

**The impact of relationship dynamics on regular
condom use in a South African rural community:
A case of Vulindlela**

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Declaration

I, Zandile Masango declare that:

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Dedication

This thesis is dedicated to my late father Mr. B. J. Masango, who was a great source of inspiration and motivation to me; thank you for being such a wonderful dad and role model.

Acknowledgements

Firstly, I would like to thank God for the opportunity, strength and protection He provided through the many challenges during my studies.

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Abstract

Condoms, when used correctly and consistently, are one of the most effective methods to prevent sexually transmitted infections, including HIV; and unplanned pregnancies among sexually active individuals. In South Africa, the male condom is the most freely available and distributed method of contraception, yet young people still engage in risky sexual practices. Condom use is normally determined by considering whether a condom was used during the last sexual encounter. The purpose of this study was to determine which relationships dynamics were associated with consistent condom use within a rural South African setting. A secondary analysis was conducted on data from Project Accept; a randomized control trial. The analysis, with 2596 respondents, took the form of a bivariate Chi-square and multivariate binary logistic regression to determine which factors had an association with regular condom use among all the sampled respondents, the male respondents and the female respondents respectively. The findings of the study showed that among all the sampled respondents and the female respondents respectively, type of relationship, number of sexual encounters, HIV status and occupation were significantly associated with consistent condom use. The other variables included; such as age, sex, level of education, religion, number of sexual partners, age difference and household socioeconomic status did not show an association with consistent condom use among all the sampled respondents and female respondents respectively. Among the male respondents, only the type of relationship and number of sexual encounters were significantly associated with consistent condom use while sex, level of education, occupation, religion, number of sexual partners, HIV status, age difference and household socioeconomic status were not significantly associated with consistent condom use among this group of respondents. These findings show that consistent condom use is impacted by a number of relationship dynamics, and that there is a need to focus on enhancing communication, negotiation and ultimately consistency of condom use among heterosexual couples.

Contents

Declaration	ii
Dedication.....	iii
Acknowledgements.....	iv
Abstract	v
Contents.....	vi
Table of Figures.....	x
List of Tables	x
Chapter One: Introduction.....	1
1.1 Introduction	1
1.2 Promotion and use of condoms.....	1
Chapter Two: Literature Review	4
2.1 Introduction	4
2.2 Framework on Relationships and Power.....	6
2.3 Demographic characteristics.....	9
2.3.1 Age.....	9
2.3.2 Sex (Gender and Norms).....	10
2.4 Individual social and economic characteristics	13
2.4.1 Education.....	13
2.4.2 Occupation.....	14
2.4.3 Religion.....	14
2.4.4 Sexual history	16
2.4.4.1 Number of sexual partners	16
2.4.4.2 Number of sexual encounters.....	16
2.4.4.3 HIV status	16

2.5	Relationship characteristics	17
2.5.1	Type of relationship	17
2.5.2	Age difference	18
2.6	Family and household characteristics	19
2.6.1	Household socioeconomic status	19
2.7	Summary	20
Chapter Three: Methodology		21
3.1	Introduction	21
3.2	Objectives	22
3.3	Key Questions	23
3.4	Study Sample, Size & Selection Process	23
3.5	Research design	24
3.6	Data collection	24
3.7	Hypothesis	25
3.8	Data analysis	25
3.9	Ethical considerations	29
3.9.1	Institutional Review Board	29
3.9.2	Informed consent forms	29
3.9.3	Permissions	30
3.10	Validity, Reliability and Rigour	30
3.11	Limitations & Summary	30
Chapter Four: Results		32
4.1	Introduction	32
4.2	Condom use data: Total sample	33

4.3	Participants who refused to provide partner details	33
4.4	Bivariate analysis: Total sample	37
4.5	Multivariate logistic regression analysis: Total sample	42
4.6	Condom use data: Male respondents	44
4.7	Bivariate analysis: Male respondents.....	45
4.8	Multivariate logistic regression analysis: Male respondents.....	50
4.9	Condom use data: Female respondents	51
4.10	Bivariate analysis: Female respondents	52
4.11	Multivariate logistic regression analysis: Female respondents	56
4.12	Summary	57
Chapter Five: Discussion, Conclusion & Recommendations		59
5.1	Introduction	59
5.2	Demographic characteristics.....	59
5.2.1	Age	59
5.2.2	Sex (Gender and Norms).....	60
5.3	Individual social and economic characteristics	61
5.3.1	Education.....	61
5.3.2	Occupation.....	61
5.3.3	Religion.....	62
5.3.4	Sexual history	62
5.3.4.1	Number of sexual partners.....	62
5.3.4.2	Number of sexual encounters.....	63
5.3.4.3	HIV status	63
5.4	Relationship characteristics	64
5.4.1	Type of relationship	64

5.4.2	Age difference	65
5.5	Family and household characteristics	65
5.5.1	Household socioeconomic status.....	65
5.6	Summary	66
5.7	Conclusion & Recommendations	67
References.....		69
Appendices		74
	Appendix A: Ethical clearance letter: Vulindlela baseline survey.....	74
	Appendix B: Approval letter for continued use of data for secondary analysis	75
	Appendix C: Letter of permission for data use-HSRC.....	76
	Appendix D: Baseline (behavioural) assessment questionnaire	77
	Appendix E: Demographics questionnaire	78
	Appendix F: Household screening form.....	79

Table of Figures

Figure 1: Organising framework for the relationship between power in sexual relationships and sexual and reproductive health.....	8
Figure 2: Map of study site	22

List of Tables

Table 1: Condom use data and participants who have ever had sex: Total sample	32
Table 2: Condom use data by Total sample	33
Table 3: Participants who refused to provide partner details	36
Table 4: Consistent condom use bivariate analysis: Total sample	40
Table 5: Consistent condom use multivariate analysis: Total sample.....	43
Table 6: Condom use data and participants who have ever had sex: Male respondents	45
Table 7: Condom use data by Male respondents	45
Table 8: Consistent condom use bivariate analysis: Male respondents	48
Table 9: Consistent condom use multivariate analysis: Male respondents.....	50
Table 10: Condom use data and participants who have ever had sex: Female respondents.....	51
Table 11: Condom use data by Female respondents.....	51
Table 12: Consistent condom use bivariate analysis: Female respondents.....	55
Table 13: Consistent condom use multivariate analysis: Female respondents	57

Chapter One: Introduction

1.1 Introduction

This study is aimed at examining which relationship dynamics; including recent sexual history, HIV status and demographic characteristics effect regular of condom use amongst young people in a rural area in South Africa. In the context of this study, and as suggested by literature; regular (consistent) condom use is defined as using a condom during each sexual encounter with a partner during a given period of time (Chimbindi, McGrath, Herbst, Tint, & Newell, 2010). The study used secondary quantitative data collected as part of Project Accept; a randomised control trial conducted in five different areas, including South Africa, with an intervention designed to increase the uptake of HIV testing. The baseline survey conducted for Project Accept collected data from individuals about their HIV knowledge, attitudes, testing history and about their sexual behaviours; which was be used for this study.

The thesis consists of five chapters. The initial chapter provides an introduction to the study and a brief discussion on the promotion and use of condoms. Chapter two will discuss recent literature using the structure of the theoretical framework relevant to the study; Blanc's (2001) framework on relationships and power. Chapter three offers an explanation of the methods used to respond to the research questions. The fourth chapter will present the results of the study while Chapter five will discuss the research findings in comparison to previous studies, provide concluding remarks for the study and offer recommendations for further research.

1.2 Promotion and use of condoms

Condoms are promoted as an effective method used to protect against HIV/AIDS, sexually transmitted infections and unwanted pregnancies (Varga, 1997). When used properly condoms are 90-95% effective in preventing the transmission of HIV (Pinkerton & Abramson, 1997). Furthermore, condoms do not require medical intervention and are relatively reasonably priced (Shisana, Rehle, Simbayi, Zuma, Jooste, Zungu, Labadarios & Onoya et al., 2014) compared to other methods of contraception.

The results from three national household surveys conducted in South Africa in 2002, 2005 and 2008 respectively, indicated that reported condom use at last sexual encounter had increased significantly. For people between the ages of 14-24 there was an increase from 57.1% to 87.4% among men and from 46.1% to 73.1% among females between 2002 and 2008 (Beksinska, Smit, & Mantell, 2012). Similarly Beksinska et al. (2012) state that among the older age group, that is, 25 to 49, the percentage of condom use at last sexual encounter had increased significantly from 26.7% to 56.4% among males and 19.7% to 58.1% among females. The most recent South African National HIV Prevalence, Incidence and Behavioural Survey conducted in 2012 by the Human Sciences Research Council however states that only 36.2% of all participants reported using a condom with their most recent partner at last sex among participants 15 years and older (Shisana et al., 2014).

Further, an estimated 16,6% of the adult population aged 15–49 years is said to have been HIV positive in 2011 (Statistics SA) which is only a slight decrease from the 17% reported in 2010 (Statistics SA).

Another indicator of low condom use is teenage pregnancy which research suggests is common, in 2001 a fifth of expecting teenagers were HIV infected (Jewkes, Vundule, Maforah & Jordaan, 2001).

Still, there are national public campaigns that encourage condom use and free condoms are readily available in public and private sectors (Beksinska et al., 2012) which illustrates the importance of condom use.

It has however been suggested that dynamics within relationships make it challenging to negotiate the use of condoms (Jewkes & Morrell, 2010; Noar, Webb, Van Stee, Feist-Price, Crosby, Fitts Willoughhby, & Troutman, 2012; Pettifor, MacPhail, Anderson & Maman, 2012). The factors that affect relationship dynamics include gender of partner, age difference, education, religion, number of sexual partners and number of sexual encounters, the type of relationship may also be important. For example people may be less likely to use condoms with

their primary partners, (Corbett, Dickson-Gómez, Hilario, & Weeks, 2009) whereas one may be more likely to use a condom as a means to get protection from sexually transmitted diseases when engaging in extramarital sexual relationships (Chimbiri, 2007). Moreover, research shows that women may have less power in sexual relationships in comparison to men (Blanc, 2001) and educated people tend to use condoms more consistently than people with low levels of formal education (Beksinska et al., 2012; Lagarde, Carael, Glynn, Kanhonou, Abega, Kahindo, Musonda, Auvert, & Buve, 2001).

Chapter Two: Literature Review

2.1 Introduction

South Africa has one of the highest HIV prevalence rates globally; with an estimated 20% national prevalence rate in 2005 (Genberg, Kulich, Kawichai, Modiba, Chingono, Kilonzo, Richter, Pettifor, Sweat & Celentano, 2008) when data for the study was collected compared to the estimated 10, 6% rate in 2011 (Statistics South Africa). However, the HIV prevalence among the reproductive age group (15-49 years) was 18.8% in 2012 (Shisana et al., 2014).

The province with the highest prevalence is KwaZulu-Natal, in 2005; the HIV prevalence among pregnant women attending antenatal care in KwaZulu-Natal was 39.1% (Genberg et al., 2008). KwaZulu-Natal was again the province with the highest HIV prevalence among individuals of child-bearing age in 2012 (Shisana et al., 2014). Also, residents living in informal settlements are more prone to be HIV positive than those residing in formal settlements (Shisana et al., 2014).

This chapter will review the literature on relationship dynamics and condom use with reference to Blanc's framework on relationships and power as a theoretical perspective that frames condom use or the lack thereof. Blanc's framework on relationships and power will be used as an organising framework for the chapter. The first section of this chapter presents an introduction followed by a discussion on the framework; including definitions of power. The characteristics that influence power in sexual relationships and sexual and reproductive health will be discussed with reference to condom use; these are namely the demographic characteristics (age and sex), individual, social and economic characteristics (education, occupation, religion and sexual history: number of partners, number of encounters and HIV status), relationship characteristics (type of relationship and age difference) and family and household characteristics (household socio-economic status). The final part of the chapter provides a summary.

Blanc's (2001) framework on relationships and power serves as a framework by which one can think of the various relationship dynamics and how they influence the decision to use or not to use condoms.

The framework helps us to understand the characteristics that shape people's behaviour and decisions, especially around condom use. It also assesses the power dynamics present in heterosexual relationships and how these affect sexual and reproductive health outcomes.

This framework suggests that people behave differently depending on the power they have to act in a certain way or the power they have over a situation. For instance, the choice a woman makes about which contraceptive method to use would depend on a number of characteristics (individual, economic, demographic, relationship or household) such as her level of education or her relationship status. Similarly, the power she has over the same situation would also be influenced by relationship characteristics such as communication and the views of her partner; this means that the decision she makes may be greatly influenced by her partner (Blanc, 2001), depending on the nature of the relationship and whether communication about contraceptives takes place.

Blanc's framework on relationships and power suggests that the different characteristics mentioned above (individual, economic, demographic, relationship and household) include factors such as sex of partner, age of partner, age differences between partners, education, occupation, religion and the type of relationship which give rise to various power dynamics within a relationship and influence the way in which partners access and use sexual and reproductive health services. These are particularly important factors to consider when negotiating condom use, and may make the process more or less challenging (Jewkes & Morrell, 2010; Noar et al., 2012; Pettifor et al., 2012). For example people may be less likely to use condoms with their primary partners, (Corbett et al., 2009) whereas one may be more likely to use a condom as a means to get protection from sexually transmitted diseases when engaging in extramarital sexual relationships (Chimbiri, 2007). Moreover, research shows that women may have less power in sexual relationships in comparison to men (Blanc, 2001) and educated people tend to use condoms more consistently than people with low levels of formal education (Beksinska et al., 2012; Lagarde et al., 2001).

2.2 Framework on Relationships and Power

Blanc (2001) presents a framework on how to evaluate the relationship between power and reproductive well-being. If power is recognised as a factor that influences sexual and reproductive health; and specifically the consistency with which condoms are used in relationships; it is important to define what exactly is meant by the term “power”. Blanc (2001) states that gender has the ability to affect “power to” and “power over”. The ‘ “power to” refers to the ability to act, and “power over” refers to the ability to assert wishes and goals even in the face of opposition from another’ (Blanc, 2001, p. 189). Within the context of power and intimate partnerships, power refers to one partner’s capability to act autonomously and in so doing direct decisions in the relationship; control the other partner’s actions and acts in ways that are not desirable for the other partner. This means that although both partners have some degree of power, one partner is more powerful than the other; or exercises their power in such a way that the other partner is significantly influenced by their decisions.

Gupta (2000) in Blanc (2001) defines gender as a set of expectations that people share about what they consider as suitable behaviour for men and women and what role each should perform. Men normally have more power in intimate relationships which creates a level of inequality and makes it challenging for a woman to have a voice, even in issues that directly affect her health; such as negotiating condom use with a sexual partner (Langen, 2005).

Moreover, Blanc (2001) reports that some women use contraceptives but keep this hidden from their partners. The reasons for this vary from partner’s discontentment, partner’s wish for more children and challenges relating to communication with the partner regarding contraception all of which explain the power imbalances present in sexual relationships and the concept of “power over” a person’s behaviour or decisions. She also states that “Power differentials in sexual relationships directly influence women’s access to and use of reproductive health services when male partners control financial resources and women’s mobility” (Blanc, 2001, p. 197).

The framework on power in sexual relationships considers that power and the degree to which individuals may seek out health facilities specifically for sexual or reproductive reasons are affected at an individual level, by demographic, social and economic factors. Within the context

of the relationship, communication and the nature of the relationship, have an impact on the power dynamics and utilisation of health facilities.

Family and domestic factors are also mentioned as issues that may affect power and utilisation of health resources. Here Blanc (2001) uses the economy of the household as an example that may affect power to make sexual and reproductive decisions, for example even in instances when financial decisions are made by both partners together; the decision to seek out sexual and reproductive health may not be a priority for the couple due to their socio-economic status. Another fundamental characteristic that affect power dynamics and utilisation of health facilities is the state of the community; that is; the political, economic and social conditions that exist there, for instance Blanc (2001) mentions the unwelcoming behaviour with which males are treated at sexual and reproductive facilities when accompanying their female partners . This sort of treatment of males may make them feel as if they have no right to be in such a facility and may also create a barrier to the knowledge they have about sexual and reproductive issues concerning their partners, this may subsequently cause a lack of communication about sexual and reproductive issues between the couple.

The power dynamics that are present in a sexual relationship are related to sexual health because the imbalance of power may lead to domestic violence and affect the ability to access health facilities (Blanc, 2001) for the less powerful partner in the relationship. Blanc argues though that health facilities that take into account the power imbalances that exist may assist in informing and encouraging individuals to act accordingly. However, health resources that are not attentive to power inequalities may lead to devastating results for people's health.

Figure 1: Organising framework for the relationship between power in sexual relationships and sexual and reproductive health

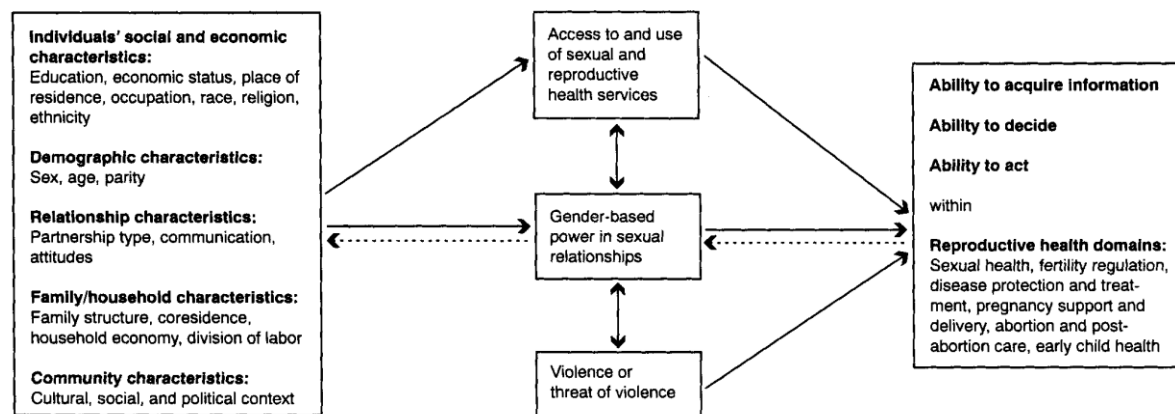


Figure 1 above illustrates the framework between power on sexual relationships and sexual health

Source: Blanc, 2001, p. 191

It is challenging to make quantifiable evaluations on how power affects sexual relationships, this makes it equally challenging to make inferences on the role of power in sexual relationships (Blanc, 2001). Some of the measures mentioned by Blanc (2001) include those based on Asian studies where scales were designed to assess women's thoughts on decisions about finances and fertility; these scales included questions related to who made decisions or raised opinions about important domestic issues. Other authors (Govindasamy & Malhotra, 1996) examined women's thoughts regarding who they wish could manage household funds and this was used to assess their involvement in issues around reproduction and utilisation of contraception methods. These studies also further assessed how freely women could go out and under which conditions they were able to do, whether they were to be escorted and whether the approval to do so was needed.

In their study of condom use in Uganda, Blanc & Wolff (2001) designed a fertility control scale based on reactions from questions about opinions on participants' fertility. One of the questions that was asked was about which partner (the participant themselves or their partner) had more control in deciding whether to have sex.

There has also been research done on males' perspective of power in relationships. Barker (2000) in Blanc (2001) developed a scale based on the study he conducted on "more equitable young men" (Blanc, 2001, p. 192). His scale was based on data from the interviews that were conducted, four main characteristics of equitable young men were then determined as follows "(1) they criticize or question the prevailing sexual double standard; (2) they seek to be involved fathers; (3) they assume some responsibility for reproductive health issues; and (4) they do not use violence against women in their intimate relationships and are opposed to violence against women" (Blanc, 2001, p. 192). This illustrates that there are some men who have the desire to have more equitable and healthier relationships with their partners.

Although the framework of power and sexual relationships assists us in understanding the power dynamics that are inherent of relationships and how they affect sexual health outcomes, it only focuses on heterosexual partnerships (Blanc, 2001). By focusing on the sexual relationships between men and women, the framework fails to provide us with an understanding of the power dynamics (if there are any) that occur between homosexual partners and how these affect their sexual relationships and health outcomes.

2.3 Demographic characteristics

Demographic characteristics have an impact in determining consistent condom use in relationships (Agha, Hutchinson & Kusanthan, 2006; Lagarde et al., 2001; Macaluso, Demand, Artz & Hook, 2000; Prata, Vahidnia & Fraser, 2005). Age and sex will be discussed as the two main demographic factors whose association with consistent condom use will be discussed.

2.3.1 Age

The age of a person, as an individual characteristic seems to have an association with condom-use. A 2012 national survey by the HSRC found that "condom use decreased with age, with 58.4% of youth aged 15–24 years reporting that they had used a condom at last sex compared to 34.4% of adults aged 25–49 years and 12.4% of the elderly (aged 50 years and older)" (Shisana et al., 2014, p. 73-74). Another study conducted by the Africa Centre for Health and Population Studies in 2005 regarding socio-demographic factors that influence condom use among young adults in rural KwaZulu-Natal, Chimbindi et al. (2010) similarly found that consistent condom use (always using a condom) decreased by 10% as age increased. To add to this, these authors

also found that among women, there was a strong likelihood not to use condoms as their age increased by each year. This relationship was however not significant among males. To add to this, it is important to note that the age group sampled for their study were young adults between the ages of 15-24 years, therefore the findings from their study regarding age and condom use may differ from those of the current study which sampled older people between the ages of 18-32 years. However, the likelihood of decrease in consistent condom use among females as age increases; may be due to the establishment of more permanent relationships with an increase in age (MacPhail & Campbell, 2001). Furthermore, Chimbindi et al. (2010) state that at younger ages condoms, compared to being a method to prevent HIV infection; are rather used as a way to prevent pregnancy. Yet as one gets older; alternative methods of contraception may be used and these may not require much discussion with a male partner (Camlin, Garenne & Moultaire, 2004; Ngubane, Patel, Newell, Coovadia, Rollins, Coutsoydis & Bland, 2008).

2.3.2 Sex (Gender and Norms)

Women in developing countries adhere to specific social norms regarding sex and sexuality such that they, quite often do not enquire about safe sex as this would not be regarded as acceptable in certain societies (Jewkes & Morrell, 2010). Furthermore, women in developing countries do not readily discuss or enquire into the sexual history of their partners as this is taboo and would be viewed by society as a sign of sexual readiness on the part of the women (MacPhail & Campbell, 2001), this is also seen as culturally inappropriate and the woman may come across as promiscuous should she suggest a condom be used with her partner (Langen, 2005; Varga; 1997). Similarly, young men are encouraged by society to have multiple concurrent sex partners; this coupled with the adopted undesirable outlook towards condoms, threatens their sexual health (Holland et al., 1990; Wight, 1994 in MacPhail & Campbell, 2001). Gender norms therefore influence power dynamics that make it especially challenging for women to negotiate their own sexuality and for men to be responsible partners. In their 2012 South African national survey on HIV, Shisana et al. (2014) found that males reported a significantly higher probability of condom use during their last sexual encounter compared to their female counterparts.

To add to this, Langen (2005) and Jewkes & Morrell (2010) report that research reveals unequal power dynamics in heterosexual relationships and domestic violence place women at a greater chance of contracting HIV, this further suggests that it becomes increasingly challenging for

women in violent and ‘unequal-power’ relationships to negotiate the use of condoms with their sexual partners. Jewkes & Morrell (2010) similarly state that South African research reveals that there is a lot of “violent, anti-social and risky sexual practices” (Jewkes & Morrell, 2010, p.2) and an association between these. Consequently these authors state that men who have participated in acts of violence are more likely to engage in sexually risky behaviour and are at greater risk of HIV infection.

One of the concepts that were used to describe men’s power over women was that of hegemonic masculinity; which is described as behaviour that represents such control over women by men (Connell & Messerschmidt, 2005). Although some men may not enact behaviours that fundamentally oppress women, Connell and Messerschmidt (2005) state that hegemonic masculinity was considered the most respectable way for men to behave; it allowed women to be inferior to men. Further, these authors state that “Hegemony did not mean violence, although it could be supported by force; it meant ascendancy achieved through culture, institutions and, persuasion”, (pp. 832). Since hegemonic masculinity was embedded in history and change, this meant that gender roles could change.

Hegemonic masculinity can help us to shed light on how and why men make certain decisions regarding their health; for instance risky sexual behaviour due to having multiple partners (Langen, 2005). Moreover, from this we can understand men’s reaction to debilitating conditions (Gerschick & Miller, 1994 in Connell & Messerschmidt, 2005) because of the learned hegemonic masculine behaviour that has been embedded in them.

Another alarming element with regards to gender is that the HIV prevalence among females in sub-Saharan Africa is five years more than that of their male counterparts; women who are frequently infected are those in their early adulthood (late teenage years) (Jewkes & Morrell, 2010), this suggests that HIV infection is a serious challenge for young women in sub-Saharan African countries. Studies done in Rwanda and Tanzania show that women who had been coerced into having sex with their partners had an increased prevalence of HIV (Jewkes & Morrell, 2010).

Jewkes & Morrell (2010) state that the differences between women and men is largely influenced by what society has defined and normalised as being acceptable and unacceptable ways of being

a man or a woman. The same authors further illustrate, by using an example, a situation where certain behaviour is acceptable for men, but not for women. They state that “a man may expect to lead and control sexual relations and his woman partner to comply, and he may feel entitled to have sex with other women, but expect her to remain faithful” (Jewkes & Morrell, 2010, p. 2). Similarly, Chimbindi et al. (2010) states that condoms are normally initiated by men as they decide whether it is to be used or not and that can serve as an explanation as to why men reported more frequent condom use compared to women in the study that they conducted. These findings support the results reported by Blanc & Wolff (2001).

Regarding sexuality in South Africa, Jewkes & Morrell (2010) presents two dominant perspectives that frame this understanding. One is that sex and sexuality should be understood within the context of religion (specifically Christianity) as something that should be experienced within the institution of marriage and for reproduction purposes. Another, they say represents ‘traditional black African ideas’ which view sex as a normal and fundamental part of life.

Gender roles change over time, for example Morrell (1998) in (Connell & Messerschmidt, 2005) states that there was change in South Africa in line with the end of apartheid. The period after apartheid saw a vast number of changes regarding freedom of expression, diversity and gender identities. Women shifted from being dependent on their men to seeing themselves as independent (Jewkes & Morrell, 2010). Nevertheless, there is still unequal power between men and women. Further research conducted by Jewkes & Morrell in the Eastern Cape revealed that young women measured their success according to their desirability by men, which would perpetuate the control and power that hegemonic males have over women (Jewkes & Morrell, 2010) because of their need to be wanted. Since sex is viewed as an integral part of life; it is recognised that women have sexual needs and that they want sexual fulfilment; which for some may involve having sex without a condom (as a means of having pleasurable sex and a way of keeping their man). Furthermore, African women are socially and culturally expected to obey their partners and behave in a way that does not discredit the man or his power; or bear the physical consequences that may result from disobedience; certain hegemonic males expect their partners to have sex with them whenever it is convenient for them (males) and in accordance with their standards, often without a condom (Blanc, 2001). Women who do not conform to this sort of behaviour are criticised and face social exclusion (Connell & Messerschmidt, 2005).

Similarly, women with hegemonically masculine partners are respected within their communities and men who strive to display more gender balanced masculinities are marginalized by women (Connell & Messerschmidt, 2005).

The learned cultural norms present in African societies prove to be problematic in the face of HIV prevention (Langen, 2005), especially among young people.

2.4 Individual social and economic characteristics

Another set of characteristics that have an impact on whether one uses condoms regularly are individual, social and economic characteristics. The main ones which will be discussed in this section are education, occupation, religion and sexual history.

2.4.1 Education

Beksinska et al. (2012) argues that education plays a vital role in the use of condoms in general. Among women, it was found that only 16% of those with no education used a condom during the last sexual encounter compared to 63% among those with a higher education (South African Department of Health, 2007 in Beksinska et al., 2012).

Langen also mentions education, income and status as some factors that allow people to be independent; on the contrary educated, economically challenged women with no social power and unequal power within their relationship are financially dependent on their male counterparts (Hendriksen, Pettifor, Lee, Coates & Rees, 2007) as providers for them and their children. These women are also less likely to be able to negotiate condom use with their partners (Hendriksen et al., 2007), placing them at greater risk of infection. In addition to this, she found that the results from her study among women and condom negotiation; that from the entire sample; the second highest percentage of women to have not suggested condom use with their partners 12 months prior to her study; were women with a primary school level education only. This too suggests that education plays a role in one's ability to negotiate condom use with a partner.

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. These findings are consistent with Chimbindi et al.'s (2010) observation that regular condom use among young adults was linked with higher

education levels. Other interesting findings from Lagarde et al.'s (2001) study were regarding regular condom use, education levels among men and commercial sex workers in one of the sampled four cities where the study was conducted. The authors found that even with lower levels of education men reported condom regular condom use if their female sexual partner was a commercial sex worker and that men with higher levels of education who had female partners that were not sex workers reported a higher rate of regular condom use with their partners.

Another important aspect that Blanc (2001) raises is that the more equal the level of education between the partners; the more likely it is that they will communicate regarding family planning methods.

2.4.2 Occupation

Additional factors that may influence condom use are occupation (Lagarde et al., 2001) and socio-economic status (Davidoff-Gore, Luke, & Wawire 2011). Lagarde et al. (2001) observed that being a student was linked to regular condom use in various situations. In their study, Kaufman, Clark, Manzini & May (2004) in Chimbindi et al. (2010), found a relationship between employment and earning an income among females, and condom use.

2.4.3 Religion

Religion in general plays an important role in sexuality and whether one deems it as appropriate or not to engage in sexual acts and the reasons for doing so. Essentially, the use of condoms among religious groups is an important factor and one which also affects rates of HIV infection. In Africa, and sub-Saharan Africa in particular; there are various religious groups, some of whom have become increasingly involved in HIV/AIDS prevention programmes Agha et al. (2006) state. The same authors further acknowledge that position taken by several religions is that young (unmarried) people should not engage in sexual acts.

With the high rates of HIV infection in sub-Saharan Africa, religious groups have been acknowledged as playing a role in encouraging abstinence and fewer partners and as a way of decreasing the spread of HIV. Also, contrary to that; some religious groups have been equally criticised and held responsible for the increase in new infections as a result of their resistance against condoms and their use (Agha et al., 2006).

Agha et al. (2006) address key issues about religion and the degree to which it plays a role in an individual's life. They specifically state three issues that they regard as important in measuring the point to which religion or a religious group influences the individual, these are namely:

- the strength of a religious group's prescription for behaviour
- the degree to which a religious group influences the socialisation of its youth
- the degree to which a religious group can exercise control over the behaviours of its adherents

(Agha et al., 2006, p. 551)

To put some of these issues in context, it can be said that Christian religious affiliations or denominations are opposed to premarital sex however the extent to which they will prescribe certain behaviour, influence their youth and exercise control over its members behaviours will differ according to denomination. Some notable denominations that influence their youth tremendously among the Christians are Jehovah's Witnesses and Seventh Day Adventists (Agha et al., 2006). Agha et al., 2006 observes that these denominations, although they fall under the banner of Christianity, are different and play a role in adherents' sexual behaviours. Both these denominations are very strict about sexual behaviour, no premarital sex is permitted, pregnancy outside marriage is not tolerated and Jehovah's Witnesses do not promote contraceptive use for unmarried individuals; members found to transgress Biblical and church rules may have their membership and participation from church activities withdrawn.

Results from a study conducted by Agha et al. (2006) in Zambia regarding young people's condom use and religious affiliation showed that conservative religious groups including Jehovah's Witnesses and Seventh Day Adventist had a delayed sexual debut compared to other religious affiliations (for example Baptist and New Apostolic). However for those that did have sex, the conservative churches had much lower rates of condom use at sexual debut. This is further illustrated in Lagarde et al. (2001) where it was shown that it was less probable for Protestant men to reveal that they used condoms regularly. These results point to the notion that although young people who worship at conservative churches have their initial sexual encounters much later in life; they are less likely to use a condom which places them at a greater risk for HIV infection.

A study conducted in Zambia found that being affiliated to certain churches delays the first sexual encounter however, when it occurs it is very likely that a condom may not be used (Agha et al., 2006) because of the strong opposition some church denominations have towards condom use and premarital sex.

2.4.4 Sexual history

2.4.4.1 Number of sexual partners

Constantly changing sexual partners puts one at risk of HIV or sexually transmitted infection if there is no condom use or inconsistent condom use (Beadnell, Morrison, Wilsdon, Wells, Murowchick, Hoppe, Gillmore & Nahom; 2005). Beadnell et al. (2005) state that the risk of infection is increased as the number of partners increases because one has a greater chance of meeting an infected partner. The same can be said about concurrent partnerships as well. Beadnell et al.'s (2005) study revealed that students who engaged in risky sexual behavior; that is using condoms rarely and having a number of sexual partners; were also the ones who had the most frequent number of sexual encounters.

2.4.4.2 Number of sexual encounters

The number of sexual partners has at any one time has an impact on how their levels of HIV infection, if one has sex fairly frequently then they may be at risk of HIV infection if they are not consistent condom users (Beadnell et al. (2005). Beadnell et al.'s (2005) study on high school pupils, condom use, frequency of partners and sexual encounters showed that the safest group of students were those who used condoms regularly with the least number of partners; this group also had the least number of sexual encounters.

2.4.4.3 HIV status

The knowledge of one's HIV status or the status of one's partner may play a crucial role in whether one uses condom or not. A study conducted in Rwanda, Kigali on 53 discordant couples (followed over a two-year period) and their use of condoms showed that testing for HIV increased the chance of safe sexual practices in discordant couples. Moreover, the study found that the rate of condom use was higher in discordant couples where the man was HIV negative

(Allen, Tice, Van de Perre, Serufilira, Hudes, Nsengumuremyi, Bogaerts, Lindan & Hulley, 1992).

In their South African study of sexual power and HIV risk; Pettifor, Measham, Rees & Padian (2004) found that there was a strong relationship between irregular condom use and HIV infection. They also found an association between HIV positive females and irregular use of condoms.

Another study conducted by Chimbindi et al. (2010) among young adults in rural KwaZulu-Natal, found that those with an HIV positive test result were 34% more likely to use condoms in comparison to those who found that their results were negative for HIV.

2.5 Relationship characteristics

The third set of characteristics that play a role in consistent condom use are relationship characteristics such as type of relationship (Macaluso et al., 2000) and age difference. These two characteristics will be discussed in detail in this section.

2.5.1 Type of relationship

The type of relationship one is in seems to play a crucial role in whether or not they choose to use condoms within that relationship. More specifically this means that the way in which one defines relationships and the way in which one conducts themselves within a particular relationship may influence their choice to use a condom.

A relationship in which one defines their partner as their spouse (married people) or within a relationship where the couple are cohabitating means that condom use is often less likely (Chimbindi et al., 2010). For example in her study, Langen (2005) found that married women made up a big percentage of women who did not suggest condom use with their partners.

This suggests that people in married relationships develop and maintain an element of trust and security (Langen, 2005) in their relationships and if a condom is introduced; one of the partners (most likely the man) may think that the other (woman) is being unfaithful or that there is no trust between the partners (Chimbindi et al., 2010; Varga, 1997). Langen (2005) found that these reasons, along with culture and religion, were some of the reasons women did not suggest condom use with their partners. Hendriksen et al. (2007) concur with the finding that trust is

associated with a reduced chance of condom use in a relationship and these authors also found that condom use among young women was less likely if they were married. Nevertheless, Hendriksen et al. (2007) states that greater levels of education and greater perceived risk of infection from a partner have been linked to the likelihood of condom used among married and cohabiting couples.

Also, Langen (2005) found that 27.3% of the total men sampled in her study refused to use condoms with their female partners after being asked by them, most of those who refused were married men and the percentage of those who refused was higher in KwaZulu-Natal; South Africa compared to Botswana.

Individuals who are in less formal relationships have been shown to use condoms more consistently Chimbindi et al. (2010) compared to those in more stable relationships. Similarly, Largarde et al.'s (2001) study reported condom use on a regular basis with these non-regular partners. Moreover, in one of the cities in which Largarde et al.'s (2001) study took place, repeated condom use was reported by men who had commercial sex workers as their partners. This suggests that the security and trust that seems to be present in marriage does not exist when non-regular sexual partners are considered. However Largarde et al. (2001) report that a study conducted in the Gambia found that commercial sex workers used condoms less frequently if they saw a client on a more consistent basis.

2.5.2 Age difference

Pettifor et al. (2005) in their study of young people's sexual partnerships in KwaZulu-Natal, found that there were major age discrepancies between men and women, which was identified as a significant factor contributing to an HIV prevalence of 25 percent among young adult women between the ages of 20 and 24 (Pettifor et al., 2005).

Age differences between partners can play a critical role in whether condoms are used or not in a relationship. Where the male partner is older than the female partner, there tend to be further power imbalances and difficulty in negotiating the use of a condom (Langen, 2005). Langen (2005) further states that this tends to be the case in patriarchal societies such as South Africa where age plays a significant role in society, where for example older members in the family are respected and considered as a source of wisdom by the younger generation.

Moreover, one is expected to be obedient to elders and not challenge their authority, this sort of respect and obedience for one's elders go beyond the family and includes the type of conduct that men and women should abide by in their relationships with one another (Langen, 2005). When women enter into relationships, they do so with the mentality that "people senior to themselves in age or rank should always be treated with deference or respect and that failure to show them the prescribed forms of etiquette, or to carry out their reasonable requests, may be regarded as reprehensible and punishable" (Langen, 2005, p. 189).

In intimate relationships, this means that the younger partner submits to the older one and in light that men's partners are getting younger (which places them at greater physical threat) because they believe that young girls cannot infect them with HIV and or that they can cure them of the virus; this places these young women in a position where they are not very likely to talk about issues relating to sexual health and negotiate condom use with their much older and knowledgeable sexual partners. This ultimately means that these young women are not in a good position to protect themselves from HIV (Langen, 2005).

To add to this, in her study about women's capacity to negotiate condom use in KwaZulu-Natal and Botswana (Langen) 2005, found that in her sample of women who had not suggested condom use to their partners 12 months prior to her study; the highest percentage was among women who had partners that were 10 or more years older than them. Similarly, Langen (2005) states that it appeared as if it was less challenging for men who had partners 10 or more years younger than them to refuse using a condom. Chimbindi et al. (2010) state that the age gap can be as little as one year for there to be a decreased chance of condom use between sexual partners.

2.6 Family and household characteristics

The last set of characteristics that have an association with consistent condom use are family and household characteristics; in this section the focus will be on household socio-economic status as a factor that influences consistent condom use.

2.6.1 Household socioeconomic status

Davidoff-Gore et al. (2011) study in Kenya among youth revealed that people of lower socio-economic status were inconsistent condom-users whereas Chimbindi et al. (2010) found that people from households with high socio-economic status were significantly more likely to have

ever used condoms and to negotiate condom use compared to individuals from lower socio-economic status households, and that this could be because those with a higher socio-economic status were probably older than their sexual partners.

2.7 Summary

The literature provided in this chapter clearly illustrates that Blanc's framework on relationships and power; and relationship dynamics or characteristics can assist in our understanding of people's choices regarding the use of condoms within their heterosexual relationships. A few studies have considered the implications of the combination of these factors (religion, age, number of sexual encounters, gender of partner, type of relationship and socio-economic status) on consistent condom-use. To add to this, Beksinska et al. (2012) state that condom use is lower in rural areas compared to urban areas. In summary, these studies (Agha et al., 2006; Beksinska et al., 2012; Chimbindi et al., 2010; Davidoff-Gore et al., 2011; Jewkes & Morrell, 2010; Lagarde et al., 2001; Macaluso et al., 2000; MacPhail & Campbell, 2001; Pettifor et al., 2005; Prata et al., 2005) suggest that there is a need to investigate the impact that relationship dynamics and socio-demographic factors have on the frequency of condom use among young people in rural areas in order to change the status quo and possibly influence health programmes and policies; specifically among young people. With the consideration of theoretical framework; this study therefore aims to investigate the relationship dynamics that influence condom use in rural KwaZulu-Natal, South Africa.

Chapter Three: Methodology

3.1 Introduction

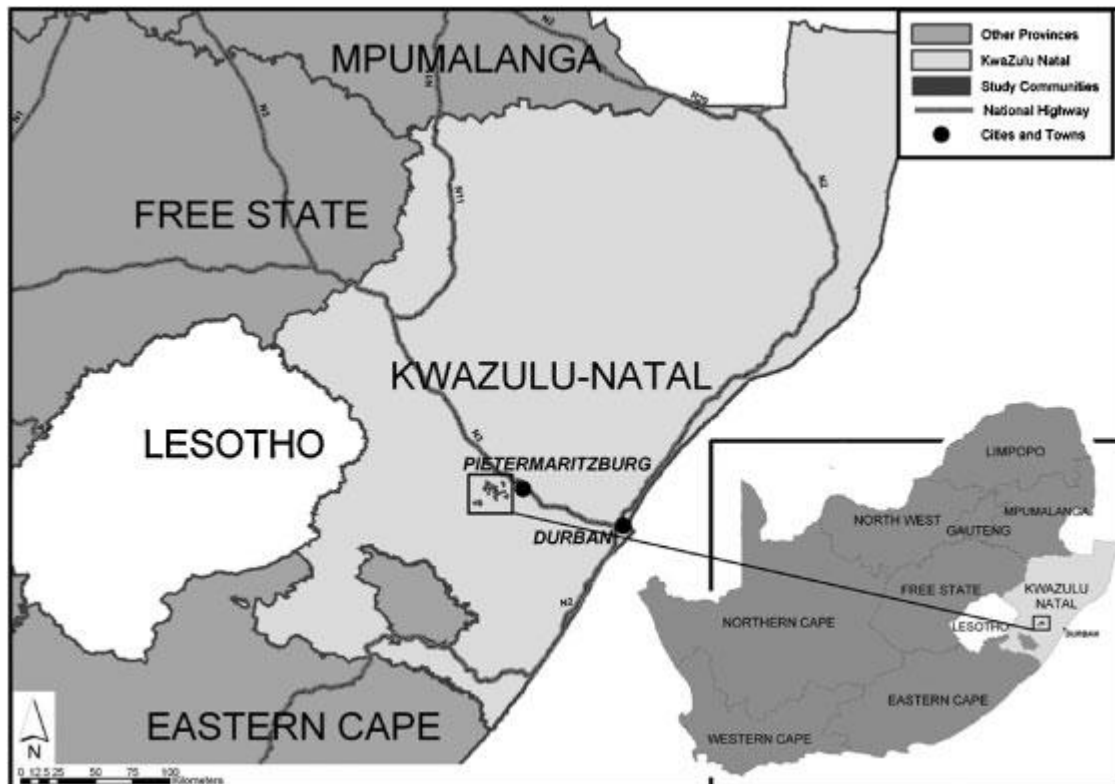
This chapter aims to describe the methodology used for the study. The study uses secondary data from a research study called Project Accept. Project Accept was a randomised control trial with an intervention designed to increase the uptake of HIV testing. The baseline survey conducted for Project Accept collected data from individuals about their HIV knowledge, attitudes, testing history and about their sexual behaviours.

Baseline data was collected in five areas, four of which were in sub-Saharan Africa and one in Asia; these are namely Mutoko (Zimbabwe), Kisarawe (Tanzania), Soweto (South Africa), Vulindlela (South Africa) and Chiang Mai (Thailand). In terms of the gender-split ratios, about half of the baseline sample was female in all the study areas, this ranged from 52.6% (Thailand) to 58.6% (Vulindlela) (Genberg et al., 2008).

The data used for this study is a subset of data that was collected at baseline in Vulindlela, KwaZulu-Natal, South Africa in 2005. Overall, 2596 individuals were interviewed at baseline for the behavioural assessment (subset of data that will be used for this study). Vulindlela is a rural area in Pietermaritzburg, with an approximate population of 500 000 community members. The village of Vulindlela is located approximately 90 km from Durban and 20 km from Pietermaritzburg in the province of KwaZulu-Natal, with both rural and semirural communities. Vulindlela has a strong Zulu-culture presence (Wong, Van Rooyen, Modiba, Richter, Gray, McIntyre, Dunkel Schetter & Coates, 2009) with extended families staying in common homesteads dispersed through tribal land. Each homestead normally has a number of family households grouped together with one authority figure who is considered the head of the household (Genberg et al., 2008). Residents of the area are involved in forestry as a means of employment and also work in neighbouring towns; which they travel back and forth from each day or during the weekends (van Rooyen, McGrath, Chirowodza, Joseph, Fiamma, Gray, Richter & Coates, 2013). In addition to this, activities such as sewing and gardening are done by women

on a community level (van Rooyen et al., 2013) in order to earn some money and contribute to the economy.

Figure 2: Map of study site



Source: Chirowodza, van Rooyen, Joseph, Sikotoyi, Richter & Coates (2009)

3.2 Objectives

The objectives of this study are:

- i. To identify the association of relationship dynamics on consistent condom use in Vulindlela, firstly with the entire sample, and then separately for men and women
- ii. To identify the association of individual recent sexual behaviour, and HIV status on consistent condom use in Vulindlela, firstly with the entire sample, and then separately for males and females
- iii. To identify the association of demographic factors such as, education, occupation, gender, religion, and household socioeconomic status on consistent condom use in Vulindlela, firstly with the entire sample, and then separately for males and females

3.3 Key Questions

- i. Do different relationship dynamics have an association with regular condom use within relationships in Vulindlela?
- ii. Which relationship dynamics play an important role in promoting regular use of condoms?
- iii. Does recent sexual history and HIV status play an important role in consistent condom use?
- iv. Do different demographic factors (education, occupation, gender, religion and household socioeconomic status) have any association with regular condom use within relationships in Vulindlela?
- v. Which demographic factors play an important role in promoting consistent use of condoms?

3.4 Study Sample, Size & Selection Process

Households which belonged to the pre-selected matched communities identified for the study were randomly selected for inclusion in the sample. Thereafter, one of the household members, from among those identified as eligible from the household listing of all household members, was randomly selected and asked about their willingness to participate in the study. Random sampling ensures that each element in the population has a fair and equal chance of being included in the sample (Durrheim & Painter, 2006; Jacob, 1994).

Selection criteria for the baseline assessment included the following: participants were supposed to reside in a community selected for the study, participants were supposed to be randomly selected and invited to participate from households that were themselves randomly selected and invited to participate, participants were meant to be aged 18-32 years, participants should have lived in the community at least 4 months in the year prior to the study, participants were supposed to have slept regularly in their household at least 2 nights per week and participants should have been able and willing to provide verbal informed consent to participate in the study (Genberg et al., 2008).

For the purposes of the questions that this study seeks to answer, data from the baseline behavioural assessment was used. The total number of people interviewed for the behavioural assessment was 2, 596 individuals. The total sample that met the specific criteria for the study was 1, 779 individuals.

3.5 Research design

This study is a secondary analysis of the Project Accept survey data from Vulindlela. There are several benefits and limitations associated with the use of secondary data. Some of the advantages include the cost effectiveness of using data that already exists and the duration of time that is saved because secondary data is already collected (Hox & Boeijs, 2005). To add to this, if relevant information regarding the research question already exists and is available, then reusing the data serves as an advantage to the researcher (Hox & Boeijs, 2005).

In contrast, there are also disadvantages to using secondary data. One of the limitations to using secondary data is that the data is not collected by the researcher and therefore the theory underpinning the research question and the research design and data collection methods cannot be altered for the question (Hox & Boeijs, 2005). Rather, the research question has to be aligned to fit the available data in order to ensure that the question can be answered and that the steps taken in the research process are logical (Hox & Boeijs, 2005). It is also important to alter the research question to suit the data available because the original data and methods used in the collection of the data were not designed (Hox & Boeijs, 2005) to answer the secondary question or questions and therefore altering the secondary question if it does not already fit the data, is imperative in this regard.

3.6 Data collection

The Project Accept collaborators designed a questionnaire which contained questions on HIV testing, HIV knowledge and sexual behaviours. This questionnaire was translated and piloted for appropriateness in Vulindlela prior to data collection. Trained data collectors from the community interviewed willing participants in their local language with the aid of a standard protocol covering themes such as respondents demographic information, sexual behaviours, their history of HIV testing and opinions on stigma and disclosure (Wong et al., 2009). Since data collectors were from the community, they were young African (black) people consisting of both males and females. There were no incentives or reimbursements provided for participation in the baseline behavioural assessment.

The data collected was managed through a Data Management Coordinating Center by a study team at the John Hopkins University Bloomberg School of Public Health. The study team at John Hopkins University was further advised by The Statistical Center for HIV/AIDS Research & Prevention (SCHARP) which provides data management support for the HIV Prevention Trials Network (HPTN). A data management plan was developed to manage the quantitative data which included the demographic and behavioural assessment data from the baseline survey; the plan for data management included various aspects such as maintaining data quality and consistency and assurance of confidentiality and attention to ethical considerations.

For this study, the baseline data from the behavioural assessment and demographics sections was be used.

3.7 Hypothesis

The null hypothesis states that relationship dynamics, individual recent sexual history, HIV status and demographic characteristics, have no significant effect on regular condom-use among the sampled respondents.

3.8 Data analysis

Multiple regressions and bivariate descriptive analysis were used as methods to analyse the data, and SPSS, as a statistical software programme was used. Tredoux (2002) states that multiple regression allows one to find a group of independent variables that explain a dependent variable. For this particular study, binary logistic regression was used as the main method of analysis. Logistic regression analysis is used when a dependent variable is categorical or binary (Menard, 2002), in this case, 100% condom use/“regular condom use”=1 and “irregular condom use”=0 as opposed to a continuous dependent variable

The regression equation is as follows:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + u_i$$

Where Y_i is regular condom use, β_1 to β_n are coefficients, X_1 to X_n are the relationship dynamics related to condom use such as type of relationship, and age difference between sexual partners, and other demographic characteristics. β_0 and u_i are the intercept and the error term respectively.

Dependent variable- 100% condom use with that partner within the past 30 days will be defined as regular or consistent condom use.

This percentage will be calculated based on the number of times a condom is used given the number of times the participant had sex with a particular partner.

This was based on

Question 29: How many times have you had sex with this partner in the past 30 days?

Question. 30¹: How many times have you used a condom during sex with this partner in the past 30 days?

Categories

1 = 100% condom use

0 = less than 100% condom use

Chimbindi et al. (2010) defines consistent (regular) condom as “always” using condoms, that is, using a condom during each sexual encounter with a partner during a given period of time. Based on this, condom use of 100% with a partner will be defined as regular condom use.

There will be separate analyses for the entire sample, and then for gender (males and females)

Independent variables: Relationship dynamics

Type of relationship	<p>Question. 27. What relationship do you have with this sexual partner?</p> <p>Categories: 1= spouse 2= boyfriend/girlfriend 3= casual partner/friend 4= commercial sex worker 5= one time partner 6= other</p>
Age difference (derived variable)	<p>Calculation based on: Question. 7. How old are you? and Question. 28. How old is this sexual partner</p> <p>Categories</p>

¹*Questions presented in the tables above refer to those included in the baseline behavioural assessment questionnaire and demographic details questionnaire. These questionnaires are attached as Appendix D and Appendix E respectively

	<p>1= partner 16 and more years older 2= partner 11 >=years older 3= partner 6-10 years older 4= partner 1-5 years older 5= same age 6= partner 1-5 years younger 7= partner 6>=years younger 8= partner 11-15 years younger</p>
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Independent variables: Individual recent sexual history and HIV status

Number of sexual encounters (variable categories recoded)	<p>Question. 21. In the past 6 months, how frequently did you have sex?</p> <p>Categories:</p> <p>1= once or twice a month 2= more than twice a month 3= two or more times per week</p>
Number of sexual partners (variable categories recoded)	<p>Question 20. In the past 6 months, with how many different people have you had sex (including your spouse)? If you can't recall the exact number, please give a best guess.</p> <p>Categories</p> <p>1= one partner 2= two partners 3= three or more partners</p>
Respondent reported HIV status at the time of interview (derived variable)	<p>Calculation based on: Question 40. Have you ever been voluntarily tested for HIV? Question. 55. What were the results of your last HIV test (or the last test from which you received results)</p> <p>Categories</p> <p>1= HIV negative 2= HIV positive 3= don't know 4= refused to answer 5= not tested for HIV 6= tested, result missing</p>

Independent variables: Demographic characteristics

Respondent age (recoded variable)	Question. 7. How old are you? If you don't know exactly, please give a best guess. Categories: 1= 18-21 years 2= 22-25 years 3= 26-29 years 4= 30-32 years
Respondent religion (recoded variable)	Question.12. What is your religion? Categories: 1= Christian 5= no religion 6= other
Respondent education (recoded variable)	Question.11. What is the highest level of education you have completed? Categories: 2= <7 years 3= 8-10 years 4= 11-12 years 5= Tertiary
Respondent occupation	Question. 17. What is your primary occupation? Categories: 1= full-time employment 2= part-time employment 3= self-employed 4= unemployed 5= student 6= other
Respondent household socioeconomic status (derived variable)	Household wealth terciles derived as described below using the following questions: Question.23. What material did you use to build your house? Question. 24. What sort of toilet facility does your household use? Question. 24a. Is the toilet facility that your household uses indoors? Question. 25. Does your own household have the following? Asset: electricity, refrigerator, television, tap drinking water in house, stove, cellphone, car in working condition, bicycle, radio, telephone (landline) Categories: 1= Low household SES 2= Middle household SES 3= High household SES

Based on assets' variables, social economic status was categorised into 'low', 'middle' and 'high' based on the Principal Component Analysis (PCA) (Vyas & Kumaranayake, 2006) calculated using SPSS. Asset variables (type of material used to build house, type of toilet and additional assets in the house) were analysed using PCA and grouped if values are similar. These were then be weighted accordingly and scores with a higher positive score were associated with higher socio-economic status (Vyas & Kumaranayake, 2006). According to Vyas & Kumaranayake (2006) using income earned by households as a standard by which to measure socio-economic status as it is a challenge to obtain accurate income information, one may need to account for the multiple sources of income such as government grants. These authors suggest using assets and principal components analysis to analyse, weight and group individuals into socio-economic status groups.

Household wealth, in the form of economic status, is further discussed by Rustein & Johnson (2004) and is regarded as having several benefits. The authors state that compared to income or consumption, wealth indicates a more stable status and that measuring wealth is easier because often one respondent is needed and fewer questions are necessary in comparison to consumption and income.

3.9 Ethical considerations

3.9.1 Institutional Review Board

Ethical approval for the Vulindlela baseline assessment survey was obtained from the University of Witwatersrand's Human Research Ethics Committee (Medical) (Ethics reference number 041107), the letter of ethical approval is attached as Appendix A. Ethical approval for the continued use of the data for the purpose the secondary analysis presented here was obtained from the UCLA, the letter of approval is attached as Appendix B.

3.9.2 Informed consent forms

Participants gave verbal consent to the study which was then documented by the interviewer (with the interviewer's initials and the date of the interview on the bottom right corner) in the household screening form. The form is attached as Appendix F.

3.9.3 Permissions

The HSRC has approved the use of the data for the Masters study presented here (Appendix C).

3.10 Validity, Reliability and Rigour

The questionnaire was administered to willing and eligible participants. The method used for data analysis is appropriate to answer the research question/s posed, this means that the measure is valid and meets the objectives of the study. Also a standard protocol was developed and used across the five study sites which ensured validity and reliability of the datasets, therefore the questionnaire should yield similar results when repeated and once random error, error due to “random disturbances in performance on the measure”, (Durrheim & Painter, 2006, pp. 152) and systematic error, “non-random bias that impacts on the reliability of the measure” (Durrheim & Painter, 2006, pp. 152) are accounted for. The sample that participated in the study was representative of the community. This means the inferences made from the study will be generalisable to the community where data were collected and other communities of similar size and context. Since the study is quantitative and draws inferences from numerical figures, one cannot get more in-depth and personal responses from the data regarding condom use and relationship dynamics.

3.11 Limitations & Summary

The chapter has outlined the methodology used for this secondary analysis study. This section explained the research questions and objectives, the sampling procedures and research design used. It also discussed the process of data collection and analysis used and mentioned some of the ethical issues considered and validity and reliability of the study. Nevertheless, there are limitations of using secondary data which may affect validity, reliability and generalisability of results. For example the number of missing cases in the data and the number of participants who refused to provide their partner’s details may impact on the results and conclusions drawn from the data. Furthermore, because of the purposes of the Project Accept study, data on respondents wishing to conceive and those on other forms of contraceptives besides condoms were not collected. There was also no indication of whether or not respondents wanting to conceive were excluded from the study or not. The collection and analysis of these data would have made some

difference to the consistence with which condoms are used among respondents wishing to conceive and those using other forms of contraceptive methods, for instance injectable hormonal contraceptives (Sangi-Haghpeykar, Poindexter & Bateman, 1997). To add to this, the quantitative nature of study does not allow for exploration of more qualitative aspects of regular condom use such as motivation to use condoms and communication between partners about the use of condoms.

Chapter Four: Results

This chapter presents and interprets results from the study. The introduction begins by detailing how the sample used for the condom use analysis was obtained from the data set. It then presents the descriptive results from the bivariate analysis of the independent variables for all the sampled participants. This is followed by the description of the results from multivariate logistic regression analysis, which included the independent variables that were significantly associated with condom use in the bivariate analysis among all the sampled participants. The second and third parts of the chapter present the results of these analyses for male and female participants separately.

4.1 Introduction

The sample size for this study, as shown in Table 1, was 2596 respondents in total, of which only 9 respondents did not report whether they had previously had sex. Overall, 10.5% reported that they had never had sex and 20.7% reported they had not had sex in the last six months. Of those reporting they had sex in the last six months, 17.9% of the respondents refused to answer questions related to their sexual partners. Partner details include type of relationship with partner, sex of partner, number of sexual encounters with partner in the past 30 days, and whether condoms were used with the partner; see Q23 (Question 23), pg. 6 of Baseline behavioural assessment questionnaire, attached as Appendix D. Among those prepared to provide information about their partners, 8.4% reported they had not had sex in the last 30 days. Only 19 of the respondents who had had sex in the last 30 days did not have data on condom use. Therefore, the total sample available for analysis was 1077 respondents.

Table 1: Condom use data and participants who have ever had sex: Total sample

Missing 'ever had sex' data	9	0.3
Never had sex	273	10.5
Not had sex in past 6 months	537	20.7
Refused partner details	464	17.9
Not had sex in past 30 days	217	8.4
No condom use data	19	0.7
Consistent condom use	399	15.4
Inconsistent condom use	678	26.1
N	2596	100

4.2 Condom use data: Total sample

Table 2 below shows the proportion of condom use among all the participants. Among the participants, 399 (37%) used condoms consistently, defined as using a condom during each sexual encounter with a partner during a given period of time (Chimbindi et al., 2010) while the majority of the 678 participants (63%) were inconsistent condom users.

Consistent condom use	399	37.0
Inconsistent condom use	678	63.0
N	1077	100.0

4.3 Participants who refused to provide partner details

Table 3 below presents a bivariate analysis of those participants who refused to provide their partner's details among all the participants by the following variables: sex, reported number of sexual partners in the last 6 months, reported HIV status, respondent age, religion, education, occupation and household socio-economic status. This analysis was done to determine which participants were likely to refuse providing their partner's details.

In the bivariate analysis, there was a significant difference ($p=0.000$) between males and females among those who refused to provide their partner's details, with 32.2% of the males refusing to provide partner details, compared to 22.5% of the females.

The bivariate analysis indicated a significant difference ($p=0.000$) between the number of reported sexual partners in the last six months and those who refused to provide partner details, with 23.5% of all respondents who reported having one sexual partner in the last 6 months refusing to provide partner details, while 38% of all respondents who reported having two sexual partner in the last 6 months refusing to provide partner details and just over half (52%) of all respondents who reported having three or more partner in the last 6 months refusing to provide partner details. This means that the more sexual partners' respondents reported having in the last 6 months; the more likely they were to refuse providing their partner's details.

There was a significant difference ($p=0.002$) between reported HIV status and those who refused to provide partner details, with 20.7% of all respondents who reported being HIV negative refusing to provide partner details, while 21.2% of all respondents who reported being HIV positive refusing to provide partner details. Among those respondents who reported not knowing their HIV status (not tested), 28.4% of all respondents refused to provide partner details and of all respondents who reported having tested but had no results; 35.2% refused to provide partner details. This means that it is more likely for respondents who reported not having tested for HIV and those respondents that tested but had missing results, to refuse providing their partner's details compared to those who reported an HIV negative status and those who reported an HIV positive status.

Regarding the participants' ages (respondent age) and those who refused to provide partner details, there was no significant difference ($p=0.821$) between the two, with 25.2% of all respondents who reported being between the ages of 18-21 years refusing to provide partner details, while 26.5% of all respondents who reported being between the ages of 22-25 years refusing to provide partner details. Among those respondents who reported being between the ages of 26-29 years old, 26.8% of all respondents refused to provide partner details and 28% of all respondents between the ages of 30-32 years refused to provide partner details. This means that the older the respondents, the more reluctant they were to provide their partner's details.

There was a significant difference ($p=0.000$) between religion and refusal to provide partner details, with 23.3% of all respondents who reported being Christian refusing to provide partner details compared to 38.6% of all respondents who reported not identifying with any religion refusing to provide partner details and 21.2% of respondents who reported identifying with another religion refusing to provide partner details. This means it is more likely for respondents who reported not identifying with any religion to refuse providing their partner's details, compared to those respondents who reported being Christian and those who reported identifying with another religion.

The bivariate analysis showed no significant difference ($p=0.054$) between level of education and refusal to provide partner details, among all the respondents who reported having received 7 or less years of education, 25% refused to provide partner details, while 26.7% among all respondents who reported having received 8-10 years of education 26.7% refused to provide partner details and 26.8% among all those respondents who reported having received 8-10 years of education refused to provide partner details. Those respondents who reported having received a tertiary education were less likely to refuse providing partner details at 21.5% compared to those respondents who reported receiving less education.

There was no significant difference between occupation ($p=0.10$) and refusal to provide partner details, among all respondents who reported being employed on a full-time basis 28.9% refused to provide partner details, as did 32.9% of those who reported being employed on a part-time basis and 34.3% of those who reported being self-employed. Refusal to provide partner details was less likely among those who reported being unemployed (24%) and among those who reported being students (23.9%) compared to respondents who were employed on a full-time basis, part-time basis and those who were self-employed.

The bivariate analysis indicated no significant difference ($p=0.976$) between household socioeconomic status (SES) and refusal to provide partner details, among all the respondents reporting a low household SES, 26.5% refused to provide partner details, while another 26.5% among all respondents reporting a middle household SES refused to provide partner details and 26% among all those respondents reporting a high household SES, refused to provide partner details. This means that refusal to provide partner details was slightly less likely among respondents with a high household SES compared to those respondents with low and middle household SES.

Table 3: Participants who refused to provide partner details

Independent variable	Refused Details (n)	% Refused Partner	p value (Pearson chi-square)
Sex			
Male	227	32.2	0.000
Female	237	22.5	
No. of sexual partners in the last 6 months			
One partner	352	23.5	0.000
Two partners	57	38.0	
Three or more partners	53	52.0	
Reported HIV status at the time of interview			
HIV negative	96	20.7	0.002
HIV positive	18	21.2	
Not tested for HIV	318	28.4	
Tested (Result missing)	31	35.2	
Age			
18-21 years	146	25.2	0.821
22-25 years	121	26.5	
26-29 years	107	26.8	
30-32 years	90	28.0	
Religion			
Christian	297	23.3	0.000
No religion	143	38.6	
Other	24	21.2	
Education			
<=7 years	39	25.0	0.743
8-10 years	120	26.7	
11-12 years	287	26.8	
Tertiary	17	21.5	
Occupation			
Full-time employment	58	28.9	0.10
Part-time employment	83	32.9	
Self employed	35	34.3	
Unemployed	202	24.0	
Student	85	23.9	

Household socio-economic status			
Low	162	26.5	
Middle	150	26.5	0.976
High	150	26.0	

4.4 Bivariate analysis: Total sample

Table 4 below presents a bivariate analysis of condom use among all the participants by the following variables: sex, type of relationship, age difference between partners, number of sexual encounters, number of sexual partners, reported HIV status, respondents' age, religion, education, occupation and household socio-economic status. The p-values from the chi-square test were used to determine which variables seemed to have a relationship with consistent condom use and these variables were then included in the multivariate logistic regression model.

In the bivariate analysis, there was a significant difference ($p=0.001$) between males and females in consistent condom use, with 43.6% of the males reporting consistent condom use with their most recent partner, compared to 33.5% of the females.

There was a significant difference ($p=0.000$) between type of relationship and consistent condom use. Among all those who were married, only 10.6% used condoms consistently with their spouse; while 37.8% of those who reported being in a boyfriend/girlfriend relationship were consistent condom users. Three-quarters (75%) of those who had a casual partner/friend relationship used condoms consistently. This means those respondents who reported being in casual relationships were more likely to use condoms consistently compared to those who reported being married or being in boyfriend/girlfriend relationships.

The bivariate analysis showed a significant difference ($p=0.015$) between the age differences between partners and consistent condom use. Of all the respondents who reported being in a relationship with a partner 11 years and older than they were, 40.3% used condoms consistently, while 29.4% among all those who had a partner that was 6-10 years older used condoms consistently. Of those respondents who reported being in a relationship with a partner that was 1-

5 years older than them, 33.6% used condoms consistently whereas with respondents who were the same age as their partners, 36.4% reported consistent condom users, while 45% among all those who reported having partners that were 1-5 years younger than them used condoms consistently and 41.3% among all respondents who had a partner 6 years and younger than them used condoms consistently.

There was a significant difference ($p=0.000$) between the frequency of sexual encounters and consistency of condom use, with 45.8% of the respondents who reported having had sex once or twice a month with their most recent partner reporting consistent condom use; compared to 33.8% reported consistent condom use among respondents reporting two or more sexual encounters a month with their most recent partner and 22.8% respondents reporting consistent condom use with their most recent partner among respondents who reported two or more sexual encounters per week. This means that the more frequently respondents reported having sex with their last partner; the less likely they were to use condoms consistently.

The bivariate analysis indicated a significant difference ($p=0.006$) between the number of sexual partners and consistent condom use, with 35.5% of all respondents who reported having one sexual partner in the last 6 months reporting consistent condom use, while just over half (52.1%) of all respondents who reported having two sexual partner in the last 6 months reporting consistent condom use and just below half (48.7%) of all respondents who reported having three or more partner in the last 6 months reporting consistent condom use with their most recent partner. This means that the more sexual partners' respondents reported having in the last 6 months; the more likely they were to use condoms consistently.

There was a significant difference ($p=0.017$) between reported HIV status and consistent condom use, with 35% of all respondents who reported being HIV negative reporting consistent condom use, while just over half (55.4%) of all respondents who reported being HIV positive reporting consistent condom use. Among those respondents who reported not knowing their HIV status (not tested), 35.9% of all respondents reported consistent condom use and of all respondents who reported having tested but had no results; 44.7% reported consistent condom use. This means

that it is more likely for respondents who reported an HIV positive status to use condoms consistently compared to those who reported an HIV negative status and those who reported that they had not tested for HIV.

Regarding the participants' ages (respondent age) and consistent condom use, there was a significant difference ($p=0.032$) between the two, with 42.4 % of all respondents who reported being between the ages of 18-21 years reporting consistent condom use, while 38.2% of all respondents who reported being between the ages of 22-25 years reporting consistent condom use. Among those respondents who reported being between the ages of 26-29 years old, 31.2 % of all respondents reported consistent condom use and 34.3% of all respondents between the ages of 30-32 years reported consistent condom use.

With regards to religion; although those respondents who reported being Christian (with 37.9% reporting consistent condom use) reported more consistent condom use compared to those respondents who reported not identifying with any religion (34.6% reporting consistent condom use) and those who reported that they identified with other religions (23% reporting consistent condom use). However, overall there was no significant difference ($p=0.530$) between religion and consistent condom use in the bivariate analysis.

With increasing education, consistent condom use was more likely, with 30.6 % of all respondents who reported having received 7 or less years of education reporting consistent condom use, compared to 34.2% of all respondents who reported having received between 8-10 years of education reporting consistent condom use; while 38.1% of all respondents who reported having received 11-12 years of education reported consistent condom use and 51% of all respondents who reported having a tertiary education reported consistent condom use. The bivariate analysis however showed no significant difference ($p=0.063$) between education and consistent condom use.

There was a significant difference between occupation ($p=0.003$) and consistent condom use, among all respondents who reported being employed on a full-time basis 34.1% reported

consistent condom use, as did 35.3% of those who reported being employed on a part-time basis and 33.2% of those who reported being unemployed. Consistent condom use was more likely among those who reported being self-employed (46.7%) and among those who reported being students (47.3%).

The bivariate analysis indicated no significant difference ($p=0.054$) between household socioeconomic status (SES) and consistent condom use. Among all the respondents reporting a low household SES, 35.1% reported consistent condom use, while 34% among all respondents reporting a middle household SES reported consistent condom use and 42% among all those respondents reporting a high household SES, used condoms consistently. This means that consistent condom use was more likely among respondents with a high household SES.

Table 4: Consistent condom use bivariate analysis: Total sample			
Independent variable	Consistent CU (n)	% Consistent CU	p value (Pearson chi-square)
Sex			
Male	166	43.6	0.001
Female	233	33.5	
Type of relationship			
Spouse	7	10.6	0.000
Boyfriend/Girlfriend	371	37.8	
Casual partner/Friend	18	75.0	
Age difference between partners			
Partner 11 \geq years older	25	40.3	0.015
Partner 6-10 years older	45	29.4	
Partner 1-5 years older	144	33.6	
Partner same age	32	36.4	
Partner 1-5 years younger	121	45.0	
Partner 6 \geq years younger	31	41.3	
No. of sexual encounters			
Once or twice a month	219	45.8	0.000
More than twice a month	131	33.8	
Two or more times per week	47	22.8	
No. of sexual partners in the			

last 6 months			
One partner	342	35.5	
Two partners	37	52.1	0.006
Three or more partners	19	48.7	
Reported HIV status at the time of interview			
HIV negative	107	35.0	
HIV positive	31	55.4	0.017
Not tested for HIV	240	35.9	
Tested (Result missing)	21	44.7	
Age			
18-21 years	142	42.4	
22-25 years	105	38.2	0.032
26-29 years	83	31.2	
30-32 years	69	34.3	
Religion			
Christian	313	37.9	
No religion	63	34.6	0.530
Other	47	23.0	
Education			
<=7 years	30	30.6	
8-10 years	95	34.2	0.063
11-12 years	247	38.1	
Tertiary	26	51.0	
Occupation			
Full-time employment	43	34.1	
Part-time employment	49	35.3	
Self employed	28	46.7	0.003
Unemployed	181	33.2	
Student	97	47.3	
Household socio-economic status			
Low	129	35.1	
Middle	121	34.0	0.054
High	148	42.0	

4.5 Multivariate logistic regression analysis: Total sample

The following variables, which were significant in the bivariate analysis, were included in the multivariate logistic regression model: sex, relationship type, age difference between partners, number of sexual encounters, number of sexual partners, reported HIV status at the time of the interview, occupation and respondents' age.

Table 5 below presents the results of the multivariate binary logistic regression model for all the participants.

When controlling for the other variables, there was no significant association between the sex of the participant and whether or not they used condoms consistently with their most recent partner. In addition, the respondents' age, and the age difference between partners, was not significantly associated with consistent condom use in the final model. There was no significant association between the number of sexual partners one had had in the previous six months and consistent condom use with their most recent partner when controlling for sex, relationship type, age difference between partners, number of sexual encounters, reported HIV status at the time of the interview, occupation and respondents' age.

However, relationship type remained a significant predictor in determining consistent condom use among participants when controlling for the other variables. Respondents were 92% less likely to report consistent condom use when the partner was a spouse compared to those in a casual relationship. Similarly, respondents were 70.1% less likely to report consistent condom use with a boyfriend or girlfriend compared to those in a casual relationship.

The number of sexual encounters with the partner remained significant, with increasing sexual encounters associated with inconsistent condom use. Respondents who had sex more than twice a month were 56.7% more likely to report consistent condom use than those who had sex two or more times per week. Whereas respondents that reported having sex once or

twice a month were 181.7% more likely to report consistent condom use than those who had sex two or more times a week.

Those participants who reported not having tested for HIV during the time of the interview were 48% less likely to report consistent condom use with their most recent partner compared to those that had tested but had missing results. To add to this, respondents who were unemployed were 36.6% less likely to report consistent condom use than students.

Table 5: Consistent condom use multivariate analysis: Total sample

Variable	p-value (Sig)	OR (%)	CI (95%)	
			Lower	Upper
Sex				
Male	0.422	1.205	0.764	1.900
Relationship Type				
Casual/Friend		Ref ²		
Spouse	0.000 ^{*3}	0.080	0.022	0.289
Boyfriend/Girlfriend	0.016 [*]	0.299	0.111	0.800
Age difference between partners				
6<=years younger		2		
11<=years older	0.382	1.455	0.628	3.369
6-10 years older	0.380	0.711	0.332	1.523
1-5 years older	0.598	0.834	0.424	1.639
Same age	0.642	0.844	0.412	1.728
1-5 years younger	0.541	1.195	0.675	2.115
No. of sexual encounters				
Two or more times per week		2		
More than twice a month	0.033 [*]	1.567	1.038	2.367
Once or twice a month	0.000 [*]	2.817	1.882	4.217
No. of sexual partners				
Three or more partners		2		
One partner	0.196	0.613	0.292	1.287

² reference category

³ *= 0.05 level of significance

Two partners	0.931	0.963	0.409	2.268
Reported HIV status at the time of interview				
Tested, result missing		2		
HIV negative	0.119	0.591	0.305	1.145
HIV positive	0.524	1.312	0.570	3.020
Not tested for HIV	0.044*	0.520	0.275	0.983
Occupation				
Student		2		
Full-time employment	0.119	0.652	0.381	1.116
Part-time employment	0.114	0.655	0.388	1.107
Self-employed	0.524	1.238	0.641	2.391
Unemployed	0.024*	0.634	0.426	0.943
Age categories				
30-32 years		2		
18-21 years	0.801	0.942	0.593	1.498
22-25 years	0.715	0.923	0.602	1.416
26-29 years	0.260	0.783	0.512	1.199
Constant	0.057	4.248		

4.6 Condom use data: Male respondents

The sample size for the male participants in the study, as shown in Table 6 below, was 1076 respondents in total, of which only 4 respondents did not report whether they had previously had sex. Overall, 11.4% reported that they had never had sex and 22.4% reported they had not had sex in the last six months. Of those reporting they had sex in the last six months, 21.1% of the respondents refused to answer questions related to their sexual partners. Among those prepared to provide information about their partners, 8.9% reported they had not had sex in the last 30 days. Only 4 of the respondents who had had sex in the last 30 days did not have data on condom use. Therefore, the total sample available for analysis among male participants was 381 respondents.

Table 6: Condom use data and participants who have ever had sex: Male respondents

Missing 'ever had sex' data	4	0.4
Never had sex	123	11.4
Not had sex in past 6 months	241	22.4
Refused partner details	227	21.1
Not had sex in past 30 days	96	8.9
No condom use data	4	0.4
Consistent condom use	166	15.4
Inconsistent condom use	215	20.0
N	1076	100 (%)

Table 7 below shows that among the male participants only; 166 participants (43.6%) of the participants used condoms consistently while the rest of the 215 participants (56.4%) were inconsistent condom users.

Table 7: Condom use data by Male respondents

Consistent condom use	166	43.6
Inconsistent condom use	215	56.4
N	381	100.0

4.7 Bivariate analysis: Male respondents

Table 8 below presents bivariate analysis of condom use among the male participants by the following variables: type of relationship, age difference between partners, number of sexual encounters, number of sexual partners, reported HIV status, respondent age, religion, education, occupation and household socio-economic status. The p-values from the chi-square test were used to determine which variables seemed to have a relationship with consistent condom use in; these variables were then included in the multivariate logistic regression model for the male participants accordingly.

There was a significant difference ($p=0.001$) between type of relationship and consistent condom use among male participants. Among all those males who reported being in a boyfriend/girlfriend, 42.3% used condoms consistently with their most recent partner compared to 77.3% reported consistent condom use among male respondents who reported being in a casual relationship. This means that respondents who reported being in casual relationships were

more likely to use condoms consistently compared to those reporting boyfriend/girlfriend relationships.

The bivariate analysis showed no significant difference ($p=0.303$) between the age differences between partners and consistent condom use among male respondents. Of all the male respondents who reported being in a relationship with a partner that was 1-5 years older than them, 31.6% used condoms consistently whereas with male respondents who were the same age as their partners, 48.9% reported consistent condom users, while 45.7% among all those males who reported having partners that were 1-5 years younger than them used condoms consistently and among all male respondents who reported having partners that were 6 years and younger than them, 39.4% used condoms consistently.

There was a significant difference ($p=0.000$) between the frequency of sexual encounters and consistency of condom use among males, with 54.8% of the male respondents who reported having had sex once or twice a month with their most recent partner reporting consistent condom use; compared to 43.3% reported consistent condom use among male respondents reporting two or more sexual encounters a month with their most recent partner and 25.3% respondents reporting consistent condom use with their most recent partner among male respondents, who reported two or more sexual encounters per week. This means that the more frequently male respondents reported having sex with their last partner; the less likely they were to use condoms consistently.

The bivariate analysis indicated no significant difference ($p=0.395$) between the number of sexual partners and consistent condom use among males, with 41.5% of all male respondents who reported having one sexual partner in the last 6 months reporting consistent condom use, while just under half (49.2%) of all male respondents who reported having two sexual partner in the last 6 months reporting consistent condom use and half (50%) of all male respondents who reported having three or more partner in the last 6 months reporting consistent condom use with their most recent partner.

There was a significant difference ($p=0.001$) between reported HIV status and consistent condom use among males, with 42.9% of all male respondents who reported being HIV negative reporting consistent condom use, while three quarters (75%) of all male respondents who reported being HIV positive reported consistent condom use. Among those respondents who reported not knowing their HIV status (not tested), 41.3% of all male respondents reported consistent condom use and of all male respondents who reported having tested but had no results; 100% reported consistent condom use. This means that it is more likely for respondents who reported an HIV positive status and those who reported having tested with missing results to use condoms consistently compared to those who reported an HIV negative status and those who reported that they had not tested for HIV.

Regarding the participants' ages (respondent age) and consistent condom use, there was a significant difference ($p=0.031$) between the two, with half (50%) of all male respondents who reported being between the ages of 18-21 years reporting consistent condom use, while 45% of all male respondents who reported being between the ages of 22-25 years reporting consistent condom use. Among all those male respondents who reported being between the ages of 26-29 years old, 30.3% of all respondents reported consistent condom use and 47.2% of all male respondents between the ages of 30-32 years reported consistent condom use. This means that it is more likely for male respondents between the ages of 18-21 years, 22-25 years and 30-32 years to report consistent condom use compared to those males between 26-29 years.

There was a significant difference ($p=0.011$) between religion and consistent condom use among males, with almost half (49.2%) of all male respondents who reported being Christian reporting consistent condom use compared to 35.2% of all male respondents who reported not identifying with any religion reporting consistent condom use. This means it is more likely for male respondents, who reported being Christian to use condoms consistently, compared to those males who did not identify with any religion.

With increasing education, consistent condom use among males was more likely but did not reach statistical significance ($p=0.140$). Of all male respondents who reported having received 7

or less years of education, 31% reported consistent condom use, compared to 43.7% of all male respondents who reported having received between 8-10 years of education. Similarly, 43.2% of all male respondents who reported having received 11-12 years of education reported consistent condom use. However, 63.6% of all respondents who reported having a tertiary education reported consistent condom use.

There was no significant difference between occupation ($p=0.388$) and consistent condom use among males. Among all male respondents who reported being employed on a full-time basis 42.4% reported consistent condom use, as did 36.8% of those who reported being employed on a part-time basis and 43.5% of those who reported being unemployed. Among those male respondents who reported being self-employed, 38.1% used condoms consistently. Consistent condom use was more likely among those who reported being students (51.6%).

The bivariate analysis indicated no significant difference ($p=0.176$) between household socio-economic status (SES) and consistent condom use among male respondents, among all the male respondents reporting a low household SES, 39.9% reported consistent condom use, while 40.8% among all male respondents reporting a middle household SES reported consistent condom use and just over half (50.4%) among all those male respondents reporting a high household SES, used condoms consistently.

Independent variable	Consistent CU (n)	% Consistent CU	p value (Pearson chi-square)
Type of relationship			
Boyfriend/Girlfriend	148	42.3	0.001
Casual partner/Friend	17	77.3	
Age difference between partners			
Partner 1-5 years older	12	31.6	0.303
Partner same age	22	48.9	
Partner 1-5 years younger	101	45.7	
Partner 6 \geq years younger	28	39.4	
No. of sexual encounters			

Once or twice a month	80	54.8	
More than twice a month	65	43.3	0.000
Two or more times per week	21	25.3	
No. of sexual partners in the last 6 months			
One partner	118	41.5	
Two partners	29	49.2	0.395
Three or more partners	19	50.0	
Reported HIV status at the time of interview			
HIV negative	27	42.9	
HIV positive	3	75.0	0.001
Not tested for HIV	125	41.3	
Tested (Result missing)	11	100	
Age			
18-21 years	64	50.0	
22-25 years	50	45.0	0.031
26-29 years	27	30.3	
30-32 years	25	47.2	
Religion			
Christian	121	49.2	0.011
No religion	43	35.2	
Education			
<=7 years	9	31.0	
8-10 years	45	43.7	0.140
11-12 years	98	43.2	
Tertiary	14	63.6	
Occupation			
Full-time employment	28	42.4	
Part-time employment	28	36.8	
Self employed	8	38.1	0.388
Unemployed	54	43.5	
Student	48	51.6	
Household socio-economic status			
Low	55	39.9	
Middle	49	40.8	0.176
High	62	50.4	

4.8 Multivariate logistic regression analysis: Male respondents

Table 9 below presents the multivariate binary logistic regression results for all the male participants. The following variables were included in the model: relationship type, number of sexual encounters, respondents' age and religion.

Relationship type was a significant predictor in determining consistent condom use male among participants. Respondents were 75.1% less likely to report consistent condom use when the partner was a boyfriend/girlfriend compared to those in a casual relationship. Number of sexual encounters among males was significant, with increasing sexual encounters associated with inconsistent condom use. Respondents who had sex more than twice a month were 111.9% more likely to report consistent condom use than those who had sex two or more times per week. Whereas respondents that reported having sex once or twice a month were 168.4% more likely to report consistent condom use than those who had sex two or more times a week among males. There was no significant association between respondents' age and consistent condom use. There was also no association between religion and consistent condom use among male participants.

Table 9: Consistent condom use multivariate analysis: Male respondents

Variable	p value (Sig)	OR (%)	CI (95%)	
			Lower limit	Upper limit
Relationship type	0.010*	0.249	0.086	0.715
Boyfriend/Girlfriend				
No. of sexual encounters				
Two or more times per week		2		
More than twice a month	0.017*	2.119	1.144	3.924
Once or twice a month	0.002*	2.684	1.436	5.018
Age				
30-32 years		2		
18-21 years)	0.956	0.981	0.484	1.987
22-25 years	0.565	0.809	0.393	1.665
26-29 years	0.061	0.477	0.220	1.034

Religion				
Christian	0.056	1.602	0.988	2.599
Constant	0.593	1.427		

4.9 Condom use data: Female respondents

The sample size for the female participants in the study, as shown in Table 10 below, was 1520 respondents in total, of which only 5 respondents did not report whether they had previously had sex. Overall, 9.9% reported that they had never had sex and 19.5% reported they had not had sex in the last six months. Of those reporting they had sex in the last six months, 15.6% of the respondents refused to answer questions related to their sexual partners. Among those prepared to provide information about their partners, 8% reported they had not had sex in the last 30 days. Only 15 of the respondents who had had sex in the last 30 days did not have data on condom use. Therefore, the total sample available for analysis among female participants was 696 respondents.

Table 10: Condom use data and participants who have ever had sex: Female respondents

Missing 'ever had sex' data	5	0.3
Never had sex	150	9.9
Not had sex in past 6 months	296	19.5
Refused partner details	237	15.6
Not had sex in past 30 days	121	8.0
No condom use data	15	1.0
Consistent condom use	233	15.3
Inconsistent condom use	463	30.5
N	1520	100 (%)

Table 11 below indicates that among the female participants only; 233 participants (33.5%) of the participants used condoms consistently while the majority of the 463 participants (66.5%) were inconsistent condom users.

Table 11: Condom use data by Female respondents

Consistent condom use	233	33.5
Inconsistent condom use	463	66.5
N	696	100.0

4.10 Bivariate analysis: Female respondents

Table 12 below presents a bivariate analysis of condom use among the female participants by the following variables: type of relationship, age difference between partners, number of sexual encounters, number of sexual partners, reported HIV status, respondent age, religion, education, occupation and household socio-economic status. The p-values from the chi-square test were used to determine which variables seemed to have a relationship with consistent condom use in; these variables were then included in the multivariate logistic regression model for the female participants accordingly.

There was a significant difference ($p=0.000$) between type of relationship and consistent condom use among female participants. Among all those females who reported being married, only 10.3% used condoms consistently with their spouse; while 35.3% of those who reported being in a boyfriend/girlfriend relationship were consistent condom users. This means that female respondents who reported being in boyfriend/girlfriend relationships were more likely to use condoms consistently compared to those who reported they were married.

The bivariate analysis showed no significant difference ($p=0.218$) between the age differences between partners and consistent condom use among female respondents.

There was a significant difference ($p=0.000$) between the frequency of sexual encounters and consistency of condom use among females, with 41.9% of the female respondents who reported having had sex once or twice a month with their most recent partner reporting consistent condom use; compared to 27.7% reported consistent condom use among female respondents reporting two or more sexual encounters a month with their most recent partner and 21.1% respondents reporting consistent condom use with their most recent partner among female respondents who reported two or more sexual encounters per week. This means that the more frequently female respondents reported having sex with their last partner; the less likely they were to use condoms consistently.

The bivariate analysis indicated no significant difference ($p=0.283$) between the number of sexual partners and consistent condom use among female respondents, with 41.5% of all female respondents who reported having one sexual partner in the last 6 months reporting consistent condom use compared to just under half (49.2%) of all female respondents who reported having two sexual partner in the last 6 months reporting consistent condom use.

There was a significant difference ($p=0.012$) between reported HIV status and consistent condom use among females, with 32.9% of all female respondents who reported being HIV negative reporting consistent condom use, 53.8% of all female respondents who reported being HIV positive reported consistent condom use. Among those respondents who reported not knowing their HIV status (not tested), 31.5% of all female respondents reported consistent condom use and of all female respondents who reported having tested but had no results; 27.8% reported consistent condom use. This means that it is more likely for female respondents who reported an HIV positive status to use condoms consistently compared to those who reported an HIV negative status, those who reported that they had not tested for HIV and those who reported that they had tested but had missing results.

Regarding the participants' ages (respondent age) and consistent condom use, there was no significant difference ($p=0.416$) between the two, with 37.7% of all female respondents who reported being between the ages of 18-21 years reporting consistent condom use, while 33.5% of all female respondents who reported being between the ages of 22-25 years reporting consistent condom use. Among all those female respondents who reported being between the ages of 26-29 years old, 31.6% of all respondents reported consistent condom use and 29.7% of all female respondents between the ages of 30-32 years reported consistent condom use.

There was no significant difference ($p=0.854$) between religion and consistent condom use among females, with 33.2% of all female respondents who reported being Christian reporting consistent condom use while 33.3% of all female respondents who reported not identifying with any religion reporting consistent condom use and 36.8% of all female respondents who reported identifying with any other religion reported consistent condom use. This means it is more likely

for female respondents, who reported identifying with any other religion to use condoms consistently, compared to those females who reported being Christian or those who reported not identifying with any religion.

With increasing education, consistent condom use among females was more likely, with 30.4% of all female respondents who reported having received 7 or less years of education reporting consistent condom use, compared to 28.6% of all female respondents who reported having received between 8-10 years of education reporting consistent condom use; while 35.4% of all female respondents who reported having received 11-12 years of education reported consistent condom use and 41.4% of all female respondents who reported having a tertiary education reported consistent condom use. The bivariate analysis however showed no significant difference ($p=0.297$) between education and consistent condom use among females.

There was a significant difference between occupation ($p=0.005$) and consistent condom use among females, among all female respondents who reported being employed on a full-time basis 25% reported consistent condom use, as did 33.3% of those who reported being employed on a part-time basis and 30.2% of those who reported being unemployed. Consistent condom use was more likely among those females who reported being self-employed (51.3%) and among those females who reported being students (43.8%).

The bivariate analysis indicated no significant difference ($p=0.244$) between household socio-economic status (SES) and consistent condom use among female respondents, among all the female respondents reporting a low household SES, 32.2% reported consistent condom use, while 30.5% among all female respondents reporting a middle household SES reported consistent condom use and 37.6% among all those female respondents reporting a high household SES, used condoms consistently. This means that consistent condom use was more likely among female respondents with a high household SES.

Table 12: Consistent condom use bivariate analysis: Female respondents

Independent variable	Consistent CU (n)	% Consistent CU	p value (Pearson chi-square)
Type of relationship			
Spouse	6	10.3	0.000
Boyfriend/Girlfriend	223	35.3	
Age difference between partners			
Partner 11 >= years older	23	39.7	0.218
Partner 6-10 years older	44	29.1	
Partner 1-5 years older	132	33.8	
Partner same age	10	23.3	
Partner 1-5 years younger	20	41.7	
No. of sexual encounters			
Once or twice a month	139	41.9	0.000
More than twice a month	66	27.7	
Two or more times per week	26	21.1	
No. of sexual partners in the last 6 months			
One partner	118	41.5	0.283
Two or more partners	29	49.2	
Reported HIV status at the time of interview			
HIV negative	80	32.9	0.012
HIV positive	28	53.8	
Not tested for HIV	115	31.5	
Tested (Result missing)	10	27.8	
Age			
18-21 years	78	37.7	0.416
22-25 years	55	33.5	
26-29 years	56	31.6	
30-32 years	44	29.7	
Religion			
Christian	192	33.2	0.854
No religion	20	33.3	
Other	21	36.8	
Education			
<=7 years	21	30.4	0.297
8-10 years	50	28.6	

11-12 years	149	35.4	
Tertiary	12	41.4	
Occupation			
Full-time employment	15	25.0	
Part-time employment	21	33.3	
Self employed	20	51.3	0.005
Unemployed	127	30.2	
Student	49	43.8	
Household socio-economic status			
Low	74	32.2	
Middle	72	30.5	0.244
High	86	37.6	

4.11 Multivariate logistic regression analysis: Female respondents

Table 13 below presents the multivariate binary logistic regression results for all the female participants. The following variables were included in the model: relationship type, number of sexual encounters, reported HIV status at the time of the interview and occupation.

Relationship type was a significant predictor in determining consistent condom use female among participants. Respondents were 74.8% less likely to report consistent condom use when the partner was a spouse compared to those in a casual relationship. Among the females; those participants who reported having one or two sexual encounter a month were 116.4% more likely to report consistent condom use with their most recent partner compared to those who reported having two or more sexual encounters a week. Those participants who reported that they were HIV positive during the time of the interview were 186.6% more likely to report consistent condom use with their most recent partner compared to those that had tested but had missing results. To add to this, respondents who were employed on a full-time basis were 53.1% less likely to report consistent condom use than students. Similarly, respondents who were unemployed were 40.2% less likely to report consistent condom use than students among the female participants.

Table 13: Consistent condom use multivariate analysis: Female respondents

Variable	p value (Sig)	OR (%)	CI (95%)	
			Lower limit	Upper limit
Relationship type				
Spouse	0.002*	0.252	0.104	0.611
No. of sexual encounters				
Two or more times per week		2		
More than twice a month	0.739	1.096	0.639	1.878
Once or twice a month	0.003*	2.164	1.310	3.574
Reported HIV status at the time of interview				
Tested, result missing		2		
HIV negative	0.402	1.410	0.631	3.149
HIV positive	0.032*	2.866	1.097	7.487
Not tested for HIV	0.582	1.247	0.568	2.741
Occupation				
Student		2		
Full-time employment	0.037*	0.496	0.230	0.956
Part-time employment	0.304	0.703	0.360	1.376
Self-employed	0.155	1.760	0.808	3.835
Unemployed	0.024*	0.598	0.383	0.934
Constant	0.033	0.364		

4.12 Summary

The main findings from the multivariate binary logistic regression for the total sample of respondents showed that relationship type, number of sexual encounters, reported HIV status at the time of the interview and occupation were associated with consistent condom use. There was no significant association shown between the other variables (sex of participants, age difference between partners, number of sexual encounters, respondents' age, religion, level of education and household socioeconomic status) either in the multivariate analysis or the bivariate analysis.

Among the male respondents, the results indicated a significant association between two variables (relationship type and number of sexual encounters) and consistent condom use when the multivariate analysis was done. Respondents' age and religion were not significant predictors

of consistent condom use among males in the multivariate analysis. The rest of the variables (age difference between partners, number of sexual partners, reported HIV status at the time of interview, level of education, occupation and household socioeconomic status) were not included in the multivariate analysis because they were not significantly associated with consistent condom use in the bivariate analysis.

Similarly, among the female respondents, results indicated a significant association between the variables included in the model (relationship type, number of sexual encounters, reported HIV status at the time of interview and occupation) and consistent condom use when the multivariate analysis was done. The remaining variables (age difference between partners, number of sexual partners, respondents' age, religion, level of education and household socioeconomic status) were not included in the multivariate analysis because they did not show significant association with consistent condom use in the bivariate analysis.

Chapter Five: Discussion, Conclusion & Recommendations

5.1 Introduction

The theoretical framework adopted for this study was Blanc's framework on relationships and power which suggest that a number of characteristics impact on the power one has to or the power one has over their sexual and reproductive health outcomes; in this instance, consistency of condom use with a heterosexual partner. This chapter will discuss the research findings of the study with reference and comparisons to literature. The chapter will use Blanc's framework on relationships and power as a means to structure the discussion of the findings. Firstly, the demographic characteristics (age and sex) and its impact on condom use will be discussed. This will be followed by a discussion on the individual, social and economic characteristics (education, occupation, religion and sexual history: number of sexual partners, number of sexual encounters and HIV status) and consistent condom use. The relationship characteristics (type of relationship and age difference) and consistent condom use will then be discussed. The final group of characteristics to be discussed will be the family and household characteristics which include the household socioeconomic status and the impact it was found to have on consistent condom use. The discussion of the different characteristics and regular condom use will then be followed by a summary of the chapter. Lastly, the chapter will provide concluding remarks and recommendations for further research.

5.2 Demographic characteristics

5.2.1 Age

The findings revealed that among the total sample of participants in the study, the age of the respondent was not a factor that impacted on consistent condom use. Among the male participants, age was significantly associated with consistent condom use. The younger male participants (18-21 years and 22-25 years) reported higher percentages of consistent condom use compared to 26-29 year olds. This trend seemed to peak again with those males aged 30-32 years old as they also reported higher percentages of condom use compared to the 26-29 year olds. In

comparison to the male participants, the respondent's age among the female participants was not associated with consistent condom use. Theoretically, this is consistent with Blanc's framework on relationships and power which states that there are different expectations placed on males and females, for example a woman not being expected to suggest condom use as this may be seen as a man's role. The findings therefore suggest this as evident in this study because of the significance of age among males and consistency of condom use while the inverse is true of age among females. However, the literature on age and consistent condom use has found that consistent condom use is more likely among younger people; those in their teenage years and early twenties. For example, in Chimbindi et al.'s (2010) study where the respondents were between the ages of 15-24 years. Chimbindi et al. (2010) found that there was no significant association between a yearly age increase in males and inconsistent condom use. Also, although Chimbindi et al. (2010) found that it was more likely for condom use to decrease as age increased among females; this pattern was noted for male participants in the current study. To add to this MacPhail & Campbell (2001) suggest that as one gets older, more permanent relationships emerge which may explain the decrease in condom use at a particular point. The findings of the present study do not seem to be exactly in line with those of previous studies, perhaps due to the fact that the age groups were different.

5.2.2 Sex (Gender and Norms)

This study found that there was no significant difference between males and females regarding consistent condom use. Regarding sex (or gender), the findings between consistent condom use and sex (gender norms) differ from Blanc's framework where one would expect to see a difference between males and females regarding condom use because of the different gender role expectations stated above. With the literature on sex and gender norms and power, these findings seem to differ from those of previous studies which suggest that women from developing countries have to follow certain norms pertaining to sex and their own sexuality which includes not enquiring about or negotiating for safe sex (Jewkes & Morrell, 2010) and also as stated by Chimbindi et al. (2010) that condom use in a relationship is initiated by the male partner and they ultimately decide on its use (or not); which explained why males reported more regular condom use compared to females in their study. A reason why the present study's findings may not be consistent with those of previous studies in this regard is because some respondents refused to

provide their partner's details. With specific regards to sex as a characteristic, there were a higher percentage of males who refused to provide their partner's details compared to the female respondents; here the difference between the male respondents who refused to provide partner details and female respondents who refused to provide partner details was significant with a Pearson chi-square p value of 0.00.

5.3 Individual social and economic characteristics

5.3.1 Education

The results for the education characteristic (level of education) was not significant among the total sample when the bivariate analysis was conducted therefore indicating no significant difference between level of education and consistent condom use among the total sampled respondents. Similarly, the same held true for level of education and consistent condom use among the male and female respondents respectively. Although previous literature suggests that level of education is associated with consistent condom use (Beksinska et al. 2012; Chimbindi et al. 2010; Lagarde et al. 2001). Hendriksen et al. (2007) found that even if women were educated, if there were unequal power dynamics and financial dependence within the relationship; these educated women were still less likely to be able to negotiate for the use of condoms with their partner.

5.3.2 Occupation

The results from the multivariate analysis revealed an association between occupation and consistent condom use among the total sample of respondents. There was a notable difference between unemployed respondents and those whom were students; respondents who were unemployed were almost 40% less likely to report consistent condom use compared to students. Some of the reasons for this may be because of issues of access; for example, even though there is access to free male condoms in South Africa (Myer, Mathews, Little & Karima, 2001) unemployed respondents could also live in households with a low socioeconomic status where getting access or transport money may be difficult compared to students who may have access to condoms, clinics and information more readily. Occupation was not a significant factor among male participants whereas it was a significant factor among the female respondents with students

still more likely to use condoms consistently compared to people employed on a full time basis and those who reported being unemployed. This is consistent with Lagarde et al.'s (2001) findings that revealed that being a student was associated with consistent condom use in various situations.

5.3.3 Religion

The results for the religion characteristic were not significant when the bivariate analysis was conducted among the total sample and the female respondents respectively, therefore indicating no significant difference between religion and consistent condom use among the total sampled respondents and among the female respondents. Furthermore, the multivariate results for the male respondents showed that there was no significant association between religion and consistent condom use. The literature review presented a more general view of religion; namely Christianity and condom use. However; it was mentioned that the strict Christian denominations (Christianity was the religion the majority of the total sampled respondents identified with) including Jehovah's Witnesses and Seventh Day Adventists had very strict rules for their youth pertaining to sexual behavior and that even though sexual debut for these denominations occurred much later, it was often without the use of a condom (Agha et al., 2006). The results from the present study could suggest that although the majority of the respondents sampled in this study reported that they were Christian, few of them belonged to the stricter denominations where premarital sex and contraceptives were forbidden.

5.3.4 Sexual history

5.3.4.1 Number of sexual partners

Overall, there was no significant association between the number of sexual partners and consistent condom use among the total sampled respondents and among the male respondent and the female respondents respectively. Although Beadnell et al.'s (2005) study suggests that those who have multiple concurrent partner use condoms rarely, the present study also found a significant difference between the number of reported sexual partners in the last six months prior to the study and those who refused to provide partner details. Consequently, this meant that the more sexual partners' respondents reported having in the last 6 months; the more likely they

were to refuse providing their partner's details and according to Beadnell et al. (2005), an increase number of sexual partners increase the risk of HIV infection. To add to this; not many of the respondents reported having two or more sexual partners in the 6 months prior to the study.

5.3.4.2 Number of sexual encounters

The results from the multivariate analysis revealed an association between number of sexual encounters and consistent condom use among the total sample of respondents, with an increase in number of sexual encounters associated with inconsistent condom use. Similarly, the same trend was notable among the male respondents with an increase in number of sexual encounters associated with inconsistent condom use. Among the females respondents; those participants who reported having one or two sexual encounter a month were significantly more likely to report consistent condom use with their most recent partner compared to those who reported having two or more sexual encounters a week. These findings are line with Beadnell et al.'s (2005) study which found that more regular sexual encounters possibly allows for a risk for HIV infection if condoms are not used consistently.

5.3.4.3 HIV status

HIV status and consistent condom use were significantly associated among the total sample of respondents and among the female respondents respectively; Among the total sampled respondents; those who reported not having tested (unknown HIV status) were less likely to report consistent condom use compared to those who had tested but had missing results. This could be due to the perceived risk of HIV infection or lack thereof; if one perceives they are at risk of HIV infection perhaps because of previous risky sexual behaviour; they may perceive their risk of infection to be higher and take precautionary measures such as using condoms consistently (Volk & Koopman, 2001) or testing for HIV. The inverse is also true in that those who perceive no risk or less of a risk may engage in more sexually risky behaviour (Volk & Koopman, 2001).

Among the female respondents, those who reported an HIV positive status were significantly more likely to report consistent condom use compared to those who reported that they had tested

but had missing results. These results are contrary to what Pettifor et al. (2004) found in their study which revealed irregular condom use among HIV positives females. Nonetheless, a study with similar results by Chimbindi et al. (2010) found that HIV positive young people were significantly more likely to use condoms compared with their HIV negative counterparts. There was however no association between HIV status and consistent condom use among the male respondents.

5.4 Relationship characteristics

5.4.1 Type of relationship

There was a significant association between type of relationship and consistent condom use among the total sampled respondents, the male respondents and the female respondents respectively. This is consistent with Blanc's framework on relationships and power where the nature of the the relationship is mentioned as a factor that influences access to health facilities (Blanc, 2001). Among all the sampled respondents, married respondents were more than 90% less likely to use condoms consistently and those in boyfriend/girlfriend relationships 70.1% less likely to use condoms consistently compared to those in casual relationships. Likewise, among the male respondents there was significantly less likelihood to report condom use with a boyfriend/girlfriend compared to a casual partner. Furthermore; among the male respondents, very few people reported being married therefore only the boyfriend/girlfriend and casual partner categories were compared. The low rates of married men in this age group (32 years and below) may be due to having to pay for; bride price also known as lobola (Posel, Rudwick & Casale, 2011). In the context of this study, men living in a rural area, with low socioeconomic status and high rates of unemployment are unlikely to be in a position to pay lobola and get married (Posel et al. 2011); this means that there may be higher rates of unmarried young men.

Similar to the total sampled respondents, there was significantly less likelihood for married participants among the females to report consistent condom use compared to those with casual partner. These findings are similar to those of Chimbindi et al. (2010) where they state that condom use among married and cohabitating people is often less probable which Langen (2005)

is because of the element of trust and security that are developed in married relationships; which may be questioned with the initiation of condoms. These authors also found less likelihood of condoms being used among young married women.

With regards to casual relationships and more consistent condom use, other studies (Chimbindi et al., 2010 and Lagarde et al., 2001) also found similar results about condom use being more regular in less formal relationships compared to more stable ones which suggests that the level of trust and security present in long term, married relationships is not present in these less formal or casual relationships.

5.4.2 Age difference

The results revealed no association between the age difference between partners and consistent condom use among the total sample of respondents, the male respondents and the female respondents respectively. These results differ from studies such as Pettifor et al. (2005) for instance, who found there were significant age discrepancies between males and females and that when males were older; it became more difficult for the female partner to negotiate condom use due to the power imbalances that exist. This could be due to the small sample size in the different age categories, and (Lachenicht, 2002) states that smaller sample sizes are associated with less power; that is the likelihood of correctly rejecting a false null hypothesis (making a type II error). “This means that with smaller sample sizes there is a greater chance of a non-significant result all other things being equal” (Lachenicht, 2002, p. 246). Based on the literature about age differences and sexual behavior and the findings from studies such as Langen (2005) and Pettifor et al. (2005), one would expect the results from the current study regarding age differences and consistent condom to be consistent with findings from these studies if the numbers were larger.

5.5 Family and household characteristics

5.5.1 Household socioeconomic status

The results revealed no association between the household socioeconomic status and consistent condom use among the total sample of respondents, the male respondents and the female respondents respectively. These findings differ from those of previous studies (Chimbindi et al., 2010; David-Gore et al., 2011) who found that people from households with low socioeconomic

status did not use condoms consistently and that those with high socioeconomic status were more likely to have ever used condoms. The literature suggests that people with high socio economic status are also motivated to use condoms because of the various information sources (Adetunji & Meekers, 2001) they have about it and their self-efficacy (Bandura, 1993; Bandura, 2001) compared to people with low socioeconomic status. This literature is also consistent with Bandura's theory on social cognition which states that self-efficacy plays a vital role in the ability to make choices; and act on those choices. Moreover, to explain why people from high socioeconomic status may differ in their consistency of condom use compared to those with low socioeconomic status Fisher, Fisher, Bryan & Misovich (2002) propose a model of information, motivation and behaviour change, meaning that the information one has about something has an impact on their motivation and ultimate behaviour.

5.6 Summary

Some predictors of consistent condom use employed in this study were shown to be significant which was consistent with previous studies and literature; these include number of sexual encounters and type of relationship. With a number of the other variables, there was no association with consistent condom use; which was contrary to previous research findings and literature. However, due to the unique data set, there were justifiable reasons for these differences which include the fact that with age for example, previous studies focus on younger people, mostly 15-24 years whereas the present study sampled respondents between the ages of 18-32 years. Also, considering that some respondents refused to provide their partner's details meant that variables that were significant predictors of consistent condom use in previous studies were not significant in this study and the small number of cases in some instances also meant that variables were not significantly associated with consistent condom use.

5.7 Conclusion & Recommendations

This study has shown that there is an association between relationship dynamics and consistent condom use in a rural context in South Africa. Although not all the predictors showed an association with consistent condom use, the main predictors (those that were significant among all the respondents, males and females) of consistent condom use were the type of relationship one is in and the number of sexual encounters within a given period. Since this study took the form of having separate analyses for the total number of sampled respondents, males and females; there were variables that were significant in some categories and not in others. For instance, HIV status and occupation were significant predictors when the entire sample of respondents was considered and were also significant among females but not among males. As mentioned above, males were also significantly associated with refusing to provide their partner's details which may have contributed to some predictors not being significantly associated with condom use.

For future research it may be advisable to focus on the 18-32 year old age group as there seems to be some discrepancies in findings because the focus is on younger people. Also, even though South Africa distributes free male condoms; these may not be accessible to certain groups of people, for instance those who are unemployed or do not live within close proximity of the distribution centres.

Another important aspect which is not covered in this research would be to focus on research that is geared to improving the power dynamics between males and females in order to improve communication and negotiation of condoms in relationships and to find out whether people are motivated to use condoms and the reasons behind this. That is, to design interventions aimed at improving communication about sexual issues among heterosexual partners where there are unequal power dynamics regarding decisions that affect the partners' sexual health.

Finally, in order to examine consistent condom use accurately; questions on partners wishing to conceive should be asked in order to exclude those clearly not using condoms because of the desire to have children. Further research should also consider relationship dynamics discussed in this study, consistent condom use and the use of other contraception methods which do not

prevent HIV infection such as injectable and oral contraception as dual methods (used with condoms) and its impact on consistent condom use.

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⁴Appendices

Appendix A: Ethical clearance letter: Vulindlela baseline survey

⁴ Appendices are not included in electronic version. To view appendices, please see hardcopy available at University of KwaZulu-Natal (UKZN) libraries

Appendix B: Approval letter for continued use of data for secondary analysis

Appendix C: Letter of permission for data use-HSRC

Appendix D: Baseline (behavioural) assessment questionnaire

Appendix E: Demographics questionnaire

Appendix F: Household screening form