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DETERMINANTS OF CONDOM USE AMONG MIGRANT FARM WORKERS IN TWO SOUTH AFRICAN PROVINCES

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Research Report Submitted to the Faculty of Humanities, University of the Witwatersrand, Johannesburg, for the award of the MA in Demography and Population Studies

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SCHOOL OF SOCIAL SCIENCES

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DECLARATION

I Linda Musariri Chipatiso declare that this research report is my own work. It is submitted for the degree of Master of Arts in Demography and Population Studies at the University of the Witwatersrand, Johannesburg. To the best of my knowledge, it has not been submitted before for any other degree or examination in any other university.

Linda Musariri

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5 June 2013

DEDICATION

To my boys Remo, Kupa and Tata

This is for you my boys - aim higher do your best and God will do the rest. Love you!

ACKNOWLEDGEMENTS

Glory to Him who is able to do immeasurably more than I can ask or imagine, according to His power that is at work in me. Thank you my Lord Jesus!

I am grateful to the International Organisation for Migration for granting me access to their data without which this report would not have materialised.

I would also like to express my gratitude to my supervisor Professor Clifford Odimegwu, who, even in his strictness, meant well and had my best interest at heart.

To my supportive husband, Remo, words cannot explain my gratitude. I am indebted to you, through it all you have been with me. I could never thank you enough. To my mum and my parents-in-law, thank you so much for the support. To my boys, Kupa and Tata and all my little princesses who look up to me, Kiki, Pau, Tanya, Rumbi, Kudzi, Kuda, Mutsa, you motivate me. Be inspired!

To my spiritual parents, Pastor Gee and Pastor Titi, you began the journey with me and Pastor and Mother Mutunduwe for seeing me through to the end.

Thank you to my colleagues, DPS class of 2012 and all my supportive friends who have been with me through thick and thin and to the whole DPS department.

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ABSTRACT

Background: Previous studies have shown that HIV prevalence rates are relatively high while condom use is low in migrant communities in South Africa (Zuma 2003, Weltz 2007, IOM 2008). This study seeks to investigate factors associated with condom use in selected commercial farms in Limpopo and Mpumalanga provinces of South Africa.

Methodology: This study is a secondary data analysis of the Integrated Biological and Behavioural Surveillance Survey (IBBSS) implemented by the International Organisation for Migration (IOM) in 2010 among 2,810 farm workers. The study population comprises all sexually active non-South African nationals who have worked on the farm from a period of less than one year to over ten years. Majority of the migrants are from Zimbabwe, Mozambique and Swaziland. The outcome variable is condom use at the last intercourse while the explanatory variables include sex, age, marital status, financial stability, sexual abuse, condom availability, transactional sex, attending an HIV function and period worked on the farm. Data analysis was undertaken in three stages. Firstly, univariate analysis of the variables was done to provide descriptive statistics of the study population. The second stage was bivariate analysis producing unadjusted odds ratios to examine the association between each of the predictor variables and the outcome variable. The final stage was multivariate analysis using logistic regression and producing odds ratios to examine the association of more than one predictor variable with the outcome variable.

Results: The results show that access to free condoms, having sex while drunk, financial stability and living arrangements with spouse are the factors associated with condom use among migrant farm workers in Limpopo and Mpumalanga. Among migrant men financial stability was

significant while among women, marital status, having sex while drunk and living arrangements with spouse are the significant factors associated with condom use. Unexpectedly, socioeconomic factors such as transactional sex, forced sex and demographic factors such as age, proved to be insignificantly associated with condom use.

Conclusion: It was noted that condom use levels and determinants vary between male and female migrants. Although men portrayed exhibiting more high risk sexual behavior, women proved to be more vulnerable. Policies and programmes targeting migrant farm workers should be gender sensitive.

Key words; migration, condom use, sexual behaviour, HIV

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ABBREVIATIONS

CI: Confidence interval

CSW: Commercial sex workers

HIV: Human Immunodeficiency Virus

IBBSS: Integrated Biological and Behavioural Surveillance Survey

IOM: International Organisation for Migration

MSM: Men having sex with men

OR: Odds Ratio

SA NSP: South Africa National Strategic Plan on HIV/AIDS and STIs 2012-2016

UNAIDS: Joint United Nations Programme on HIV/AIDS

CHAPTER ONE INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND

South Africa continues to be one of the countries worst affected by the HIV and AIDS pandemic. In 2009 an estimated 5.6 million people were living with HIV and AIDS in South Africa (UNAIDS South Africa Epidemic Update, 2011). Prevalence was 17.8 percent among those aged 15-49, with younger adults being particularly affected. Previous studies have identified migration as one of the major drivers of HIV and AIDS especially in the developing world (Lurie et al, 2003). Over the years South Africa has received vast numbers of immigrants from all over the continent as well as abroad. Since the apartheid era, South Africa has made use of migrant labour especially on commercial farms (McDonald et al, 2000).

Commercial farms have been identified as high risk communities (IOM, 2008). Studies all over the world have reported high rates of sexual violence and HIV prevalence rates on commercial farms (Siziya et al 1999, McDonald et al 2000). During acts of sexual violence condom use is extremely low. Bond and Dover's study of farm workers in Chiawa village, Zambia, noted high rates of STIs and HIV on the farm. Most commercial farms are situated in remote areas and this poses a physical barrier to health facilities, resources and information (Brummer 2002). High risk sexual behaviour has also been reported on many commercial farms. According to the Human Rights Watch (2012), sexual violence and harassment in the agricultural workplace are fostered by a severe imbalance of power between employers and supervisors and their low-wage employees. This is exacerbated when employees are immigrants (Human Rights Watch, 2012).

Commercial farms on their own are high risk areas and this is aggravated when one is a migrant. Simply put, being a migrant farm worker can be equated with double jeopardy, more so when

one is a woman. This means that, coupled with limited exposure to health education information, access and utilisation of health services, cultural, linguistic, educational and geographic barriers, migrant farm workers are at increased risk for HIV, as well as a host of other communicable diseases (Organista & Organista, 1997). This risk is increased by the circular nature of migration whereby migrants maintain close links with their rural homes and spouses to which they return occasionally (Zuma et al, 2003). A number of surveys undertaken in South Africa found that the rate of HIV infection is high while condom use is relatively low in the districts situated around migrant and on truck routes (IOM, 2008). As such, migrants have been identified in the National Strategic Plan (2012-2016) as one of the key populations at risk of HIV infection and should be targeted with specific prevention, care and treatment interventions specific to them (SA NSP on HIV/ AIDS and STIs 2012-2016).

The use of condoms is one of the major strategies for combating sexually transmitted infections including HIV. In Africa condom use has been massively debated over the past years, facing opposition from many perspectives (Bond and Dover, 1997). Whilst both men and women have negative attitudes to condoms, because of their economic and social dependence on men, women are in a weaker position to negotiate condom use. This is further exacerbated if the women are migrants (Zuma et al, 2003). Several socioeconomic, cultural and religious factors have been identified as barriers to condom use, and these vary in influence between men and women (Lurie et al, 2003). This study looks into these factors and how they influence condom use in migrant communities, using data from the IBBSS implemented by IOM in partnership with United States Agency for International Development (IOM, 2010).

1.2 PROBLEM STATEMENT

Studies in South Africa have shown that HIV infection rates are relatively high among migrant communities and condom usage is relatively low (Welz et al 2007, IOM 2008). The IBBSS survey discovered that HIV prevalence rates were high on commercial farms with prevalence of **39.5%** which was twice the national prevalence of **18.1**% in South Africa. Another finding in the IBBSS was that the HIV prevalence among migrant farm workers was double, or even more than double, the prevalence rates in their countries of origin. According to the UNAIDS AIDS Epidemic Update Report (2009), HIV prevalence in Mozambique at the time of the survey was 13% and yet the results from the survey showed a 41.5% prevalence rate (IBBSS Report 2010). HIV prevalence was significantly higher among female employees with almost half of the women (46.7%) testing positive compared to just under a third (30.9%) of the male workforce (IOM SA 2010). Although 98% of participants reported being sexually active, just over 50% of participants reported having used a condom the last time they had sex.

Several studies have focused on migrants' vulnerability to HIV infection. To date no study has been carried out to determine the factors that influence condom use among migrant commercial farm workers in Mpumalanga and Limpopo. Zuma et al (2003) focused on risk factors associated with migrant women in Carletonville. Gita et al (2002) looked at HIV prevalence among truck drivers in KZN. Several other studies also looked at migrants and condom use only as an ancillary determinant of HIV infection. IOM has looked at migrants in Limpopo and Mpumalanga through the IBBSS, (IBBSS Report 2010). However, it did not go further to explore the dynamics associated with condom use among migrant farm workers taking gender differentials into consideration. Thus despite the high levels of HIV prevalence rate and low condom use among migrant farm workers, it is noteworthy that little attention has been given to the interplay of these factors in South Africa.

Several HIV prevention interventions are being carried out in these areas with condoms and HIV education being made available (IOM 2009). The question however remains; despite availability of resources and education why is condom use still low among migrant farm workers? Furthermore, what factors place women in a more vulnerable position than their male counterparts if migration and employment are supposed to increase their autonomy as argued by many scholars (Parrado et al 2005, Bond and Dover 1997)? This study seeks to answer these questions in the process of tackling this problem.

1.3 RESEARCH QUESTION

What are the factors associated with condom use among male and female migrants working in commercial farms in Mpumalanga and Limpopo?

1.4 OBJECTIVES

Main Objective

To determine factors associated with condom use among migrant farm workers, controlling for gender

Specific objectives

1. To determine the levels of sexual behaviour and condom use of migrant farm workers in Limpopo and Mpumalanga.

2. To determine factors associated with condom use among migrant men and women and establish how they vary in influence between the sexes.

1.5 HYPOTHESES TESTING

Ho: There is no difference in the levels of condom use between male and female migrants in Limpopo and Mpumalanga, South Africa

Ha: There is a difference in the levels of condom use between male and female migrants in Limpopo and Mpumalanga, South Africa

Ho: There is no difference in the determinants of condom use between male and female migrants in Limpopo and Mpumalanga, South Africa

Ha: There is a difference in the determinants of condom use between male and female migrants in Limpopo and Mpumalanga, South Africa

1.6 JUSTIFICATION

The study has direct implications for public health policy making and project implementation in migrant communities. As established earlier, HIV/AIDS prevention knowledge including condom use appears to be quite sufficient among migrant communities. Equally sufficient is provision of condoms in these areas. However, it is of concern in these communities that despite the knowledge and availability of condoms there is still minimal use of condoms. By identifying factors associated with condom use, this research will identify contextual, socioeconomic and cultural factors that influence condom use, thereby contributing to the ongoing discussion on the dynamics influencing migrants' use or non use of condoms. This study is also important in that it employs the population based approach of analyses by focusing on international migrants on commercial farms. This gives an in-depth understanding of this specific type of migrants rather than a generalised overview of international migrants.

Commercial farms have also been identified by IOM as constituting 'spaces of vulnerability'. The Spaces of Vulnerability Approach is based on an understanding that health vulnerability stems not only from an individual but also from a range of environmental factors specific to the

unique conditions of a location, including the relationship dynamics among mobile and sedentary populations (IOM 2010b). Thus a location based study such as this is of paramount importance in order to understand the complex and dynamic vulnerabilities of migrants that minimize their condom use and thus expose them to high risk of HIV infection. It may also contribute towards HIV prevention programmes aimed at migrants on commercial farms.

1.7 DEFINITION OF CONCEPTS

1.7.1 MIGRANT:

Migration is usually defined as the movement of people from one place to another temporarily, seasonally or permanently, for a host of voluntary or involuntary reasons. This definition includes refugees and internally displaced persons (UNAIDS 2001). In this study migrant refers to an individual who is not a South African citizen and has been working on the farm for a period ranging from less than one year to more than 10 years.

1.7.2 CONDOM USE:

In this study condom use refers to having used condom during the last sexual intercourse. This definition does not imply consistency because just because one used a condom during the last sexual intercourse does not mean they have always used them. Only one questionnaire was used for both men and women making it unclear if it is the male or female condom being referred to. For this study, condom use in women, refers mainly to the ability to negotiate condom use whether male or female condom.

CHAPTER TWO LITERATURE REVIEW

2.1. INTRODUCTION

This study is anchored on two key concepts of migration and health. Migration has been identified as one of significant drivers of global economic development. However, this process has proven to be complex and seems to come with challenges of its own such as adverse health outcomes. This has cast migration in bad light as it is now viewed as a vehicle of infectious diseases especially in the context of HIV and AIDS (Brummer, 2002). Studies worldwide have discovered higher rates of HIV infection among migrant and mobile populations when compared to the general population (Weatherby et al, 1999; Bletzer, 1995). A factor common in many settings is the low condom use among migrants. Why this is so is what this research sought to find by looking at the factors associated with condom use among migrant farm workers. It is important to note that this study focused on migrant farm workers while acknowledging the diverse forms of migration and how they impact on health outcomes differently. Equally important is this study analysed men and women separately, as gender is a significant differential in the process of migration and in condom use.

2.2. MIGRATION AND HIV AND AIDS IN SOUTH AFRICA

According to UNAIDS Epidemic Update Report (2011), HIV infections have significantly decreased and stabilised in most parts of the world including sub-Saharan Africa (SSA). SSA's number of new HIV infections has been reported to have dropped by more than 26%, from the height of the epidemic in 1997. It is also confirmed that one third of this drop has been contributed by South Africa (UNAIDS, 2011). Changes in sexual behavior particularly among young people have been cited as one of the major reasons for the decrease in HIV infection. The report further asserts that young adults have reduced their numbers of sexual partners, have

increased condom use and are waiting longer before becoming sexually active. Without changes in behaviour, studies estimate that there would have been an additional 35,000 new infections annually (UNAIDS Epidemic Update Report, 2011).

It should not be overlooked that despite the purported change in sexual behaviour worldwide there are key populations that have not changed their sexual behaviour due to circumstances that surround them. United Nations have identified commercial sex workers (CSWs), men having sex with men (MSM), drug users and migrants as constituting the key populations that are vulnerable and more susceptible to contracting the virus due to their risky sexual behaviour such as non-condom use. In South Africa and worldwide various studies have concentrated more on the sex workers, drug users and MSM and their vulnerability (Parry et al, 2009; Lane et al, 2011; Gita et al, 2002). This study is one of the few that placed focus on migrants as one of the key populations to be targeted for HIV prevention particularly through condom use in commercial farms in South Africa.

2.3 DUAL IMPACT OF MIGRATION

While migration has been negatively associated with the spread of HIV in the region (Harper & Raman, 2008; Southern African HIV Clinicians Society & UNHCR, 2007), the 2009 Human Development Report clearly positions migration as a key driver of human development (UNDP, 2009a). Thus, although migration exposes migrants to vulnerable spaces, it should not be overlooked that it facilitates modernization and improvement in lifestyle which may reduce the vulnerability often associated with migrants (DFID, 2004). Migration may enhance exposure to new information networks during urban stays and international migration. Thus, migration is sometimes regarded as a factor facilitating better and responsible attitudes (Lalou et al, 2007).

Back in their own communities, migrants, who as returnees have a valued social status, are likely to act as a reference group in their communities, and thus diffuse information healthy practices such as condom use, (Lalou te al, 2007). This dual impact of migration warrants more research into which forms of migration facilitate development and which negatively influence health outcomes. IOM highlights that healthy migration promotes economic development across regions. Healthy migration is defined as a process of migration that ensures access to positive social determinants of health; including access to healthcare throughout the migration cycle for both those that move and those that remain in the household of origin (Forced Migration Studies Programme, 2010).

Lalou and colleagues (2007) carried out a survey in 2000 in the Senegal River Valley investigating the impact of different types of migration on HIV/AIDS knowledge, perception of risk and condom use both in origin and destination areas. They argued that the various types of mobility and different social contexts that characterise migration and non-migration are what tend to determine risk and sexual behaviour. From the study it was established that international migrants were more likely to use condoms in the host countries where they engaged in risky sexual behaviour than in their home communities. Thus the type and drive for migration are important factors in understanding the dynamics in health outcomes that come with migration.

2.4 MIGRANTS' VULNERABILITY AND RISKY SEXUAL BEHAVIOUR

The association between migration status and risky sexual behaviour has been well documented. This finding cuts across the developed and the developing countries (Brummer, 2002; IOM, 1999). Literature worldwide has shown that migrants are usually exposed to adverse socio-economic conditions that influence their sexual behaviour negatively (Grez, 2011). How

migration influences risky sexual behaviour remains complex and dynamic. Among studies carried out on the linkages between migration and condom use as a proximal practice in HIV prevention, there seem to be two schools of thought. One being migration encourages risky sexual behavior (Salabbaria-Pena et al, 2003). Being away from home and family usually leads to breaking away from traditional care and supervision. According to Yang (2004) if individuals are not responsible enough they may engage in socially deviant behaviors such as promiscuity and unsafe sex (Yang, 2004). This school of thought can be linked to the migration theories of Lee (1966) and Shaw (1975) which assert that migration is selective of people with high risk-taking tendencies. They argue that migrants' greater tendency toward risk-taking in their migration decision also applies to other aspects of their lives such as risky sexual behaviour. Thus, this school of thought argues that generally migrants are risk takers and are likely to be involved in high risk sexual behaviour. The fact that more than half of both men and women in this study report engaging in unsafe sex serves to confirm this contention.

The other school of thought asserts that migrants by virtue of migrating find themselves in vulnerable spaces that make it difficult for them to use condoms (IOM, 2008). Migration has been reported to increase individuals' vulnerability when they are in situations where negotiating safe sex is difficult. Literature shows that the problem of risky sexual behaviour and abuse is typical of many migrant communities particularly on commercial farms (Siziya et al, 1999). A study carried out in Zambia at Chiawa farm found that women are sometimes tempted or coerced into sex in exchange for employment, favorable tasks or extra wages. It appears in such compromised circumstances, condoms are rarely used (Bond & Dover, 1997). Comparing the two schools of thought the former presents migrants as risk takers who are likely to be involved

in high risk sexual behaviour while the latter presents migrants as victims who find themselves in adverse conditions compromising their power and will to use condoms. What these positions have in common is that migrants are at high risk of contracting the epidemic disease; thus, prevention interventions should target them.

In South Africa, the studies that analysed association between migrants and condom use did so within the ambit of HIV prevention practices. Lurie and colleagues (2002) conducted a cross-sectional study to investigate the association between migration and HIV infection among migrant and non-migrant men and their rural partners. They found out that migration is an independent risk factor for HIV infection among men as they tend to have multiple partners and do not use condoms. Zuma and others (2003) found similar results among migrant urban women in Carletonville, South Africa.

2.5 BARRIERS TO CONDOM USE

The increase and prevalence in HIV and AIDS among migrants demands the need of education and intervention efforts (McCoy et al, 1999). UNAIDS Country Progress Report (2010) has identified correct and consistent condom use as one of the effective ways of HIV prevention, among others, namely abstinence, faithfulness to one sexual partner and reduction in the number of sexual partners. Consistency is a major challenge in the use of condoms. Factors such as desire for children can interrupt consistent use. In this study the measure of condom use is limited as it does not speak to consistency. Having used a condom in the last sexual intercourse does not mean one has always been using it. Also many a time when people are drunk and engage in sexual intercourse they may practise unsafe sex interrupting consistency condom use. Condoms act as an effective dual barrier to pregnancy and STIs including HIV (UNAIDS

Report, 2004) but when condoms are used as a contraceptive they can easily be replaced when women switch to other methods of contraceptives such as the pill.

Despite the wide spread of HIV prevention information and services including condoms, the question remains why do the majority of people particularly women not make use of these? More than 90% of participants in this study report having free access to condoms and more than 65% have attended at least one function raising awareness on HIV, yet less than 50% report condom use in the last sexual intercourse. Again, this points to how complex the issue of condom use is. It goes beyond education or availability of resources. In Southern Africa, as in many parts of the world, use of condoms has been met with resistance especially from the traditionalists, cultural and religion moralists. Studies in Africa have shown that motivations for condom use are complex (Brummer, 2002). Bond and Dover (1997) carried out a study to examine condom use in relation to people's perceptions around sex, masculinity and femininity. They found that the majority of the participants viewed sex as essentially a procreative act, emphasising on male potency and female fertility and this often overrides anxieties about contracting STIs including HIV (Bond & Dover, 1997). As such condom use is usually only negotiated within some short-term relationships and then not consistently.

Even when condoms are available, there are still a number of social, cultural and practical factors that may prevent people from using them (Avert, 2012). It is apparent that condoms are perceived to have a range of negative attributes in Africa including low sexual pleasure, promiscuity in both men and women, being unsafe to use and being an indicator of lack of trust in relationships (Burgoyne & Drummond, 2008). In Zimbabwe one study found that condom use is associated with prostitution and therefore both men and women are disinclined to use them in

their marital relationship (Duffy, 2005). According to the IBBSS, majority of men believe that condoms are to be used in casual relationships but not in marital relationships. In the context of stable partnerships where pregnancy is desired, or where it may be difficult for one partner to suddenly suggest condom use, this option may not be practical (Avert, 2012).

Within migrant communities, condom use is a complex issue dictated by various factors. It should be noted that factors influencing condom use are different between migrant men and women. In many of the studies conducted, women's HIV rates are higher than the men's rates (Halli et al, 2007). Women are noted to be more vulnerable and susceptible biologically, economically and culturally than men (Duffy, 2005). In many countries, particularly in Africa, greater vulnerability to HIV infection has been partly attributed to women's lack of power to negotiate safer sex (Harvey et al, 2003). Pettifor et al (2004) conducted a study on the association between sexual power, consistent condom use and consequently the risk to HIV infection among 15 to 24 year old women in South Africa. They found that women with low relationship control were 2.10 times more likely to use condoms inconsistently. They also found that women experiencing forced sex were 5.77 times more likely to use condoms inconsistently.

Usually, women find themselves economically dependent on men (Duffy 2005). This economic dependency then neutralises their negotiating power in the relationship, including negotiating condom use (Feyisetan, 2007). Thus, the migration experience and the conditions which accompany the migration of labourers especially women, such as poverty, poor housing and lack of stable social support systems, should also be the focus of policy development (McCoy & Weatherby, 1999). In cultures where women face sexual inequality and achieve their identity and place in society through motherhood (Bond & Dover, 1997) they may shun using condoms as

these are a barrier to pregnancy (Feyisetan, 2007). It can be noted that gender-based power relations play a significant role in the use of condoms. Women face unique obstacles and challenges to accessing and fulfilling their sexual and reproductive health rights, and support services, more so when they are migrants. Lack of access to, and accurate information about, timely and appropriate contraceptive options for women, as well as gender inequality frequently expressed in high rates of violence against women and girls, mean that they have less power to negotiate sexual preferences in relationships or health services (UNAIDS and Athena Network, 2011). Violence against women is another factor that has been implicated to impede condom use in women in South Africa (Jewkes et al, 2003). Thus factors that encourage condom use usually do so by increasing the negotiating power in a relationship, for example, economic independence and older ages in women (Yang, 2004).

The lack of power to negotiate safe sex is amplified among migrant women. Thus, interventions should aim to improve women's status so as to increase their autonomy and negotiating power in sexual relationships. Although this may be the case in many settings, women in this particular study seem to have similar access to condoms with men; even so, more women than men have attended an educational workshop on HIV. Although the majority of studies have shown migration to be associated with risky sexual behavior such as unsafe sex (Usher, 2005; Yang, 2004; Zuma et al, 2003), other studies discovered that mobile persons show a favorable attitude towards condoms and report using them very frequently during their moves (Lalou et al, 2007). Ultimately, the personal and socio-economic characteristics of individuals, as well as their sexual and social experiences and types of relationships, help to determine their protective behaviors. Migrants' behaviour in destination and return areas depends on the type of migration, and the duration and destination of the move (Lalou et al,2007).

2.6 CONCEPTUAL MODEL OF MIGRATION AND CONDOM USE

In analysing the factors associated with condom use, this study adapts the Resource Theory of Power as it is applied by Parrado et al (2005) and the Conceptual Model of Temporary Migration and HIV risk behaviour by Yang (2004). The former theory alludes to the power dynamics in relationships, while the latter conceptualises the connection between post migration socio-economic environments and HIV risk behaviours. Condom use between couples relies mainly on power dynamics between the partners. Placing migration into the equation, the power imbalances can either be facilitated or minimised by the post migration socio-economic environments.

Parrado et al (2005) integrate migration into the resource theory of relationship power. Their study drew on original data collected in the USA and four sending communities in Mexico to examine differences in women's relationship power that are associated with migration and residence in the United States. They analysed the personal, relationship, and social resources that condition the association between migration and women's power. Their main argument is

> "a person's relative power is determined by the structural resources or assets that one partner may make available to the other, helping the other satisfy his or her needs or attain his or her goals" (p349).

Echoing Xu and Lai (2004), Parrado et al posit that personal resources, such as education, employment, and age, are direct determinants of women's power. Relationships characteristics that can either increase or decrease women's (negotiating) power include marital status, having children, length of relationship and differences in resources between partners. Social resources include social networks, social support and living arrangements (Parrado et al 2005:349).

On the other hand, Yang (2004) presents an integrated framework conceptualising the connection between temporary migration and migrants' HIV risk behaviours. The study draws

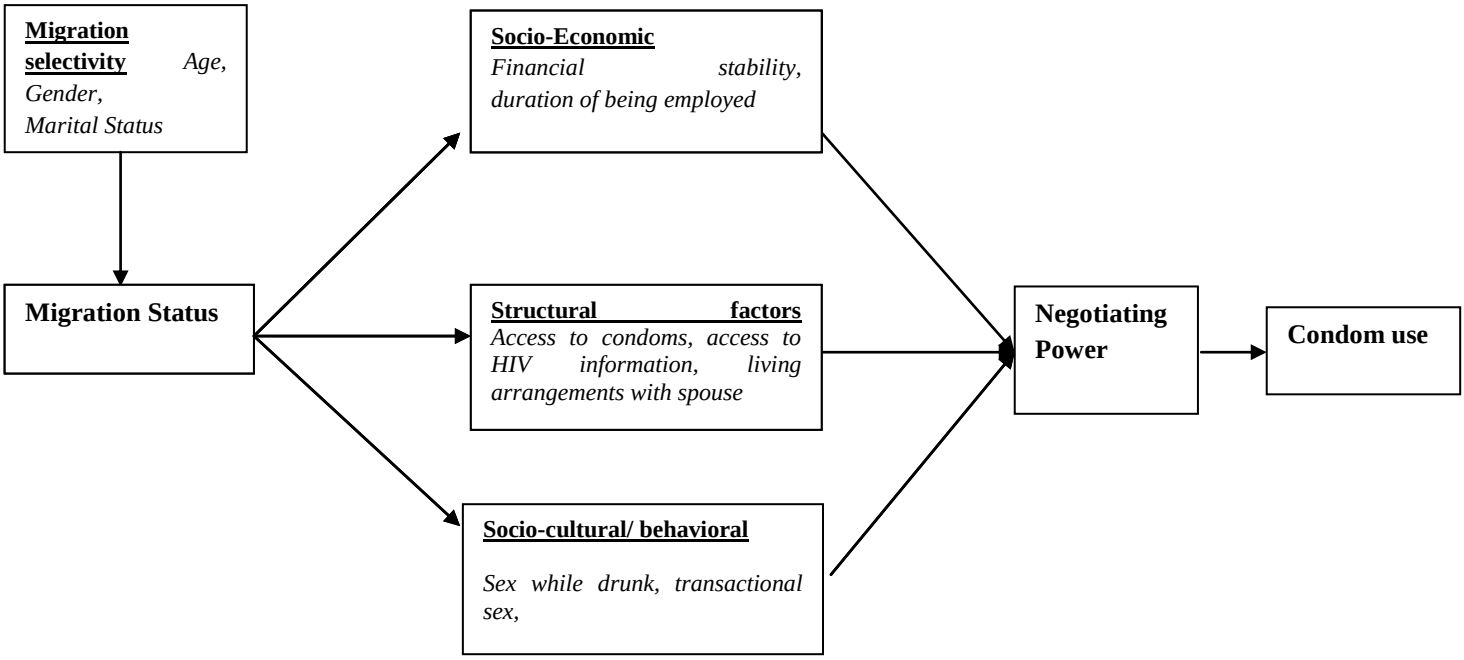
attention to the post migration social and economic environments in which most migrants live and work in places of destination, in understanding their heightened HIV risk behaviours. Yang's proposed framework has been tested empirically with data from a population-based survey conducted in 2003 in southwestern China. Yang argues that migration, particularly when it is temporary, is more than a transporter of HIV; it breeds broader behavioural changes that make migrants vulnerable to HIV risky behaviors. This emphasizes the importance of post migration socio-economic milieus in understanding migrants' HIV risk behaviors.

Combining these two theories, this study adapts its own conceptual framework that integrates Yang's post migration social and economic conditions and Parrado's theory of relationship power dynamics. The question posed is how do post migration socio-economic environments influence power imbalances and increase the negotiating power of using condoms in both male and female migrant farm workers?

Socioeconomic:

In support of previous scholars, Yang (2004) argues that due to their peculiar post migration socioeconomic contexts, migrant workers exhibit higher frequencies of HIV risk behaviours and elevated HIV prevalence rates compared to non migrant counterparts (Brockerhoff & Biddlecom, 1999). On the other hand, Parrado and colleagues argue that migration is closely linked with 'personal resources', such as education, employment, (and age) that can increase women's power and participation in household decision-making processes (Parrado et al, 2005), including condom use. In this study socioeconomic status is represented by financial stability, which is, being able to take care of oneself, as well as the duration of time one has worked on the farm.

Fig 1 Conceptual Framework Model (Yang, 2004 and Parrado and others, 2005)



Socio-cultural/ behavioural

Yang and Parrado agree that migration is a highly disruptive event that often weakens or strains social bonds (Yang, 2004; Parrado et al, 2005). For some migrants, being away from home can mean breaking away from the traditional family care and supervision, which can in turn lead to ventures into commercial sex or having sex while drunk (Yang, 2004). However, it is not always the case that migrants break away from their original traditional cultural norms. Other studies have shown that in some instances migrants can even hold on to their traditional values as a way of preserving their culture (Parrado et al, 2005). This study, combining both Yang and Parrado's theories, propounds that the post migration socio-cultural environments where migrants find themselves are conducive to behaviour such having sex while drunk and engaging in transactional sex. These behaviors can either decrease or increase negotiating power to use condoms.

Demographic/ migration selectivity

Demographic factors included in this study are age, marital status and sex. Age, according to Parrado et al, can also act as an important resource in many contexts. Even in rigid patriarchal cultures, age often conveys elements of social prestige, knowledge, and recognition that may allow women to achieve a more egalitarian position with respect to men. Being married usually takes away the negotiating power of women. The literature contends that sex is a major source of power imbalances with more power enjoyed by men in comparison to women (Bond & Dover, 1997).

Structural factors

Other factors included in this model are structural factors such as access to condoms and HIV educational functions. These factors can be linked to Yang's framework of post migration exposures to various environments. Parrado et al also speak of more egalitarian gender environments that could enhance women's position of power through the type of education provided (Parrado et al, 2005).

Conclusion

It is evident that literature discussed here explores the different facets of migration and health. Although HIV infection rates are dropping in most parts of the world, there are still key populations that are lagging behind. Vulnerable migrants such as migrant farm workers are at higher risk of HIV infection. The risk is increased by many factors such as physical barriers to information and health services, language barriers, as well as risky behavioral factors such as engaging in unsafe sex and having concurrent partners. Various socio-cultural and socio-economic factors have been identified as barriers or facilitators of condom use.

This study, borrowing from the resource theory of power dynamics and the post migration socio-economic environments, seeks to find how post migration environments influence condom use. The study posits that after migration, migrants find themselves in the places of destination that can influence the power dynamics in relationships and consequently condom use. For instance, migration increases the financial status of women and arguably their negotiating power enabling them to request condoms during sexual intercourse. Generally, condom use in Africa is determined by men. The demographic, behavioural, socio-economic as well as structural factors discussed in the conceptual framework can either encourage or discourage condom use in both men and women.

CHAPTER THREE METHODOLOGY

This chapter discusses the methodology of this study. Reference is made to the data source, study population and variables used in the analysis.

3.1 DATA SOURCE

This research made use of the data from the Integrated Biological and Behavioural Surveillance Survey (IBBSS) conducted by International Organisation of Migration (IOM) from March to May 2010 on 23 commercial farms in the Malelane, Musina and Tzaneen areas, involving 2810 farm workers. The main purpose of this survey was to obtain information on the prevalence of HIV among farm workers and to document their behaviours, perceptions and attitudes regarding HIV related issues.

3.2 STUDY POPULATION

The population for this study comprises sexually active male and female migrants in Malelane, Tzaneen and Musina who are employed on the selected farms, either on a permanent or seasonal basis. The migration status is determined by an individual's citizenship. In this population the migrants originate mainly from Zimbabwe, Mozambique, Swaziland and Lesotho. However, since migrants from Lesotho and other countries were less than 1%, they were removed from this study. Sexual activity refers to engagement in sexual intercourse in the last 12 months preceding the interval. Those who reported being sexually inactive in the last year, were removed from this study. The initial study comprised 1,119 migrants. However, after removing those who were sexually inactive and those from Lesotho and other countries, the total study population was reduced to 942 male and female migrant farm workers. Their ages ranged from 15 to 64 years, categorised into 10 year intervals. The study is therefore focused on this sample.

3.3 SAMPLING METHOD

According to the IBBSS report (2010), no random sampling was conducted. Instead all farms that were part of the Ripfumelo Project participated in this survey. Cluster sampling approach was used whereby for each participating farm, a list of all employees was obtained along with their type of work. The research team then attempted to sample a proportionate number of employees from each site in order to make up the predetermined sample size for each farm. Change Agents who are farm workers trained by the Ripfumelo local implementing partners as peer educators called in ten workers at a time and explained to them what the survey was all about. Those who were interested decided to participate.

3.4 QUESTIONNAIRES DEVELOPMENT AND ADMINISTRATION

Questionnaires comprised two sections. Section one obtained demographic and socio-economic data and section two obtained data on levels of knowledge, attitudes, practices and behaviour. In addition, a variety of questions pertaining to quality of life issues were incorporated. The questionnaires were administered by trained facilitators, due to the low levels of literacy among the participants. Local capacity development on this project was limited to IOM/Ripfumelo partner staff and the approximately 10 questionnaire administrators in each of the three sites. A one-day training workshop was held in each site. The workshop covered questionnaire administration technique and the importance of maintaining a non-judgmental attitude. The group went through the IBBSS questionnaire in detail and the participants spent time administering the questionnaire to each other. In addition to the workshop, formal debriefing sessions were held at the close of each day to discuss challenges and identify problems (IBBSS Report, 2010).

3.5 DATA PROCESSING

All answer sheets were compiled each day and placed into envelopes. On a weekly basis, the questionnaires were couriered to the Epicentre offices in Johannesburg where they were logged by reading the barcodes on each one. From there, the questionnaires were sent to a company called CSX for data capturing. The data was then sent to Maromi Health Research from CSX via email. Data was subsequently converted into the STATA package. The HIV prevalence data set was emailed from Global Laboratories and the HIV data was merged with the questionnaire data based on the barcodes. Data cleaning consisted of checking for duplicate records and consistencies within records (IBBSS Report, 2010).

3.6 VARIABLE DEFINITION AND MEASUREMENT

OUTCOME VARIABLE

The question asked was '*Did you use a condom the last time you had sex?'* and the response was either '*Yes or No',* making it a dichotomous variable and the basis for using binary logistic regression.

EXPLANATORY VARIABLES

The underlying thesis for this study is that the post migration social and economic environments in which most migrants find themselves in places of destination are particularly conducive to HIV risk behaviours such as unsafe sex.

Sex or gender is the main explanatory variable in this study. The impact of sex on condom use is well established with various studies showing that more men than women use condoms (Yang & Xia, 2008). This generally emanates from the socio-economic and cultural factors that perpetuate women's subordination. As argued earlier, condom use in relationships centres around power

imbalances between partners. The factors that give men power tend to take away power from the women, leaving them in a vulnerable space where they cannot negotiate safe sex. The female condom is very scarce and even when it is available, the man would still have control over use, more so in migrant communities. Thus, in this study gender is the main explanatory variable.

In this study, the participants were asked their ages which ranged from 15 to 64 years. The variable has been categorised into ten year intervals. Age as a demographic factor is an inherent covariate that needs to be included in the model. Taken as a source of power, age tends to influence condom use. In women, as age increases so does the negotiating power and self efficacy (Parrado et al, 2005) with regard to condom use. A large volume of empirical evidence exists, documenting how age is associated with condom use. With age comes knowledge and confidence to use condoms. In men, young ages are reported to be using condoms, more than older men.

In the questionnaire marital status had several categories including '*Not married (1) Not married, but living with a partner (2) Married (3) Married, but not living with a partner (4) Divorces/ Widowed/ Separated'*. However, for easy analyses three categories were deduced. These are *single, married and previously married*. Condom use has been established to vary in accordance with marital status, with minimal use among the married. Being married usually comes with several complexities, the major ones being fertility intentions and a more pronounced subordinate role for women in marriage imbedded in the patriarchal culture (Plummer, 2006). Thus, in this study marital status is included with the hypothesis that being married reduces the odds of using condoms compared to being single.

The question asked for transactional sex was '*I sometimes give/receive money or gifts in exchange for sex'*. The responses to this statement were *Agree Strongly, Agree, Unsure, Disagree and Disagree Strongly.* For easy analyses 'strongly agree' and 'agree' were combined into one category, as were 'strongly disagree' and 'disagree'. It was noted that the response 'unsure' was combined with 'no response'. This made it difficult for the researcher to know how many people were unsure and how many did not actually respond; thus, this category was removed from the variable. In the end two categories, 'agree' and 'disagree', were used. This variable was included in the model because migration can bring about adverse conditions during the migration process and in the areas of destination. As such, some migrants may find themselves in situations where they would have to give sex in exchange for basic amenities such as food, money or accommodation. Transactional sex is more common among women than men. Transactional sex is included in this study because migrant farm workers are more vulnerable than other types of migrants (Halli et al, 2007). The majority of migrants in Limpopo and Mpumalanga, particularly on farms, are illegal as they do not have proper documentation and this places them at an even higher risk. They are more prone to engage in transactional sex and in such scenarios it is hard to make use or negotiate condom use.

Financial stability in this study was denoted by the following statement; '*I always have sufficient money to buy food for myself'*. The responses were; '*Agree strongly, Agree, Unsure/ No response Disagree and Disagree strongly'*. For easy analysis the variable was dichotomised into two categories: 'agree' comprising 'strongly agree' and 'agree', and 'disagree' constituting 'disagree' and 'strongly disagree'. Again, for this variable, the response 'unsure' was combined with 'no

response', making it difficult for the researcher to know how many people were unsure and how many did not actually respond, and so the category was sent to missing.

Financial stability is interlinked with transactional sex as well as power balances in relationship. Traditionally, men dominated the cash economy and tended to be more financially stable than women (Plummer, 2006). This became a source of power, giving them the upper hand in decision making. However, in the current migration circles there has been a shift with the rise of female migration. The financial status of women is seen as rising and, arguably, so is their negotiating power to use condoms in relationships. Also, the more financially stable one is, the less likely they are to engage in transactional sex.

For having sex while drunk, the following question was asked, '*In the past month, have you had sex while you were drunk?'* The response could either be '*yes'* or '*no*'. Yang (2004) identifies lax social control as one of the consequences of social and family disruption brought about by the process of migration. This could presumably be conducive to a more promiscuous sex life and/or dependence on alcohol or drugs as a way to escape loneliness, bury anxieties, and release sexual frustration (Yang, 2004). This can be exacerbated by loneliness. Drinking may be used as a coping behaviour with the aim of reducing stress and negative emotions (Bizzarri et al, 2009). The association between alcohol consumption and high risk sexual behaviour cannot be over emphasised (Pitpitan et al, 2012). The hypothesis for this study, therefore, was that having sex while drunk reduces the chances of condom use, based on the fact that one would have lost control (Testa et al, 2003).

Sexual abuse in this study is represented by the question, '*In the past 12 months, have you been forced to have sex against your will?'* which could be responded to by either '*yes'* or '*no'*. An unvaryingly reported finding in many migrant communities is sexual abuse. Again, it is usually the women who experience forced sex at the hands of men who may be in superior positions or general figures of authority. Sexual abuse against women and minors has been reported to be rife along the Limpopo border post (HBS Policy Brief, 2010). During an act of sexual coercion, it is hard to negotiate safe sex (Bond & Dover, 1997). Hence, this variable has been included in this study to determine levels of sexual abuse in these commercial farms and how this is associated with condom use.

Participants were asked if they had obtained free condoms at their workplace. As in many settings in Africa, a study carried out in rural Tanzania by six researchers from 1999 to 2002 found that condom use is very low in both men and women due to inaccessibility. Logistical problems of condom distribution and access clearly have contributed to this situation (Plummer, 2006) in many settings (McCoy et al, 1999). Most commercial farms are situated in rural areas and are remote. As such, distribution of condoms can be a challenge. By including this variable, this study intended to see how accessible free condoms are to migrant farm workers and how availability influences condom use.

Participants were also asked whether they had attended a meeting or function about HIV/AIDS at their workplace. According to UNAIDS 2004, examining condom promotion in isolation from other strategies, gives a narrow view of HIV prevention. Thus, condom use in populations should be analysed in the light of other intervention such as education, which is why this study analyses the impact on condom use of attending a workshop on HIV prevention.

A question was asked about where one's family/ spouse live when they work. Responses to the question included; '*We live together',' My family lives in my country of origin', 'My family lives at our rural home or "farm"' and Other.* For easy analyses in this study, the variable was dichotomised into categories 'living together' and 'living away', the latter comprising those who left their spouses in the country of origin or in the rural area or any other area.

As established earlier, most men tend to be selective about whom they use condoms with. As condoms are more commonly used in extra-marital relationship, it would therefore be expected that those who are left their spouse in the place of origin would use condoms more often than those who are living with their spouses. The assumption behind this is that when partners are away, they are involved in other sexual relationships to satisfy their sexual needs (Curran et al, 2003).

3.7 DATA ANALYSES

Data were analysed using STATA 12 at three levels: univariate, bivariate and multivariate. At univariate level, cross tabulations were done to come up with frequency tables. These were used to describe the population under study. To measure the association of each independent variable and the outcome at bivariate analyses, unadjusted odds ratios from binary logistic regression were used. Statistical significance was determined by the p-values at 95% level of significance. Lastly, binary logistic regression was employed at multivariate analysis. The model is expressed as follows

$$\text{Logit}(p) = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + \ldots + b_{10} X_{10}$$

Where p = dependent variable (condom use); b_0 $b_1 \ldots b_{10}$ = log odds; X_1 $X_2 \ldots X_{10}$ = explanatory variables (Pampel, 2000). Odds ratios were used in the interpretation of results.

3.8 ETHICAL CONSIDERATIONS

Permission to use data was obtained from IOM and a Memorandum of Understanding was signed in which the researcher agreed to treat the IOM data with strict confidentiality and security and to limit the use of the data to this particular study. Since this present study made use of secondary data, there was no risk of breaking interviewee confidentiality or any other associated ethical issues. Participation in the IBBSS was voluntary and the survey was conducted anonymously. Therefore, no identifying information such as individual identity numbers or employee numbers was obtained from the data.

CHAPTER FOUR RESULTS

Introduction

The analyses were done at univariate, bivariate and multivariate levels, giving results outlined below. The data were also analysed separately for men and women as well as for the whole population.

4.1 PROFILE OF RESPONDENTS AND CHARACTERISTICS OF STUDY POPULATION

Table 1 Percentage distribution of study population according to demographic, socioeconomic and sexual behavioural characteristics, IBBSS 2010

Characteristics	Combined Population (n) (%)		Male Population (n) (%)		Female Population (n) (%)	
Sexual activity in last 12 months						
Yes	935	100	573	100	362	100
Condom use in last sexual act						
Yes	381	41.10	260	46.02	121	33.33
No	546	58.90	305	53.98	242	66.67
Total	***927***	***100***	***565***	***100***	***363***	***100***
Citizen						
Swaziland	190	20.65	96	17.08	94	26.26
Mozambique	333	36.20	236	41.99	97	27.09
Zimbabwe	397	43.15	230	40.93	167	46.65
Total	***920***	**100**	***562***	***100***	***358***	***100***
Age						
15-24	183	19.41	101	17.53	83	22.55
25-34	370	39.24	220	38.19	150	40.76
35-44	243	25.77	143	24.83	100	27.17
45+	147	15.59	112	19.44	35	9.51

Total	***943***	***100***	***576***	***100***	***368***	***100***
Marital status						
Single	229	24.52	138	24.17	92	25.27
Married	667	71.41	425	74.43	242	66.48
Previously married	38	4.07	8	1.40	30	8.24
Total	***934***	***100***	***571***	***100***	***364***	***100***
Sex for money						
Agree	122	13.03	71	12.39	51	14.05
Disagree	814	86.97	502	87.61	312	85.95
Total	***936***	***100***	***573***	***100***	***363***	***100***
Sex for job						
Agree	85	9.01	46	7.99	39	10.60
Disagree	858	90.99	530	92.01	329	89.40
Total	***943***	***100***	***576***	***100***	***368***	***100***
Financial stability						
Agree	527	57.34	337	59.75	191	53.65
Disagree	392	42.66	227	40.25	165	46.35
Total	***919***	***100***	***564***	***100***	***356***	***100***
Attended HIV function						
Yes	623	67.86	383	68.15	240	67.23
No	295	32.14	179	31.85	117	32.77
Total	*918*	*100*	*562*	*100*	*357*	*100*
Forced Sex						
Yes	134	14.32	70	12.24	65	17.81
No	802	85.68	502	87.76	300	82.19
Total	*936*	*100*	*572*	*100*	*365*	*100*
Sex while drunk						
Yes	162	17.29	123	21.43	40	10.99
No	775	82.71	451	78.57	324	89.01
Total	***937***	*100*	*574*	*100*	*364*	*100*
Free access to						

condoms						
Yes	848	90.31	522	91.26	326	88.59
No	91	9.69	50	8.74	42	11.41
Total	***939***	**100**	***572***	***100***	***368***	***100***
Living with family						
Together	505	54.89	278	49.64	228	63.16
Away	415	45.11	382	50.36	133	36.84
Total	***920***	***100***	***660***	***100***	***361***	***100***

NB: The totals are inconsistent due to missing values

There are more men than women in this population, 61% and 39% respectively. Although sexual activity in the past 12 months is more or less similar between men and women, more women (67%) compared to men (54%) report not using condoms during the last sexual intercourse. Overall, less than half of the population made use of condoms in the last sexual intercourse, despite sexual activity being high, around 90%. The majority of the migrants are from Zimbabwe, followed by Mozambique and then Swaziland. The ages of the participants range from 15 to 64 years with almost 60% being 34 years and under. 71% are currently married while 4% were previously married and 25% are single. It appears that in this population more men (74%) than women (66%) are married.

In terms of transactional sex, more women (14%) than men (12%) reported having sex in exchange for money, and again 11% of women compared to 8% of men reported having sex in exchange for a job. It seems about half of the total population confirmed they are financially stable, financial stability being defined as the ability to buy food for oneself. However, a slight difference is noted between the sexes as only 54% of women compared to 60% of men reported financial stability. More than half (66%) of the population reported attendance at a function on HIV prevention undertaken at the farm. 18% of women and 12% of men reported being forced to

have sex at some point on the farms. More men (21%) than women (11%) reported having sex while drunk. Almost everyone has access to free condoms on the farm. Only 10% report they do not have this access. Half of the men are staying together with their families, and the other half has left them either in their country of origin or rural home. On the other hand, it appears more women (63%) are residing with their families and less than 40% are not with their families. These results show that women are more vulnerable than their male counterparts. This is drawn from the responses on forced sex and transactional sex experiences.

Based on the risky behaviour as represented by having sex while drunk, men are more reckless than women. Financially, men are more stable than women. This could help explain the amplified vulnerability of women compared to the men. However, majority of employees (66%) has attended a meeting or function about HIV and AIDS on the farm. Condom access is high in both men and women: almost 90% of employees report that they have accessed condoms on the farms. This could be due to the newly initiated HIV prevention and care projects on these farms (IBBSS report 2010).

Percentage distribution of migrant farm workers

Table 2 Percentage distributions of migrant farm workers condom use by demographic, structural, behavioral and socioeconomic characteristics, IBBSS 2010

	Percentage condom use by migrants		
Demographic factors	**Total population**	**Male population**	**Female population**
Age			
15-24	**79 (43.17)**	**51 (50.50)**	**28 (33.73)**
25-34	**146 (39.89)**	**100 (46.08)**	**46 (30.87)**
35-44	**98 (41.88)**	**62 (45.26)**	**36 (37.11)**
45+	**58 (40.28)**	**47 (42.73)**	**11 (32.35)**

Marital status Single Married Previously married	 **109 (48.23)** **249 (38.02)** **20 (54.05)**	 **68 (50.00)** **183 (43.99)** **6 (75.00**)	 **41 (45.05)** **66 (27.62)** **14 (48.28**)
Socio-economic factors			
Financial stability Agree	 **233 (44.89)**	 **163 (49.39)**	 **70 (36.84)**
Time worked Less than 1 yr 1-3yrs 4-10yrs 10+ yrs	 **144 (41.14)** **89 (41.40)** **83 (41.29)** **65 (41.14)**	 **83 (43.92)** **66 (46.81)** **58 (48.74)** **53 (46.49)**	 **61 (37.65)** **23 (31.08)** **25 (30.49)** **12 (27.27)**
Behavioural factors			
Money sex Agree	 **57 (48.31)**	 **34 (50.00)**	 **23 (46.00)**
Job sex Agree	 **32 (39.02)**	 **16 (37.21)**	 **16 (41.03)**
Sex while drunk Yes	 **81 (50.63)**	 **60 (49.59)**	 **21 (52.50)**
Forced sex Yes	 **65 (49.62)**	 **36 (53.73)**	 **29 (44.62)**
Structural factors			
Access to free condoms Yes	 **356 (42.63)**	 **243 (47.37)**	 **113 (35.09)**
Attended HIV function Yes	 **265 (43.30)**	 **175 (46.54)**	 **90 (38.14)**
Living arrangements **Together**			

Away	**183 (36.90)** **188 (46.08)**	**117 (43.01)** **135 (48.74)**	**66 (29.33)** **53 (40.46)**

Demographic factors

In the whole population, condom use is higher among men than women, 46% and 33% respectively. With regard to age groups, it can be noted that among the men condom use decreases with age. Among the women, condom use is highest among the 35 to 44 age group. Overall, there seems to be no systematic trend in condom use in the migrant population. With regard to marital status, condom use is higher among the previously married, followed by the single and lastly the married. On average 62% of the married did not use condoms. Around 74% of married women reported sex without condoms, while among men it was around 66%. Again, this serves to show the variations in condom use between men and women under the same conditions.

Socio-economic factors

Financial stability does not seem to increase condom use in this population. As can be seen from the table above, among those who confirmed that they are financially stable, only 44% in the whole population used condoms while the rest did not. A distinction can be seen between male and female migrants: of those who are financially stable, almost 50% of the males used condoms while only 36% of females reported to have used. There seems to be a systematic trend shown in condom use according to the duration one has been working on the farm. Particularly in the whole population and the female population, condom use seems to decrease with increase in the duration of stay. Condom use among women is generally lower compared to their male counterparts.

Behavioural factors

Looking at transactional sex in exchange for money or jobs, condom use was still low. However, it is interesting to note that among the migrant men who engaged in sex for money, 50% used condoms. Also interesting to note is that more men (50%) than women (46%) who had sex for money report to have used condom use. However, it can be noted that only a few people, both men and women, reported to have been engaged in transactional sex. Among those who had sex to get a job, condom use was low across the whole population and, surprisingly, lower among men than women. Of the few people who reported having sex while drunk, half made use of condoms. The figures, however, show that having sex while drunk is a rare experience in this population. A surprising finding is that of those who had sex while drunk, more women (53%) used condoms. Also surprising are the responses with regard to forced sex. Overall, half of those who reported forced sex used condoms and more than half (54%) of men forced to have sex used condoms.

Structural factors

The figures show that access to condom is really high in this population. However, it is disturbing to note that in the whole population among those who have access to condoms; only 43% used them while 57% did not. Even more worrying are the results in the female population where among those who have access to condoms only 33% made use of them. In the male population, almost half of those who have access to condoms made use of them. The researcher is not oblivious to the fact that it is usually male condoms that are easily accessible; however, this study is based on the assumption that women should be able to negotiate or initiate condom use, whether male or female condoms. It is clear from these findings that women have a low standing in negotiating condom use in intimate relationship. Despite having access to condoms, they still would not use them.

Although many people have attended an HIV function on the farm, condom use is still less than 50%. Among those who attended an HIV awareness function, 47% of men and 38% of women made use of condoms the last time they had sexual intercourse. These results are disturbing since more people would be expected to use condoms after having been educated on HIV prevention strategies.

4.2 BIVARIATE ANALYSES

Tests for association between each independent variable and the outcome variable (condom use) were carried out, using bivariate logistic regression. Hypotheses were tested using p-value at 5 % level of significance. Analysis was done to investigate the individual relationship of each demographic, socioeconomic, behavioural and structural factor with condom use.

Table 2 below shows unadjusted odds ratios and p-values for each individual factor with condom use. The results are segregated into the whole population of migrant farm workers, male migrant farm workers and female migrant farm workers.

Table 2 Associations between condom use and explanatory variables among migrant farm workers using p-values

Risk factors	Migrant farm workers OR (P-value)	Male migrant farm workers OR (P-value)	Female migrant farm workers OR (P-value)
Age			
15-24	RC		
25-34	0.87(0.260)	0.84 (0.463)	0.88(0.654)
35-44	0.95 (0.364)	0.81 (0.424)	1.16(0.637)
45+	0.89 (0.294)	0.73(0.259)	0.94(0.886)
Marital Status			
S**ingl**e	RC		
Married	0.66*(0.006)	0.78(0.222)	0.47*(0.003)
Previously married	1.26 (0.664)	2.30 (0.188)	1.14(0.762)
Sex for money			
Disagree	RC		
Agree	1.40* (0.049)	1.20 (0.490)	1.90* (0.037)

Sex for job			
Disagree	RC		
Agree	0.91 (0.704)	0.68 (0.230)	1.45 (0.283)
Financial stability			
Disagree	RC		
Agree	1.48* (0.008)	1.44* (0.037)	1.46 (0.101)
Attended HIV function No	RC		
Yes	1.37* (0.041)	1.08 (0.666)	2.21* (0.004)
Forced sex			
No	RC		
Yes	1.5* (0.031)	1.42 (0.177)	1.80* (0.034)
Sex while drunk			
No	RC		
Yes	1.60*(0.006)	1.20 (0.372)	2.47*(0.008)
Free access to condoms			
No	RC		
Yes	1.98* (0.007)	1.80 (0.065)	2.23 (0.051)
Time worked on the farm			
Less than 1 yr	RC		
1-3yrs	1.01 (0.943)	1.12 (0.601)	0.74(0.329)
4-10yrs	1 (0.667)	1.21 (0.408)	0.73 (0.269)
10+ yrs	0.97 (0.868)	1.11 (0.662)	0.62(0.204)
Living arrangements with spouse/family			
Together	RC		
Away	1.46* (0.004)	1.25 (0.179)	1.64*(0.033)

*** p<0.05 RC=Reference Category**

All the variables were significantly associated with condom use, except for age, period of time worked on the farm and having sex in exchange for a job (p-values>0.05). Thus, marital status, transactional sex for money, forced sex, attending an HIV function, financial stability, having sex while drunk, access to free condoms and living arrangements with spouse were significantly associated with condom use (p-values<0.05). However, after controlling for sex, the results were different. Among the male migrant farm workers, only financial stability was significantly associated with condom use (p-value<0.05). By contrast, among the female migrants, marital

status, having attended an HIV related function, living arrangements with one's spouse, transactional sex for money, forced sex and having sex while drunk came out significantly associated with condom use (p-values<0.05). From the results above, it is evident that factors associated with condom use vary between men and women.

As presented above, age was non-significant across the whole population. The average OR for all age groups is almost equal to one implying no difference in condom use among the age categories. Thus, no association was noted between age and condom use. Marital status was significant in the whole population and among the women (p-value<0.05). The OR of 0.47 shows that being married halved the likelihood of using condoms, compared to being single.

Among the behavioural factors, having sex for a job was the only insignificant factor among migrant farm workers. Having sex for money being significant and having an OR of more than 1 implied that having sex for money increased the odds of using condoms. This factor appeared to be significant in the whole population as well as among women, unlike having sex in exchange for a job which was non-significant across the different populations. Forced sex significantly increased the odds of using condoms among women and the whole population but not among the male migrants. In terms of having sex while drunk, the odds of using condoms were unexpectedly increased, especially in the female population where having sex while drunk doubled the likelihood of condom use. However, among the male migrants, having sex while drunk was insignificant.

The results show that structural factors such as having access to free condoms, having attended a function on HIV and living away from one's spouse increase the odds of using condoms. Having

access to free condoms showed the highest strength of association among migrant farm workers. However, this proved to be an insignificant factor among female and male migrants. On the contrary, having attended a function on HIV increased the odds of using condoms among female migrants but not among male migrants. Staying away from one's spouse increased the odds of using condoms among migrant women as well as in the whole population. Among migrant men this factor was insignificant in influencing condom use. Of the two variables representing socioeconomic status, financial stability showed significant association among the male migrants and the whole population but not among female migrants. The factor increased the odds of using condoms. On the other hand, the period of time worked was non-significant across the entire population.

4.3 MULTIVARIATE ANALYSIS

Multivariable analysis of the association between explanatory variables and condom use among migrant farm workers

All the variables that were significant at bivariate level were included in the multivariate model. These variables comprise marital status, free access to condoms, attending an HIV function, having sex while drunk, having sex in exchange for money, financial stability and living arrangements with one's spouse. The results are shown in table 3 below.

4.4.1. Table 3 Odds ratios from multivariate logistic regression assessing the associations between the explanatory variables and condom use among migrant farm workers

Determinants	Migrant farm workers OR (p-value)	Male migrant farm workers OR (p-value)	Female migrant farm workers OR (p-value)

Marital Status Single Married Previously married	 RC 0.70* (0.038) 1.58 (0.236)	NS	 0.53*(0.025) 1.25 (0.629)
Sex while drunk No Yes	 RC 1.440 (0.059)	NS	 2.39* (0.028)
Access to condoms No Yes	 RC 2.31*(0.004)	NS	 2.5 (0.064)
Living arrangements Together Away	 RC 1.55* (0.003)	NS	 1.86* (0.016)
Attended HIV function No Yes	 RC 1.16 (0.360)	NS	 1.53 (0.153)
Had sex for money Disagree Agree	NS	NS	 1.42 (0.319)
Forced sex No Yes	 RC 1.45 (0.079)	NS	 1.70 (0.111)
Financial stability Disagree Agree	 RC 1.50* (0.008)	1.44* (0.037)	 NS

*** p<0.05 RC=Reference Category NS=non-significant in the bivariate model**

The multivariable analyses showed that among migrant men and women working in the farms, access to free condoms, living arrangements with spouse, marital status and financial stability were significantly associated with condom use, holding all the other variables constant. Multivariable model controlling for sex showed that among men, financial stability was significantly associated with condom use, while among females living arrangements with spouse, marital status and having sex while drunk seem to be significantly associated with condom use.

One of the unusual findings in this study is that having sex while drunk seemed to increase the odds of using condoms. Among female migrants, having sex while drunk seemed to double the likelihood of using condoms. The other findings seem to conform to the already established trend: for example, access to free condoms which happen to increase the likelihood of using condoms.

As this research set out to determine the factors associated with condom use and how they differ between men and women, the table of results above shows the variations. In men financial stability, though not very strong (OR 1.4) significantly increased the likelihood of using condoms. Basing on the above results, it seems there is no common determinant of condom use between male and female migrant farm workers. As seen above, among women, living away from one's spouse also nearly doubles use of condoms (OR 1.9). As mentioned before, an anomaly was detected in the variable, having sex while drunk, which increased the odds of using condom by 2.4. Also significant is marital status which seemed to follow the expected results of reducing the likelihood of using condom for the married compared to the single. Marital status appears to be significantly associated with condom use in the total population and among the female migrants but not among the males.

Unexpectedly non-significant, include factors such as financial stability, forced sex and transactional sex, especially among women. Empirical evidence in the existing literature shows that these factors determine condom use. Usually, negotiating safe sex is difficult during forced sex or transactional sex. From this study it can be concluded that access to free condoms, having sex while drunk, financial stability and living arrangements with spouse are the determinants of

condom use among female and male farm workers in Limpopo and Mpumalanga. It has also been established that these determinants vary in influence between men and women.

4.6. Conclusion

Given the results and linking them to the hypotheses we therefore reject the null hypotheses and conclude that there is a difference in the levels and determinants of condom use between male and female migrants in Limpopo and Mpumalanga**.**

CHAPTER FIVE DISCUSSION & CONCLUSION

DISCUSSION

The objective of this study was to establish if there are any differences in condom use between men and women as well as the determinants of condom use and how they vary in association between men and women in migrant communities. Several studies have established that condom use levels differ between men and women (Zuma et al, 2003). Diverse socio-economic and socio-cultural reasons have been cited as contributing factors to these differences in condom use. This study tests the hypothesis of difference between men and women, not only levels but how the same factors vary in influence between the two sexes. According to the results from cross tabulations, sexual activity in the last year was similarly high between male and female migrants.

However, condom use in the last sexual intercourse was generally low in the migrant population; it was even lower in the female population compared to their male counterparts. This is consistent with several studies that compared condom usage between men and women (Chimbiri, 2006; IOM, 2010; Bond et al, 1997). In addition to the socio-cultural factors influencing the use of condoms among populations, there are other factors such as scarcity of female condoms. This is mainly because production of female condoms is reported to be more expensive than male condoms (PATH and UNFPA, 2006). This could possibly explain why men use condoms more than women do. This is exacerbated by socio-cultural factors such as the patriarchal social

system where men usually make important decisions such as condom use between couples (Pulerwitz et al, 2002; Bond & Dover, 1997).

Another contributing factor to the difference in condom use between men and women, as noted by Testa and others (2000), is the experience of forced sex or rape. In coerced sex it is usually difficult for a woman to negotiate safe sex. In this study 18% of women and 12% of men experienced forced sex in the previous year. Despite the fact that forced sex was insignificant in determining condom use in this study, the aforementioned findings show that the experience is still high and unacceptable, especially in women. Studies elsewhere have shown that forced sex increases the risk of contracting HIV since in most of these scenarios; no condoms are used (IOM, 2008; Testa et al, 2000, Bond & Dover, 1997).

This study also set out to determine the link between post migration environments and power imbalances between men and women which, according to Parrado et al (2005), determine condom use. The conceptual framework presented in this study emphasises the social and economic underpinnings of individual behaviour. It directs attention to the post migration social and economic milieus in understanding power relationships and condom use among migrants (Yang, 2004; Parrado et al, 2005).

One of the major propositions was that labour migration tends to increase women's financial stability which in turn increases women's negotiating power. Financial stability in this study was insignificant in determining condom use except in the male population. Of all the insignificant variables, this has been a big deviation from the existing findings, particularly among women. In their study on relationship power, condom use and HIV risk among women in America, Pulerwitz and colleagues (2002) established that financial security is a significant factor in

determining condom use by increasing the negotiating power of women in a sexual relationship. This accords with Parrado's (2005) study on power relations in Mexico. Noteworthy in this study are the results providing evidence that women are less financially stable than men, although the factor is non-significant in the latter.

Some scholars, however, have questioned the direct connection between employment and increase in women's power, noting that even though work opportunities are usually relatively more plentiful in the destination country, quite often migrant women are concentrated in low-skilled, poorly paid, and unstable occupations that do not constitute careers (Parrado et al 2005). Such jobs are unlikely to increase women's power in relationships. The same can be said about the migrant female workers in this study. The findings in this study warn against equating women's employment with increase in power. This indicates that, as much as migration brings about more opportunities for employment and consequently financial stability in both men and women, this does not equate to shifts in existing power imbalances. Thus the assertion that migration increases financial stability and consequently condom use failed to apply to the migrant farm workers in this study.

Another explanation for the significance of financial stability in influencing condom use in migrant populations is the finding that usually, after migrating, migrants find themselves financially vulnerable. This may lead to transactional sex for money, food or accommodation. In such situations it is difficult to use condoms. In this study, transactional sex came out as insignificant. Numerous studies have established that transactional sex is rife among marginalised communities such as migrants (Brockerhof & Biddlecom, 1999). In this study as expected, more women reported having sex for money, compared to men. Again, this points to

women's heightened vulnerability. The multivariate results show that financial stability is a significant determinant of condom use in men but not in women. Thus, for female migrants in this study, it can be concluded that whether they are financially stable or not will not affect their usage of condoms. As such, it can be argued that condom use among migrants goes beyond socio-economic factors, as put forward by many scholars including Yang and Xia (2008), Choy et al (2007).

Another proposition in the conceptual model was that migration brings about high risk sexual behaviour that maybe triggered by factors such as breakdown of social or family structures. An example is having sex while drunk. It is interesting that although having sex while drunk is mostly reported in men, it is statistically significant in women. 21% of men and 11% of women have had sex while drunk. One would expect having sex while drunk to reduce condom use but on the contrary this study indicates that it doubles the likelihood of condom use, compared to when one is not drunk. This is an odd result that needs further investigation. An explanation could be that women are more assertive when drunk and can demand safe sex, compared to when they are sober and timid.

A large body of evidence shows that drinking alcohol increases women's personal vulnerability and the chances of sexual abuse (Parks et al, 1998; Testa et al, 2003). Rarely do women request safe sex during sexual abuse. The study argues that drinking in potential sexual situations increases women's risk of being sexually assaulted, both because men may view them as easy targets and because the women may be less able to resist effectively. Like this study, Pulerwitz's study found that alcohol increased self efficacy in relation to condom use. An interesting finding relevant to this study is that the relationship between alcohol intake and self assertiveness

depends on the level of alcohol taken (Wilson et al, 1989), the two having an inverse relationship. This could also explain the unusual finding of this study. Women compared to men generally drink less, and the lesser amount may be enough to increase their assertiveness. Reducing alcohol consumption among abused women is vital to ultimately reduce risk sexual behaviour (Pitpitan et al, 2012).

Many studies have cited lack of information and resources as one component contributing to the migrants' high risk of HIV infection (Brummer, 2002). Free access to condoms proved to be a significant variable in the combined population but not among women or women. On average around 90% of the migrant farm workers report having access to free condoms on the farm. Equally important is education on HIV prevention which has been identified as another effective strategy to minimise the infection rates (UNAIDS, 2004). In this study, more than half of the population both men and women had attended at least one educational function on HIV. This can be attributed to the HIV prevention projects started in the farm areas such as the Ripfumelo (IOM, 2008). However, this factor was statistically insignificant. The finding serves to show that high levels of knowledge on HIV or availability of condoms does not translate to use.

As people migrate they may either leave or go with their spouses. This living arrangement can determine sexual behaviour. In the female population as well as the whole population, staying away from spouse or family tends to increase condom use. This finding is contrary to a number of previous studies. According to studies carried out by Gupta and Singh (2002), prolonged separation from family, spouse and socio-cultural norms, together with isolation and loneliness can lead to social and sexual practices, such as unsafe sex, which make migrant and mobile workers more susceptible to exposure to HIV infection. A study by Halli and others (2005)

emphasised that it is usually men who tend to engage in such high risk sexual behaviour. This study showed that staying away from one's spouse increases the odds of using condoms among migrant women. On the basis of these results it can be argued that staying away from a partner makes women more responsible and cautious of HIV.

Another finding, linked to living arrangements with spouse, is marital status. Although only significant in women and not in men, the OR in both the female and male populations show that being married tends to decrease the use of condoms. This echoes the findings of Chimbiri (2006) in rural Malawi where being married reduced the odds of using condoms. Marriage comes with trust particularly in women (Bond & Dover, 1997). Apart from the trust issue, marriage also comes with other cultural complexities such the paying of bride prices. In such scenarios, some men tend to treat their women as possessions and women cannot make decisions for themselves. Some women would feel obliged to give in to whatever their men demand, even where they know it may be dangerous (Parrado et al, 2005).

CONCLUSION

The purpose of this study was to determine the levels and determinants of condom use among migrant farm workers and how these vary between men and women. This was attempted by analysing data from the IBBSS survey carried out by IOM in 2010 in selected farms in Mpumalanga and Limpopo. There is a widespread assumption in the literature that financial stability, transactional sex and forced sex are rife in migrant communities and tend to influence condom use. However, the current results do not support this contention. The vulnerabilities of migrants and consequent risk of HIV infection differ with place and communities and it can be dangerous to generalise migrants' vulnerabilities and experience. This is why a location specific

study is always necessary in analysing 'key populations' at risk of HIV. It would be interesting to know if migrants in urban areas have the same experience.

The results also support the hypothesis that determinants of condom use in migrant communities vary between men and women. In this study there seems to be no common factor between men and women. Among the male migrants financial stability seem to be the only determinant of condom use. On the other hand, in the female population marital status, living arrangements with spouse and having sex while drunk seem to be the determinants of condom use. With regard to the objectives and conceptual framework of the study, it can be concluded that financial stability, access to free condoms, marital status and living arrangements with spouse are determinants of condom use in commercial farms in Mpumalanga and Limpopo.

RECOMMENDATIONS FROM THIS STUDY

Areas of further research

With regard to the relationship between having sex while drunk and condom use, additional research using refined measures of alcohol intake is needed. Also, follow-up research on sources of self-efficacy in women could help in untangling this anomaly. The link between financial security and condom use in migrant communities is quite robust and well established (Parrado, 2005; Pulerwitz, 2002); therefore, failure by this study to observe the effect is most likely idiosyncratic to this particular population. The same can be said about age which is widely known to influence condom use. Therefore, further research is recommended, probably in a different setting. Other relevant factors left out in this study that could be of paramount importance in understanding condom use include education and contraceptive use.

Programmatic recommendations

With regard to programmatic recommendations, based on the results from the female population, education on HIV is more likely to motivate condom use among women than only making available free condoms. Thus more education on HIV prevention and particularly sensitising women on the use of condoms should be considered on farms. This could also point to the scarcity of female condoms; if accessibility to female condoms is increased condom use among women may rise. For men, since they seem to respond more to availability of condoms, interventions should target them by providing free condoms.

LIMITATIONS OF THE STUDY

- The study shares the certain methodological weaknesses associated with cross sectional designs. It is not possible to discern causal relationships. It is difficult to conclude that it is the migration status that influences condom use. The association can be the other way round. Hence there is need for a more nuanced understanding of the association.
- Condom use is a complex issue, especially when analysing it in women. In Africa the male condom is more common than the female. In addition, it is difficult to measure condom use in females because it is difficult to know for sure if the male partner used a condom or not. Also the question asked for condom use 'Did you use a condom the last time you had sex?' does not imply consistent condom use. A person might have used sex in the last sexual engagement but does not usually use a condom.
- The IBBSS data is a secondary source of data; hence this researcher did not have complete control of the data. There are other factors not included during the IBBSS that could confound the association between condom use and migration status. For

example, contraceptive use could be an important factor. Another variable important is level of education of which it was not included in the questionnaire.

- Another important factor may be that self-reports of condom use are inaccurate because of the sensitive nature of the topic and because respondents may wish to provide responses that they believe are desired (Plummer et al, 2004).
- Since no random sampling was done, the results cannot be generalised because one cannot assume that the participants in this study were any different from non-participants. Also related to this is the issue of self-selection by participants, which can introduce volunteer bias, thus, making it difficult to generalise the results.

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