Based on the results from the study, the following research studies are recommending implementing more flexible educational campaigns and risk reduction strategies targeting alcohol and HIV education for both in and out of school adolescents in both urban and rural areas. An important consideration which should be incorporated in HIV/ AIDS programs is the fact that any intervention cannot solely focus on information, but these education programs need to emphasise the importance “healthy habits, social responsibility, caution”.

Peer-to- peer educational forums and workshops should be created, where discussions among adolescents could create and promote a healthy lifestyle continuously. The involvement of youth in HIV prevention activities will ensure opportunities for young people to make meaningful contribution to the development, implementation and sustainability of intervention, policies and programs that promote sexual health.

The government together with the department of health should create media platforms which have content on reproductive health, sexual behaviours, HIV/Aids related issues and drug-related issues where parents/guardians can be taught how to have an effective parent-child communication about sex related issues and about general situations. In addition, parents should
educate their children from young ages about health matters, as this will in the long run equip the adolescents with the skills to negotiate when and how to have sex and to have protected sex at first sex.

The importance of sexual health as part of the overall needs of today’s adolescents should be acknowledged by health providers, in that health workers (clinics or hospital staff’s social workers) could make their contributions by interacting with young people who come to visit by changing their negative attitudes and sexual behaviours. Health providers serve as frontline providers in public health and therefore play an important role in meeting the sexual needs of the youth.
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